The Impact of Enforcement On Intoxication and Alcohol-Related Harm

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Executive Summary

Introduction

The framework for the control of alcohol in New Zealand is the Sale of Liquor Act 1989. As set out in Section 4 of the legislation, the Act seeks to establish: "*A reasonable system of control over the sale and supply of liquor … with the aim of contributing to the reduction of liquor abuse…*".

Monitoring and enforcement of legislative requirements by Police, by licensing inspectors appointed by the district licensing agency (licensing inspectors) and by staff of public health services is a key element in reducing alcohol-related harm in and around licensed premises. This activity helps to ensure that drinking environments are safe, contributes to the reduction of liquor abuse, prevents excessive consumption of alcohol leading to intoxication and prevents the sale of alcohol to minors.

The present study sought to test the effectiveness of a targeted multi-agency enforcement intervention at reducing the harm caused by intoxication and other risky drinking behaviours in licensed premises. The research used a quasi-experimental interrupted time series research design to assess the impact of heightened enforcement activity in licensed premises by regulatory and enforcement agencies. The impact of heightened enforcement was compared to normal levels of enforcement activity. The research was undertaken in three geographical areas – Manukau East, the northern suburbs of Christchurch and Queenstown – and took place over a period of ten months between March and December 2006.

The heightened regulatory activity was intended to increase licensees' and general managers' focus on intoxication and to encourage compliance with the Sale of Liquor Act. In all three sites, this involved a focus on the service of alcohol to intoxicated patrons on licensed premises, with increased regulatory and enforcement visits by the police, licensing inspectors and regional public health services.

This research will assist regulatory agencies to better understand the effectiveness of their enforcement activities, and to identify improvements that can be made to collaborative processes between agencies and to enforcement approaches (particularly the timing, targeting, and style of regulatory interventions).

The Interventions

Regulatory agencies in all three sites selected and targeted at-risk licensed premises on the basis of intelligence information indicating compliance and crime problems arising from licensed premises. The three regulatory agencies participated in regular local liaison meetings to discuss this intelligence information, to identify monitoring requirements and to agree on their combined enforcement approach.

Those premises identified as having heightened risk factors received heightened levels of monitoring by regulatory agency staff.

If required, the regulatory agencies took action to address any issues of Sale of Liquor Act compliance identified during monitoring visits. This action consisted of holding regulatory agency meetings with local licensees to resolve compliance and other performance issues, issuing warning letters and, in some cases, taking licensing action.

The regulatory agencies also used other mechanisms to raise awareness of alcohol service issues, such as by communicating host responsibility requirements using the news media.

These strategies were generally applied across all three research sites, though the regulatory activities were carried out slightly differently in each location due to the different conditions presented in each setting. There were differences in timing, in the intensity of monitoring and in the style of follow-up enforcement activity undertaken in each location.

Manukau East

In Manukau East, prior to the research, the regulatory agencies already had an established relationship and had worked closely together addressing Sale of Liquor Act compliance issues.

In Manukau East, the selection of premises for active monitoring, the style of monitoring visits, and the nature of any follow-up action taken in response to matters of non-compliance, followed a structured and formalised process referred to as the 'Graduated Response Model'. If, during monitoring visits, intoxicated patrons were identified by regulatory agency staff then the licensed premises would be automatically upgraded to a higher risk level. This would mean the premises would be subjected to both increased monitoring activities and potentially receive formal warnings and/or have licensing action taken against them. The thresholds for these different types of action were formalised in the Graduated Response Model.

Christchurch northern suburbs

In the suburban setting of Christchurch northern suburbs, the regulatory agencies had worked together previously, but less frequently than in the other two sites. The regulatory interventions applied during the research offered an opportunity for the suburban police staff to work more closely with the public health and licensing inspectors who already had a close working relationship with the central city police staff.

At the Christchurch northern suburbs site, a less formal approach was taken to identifying at-risk premises and to determining requirements for any enforcement action.

The regulatory agencies first response to any areas of non-compliance identified was to offer advice to the licensees and general managers. If any compliance problems persisted, the regulatory agencies intended to initiate licensing action with the Liquor Licensing Authority, if that was determined by the agencies to be required.

Queenstown

In Queenstown, just prior to this research project commencing, police had recently appointed a full-time liquor licensing officer. This was the first time there had been a full-time liquor licensing police officer in Queenstown. This represented an increase in the resourcing of and focus on alcohol issues for police in that location.

Prior to the research (and despite a previous part-time police commitment) the three regulatory agencies already had established relationships and collaborative practices, resulting in a history of close liaison in monitoring licensed premises and undertaking related regulatory activity.

At the Queenstown site, police intelligence information was used to identify at-risk premises for monitoring activity. When Sale of Liquor Act compliance problems were

identified, there was a combined agency approach to holding formal meetings with licensees, issuing formal warnings and taking licensing enforcement action against non-compliant premises.

The regulatory agencies (particularly police) also engaged in frequent communications with the local news media and this supported a high level of attention to alcohol issues in the local news media.

Quantitative findings

The impact of regulatory agency activity on licensed premises was measured using a range of quantitative indicators of alcohol-related harm. The outcome measures were:

- Alcohol-related offending, victimisation and other measures of harm judged from Police crime and incident data; and
- Health outcome indicators, including the number of ambulance call-out incidents and, for Queenstown, the number of alcohol-related injuries presenting at the hospital's emergency department.

In Queenstown there was a statistically detectable decrease in alcohol-related offending detected during the period from May 2006 to October 2006, coinciding with a period of heightened licensed premise monitoring and related enforcement. However, the practical significance of the decrease in crime during the intervention period is small. It is possible that this drop in alcohol-related crime may be attributable to increased regulatory activity. However, other alcohol-related harm indicators (ambulance and hospital data) did not show similar decreases. There were no road crashes involving alcohol in Queenstown during this period, though there had also previously been other periods without alcohol related crashes.

Neither Christchurch northern suburbs nor Manukau East showed any significant reduction detected in alcohol-related indicators as a result of the interventions.

It is not clear from the available quantitative data whether the heightened regulatory interventions were successful in reducing levels of intoxication. Agencies appeared to identify more incidents involving intoxication during the heightened intervention periods but this may have reflected the increased level of monitoring activity during these times.

Qualitative findings

Observational measures were collected in licensed premises during both normal and heightened periods of enforcement activity. This involved placing trained observers in licensed premises to observe and record the behaviour of management, staff and patrons. Key informant and focus group interviews (with licensees, licensed premises management and staff, police officers and the trained observers) were also conducted to assess the perceived impact of enforcement activity.

In all three sites, the observers noted that the heightened regulatory activities coincided with improvements in host responsibility initiatives, such as the provision of free food and water, increased food and bar signage and information on taxis and safe transport options. There were also some improvements in door security in some premises in all three sites. These changes were sometimes, but not always, maintained beyond the periods of heightened regulatory activity. However, observers noted that few intoxicated people were denied service in any premises, despite numerous instances of intoxication being observed in two of the sites (Queenstown and Christchurch northern suburbs).

Overall, it appears that there was some observable improvement in some aspects of premises management and compliance during the course of the study (e.g. management of door security), but observations of serving practices suggested less of an effect on serving behaviour.

Participant feedback was obtained from monitoring and enforcement agency staff and from licensees and bar staff from the targeted premises in each site. The agencies that participated in the intervention considered that the increased frequency of monitoring visits had increased the perception of risk among licensees, resulting in improved bar management and compliance with Sale of Liquor Act 1989 requirements. Police staff identified that training and experience gained conducting licensed premises monitoring enhanced their effectiveness in dealing with Sale of Liquor Act compliance.

The increased level of licensed premises monitoring appears to have had a positive effect on relationships between regulatory agencies and licensees in many premises. However, there were some exceptions to this, particularly in some bars that were either frequently visited by monitoring agencies and/or those that were the subject of Liquor Licensing Agency action.

Observations and participant feedback identified a number of potential improvements to regulatory practice. These include regulatory agency staff working more closely with licensees to identify practical improvements that they can make to the management of premises to enhance their ability to identify intoxicated patrons and to modify the physical environment to improve compliance.

Qualitative observations and participant feedback indicated that the interventions had increased the ‘”perception of risk” amongst licensees in all three sites.

Factors affecting outcomes

Many of the alcohol harm indicators that were analysed in this research showed high variability. In particular, the number of alcohol-related crimes, road crashes and ambulance attendances at alcohol-related incidents were small in all three sites – making it difficult to identify statistically significant changes above high levels of baseline variability. Much of the data that was collected could not be categorised to differentiate incidents that happened in or around a licensed premises from other incidents in public places.

The three sites provided the researchers with different contexts in which to examine the effectiveness of enforcement approaches. In each case, there were factors that impacted on the potential effectiveness of the intervention and/or the ability of the researchers to demonstrate an impact from the regulatory activity. These factors included:

- Manukau East had an established specialist police alcohol team and there were existing close regulatory agency relationships among police, the licensing inspector and public health unit staff. Whilst the intervention was designed to heighten the frequency of monitoring visits in relation to specific targeted premises, any changes were difficult to distinguish against a backdrop of previously effective monitoring and enforcement activity.
- There was no history of consistent monitoring of licensed premises within the Christchurch northern suburbs. However, the area is adjacent to the Christchurch central city area, which has a high density licensed premises, with correspondingly high patronage. Heightening the monitoring of suburban licensed premises had the

potential to improve compliance. However, the suburban licensed premises had relatively low patronage and available quantitative alcohol-related harm data related to a broad Christchurch suburban area. Hence, in making an assessment of alcohol-related harm in this site, it was difficult to differentiate outcomes from risky-drinking occurring within the central city from risky-drinking occurring in the suburban premises.

- Queenstown was the only site to show a statistically detectable reduction in alcohol-related crime as a result of increased monitoring and enforcement activity. In prior years, there had been less monitoring of licensed premises in Queenstown than occurred during the research, with police attention reportedly being more reactive rather than proactive. Significant problems with Sale of Liquor Act compliance that were identified during the research resulted in the regulatory agencies initiating a variety of follow-up enforcement actions. These included formal warnings being issued and several applications being made to the Liquor Licensing Authority for the suspension of licenses and for the cancellation of general manager's certificates. It is notable that these regulatory activities in Queenstown appeared to affect the police's ability to maintain cordial relations with the local licensees targeted. Media attention to these compliance problems also provided a high level of coverage of alcohol issues in Queenstown. The effect of all this activity and publicity was to raise the profile of alcohol-related harm and to highlight the multi-agency approach to enforcement amongst licensees, bar managers and staff and the wider community. This was reflected in participant feedback obtained from the Queenstown site.

Conclusions

Low patron numbers in some premises in the Manukau East and Christchurch northern suburbs sites resulted in difficulties measuring any impact on alcohol-related harm indicators in those two locations. In Queenstown it was possible to identify a statistically detectable impact on alcohol-related crime, which coincided with a period of heightened regulatory activity. However, from the perspective of the regulatory agencies that were involved in the research, the suppression of alcohol-related crime in Queenstown may not have been operationally significant. Impacts on other indicators of alcohol-related harm were not detected in Queenstown (i.e. ambulance and hospital data).

Qualitative measurements revealed improvements in licensed premises management practices associated with refusing entry, to or refusing service, to intoxicated patrons. Qualitative measurements also revealed that the regulatory activity raised awareness of intoxication issues amongst bar staff and owners, particularly in Queenstown where the heightened enforcement was accompanied by publicity in local news media about liquor policing. This heightened news media interest is likely to have contributed to the effectiveness of the heightened enforcement in this site.

Collaborative aspects of the multi-agency regulatory approach worked well. The staff from regulatory agencies maintained effective working relationships in each site. Police who did not normally work in specialist alcohol portfolio roles found that the training and experience they gained in the course of these multi-agency regulatory initiatives increased their skills in this specialist area. Both regulatory agency and liquor industry staff indicated a willingness to work together to improve practice to prevent the service of alcohol to intoxicated patrons.

The indication that a small reduction in alcohol related harm may have occurred in Queenstown, but not in the other two sites, may be explained by reference to the greater intensity of the regulatory intervention in the Queenstown site. This included both a higher level of monitoring activity (compared to historical levels) and also a commitment

to issue formal warnings, initiate follow-up licensing action where required, and to apply sanctions. The differences that were observed are also due, in part, to the different contexts provided by the three sites. The observational and focus group findings are in keeping with previous research evidence which shows that visible enforcement, with the application of sanctions, can reduce alcohol related harm.

1 Introduction

1.1 Purpose of research

This research evaluates the effectiveness of a targeted multi-agency enforcement intervention in reducing the harm caused by intoxication and other risky drinking behaviours in licensed premises. The study was undertaken in three sites in 2006 – Manukau East, Christchurch northern suburbs and Queenstown – and measured the effectiveness of interventions applied by the Police, regional public health services and licensing inspectors in each area.

The research seeks to establish whether crime and alcohol-related harm can be reduced by regulatory agencies heightening their focus on the enforcement of Sale of Liquor Act requirements for responsible alcohol service, particularly those relating to intoxication. The research has been undertaken to provide feedback to the regulatory agencies about the potential effectiveness of targeted multi-agency enforcement approaches.

To achieve this, the research monitors a range of crime and alcohol-related injury statistics with a view to identifying whether there is any potential link between changes in these statistics and periods of heightened and targeted regulatory activity. It also provides qualitative feedback from non-participant observers, participating agencies and licensees and bar staff, about the effectiveness of the heightened enforcement approach.

1.2 Background

1.2.1 The Sale of Liquor Act 1989

The framework for the control of alcohol in New Zealand is the Sale of Liquor Act 1989. As set out in Section 4 of the legislation, the Act seeks to establish: "*A reasonable system of control over the sale and supply of liquor … with the aim of contributing to the reduction of liquor abuse…*".

The Act attempts to achieve this by providing controls over the consumption of alcohol and ensuring that safe venues are available as drinking environments. Monitoring and enforcement of liquor laws by police, district licensing agencies and public health services is a key element in ensuring that the Act is effective in addressing alcohol-related harm in and around licensed premises. This activity reduces the risks associated with licensed drinking environments, contributes to the reduction of liquor abuse, prevents excessive consumption of alcohol leading to intoxication and prevents the sale of alcohol to minors.

The Police already adopt a strong focus on alcohol misuse as a mechanism to address broader harm, such as crime and incidents. The Police role includes enforcement interventions to ensure licensed premises comply with liquor laws and regulations. Police also play an important role in minimising alcohol misuse through other crime prevention work, problem solving and incident response that prevent or reduce alcohol-related problems.

District licensing agencies are responsible for administering applications for licences and manager certificates under the Sale of Liquor Act. For the purpose of the Act the District Licensing Agency must appoint one or more inspectors (licensing inspectors), whose role includes monitoring licensed premises to determine whether premises are

complying with the conditions of their licence, and taking enforcement action as appropriate. Licensing inspectors are often in the employment of the local authority.

Regional public health services, acting under the authority of the Medical Officer of Health have a reporting rather than enforcement role under the Sale of Liquor Act and work closely with the other agencies in monitoring the activities of licensed premises. Together with police and licensing inspectors, the Medical Officer of Health can appear in any proceedings before the Licensing Authority or a District Licensing Agency. Public health services have a particular interest in ensuring that licensed premises develop and implement host responsibility policies in order to reduce alcohol-related harm. Public health services also undertake health promotion initiatives, both universally and targeted to at-risk groups.

Regulatory and enforcement agencies also have partnerships with other interests including the liquor industry itself and community-based groups (such as groups who provide alternative social venues for youth, Maori Wardens, etc).

1.2.2 Alcohol Harm Reduction Strategies

New Zealand's National Alcohol Strategy sets out three general strategies covering the reduction of alcohol-related harm. These are supply control, demand reduction and problem limitation (ALAC & MOH, 2001). Supply control addresses measures to control the availability of alcohol. These types of interventions tend to be focused on licensed alcohol outlets such as hotels, clubs and off-license premises. Supply control initiatives can be separated into three general types; enforcement approaches (the subject of this research), industry led initiatives to improve compliance, and planning-based approaches.

Enforcement approaches involve regulatory agencies (police, licensing inspectors and public health authorities). These measures tend to be predominantly focused on licensed premises, although they can also be broadened to include controls that address the supply of liquor through unlicensed venues.

In contrast to enforcement-based approaches, industry-led initiatives involve self-regulating activity that occurs either at the level of individual licensed premises or revolves around formal relationship models such as regional alcohol accords. In practice, these measures can also involve the regulatory agencies in an advisory capacity or supporting problem-solving initiatives that might be led by the local liquor industry itself. These arrangements for self-regulation often involve education and industry responsibility programmes.

Planning-based approaches are measures involving the use of district planning processes by local authorities to restrict the geographic density and trading hours of licensed premises and to address other supply factors that can be influenced by the planning framework used by local communities.

Demand reduction strategies address the reduction of alcohol consumption and encourage responsible drinking behaviours. These involve a range of measures including increasing alcohol taxation (to make alcohol more expensive), restricting the advertising of alcohol, social marketing to encourage culture change in drinking behaviours, and problem solving interventions that are focussed on at-risk drinking behaviours. The Alcohol Advisory Council of New Zealand (ALAC) is currently implementing a national advertising campaign targeted at altering New Zealanders' apparent tolerance of binge drinking and intoxication.

The final types of interventions targeting alcohol-related harm are problem limitation strategies. Problem limitation strategies tend to be applied to the drinking, victimisation or offending environment. These strategies aim to reduce the likelihood of the drinking or other environments playing a role in any alcohol-related harm. These include measures that aim to reduce drinking in public places (often directed to liquor bans and to underage drinking) and situational prevention initiatives, such as crime prevention through environmental design (CPTED) that aim to improve the quality of public spaces.

1.2.3 Requirements for Effective Enforcement

Supply control strategies are based on the effective enforcement of the Sale of Liquor Act in its application to licensed premises. The main regulatory agencies working on supply issues are police, licensing inspectors and regional public health services.

Licensed premises offer a prime target for reducing alcohol-related problems. These locations are implicated as a high-risk setting for harmful drinking. Licensed premises also represent an often predictable and recurring source of problems, and therefore offer considerable opportunities as a focal point for addressing the reduction of violent crime. Intoxication and aggression are more likely to occur in some licensed premises than others (Plant et al, 2002), presenting an opportunity to utilise resources more effectively by targeting these premises. Interventions targeting compliance have an advantage over those that are targeted towards drinkers themselves, as they are not reliant on the judgement of alcohol-impaired persons.

Enforcement of the Sale of Liquor Act involves monitoring visits to licensed premises conducted by the Police and licensing inspectors, in order to identify compliance issues. If compliance issues are identified, these visits may be followed up with warnings, prosecution and/or licensing action. The focus of compliance visits is primarily directed towards identifying underage patrons and intoxicated persons and other Sale of Liquor Act requirements. These visits provide a mechanism for motivating licensees and general managers to comply with their Sale of Liquor Act obligations. During these visits, expectations about compliance can be set and compliance encouraged.

In practice, visits vary in style from more educative visits in the afternoon or early evening to monitoring targeting licensed premises hot spots during peak business hours. Educative visits often involve staff members of public health units and monitoring visits, police and licensing inspectors, although specific roles depend on local regulatory agency practices. Sometimes, these educative and monitoring visits are thought to have an effect without requiring additional prosecutorial or licensing action. For example, McKnight and Streff (1994) have stressed that the effectiveness of any enforcement effort in achieving deterrence is dependent upon awareness among the target group and therefore the visibility of the enforcement. Certainly, sustaining awareness is important. Weatherburn (2000), for example, has observed that in respect of liquor legislation consistent and effective enforcement is the key to achieving successful compliance.

Other studies have shown these types of enforcement interventions to be effective, but they can be dependent on subsequent penalties. Penalties can take many forms; including punishment imposed by court and licensing action by the Liquor Licensing Authority. In the absence of penalties, liquor licensing laws have been shown to have poor deterrent effect (Stockwell 2001).

In summary, a mix of visibility, publicity and perceptions of risk of penalties have collectively been shown to increase compliance in compliance-based approaches.

2 Prior Research

2.1 Defining Alcohol-Related Harm

Alcohol-related harms affect physiological, mental, personal social and wider social, and cultural domains. Alcohol-related harms are now recognised in many countries as a significant public health issue. Increased understanding has led to a focus shift from harms mostly related to long-term drinking, to harms resulting from acute incidents of drinking. This focus includes not only drinking patterns over time, but also contextual factors, such as setting and social companions, in which the drinking occurs (National Health and Medical Research Council, 2001). Definitions of alcohol-related harms vary within the research literature and often depend on the type of data that is available. Harms may relate to the drinker or to others.

Studies examining the physiological harms associated with alcohol are generally concerned with measurements of disease or death associated with particular patterns of consumption. In New Zealand, attempts to quantify the morbidity and mortality associated with alcohol have examined rates of several forms of cancer, diabetes, neuro-psychiatric disorders, cardiovascular disorders, digestive disorders, conditions arising during pregnancy, poisonings, drowning, falls, and injuries such as road traffic injuries, violence and alcohol poisonings (Connor *et al,* 2005).

In contrast, attempts to gauge the impact of patterns of consumption on the prevalence of other outcomes, where boundaries may be more subjective, generally rely on survey data. The *Drinking in New Zealand* surveys, which examined patterns of drinking in 1995 and 2000, grouped 15 indicators together within the "alcohol-related problems" category. The survey covered a wide range of indicators, ranging from *"felt the effects of alcohol after drinking the night before"* to *"stayed intoxicated for several days",* and *"been drinking and driving and had a motor vehicle crash".* A survey of alcohol-related problems experienced by Dunedin students covered similar topics, including the impact of other people's drinking on the respondent, but extended their definition of alcohol-related problems by examining the incidence of other events in association with alcohol consumption, such as: emotional outbursts; vomiting; inability to pay bills as a result of spending too much money on alcohol; having unprotected sex; and committing a crime or being arrested for drunken behaviour (Kypri, 2003).

Survey data is often used to examine crime and victimisation associated with patterns of alcohol consumption. Many studies utilise data collected in administrative systems, for example by Police, to measure the involvement of alcohol in some crime – most commonly violent crime (i.e. assault). Interpretations of this relationship are complicated by the nature of the circumstances in which the data is collected. Langley and colleagues (1996) suggest that studies of people presenting to hospital with alcohol-related injuries provide balance to alcohol-related crime statistics, as assault victims are more likely to seek medical help than police assistance. Stockwell (2001a) adds that interpretations of crime statistics are often complicated by the fact that heightened policing may generate significant changes in crime statistics, as an increased police presence creates more opportunities for assaults to be observed and reported.

2.1.1 Patterns *versus* Levels of Consumption

In a survey of alcohol consumption conducted in the UK, Kreitman (1986) observed that most people have experienced adverse consequences from drinking even though their average consumption levels were considered to be within the "moderate" range. Work by Gmel *et al.* (2001) in Switzerland confirmed that, in terms of volume, moderate drinkers

reported more problems associated with their drinking than “hazardous” drinkers (who were defined as consuming more than four to five standard drinks on one occasion). These results may seem counter-intuitive, but earlier work sheds some light on the findings (Stockwell *et al.,* 1996). Stockwell’s team demonstrated that binge drinkers report more problems associated with their drinking than drinkers who don’t binge. Moreover, there are a greater proportion of binge drinkers among those whose average total consumption of alcohol is considered “moderate” than any other group or drinkers, and moderate drinkers are the largest group in the drinking population. In light of their findings, Stockwell and his co-investigators suggested that strategies to prevent alcohol-related harm would be best aimed at the majority of the population rather than a small proportion of people considered to be “problem drinkers”, and that such strategies should focus more on the amount of alcohol consumed in a single drinking occasion than average consumption levels (Stockwell *et al,* 1996).

Research in New Zealand reiterates that patterns of drinking – i.e. how much alcohol is consumed on a typical drinking occasion, how often such occasions occur, where they occur and with whom – are a more relevant measure of consumption than average daily consumption levels alone (Connor *et al,* 2005).

Studies of people attending emergency rooms with injuries support the idea that the amount of alcohol consumed on a single drinking occasion may be more predictive of injury risk than average consumption levels. In other words, a person who engages in fewer drinking occasions but binge drinks on these occasions may be at greater risk of injury than a person who drinks more alcohol on average but spreads this consumption over a greater number of drinking occasions (Borges *et al.,* 2004; Borges *et al.*, 2006). Earlier data from an Australian study of people presenting with injuries to an emergency department in Western Australia also highlighted the significance of consumption levels on a single occasion (McLeod *et al,* 1999). These researchers observed that six standard drinks in six hours was sufficient to elevate the risk of receiving an injury which would require medical attention at an emergency room by three times. Nine standard drinks raised risk by five times. McLeod *et al* (1999) also observed differences in risk for men compared to women; although the pattern of risk was similar (with increases in risk when consumption went over six standard drinks), the risk to women was much higher. An analysis of the relationship between alcohol consumption and emergency room visits reported in 23 studies across 14 countries showed that patients who had consumed more than five or more drinks within 6 hours preceding the injury were twice as likely to have visited an emergency room two or more times in the preceding 12 months than people who reported not drinking. Regular heavy drinkers and alcohol-dependent drinkers were also more likely to use an emergency room (Cherpitel *et al*, 2006). A Swedish study found a temporal relationship between alcohol consumption and head traumas in that the frequency of these increased on weekends and during a major holiday month in young people and people of working age who engaged in heavy episodic drinking (Puljula *et al*, 2007). Binge drinking was also found to be a contributor to head trauma in Finland (Savola *et al*, 2005). In a review of studies since 1995 relating to emergency room use associated with alcohol and injury, injured patients were more likely to have been positive blood alcohol levels or self-reported drinking before the injury event than non-injured patients, and this association was even stronger for violence related injuries (Cherpitel, 2007).

2.1.2 Attitudes towards alcohol in New Zealand

Comparison of the 1995 and 2000 national *Drinking in New Zealand* surveys (Habgood *et al*, 2001) reveals that “heavy” consumption (8+ drinks for men and 6+ drinks for women) occasions increased among men and women between both surveys with the

increase among women drinkers being greater than that among men. Both men and women increased the amount they consumed on a "typical" drinking occasion between the two surveys; from about two drinks per occasion to three to four drinks for women and from four drinks per occasion to five drinks for men. Although differences in drinking patterns for men and women may be diminishing according to these statistics, international research suggests that their risk profiles continue to be quite different (McLeod *et al,* 1999; Teece & Williams, 2000). As well as increases in consumption on "typical" drinking occasions, more alcohol was consumed by New Zealanders in "heavy" drinking occasions in 2000 compared to 1995. These drinking patterns have significant implications in light of the international evidence describing the risks associated with binge drinking (Kreitman, 1986; Stockwell *et al*, 1996; Gmel, 2001; Dawson, Grant & Ting-Kai, 2005).

Local research has highlighted the impact of differences in drinking patterns on health and mortality outcomes for New Zealanders. Differences in alcohol-related health conditions and mortality for Maori and non-Maori have been attributed to differences in patterns of consumption rather than total average volumes of consumption; with Maori consuming more on an average drinking occasion than non-Maori (Bramley *et al,* 2003; Connor *et al,* 2005; Ministry of Health, 2007). Drinking frequency across different age groups remained relatively unchanged between the two surveys with the exception of drinkers aged 14-17 years old, whose frequency of drinking increased. This is significant in light of substantial evidence which suggests that these early drinking patterns predict drinking patterns later in life (e.g. Casswell and Zhang, 1997; Casswell, Pledger & Pratap, 2002; Windle, Mun & Windle, 2005; Pitkänen, Lyyra & Pulkkinen, 2005; Hingson, Heeran & Winter, 2006; Warner, White & Johnson, 2007).

2.2 Cost of Alcohol-Related Harm

2.2.1 Health and Injury

Room, *et al*. (2005) estimate that alcohol contributes to four percent of the burden of disease globally. Recently, Connor *et al* (2005) published a study estimating the burden of death, disease and disability resulting from alcohol consumption in New Zealand. Connor *et al* (2005) estimated that 3.9 percent of all deaths in New Zealand in 2000 were attributable to alcohol (1,037) with over 50 percent of these deaths being injury related (including alcohol poisoning, unintentional injuries, self-inflicted injuries, violence and other intentional injuries, among other antecedents).

The number of alcohol-related deaths for males far outnumbered those of females (718 compared to 319). The greatest number of deaths occurred in the 15-29 year age group (this was also true when the data was adjusted to account for differences in the total population in each age group). Connor *et al* (2005) summarised the most significant findings in their research as being that:

- Patterns of drinking are an important determinant of the health effects of alcohol;
- Injury is a major component of the alcohol burden;
- Alcohol use disorders underlie many of the adverse effects of alcohol; and
- The health burden of alcohol falls inequitably on Maori.

2.2.2 Alcohol, Crime and Victimisation

There is significant international evidence of a link between alcohol and crime, in particular violence and physical assault (Bye, 2007). Data from the *Drinking in New*

Zealand survey for the year 2000 (Habgood *et al*, 2001) suggests that rates of physical assault involving alcohol may be lower than those observed in Australian surveys (Teece and Williams, 2000) although similar patterns have been observed in comparisons of men and women in Australia and New Zealand; with eight percent of New Zealand men and five percent of New Zealand women reporting that they were physically assaulted by someone who had been drinking in the previous 12 months. Women were more likely than men to report sexual harassment (10 percent compared to three percent, respectively); whilst the likelihood of experiencing physical assault or sexual assault was greater overall for younger people. Indeed, it appears that gender and age have the most significant effect on the risk of victimisation. Young males, who have the highest risk of being victimised, are also the greatest consumers of alcohol with peak consumption occurring around the age of 22 (Teece and Williams, 2000; Casswell *et al,* 1997).

Fergusson and Horwood (2000) found an association between alcohol misuse and violent and property crime in young people in Christchurch. Although there is little New Zealand-based research examining the relationship, a correlation between alcohol and the perpetration of crime has been suggested in international research, with some evidence of a link between levels of consumption and the odds of committing crime or disorder being greater for people who report heavy consumption or binge drinking[1] (Makkai, 1998). Makkai used Australian National Survey data to focus on perpetrators of crime and found that in 1995 17 percent of survey respondents had, at least once in the previous year, physically abused somebody, damaged property, driven a car, or verbally abused someone while intoxicated. Risk analysis presents similar age and gender effects to those observed among victims of alcohol-related crime (Teece, and Williams, 2000; Habgood *et al*, 2001) with women less likely to report committing crimes while under the influence of alcohol.

2.2.3 The Economic Cost

Translations of the social cost of alcohol-related harm into a dollar value in New Zealand are not regularly made. Where data is available, definitions of alcohol-related harm vary from author to author and comparisons can be difficult to draw against international data for this reason. Subtle differences in the collection of the data can also have an impact on the interpretation of any comparisons made internationally.

One of the more recent papers to provide estimates of the economic cost of alcohol-related harm in New Zealand, and details of how such estimates were reached, was published by Easton in 1998. In this paper, Easton described two classes of alcohol misuse – excessive alcohol consumption and inappropriate alcohol consumption. Easton argued that a reduction of high individual consumption would result in a healthier and larger population (due to fewer alcohol-induced diseases leading to early deaths). Such a population would be more productive and would have additional resources available to them, which would otherwise have been diverted by alcohol consumption and treatment. Easton concluded that a conservative estimate of the total social cost of alcohol misuse was about $16.1 billion for the 1990 year (roughly four percent of GDP). Since these calculations new methods developed in Australia have allowed the estimation of crime and related costs to be included in the economic cost of alcohol misuse. It is estimated

[1] Where harmful drinkers were defined as males consuming 5+ drinks a day, 7 days a week *or* 7+ drinks a day, 4-6 days a week *or* 12+ drinks a day, 2-3 days a week; women consuming 3+ drinks a day, 4 days a week *or* 5+ drinks a day, 2-3 days a week *or* 6+ drinks a day, 2+ days a week. Binge drinkers were defined as males who drink 7+ drinks once a week at most and females who drink 5+ drinks once a week at most (Makkai,1998).

that if these costs were included in the previous study (the 1990 year estimate) then a further four percent of government spending would have been added (Easton, 2002).

In economic terms, the most well documented costs of alcohol-related harm in New Zealand are those associated with drinking and driving. People with a high blood alcohol level (over 80mg per 100ml) are more likely to be injured or killed in a crash than those who are sober (LTSA "Crash Facts", Dec 2001). In 2005 driver alcohol contributed to the 115 deaths, 518 serious injuries and 1474 minor injuries on New Zealand roads. Alcohol contributed to 30 percent of fatal crashes, 18 percent of serious injury crashes and 11 percent of minor injury crashes in the years 2003-2005 inclusive. The cost of these crashes was approximately $660 million (Ministry of Transport, 2006).

The LTSA reported that in 2003 drinking and driving contributed to 124 fatal crashes, 370 serious injury crashes and 859 minor injury crashes. Thirty-one percent of all road deaths were in drinking-related crashes; a figure which is similar to findings based on US data (reviewed by Borges *et al,* 2004). The estimated cost of alcohol-related crashes was 760 million for 2003 (23 percent of the social costs associated with all injury crashes). In estimating the social cost, the LTSA include costs associated with loss of life and life quality, medical treatment, property damage and enforcement (LTSA, "Crash Facts", Dec 2001).

2.3 Approaches to Reducing Alcohol-Related Harm

A recent review of evidence in this area (Babor *et al,* 2003) has discussed in detail the effectiveness of strategies targeted towards the general population. On the whole, strategies targeting the supply of alcohol to the general population were found to be associated with greater gains in reducing alcohol-related problems (Babor *et al,* 2003). In particular, the authors cite evidence to support controls on taxation and pricing of alcohol, and physical availability as a means of limiting alcohol-related problems (Loxley *et al,* 2004; Chaloupka *et al,* 2002; cited in Toumbourou *et al,* 2004; Andréasson et al, 2006; Koski *et al*, 2007). There is also a large body of evidence demonstrating the significance of the context in which drinking occurs.

Table 1 shows some strategies for reducing harm in on-license premises and their effectiveness based on a wide range of international evaluations (Babor et al 2003).

Table 1 Effectiveness of strategies to reduce harm in on-license premises

Policy	Effectiveness Rating	Breadth of Research Support	Cost to implement
Enforcement of on-premise regulations and legal requirements	++	+	high
Bar staff training	+	+	moderate
Outlet policy not to serve intoxicated patrons	+	+++	moderate
Voluntary codes of bar practice	0	+	low

Approaches to reducing alcohol-related harm can include a wide variety of interventions ranging from those that seek to limit the availability of alcohol, to those that address harm associated with consumption but without limiting the amount consumed. Examples of the latter include injury and violence, road accidents, and social harm (Ritter & Cameron, 2006).

Stockwell and Gruenewald (2003) propose that approaches to controlling alcohol availability could be divided into those that target economic availability, and those that target physical availability. Kypri (2003) has suggested that any attempts to reduce alcohol-related harm, whether they target economic or physical availability, need to consider two groups within the population; the general population and high-risk populations.

Several authors have demonstrated that the most efficient approaches to reducing alcohol-related harm may be those which target particular drinking behaviours (i.e. binge drinking) among the moderately drinking majority of the population (Stockwell *et al,* 1996; Gmel *et al,* 2001).

2.3.1 Significance of Drinking Context

The international literature demonstrates the significance of time and place of consumption as factors which impact on the likelihood of experiencing alcohol-related harm. An Australian study found alcohol-related crime requiring police attendance was most prevalent during the early morning hours and on weekends (Palk, *et al.,* 2007). In Russia binge drinking and homicide rates were found to be significantly higher on weekends (Pridemore, 2004). In particular the risk of becoming a victim or perpetrator of violence appears to be related to the time and place of alcohol consumption. Australian authors Teece and Williams (2000) hypothesised that the places where alcohol is consumed, the timings of absences from the home, and the frequency of these absences might be more important factors than being young and male, in terms of the likelihood of experiencing alcohol-related violence. This study revealed that the largest proportion of alcohol-related assaults (over a third) took place in licensed premises; and that they were more likely to take place at night and in the weekend. In keeping with the hypothesis that time and place impact on the risk of being involved in alcohol-related violence, Briscoe and Donnelly (2003) demonstrated a relationship between the hours of trading on licensed premises and violent assaults; with extended trading hours being associated with greater numbers of assaults occurring on premises. Chikritzhs and Stockwell (2006) found an association between the increase in impaired driver road crashes and the extension of trading hours for licensed hotels in Perth. They noted that the increase may also have been contributed to by the fact that the hotels that applied for extended hours had characteristics commonly related to crashes (inner city location, young clientele, tendency to drink drive, and greater purchase of high alcohol beverages).

These patterns of consumption are significant given the international evidence indicating that drinking on licensed premises may be associated with a greater risk of injury from violence than drinking in other locations. In their recent study examining alcohol involvement in the injury cases presenting to two emergency departments in California and Mexico, Borges *et al* (2004) found that the risk of injury associated with alcohol consumption was higher in licensed premises than other public places. A study of emergency rooms in Australia, the US, Mexico, Canada, Spain and Argentina showed that injuries associated with restaurants and bars are far more likely to be violence-related than accidental (MacDonald *et al*, 2005).

Australian research highlights similar associations between consumption on licensed premises and violent crime. A survey conducted in 2000 indicated that over one-third of assaults experienced at the hand of someone under the influence of alcohol, occur on licensed premises (36.5 percent) followed closely by assaults occurring on the street (35.5 percent; Teece & Williams, 2000). Australian surveys examining drinking patterns present a similar picture to NZ-based research findings, indicating that a significant amount of at-risk drinking occurs on licensed premises (Donnelly & Briscoe, 2003). This was highlighted in a study carried out over a 12-month period in New South Wales which revealed that of people involved in incidents attended by police almost all those who cited a licensed premise as their last place of drinking were moderately or seriously intoxicated (Wiggers *et al,* 2004).

Findings of New Zealand-based research are in keeping with international studies suggesting a link between drinking on licensed premises and increased risk of violence or victimisation. The National Survey of Crime Victims 2001 (Morris *et al,* 2003) indicated that a significant proportion of all violent assaults in New Zealand occur on licensed premises. Where violence occurred on licensed premises, it was more likely to have been committed by a stranger. In fact, 18 percent of all violent victimisations (perpetrated by a person not well known to the victim) and nine percent of all threats of violent victimisation occurred in a pub, club or nightclub. Roughly 75 percent of these incidents resulted in injury. Earlier research suggested that licensed premises may also be overrepresented as the place of death in homicide statistics (Langley, Chalmers and Fanslow 1996).

A significant proportion of drinking by New Zealanders occurs in licensed premises. The *Drinking in New Zealand* National Survey (Habgood *et al.*, 2001) reported that in 2000, a third of mens' alcohol consumption and a quarter of womens' took place on licensed premises. For both men and women, pubs and clubs were over-represented in terms of the number of heavy drinking occasions that occurred there. Other studies examining drinking patterns in New Zealand have demonstrated an association between heavy consumption and drinking on licensed premises (Casswell and Zhang, 1997).

Around two thirds of drinking occurs in non-licensed premises. A National Alcohol Survey reveals that the majority of alcohol consumed by New Zealanders is consumed in their own homes or others' homes (Ministry of Health, 2007).

Last Drink Survey data from the Auckland region in 2003 indicated that licensed premises were reported as the last place of drink in up to 33 percent of police apprehensions. It is possible that the proportion of alleged offenders who had their last drink at a licensed premises was much higher than this; because the remaining proportion of cases included those where no premises (licensed or otherwise) were identified on the charge sheets or survey forms. The offences most commonly reported in the Last Drink Survey data were drink-driving, violence and disorder offences. Survey data also indicated that alleged offenders who named a licensed premises as their last place of drink were more likely to be extremely intoxicated than those whose last place of drink was not a licensed premises, or where the location was not specified (Broughton, 2004 *a, b, c;* Newton, 2004 *a, b, c*). More recently Alco-Link data has shown that 76% of offenders who were assessed to be moderately to extremely intoxicated had their last drink in a licensed premises (Alcohol Data Pinpoints Hotspots, March 2006).

Whilst there is some pharmacological evidence that alcohol, through its biochemical action, may have a role in encouraging aggressive responses in some individuals (Fulweiler, Eckstine and Kalsy, 2005), there is more definitive evidence describing the environmental factors that have a significant role in the aetiology of violence and

aggression in licensed premises. In their discussion of Community Action Projects Homel *et al* (2001) point out that serving practices are only one aspect of the licensed premises environment which contribute to the overall atmosphere and activity within the bar/nightclub and surrounding areas. Aspects of the physical environment that are associated with increased aggression within the licensed premises environment include unclean or poorly maintained venues, poor ventilation, inconvenient access to the bar, inadequate seating, high noise level, crowding, dancing, and pool playing. The availability of food has been associated with reduced risk of aggression. In addition, aspects of the social environment have been shown to influence levels of aggression within licensed premises; including the standard of behaviour expected by the premises and staff interactions with patrons (Homel *et al,* 2004).

These findings may explain why some licensed premises are associated with more problems than others. There is substantial evidence indicating that the majority of violence and crime associated with licensed premises may in fact be limited to a small proportion of licensed premises with particular characteristics (Considine *et al,* 1998; Briscoe and Donnelly, 2003). A recent study in New South Wales found that in Sydney over the period 1998-2000, 12 percent of hotels and nightclubs were responsible for 58 percent of all assaults on licensed premises (Briscoe and Donnelly, 2003). As Quigley *et al* (2003) have observed; *"not everyone who attends bars experiences violence and not all bars are places in which violence frequently occurs."* In New Zealand, Last Drink Survey data confirms that criminal offending associated with drinking on licensed premises may be limited to a relatively small number of premises – between 23 percent to 40 percent in the Auckland region for example (Broughton, 2004 *b, c*).

Quigley *et al* (2003) attempted to examine the characteristics of bars in which violence occurs while accounting for the personalities of those who patronise the bar. It was hypothesised that while the personality characteristics of the patrons would be associated with the characteristics of the bar, the characteristics of the bar itself would be stronger predictors of whether or not the bar was violent. Analysis of the characteristics of the bars themselves revealed that bars in which violence occurred were reported to be smokier with poorer ventilation, more crowded, dirtier, darker, noisier, warmer and more likely to have pool tables, dancing and illegal activities than bars where no violence occurred. Violent bars had higher numbers of male staff compared to female staff and were more likely to have bouncers; and the cost of drinks was lower in these premises. Patrons who were younger, higher on trait anger and had alcohol dependence problems were more likely to attend bars with these characteristics. The results of the study confirmed that the patrons who frequent violent bars have different characteristics than those who do not (more likely to be younger, less "agreeable" and more impulsive than patrons who visit non-violent bars), but that the strongest predictors of violence in the bars come from the characteristics of the premises, rather than the patrons.

2.3.2 Altering Drinking Context

In their review of the literature, Babor *et al* (2003) define approaches to alter the drinking context as prevention measures which seek to limit the environment where alcohol is sold and consumed. These include:

- Community action projects in which local groups and organisations attempt to influence licensees and raise public awareness of issues relating to alcohol sale/consumption.

- Responsible Beverage Service (RBS) policies which prohibit the sale of alcohol to intoxicated patrons, involve training bar staff and managers to prevent and better manage aggression and voluntary codes of bar practice.
- The enforcement of on-premises regulations and legal requirements.

Other authors reviewing the effectiveness of these strategies agree that enforcement is crucial if liquor laws are to have an impact on server behaviour; likewise the effectiveness of licensee "codes of conduct" depends on external pressures from police and regulatory officials for compliance (review by Stockwell, 2001a; Loxley *et al*, 2004).

Community Action Projects

Community approaches involve local action and awareness-raising from community groups, residents and business people. There have been a considerable number of these projects internationally over the past decades. These approaches can range from single interventions such as targeted education, to multi-component interventions spanning numerous groups and organisations. However, Holder (2006) explains that all the intervention programmes that have scientifically supported effectiveness have included multi-component interventions. Interventions based on only patron education or codes of conduct are not likely to be effective without enforcement or other forms of intervention (Graham, 2000)

The following studies are examples of projects shown to have positive effects. Stafström *et al* (2006) evaluated a three-year community intervention programme in Sweden that was aimed at changing drinking patterns in 15-16 year olds. The intervention components included community policy, school education, parental education, increased checks on underage alcohol purchases, and media coverage of the project. Decreases in harmful drinking patterns were found in the young people. This was particularly noticeable as the overall alcohol consumption increased in Sweden in association with the more relaxed alcohol policy resulting from their merge into the EU. Midford et al (2005) evaluated the effectiveness of a community action project aimed at reducing alcohol-related harm in a town in Western Australia. This project included 22 intervention components over three years involving strategies of networking, community development, education, health marketing and policy institutionalisation. Long-term benefits were found in terms of an ongoing reduction in average drinking, no further increase in use of emergency services, greater public awareness of alcohol issues and an established alcohol and drug agency.

Such interventions can encounter difficulties on several levels and, so far, it has been difficult to demonstrate that they result in any permanent reductions in disorder, crime or violence, although there is some evidence that they can be successful in the short-term. Several studies in the US (see Grube, 1997) have documented their attempts to explore the potential of local policies to lower alcohol retail availability as a means of reducing alcohol-related problems, but this is yet to be undertaken on a similar scale in New Zealand. The Surfers' Paradise Safety Action Project which took place in Queensland in 1993 is one example of a community-based initiative which initially had significant impacts on reducing aggression in and outside licensed premises and on reducing drunkenness and drinking rates (Homel *et al,* 1997 cited in Homel, McIlwain and Carvolth, 2001). This was the result of a wide range of measures which included encouraging managers to introduce a Code of Practice in order to regulate serving staff, security staff, advertising, and entertainment within the venue. Follow-up two years later however, suggested that violence and drunkenness levels had returned to the levels observed prior to the initiation of the project. The authors suggested that displacement of

patrons may have been responsible for the initial reductions in aggression and drunkenness.

Based on their analysis of the Surfers' Paradise Safety Action Project and other similar community action projects undertaken in Queensland, Homel *et al* (2001: 731) outline the features of a successful community intervention as being:

- *"Strong directive leadership during the establishment period*
- *The mobilisation of community groups concerned about violence and disorder*
- *The implementation of a multi-agency approach involving licensees, local government, police, health and other groups*
- *The use of safety audits to engage the local community and identify risks*
- *A focus on the way licensed venues are managed, particularly those that cater to large numbers of young people*
- *The re-education of patrons concerning their role as consumers of "quality hospitality"*
- *Attention to situational factors including serving practices that promote intoxication and violent confrontations"*

Generally, it seems that in order for any community action project to be successful (in the short or long-term), it needs to focus on the management practices which may contribute to an unsafe environment and to have legal, regulatory and enforcement support (Saltz and Stanghetta, 1997; cited in Homel, McIlwain and Carvolth, 2001). The critical role of enforcement in conducting a successful community action project was demonstrated in California by Grube (1997) in his outline of the "community trials project". This trial sought media advocacy while focusing on the provision of Responsible Beverage Service training to serving/sales staff and outlet policy development, and heightening the enforcement of underage sales laws. This led to significant reductions in the sale of alcohol to underage drinkers. Support from local enforcement agencies was critical to the success of this project, with failure of police and liquor licensing authorities to "follow through" with support in the form of enforcement identified by some authors as a weak point in many community action projects, and perhaps the most significant factor in achieving long-term change (Homel,*et al.,* 2001). It has been suggested that a lack of investment from some agencies, including local government bodies, is the result of perceptions that successful strategies require long-term investments of time and resources at a level that is hard to define (Bennet *et al,* 2003).

In New Zealand, short-term successes have been used to garner support for such initiatives from local enforcement and regulatory agencies. Recently the Auckland Regional Community Action Project (ARCAP) set out to achieve change at a local level, relying on existing resources (Huckle *et al*, 2005). The project sought to reduce social supply of alcohol to minors, to reduce supply by off-license premises to minors, and to challenge existing social norms about alcohol use amongst young people. A purchase survey of off-licenses was undertaken during the pre- and post- intervention phases with the aim of determining age checking practices and the ease with which minors are able to purchase alcohol. These purchase surveys involved 18 year old field workers attempting to purchase alcohol from an off-license premises. Key enforcement stakeholders and licensees were informed of the results of the survey prior to their general release. ARCAP also undertook a media advocacy campaign to increase awareness of age verification practices, and sent media releases to all newspapers in the Auckland region on the day of the campaign launch.

Overall the proportion of sales made without age identification in the Auckland region significantly decreased from 60 percent to 46 percent between pre- and post-intervention phases. The proportion of age identification signage that was present and visible significantly increased from 53 percent to 64 percent. Maintaining the impact of the intervention was seen as a key challenge, and this has certainly proven to be an area of weakness in other similar studies. Adequate, on-going resourcing is a significant issue; one key informant from the local police hoped that the results of this purchase survey might lead to an increase in the resources made available to police to carry out their licensing responsibilities (Huckle, 2005). Wallin, *et al.,* (2004) explain that in order for community action programmes to continue their successes over the long-term, the activities must become part of existing practices and regulations; that is, to become institutionalised. The central aspects of institutionalisation are that: the intervention is accepted by key community members (adoption), activities increase after the demonstration phase has finished (sustainability), significant people and organisations continue to give priority to the intervention (key leader support), intervention activities are included in existing regulations (structural change), and the intervention activities are applied and maintained to a significant degree (compliance).

Responsible Service Programmes

Babor *et al* (2003) suggest that of the various ways to alter the drinking context, the most effective measure (in terms of reducing alcohol-related harm) is the enforcement of serving regulations and legal responsibilities of bar staff and owners. RBS programmes are a means of targeting one aspect of the "supply-side" of the licensed premises environment. Such programmes focus on the serving practices of bar staff, who have been described as the "gatekeepers" that contribute to community drinking practices (Buka and Birdthistle, 1999). Studies evaluating the long-term impact of server-based interventions have indicated that staff who attend RBS training sessions report significantly higher levels of desired behaviours than untrained staff (such as checking age identification documents, and offering food or low alcohol alternatives) even five years after initial training (Lang *et al,* 1998; Buka and Birdthistle, 1999). However other studies suggest that any long-term impact of RBS training depends greatly on factors other than the training itself, such as the perceived likelihood of prosecution for breaking licensing laws (which may be related to the level of enforcement dedicated to maintaining the licensing laws), and the particular behaviours which are being measured (see reviews by Stockwell, 2001*b*; Wallin, *et al.,*, 2003 and Room *et al,* 2005).

Survey data from NSW, Australia indicates that while many patrons are becoming intoxicated on licensed premises, relatively few are experiencing RBS initiatives in these settings (Donnelly and Briscoe, 2003). Of the 412 respondents who reported that their last acute-risk drinking occasion had occurred at a licensed premises, over 55 percent reported showing at least one visible sign of intoxication – loss of co-ordination, slurred speech, loud or quarrelsome behaviour, spilling drinks, or staggering/falling over. However, over half of these visibly intoxicated respondents continued to be served by bar staff. Of the remaining respondents showing signs of intoxication; two percent were refused service, 3.5 percent were asked to leave, five percent had transport home arranged by staff or were advised of transport options, and staff suggested to 3.5 percent that they stop drinking. Over a third of respondents showing signs of intoxication stopped drinking of their own accord. While there is no local research which examines patrons' experience of RBS practices in as much detail, results of the National Alcohol Survey conducted in 2000 indicated that 73 percent of respondents who drank at pubs/hotels/taverns and 76 percent of those who drank in nightclubs thought it was likely that a drunk would be served alcohol there (Habgood *et al*, 2001).

Studies from the United States, suggest server training appears to have the greatest impact on the serving behaviour of staff who are relatively inexperienced, and those working in establishments that do not have written policies regarding serving practices (Buka and Birdthistle, 1999). There is also evidence to suggest that repeat sessions targeting specific serving skills may be more effective in the long-term compared to one-off, short duration training sessions (Buka and Birdthistle, 1999). However, this evidence is based on self-reported serving behaviours rather than direct observations of the servers' adherence to the training; and rates of follow-up participation in the self-report assessments were less than ideal.

Buka and Birdthistle's (1999) brief review of evaluations of server interventions in North America identified the need for more evidence to determine the long-term effects of such interventions. The authors suggested that the majority of evaluations were concerned with relatively immediate effects of RBS programmes. The authors also pointed out that these studies had not shed light on "optimal components of specific training curriculum" or the role of "booster" sessions. The authors themselves sought to address these gaps in the evidence base by assessing the short and long-term effects of a server training intervention on Rhode Island in the United States. Three communities were chosen and a series of 5-hour server intervention training programmes were staged in one community while the other two sites were designated as comparison sites. The intervention was staged over a five-year period, and the effectiveness of the training was based on self-assessment, with short and long-term impacts measured through a survey questionnaire identical to the one which had been administered during the training itself. The authors defend the use of self-assessment rather than observation to determine compliance by suggesting that use of observational techniques would risk jeopardising the Health Department's rapport with the communities involved. The result of the study indicated that trained servers consistently reported significantly higher levels of desired serving behaviours (including checking age identification documents of young patrons and practices towards intoxicated patrons) compared to non-trained servers. Although the authors acknowledge that follow-up participation in later years was low, they suggest that the results showed that while positive serving practices were still significantly higher than pre-training levels, there was a decline in the effect 3-4 years after training.

Several studies have demonstrated that compliance from licensees and managerial staff is crucial to the success of RBS policies. In a study which sought to measure the impact of RBS training on alcohol-related harm, Lang *et al* (1998) observed that some bar staff cited lack of managerial support, personal objections and fear of customer hostility as the reasons for their "ambivalent" views on RBS training. The authors observed that management support was generally difficult to obtain; with one manager warning their staff against spending too much time on checking for age and another telling staff that *"their job was not to act as health promotion advisers but to meet the needs of customers"* (Lang *et al,* 1998, pp 49). High staff turnover can also cause difficulty in maintaining RBS interventions based on one-time delivery (Graham et al, 2004).

The Lang *et al.* study was conducted in Fremantle (Western Australia) in "high risk" bars, identified from drink-driving statistics and alcohol purchasing data. Matched control bars were used; these bars were located in another city and matched the case bars in terms of risk. Staff from the "case" bars underwent RBS training, while those in the control bars did not. Core components of the RBS programme utilised in this study were: service to underage patrons; dealing with drunken customers; the effects of alcohol, the concept of a standard drink; recognizing the signs of intoxication and the development of a responsible house policy relating to bar service.

In practice, the latter two points appear to have been somewhat neglected in the training and the authors acknowledge that this may be one of the major reasons they did not observe the positive outcomes they had hoped for in terms of harm reduction. Despite this shortcoming and a lack of support from the police in terms of enforcement, Lang *et al* (1998) found a significantly greater drop in the number of intoxicated patrons leaving intervention sites compared to control sites (measured during "patron exit surveys") and a decrease in observations of extreme intoxication in the intervention group compared to the control group.

Local research has highlighted similar issues to those raised by Lang *et al* (1998). An evaluation of host responsibility practices in Auckland during the period 1993 – 1995 indicated that while many bar managers were generally positive about host responsibility practices, they also expressed reservations about how fully such practices could be implemented *"It slows you down at certain times so you can do your host responsibility. When I say it's hard to do at times that's because you get a full bar, and you don't know how many people are hiding in a corner could be rotten…somebody else is buying the drinks, and that's where it becomes very hard and totally impractical to be a good host. You can't be everywhere"* (Webb *et al,* 1996: 12).

Other managers felt that they were either powerless to prevent intoxication, or felt it was not their responsibility - echoing similar sentiments to those expressed by licensees in Lang *et* al's study (1998): *"I don't really give a shit to be honest. My job is to sell beer, if they get drunk that's their problem"* (Webb et al, 1996).

As Lang has noted, such attitudes have the potential to undermine any gains made in the promotion of RBS policies. Earlier research conducted among licensees in Wellington reiterated the impact that managerial attitudes can have on the behaviour of the serving staff they employ. If staff felt that management wanted them to sell as much alcohol as possible, regardless of age, intoxication, and behaviour, then they were less likely to adhere to RBS guidelines than staff whose managers encouraged responsible behaviours (Baker *et al,* 1995).

Baker *et al* (1995) reported that many staff, even those who had received formal host responsibility training, did not always put their knowledge into practice particularly in their assessment and handling of intoxication. Several respondents attributed this to difficulties in interpreting or defining intoxication. Some pointed out that there is a *"spectrum of intoxication"* rather than an absolute state; making it difficult to form consistent judgments about intoxication. Indeed, the lack of a consistent, widely understood (locally at least) definition of intoxication has proven to be an issue for both licensees and regulatory/law enforcement officials, not just in New Zealand. *"One obstacle to enforcement of prohibitions upon serving alcohol to the intoxicated is the subjectivity of the signs by which servers are to judge whether a patron is intoxicated"* (McKnight and Streff, 1994: 81).

It is interesting to note Webb *et al's* (1996) observations that bar managers felt that intoxication had become easier to deal with over the course of the three-year evaluation. They attributed this to changes in attitudes to drinking generally, changes in the law that allowed the banning of patrons and raised awareness from staff of the reasons for preventing and dealing with intoxication appropriately. Several managers also suggested that police visits had helped them to control drunkenness. Interviews with managers highlighted the significance of the manner in which these visits were conducted *"…more support by police, they seem to be working with us now, and will pop in on a casual basis only to see how things are going"* (Webb *et al,* 1996).

A community action project in Sweden involving representatives from the licensing authority, police and hospitality industry working together to improve the rates of refusal of service to intoxicated patrons. This involved a baseline study in 1996 (Andréasson et al, 2000), a first follow up in 1999 (Wallin *et al*, 2002) and a second follow up in 2001 (Wallin, *et al.*, 2005). During the project there was RBS training for serving staff, stronger enforcement of existing alcohol laws, community mobilisation, and a media campaign. The results showed a five percent refusal of service rate in 1996, a 47 percent refusal rate in 1999, and a 70 percent refusal rate in 2001.

2.3.3 Critical Role of Enforcement

Clearly enforcement has a significant role in ensuring the success of community action projects and RBS programmes in terms of their impact on the drinking environment, and the compliance of licensees with liquor licensing laws (Jeffs and Saunders, 1983; McKnight and Streff, 1994; Webb *et al,* 1996; Lang *et al*, 1998; Wagenaar *et al*, 2005). Enforcement approaches do not necessarily need to rely solely on police (Homel 1996), although studies attempting to address alcohol-related harm by targeting intoxication on licensed premises through interventions centred around RBS principles, for example, have found only limited success when police enforcement is scant or irregular (refer to Lang *et al*, 1998). Wagenaar *et al* (2005) found that the enforcement checks of sale of liquor to underage people resulted in a reduction of likelihood of sale; however, most of this effect disappeared after three months. In their study which examined the effect of heightened police enforcement on drink-driving citations and service of alcohol to intoxicated patrons, McKnight and Streff (1994) demonstrated that while serving staff may be well able to recognise patrons' intoxication, they are in many cases only motivated to refuse service in an environment where licensing laws are strictly enforced. These findings reiterate the need for enforcement to support RBS policies and training programmes.

Early research demonstrated that increased police activity in licensed premises resulted in greater compliance with liquor licensing laws and a decrease in crime committed by people who had become intoxicated on licensed premises. A study carried out in a beachside town the UK in the late 1970s showed that the majority of offenders were under the age of 25 years and over 90 percent of people arrested between the hours of 10pm and 6am had consumed alcohol in the four hours preceding their arrest (Jeffs and Saunders, 1983). Jeffs and Saunders sought to test their hypothesis that increased enforcement of liquor licensing laws would result in a drop in crime rates compared to "normal" levels of enforcement in the years before and after the period of increased enforcement. Indeed, arrests decreased by over 20 percent during the period of heightened enforcement. Furthermore, the authors observed that the reduction in "alcohol-related arrests" (including drunkenness, drink-driving, breach of the peace, and criminal damage) was significantly greater than the reduction in arrests where the alcohol factor was deemed by the authors to be low (for example theft and burglary). Taken in isolation, Jeffs and Saunders (1983) findings can only be interpreted so far, since the study was undertaken in a small beachside resort town in England, in which the population of the town fluctuated significantly depending on seasonality. The authors acknowledged that the nature of the resort tended to draw in large numbers of young people during the summer months when the heightened enforcement took place. This may explain, at least in part, why such a large proportion of those arrested were under the age of 25.

Burns *et al* (1995) attempted to replicate Jeffs and Saunders (1983) work in New South Wales. As with Jeffs and Saunders' earlier research, the objective of the study was to assess the effect of heightened police supervision of the local liquor licensing laws on

the number of recorded criminal offences and assaults. This particular intervention consisted of a two-month period of heightened police supervision, during which time uniformed "beat" officers visited known trouble spots with a particular focus on service to underage and intoxicated patrons. The number of criminal offences (including assaults) and the number of hospital admissions for assault-related injuries occurring during this period of heightened enforcement were compared to the preceding two months during which time policing of the liquor licensing laws had occurred at "normal" levels. Police offence data during the intervention period was also compared to offences occurring in the two months following the intervention, however hospital admission data was not.

Of all licensed premises in the area, 64 percent were visited on average twice a week during the course of the intervention; with police making approximately 79 percent of their scheduled visits. Burns *et al* (1995) did not observe the expected decrease in criminal offences during the intervention; in fact they were somewhat dismayed to report that the number of offences (including assaults, which were examined separately) went up during the intervention compared to the two-month blocks either side of the intervention. However, it is of note that the number of hospital admissions for assault related injuries was significantly fewer when compared to the admission rates for the two months preceding the intervention. The most likely explanation offered by Burns *et al.,* 1995 is that the increased offence reporting observed during the intervention is due to the increased police presence, which meant that there were more opportunities to observe and report such crimes (see review by Stockwell, 2001a). Indeed, a recent study of the impact of a heightened police presence on crime during terror alerts in the US indicates that while a heightened police presence on the street may result in a drop in certain types of offences, namely "street crimes" such as theft of and from cars, the circumstances under which other types of offences are committed (for example assaults which are most frequently perpetrated on private property) means that increased police visibility on the streets is unlikely to have an impact on the reporting rates of these offences (Klick and Tabarrok, 2005).

Burns *et al* (1995) also suggested that the higher offence rate observed during the intervention period may have been because the police visits themselves were conducted in too "mild" a manner. In fact, surveys of New Zealand bar managers indicate that such an approach is preferable as it fosters an environment more conducive to positive change and compliance with liquor licensing laws than an aggressive, threatening approach (Webb *et al*, 1996). Burns *et al.* (1995) and others have pointed out that for any intervention targeting compliance with liquor licensing laws to be successful, the incentives to comply with the law must outweigh the incentives to break it (Burns *et al,* 1995; McKnight and Streff, 1994). Law enforcement/regulatory officials must have effective means of deterrence at their disposal; in this case the threat of significant financial loss. However, the manner in which enforcement activities are carried out does not necessarily have to reflect the severity, or likelihood, of these punishments being applied where licensees/serving staff are found to be in breach of licensing laws.

More recent evaluations have indicated that if the enforcement component of licensed premises interventions is approached with a harm-reduction focus rather than one that is strictly focused on compliance with laws, the outcomes may be positive for all involved, including licensees. This was demonstrated recently in another study carried out in New South Wales, where community concern regarding high levels of violence and crime in and around licensed premises prompted the development of a programme designed to enhance police enforcement of liquor licensing laws relating to licensed premises (Wiggers *et al*, 2004). The authors reasoned that while there were several examples of well documented police enforcement approaches in the literature, there was in fact little evidence of the impact or efficacy of these strategies in reducing alcohol-related harm.

As part of their planning, Wiggers' team made an initial assessment of existing police enforcement activity. The findings of this assessment provide some insight into the factors which may impede effective enforcement of liquor licensing laws, and are not limited in their relevance to New South Wales:

- "*Inadequate intelligence data regarding alcohol involvement in crime*
- *Inadequate intelligence data regarding the last place of alcohol consumption by people involved in crime*
- *System difficulties in retrieving alcohol-related intelligence data and in identifying high-risk premises*
- *Insufficient police resources for enforcement of liquor licensed laws*
- *A low priority being given to enforcement of licensed premises; and*
- *High cost of proven enforcement strategies"*

(Wiggers *et al,* 2004; 357).

In order to address the inadequacies of intelligence data regarding alcohol involvement in crime in NSW, Wiggers *et al* (2004) developed what they have called the "Alcohol Linking Program". This involved all operational police routinely collecting specific information from persons involved in police attended incidents including whether the person had consumed alcohol prior to the incident; how intoxicated the person appeared to be, and where the person had last consumed alcohol including: details of licensed premises. This information is similar to that collected by New Zealand Police as part of the Alco-Link system. The information collected was then used to direct policing efforts to particular premises.

Police conducted audits of service and management practices at these premises and findings were then discussed with the licensees, together with recommendations for improvement. The efficacy of their approach was assessed through a randomised controlled trial involving 400 licensed premises in NSW. Wiggers *et al* (2004) reported a statistically significant reduction in alcohol-related incidents associated with premises that were part of the test group assigned to the "Alcohol Linking Program", compared to those that received "normal" policing. A survey of police staff, licensees and residents in the area found that the majority of people found the new policing approach acceptable; in addition many of the licensees said that they found the audit and feedback reports from police helpful.

In addition to these findings, a comparison of alcohol-related crime rates following the implementation of the strategy with the crime rates during a "baseline" period in the previous year suggested a reduction of up to 22 percent in the number of intoxicated patrons involved in incidents that followed their reported consumption of alcohol on audited premises (Wiggers *et al,* 2004).

The New Zealand Police Alcohol Action Plan published in March 2006 describes Police aims to lower alcohol-related harms. This coincides with similar efforts being made in the UK and Australia, and with a social marketing campaign by ALAC to reduce tolerance of binge drinking and intoxication in New Zealand. Opportunities have been identified for police supervision of alcohol-related problem areas (e.g. licensed premises and surrounding locations) and high-risk times (evenings and weekends). Specific interventions include working with owners and managers to encourage responsible management for prevention of later incidents, the installation of cameras, and working with relevant groups in enforcement, monitoring, hospitality and liquor to develop further

strategies for the reduction and prevention of alcohol-related harms (The New Zealand Police Alcohol Action Plan, 2006).

The action plan describes the key activities as preventing and reducing alcohol-related offences through monitoring and enforcement, continuing tough drink-driving countermeasures, continued development of alcohol-related intelligence gathering, coordinating policies, procedures and processes related to liquor licensing, and working with key stakeholders.

Monitoring and enforcement includes tasks such as: visits to licensed premises (routine or hot spot); monitoring of public areas; and working with partner agencies to encourage responsible selling of alcohol. Doherty and Roche (2003) identify the effective principles of policing as shown below.

Table 2 Strategies to reduce alcohol-related offences

Licensing	Ensure liquor licensing decisions consider community and patron safety
Management	Ensure management practices comply with legislative requirements, and reduce risk of harm to staff and patrons
Staff training	Ensure bar staff, security and management understand their legal obligations
Responsible service policies	Ensure staff understand and engage in responsible server practices
Premises design	Ensure licensed premises are designed in a way that minimises potential for harm
Responsible marketing strategies	Ensure the licensed premises are promoted in a way that does not encourage violence or excessive consumption
Community education	Reduce alcohol-related social disorder by improving public awareness of liquor laws
Public transport	Ensure sufficient public transport is available, to disperse patrons quickly and prevent drink driving
Collaborative crime reduction strategies	Establish cooperation between police, licensees, liquor authorities, local councils and the community and develop collaborative strategies to reduce alcohol-related incidents
Enforcement	Ensure a visible police presence at and around licensed venues and events, and ensure action is taken for breaches of liquor and other legislation

To assist with monitoring and enforcement, New Zealand Police use alcohol-related intelligence collected through Alco-Link, a national system for collecting and analysing data relating to the effects of alcohol on offending and victimisation. This system uses the links between offenders and victims to where they consumed alcohol to identify problem patterns. This focuses police activities on identified 'hot spots'. This data is instrumental in the use of the Graduated Response Model (GRM) which frames police work regarding liquor licensing. In this model, breaches of SOLA regulations are progressively attended to starting with more informal notification through letters or phone calls, and moving up to on-site visits or legal action if the Alco-Link data indicate ongoing problems. The GRM is further supported through the development of relations with key individuals, organisations and groups to encourage voluntary compliance with SOLA regulations. This reinforces the promotion of safe serving practices and leads to a reduction in the need for police supervision of licensed premises (The New Zealand Police Alcohol ActionPlan, 2006).

3 Methodology

3.1 Approach

There are a wide variety of available policy-related interventions aimed at reducing alcohol-related harms, each of which has shown some promise in harm minimisation. These include interventions and controls that affect: how, when, and where alcohol is sold, consumed and priced; the broader social environment surrounding alcohol use; how existing alcohol policies are enforced; and how underage youths obtain alcohol (Wagenaar & Toomey 2000).

Existing research has found that responsible serving practices designed to limit public intoxication are an effective strategy for harm minimisation, as measured across a variety of indicators (Caetano & Herd 1988; Holder, Greunewald, Ponicki *et al.* 2000; Wallin, *et al.* 2003). Intelligence-directed visits by police and other regulatory authorities to licensed establishments appear to be an effective means to facilitate host responsibility and thus minimise harm (McKnight & Streff 1994; Wallin, Norstrom & Andreasson 2003). In part, the monitoring of licensed premises may be effective at encouraging responsible serving practices as liquor laws are often not very well enforced (Homel, *et al.,* 2001). This is important, as drinking in public is positively related to the level of consumption (Jones-Webb, *et al.,*r 1997) and the extent of alcohol-related problems (Caetano & Herd 1988). Monitoring also reduces underage drinking in establishments, which research has found to be particularly likely to increase alcohol-related harm (Casswell & Zhang, 1997).

The present research was based on a pilot study undertaken in Wellington in late 2004 and early 2005, which found that a heightened focus by regulatory and enforcement agencies on licensed premises was associated with a reduction in violent crime and disorder offences and fewer ambulance attendances at incidents involving alcohol (Sim, *et al.,*, 2005).

The current study has been designed to increase knowledge about the effectiveness of multi-agency approaches to reducing the harm caused by intoxication and other risky drinking behaviours in licensed premises. It evaluates the effectiveness of interventions applied by Police, licensing inspectors, and regional public health units of District Health Boards in the regulatory control of licensed premises. The study measured the effectiveness of regulatory activity applied over a period of 10 months between March and December 2006.

As with the pilot study, the research used a quasi-experimental, interrupted time series research design to assess the impact of heightened enforcement activity in licensed premises, compared to normal levels of enforcement activity by regulatory and enforcement agencies. The research was undertaken in three geographical areas - Manukau East, Christchurch northern suburbs and Queenstown..

The monitoring was applied to increase licensees' and general managers' focus on intoxication. In all three sites, this involved a heightened focus on preventing the service of alcohol to intoxicated patrons on licensed premises, with increased regulatory and enforcement monitoring by the police, licensing inspectors and regional public health services. As discussed below, there was some variation in the nature and timing of the intervention in each research site in order to accommodate local conditions.

A quasi-experimental design was chosen for the research as it is important methodologically that the outcome of one intervention be assessed at a time (Cresswell, 1994). Examining one intervention at a time is preferable (and generally necessary without complex modelling) because when multiple interventions are introduced and

examined simultaneously, it is impossible to disentangle the effect of one intervention or measured outcomes from the other.

There was a strong local liaison element to the project, with the research team working closely with staff from local Police, licensing inspectors and regional public health staff. The research team also worked with Police, St John Ambulance Service and a hospital emergency department, to secure relevant time-series data to enable evaluation of the impact of increased enforcement activity.

Outcomes were measured by quantifying the incidence of:

- Alcohol-related offending, victimisation and other measures of harm judged from Police crime and incident datasets; and
- Social outcome indicators, including the number of alcohol-related injuries presenting at emergency departments and ambulance call-out incidents.

Outcomes were also assessed using qualitative information. Observational measures were collected in licensed premises during both normal and heightened enforcement activity. This involved the placement of trained observers in licensed premises to monitor and record the behaviour of management, staff and patrons.

Key informant and focus group interviews (with bar management and staff, Police officers and the trained observers) were also conducted to assess the perceived impact of enforcement activity.

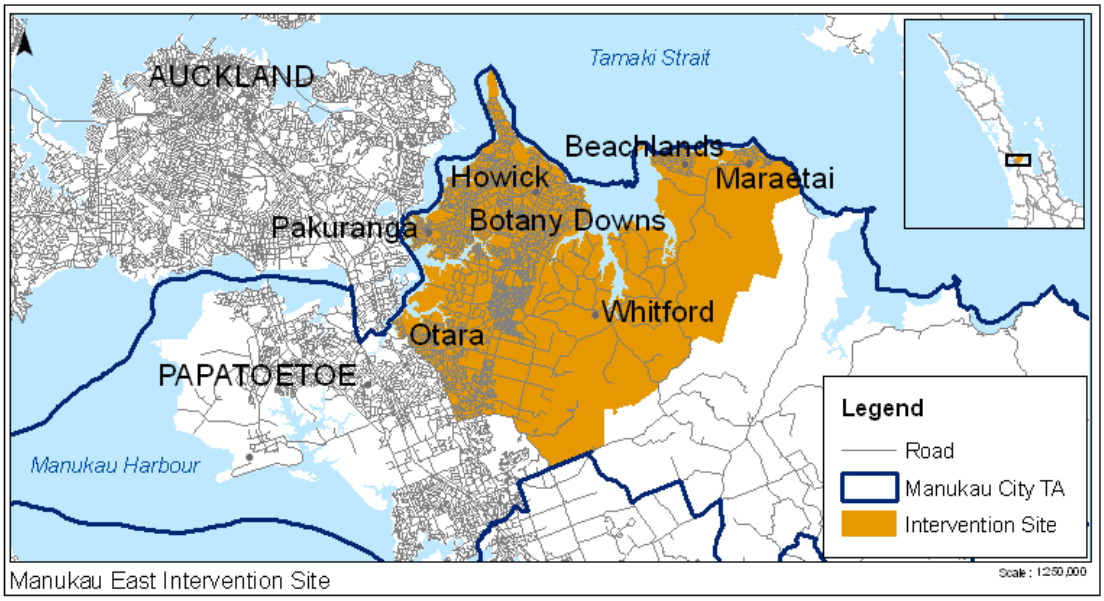
The following sections discuss each aspect of the methodology in more detail.

3.2 The research sites

3.2.1 Manukau East

The eastern area of Manukau City (Manukau East) was selected for inclusion in the study. This area covers a wide geographic area including Otara, East Tamaki, Pakuranga, Howick, Botany Downs, Maraetai, Beachlands and Whitford. It also includes, on the margins, the eastern side of Papatoetoe (east of the Great South Road).

The eastern part of Manukau city was selected because it includes a wide cross-section of socio-economic areas and it was considered by the local police to have had an increase in alcohol-related problems emanating from licensed premises. This area includes low socio-economic areas with high populations of Maori and Pacific people (Papatoetoe East, Otara and East Tamaki) and high socio-economic areas with large numbers of Asian and Pakeha people, many of whom are retired (Howick and Pakuranga/Botany Downs). Manukau City has no specific hub of licensed premises, with premises in Manukau East widely scattered geographically. There are some small clusters around the respective townships but most of them are places that people would tend to drive to rather than walk or use other transport.



In 2006, there were 488 licensed premises (bars/taverns/clubs and restaurants/cafes) in the whole of the Manukau city region, although there were less in the eastern area (217 excluding sports clubs). Of these only 30 were bars, taverns or nightclubs. The premises varied in size and number of patrons from premises with a capacity of 20 or 30 people to larger premises that could hold a hundred patrons. All bars are required to be closed by 3am in Manukau East, however, some premises closed before this time (around midnight or 1am) during the study period.

There is a regulatory/licensing team of six staff (led by a Sergeant) in the Counties/Manukau District police district. The team has close relationships with the local Manukau District licensing inspectors and Auckland Regional Public Health Services (ARPHS). All three agencies use the same data collection form in their visits to licensed premises, and often undertake visits together. They have collaborative intelligence processes and cooperate to address any matters/incidents linked to licensed premises.

Their operational mode is in effect a rolling intervention process with an emphasis on proactive preventative policing. They have a commitment to maintaining a police presence on licensed premises and focus on working with licensed premises to gain compliance when issues initially arise, rather than relying on reactive enforcement. Reactive approaches have reportedly not worked well in the past in Manukau.

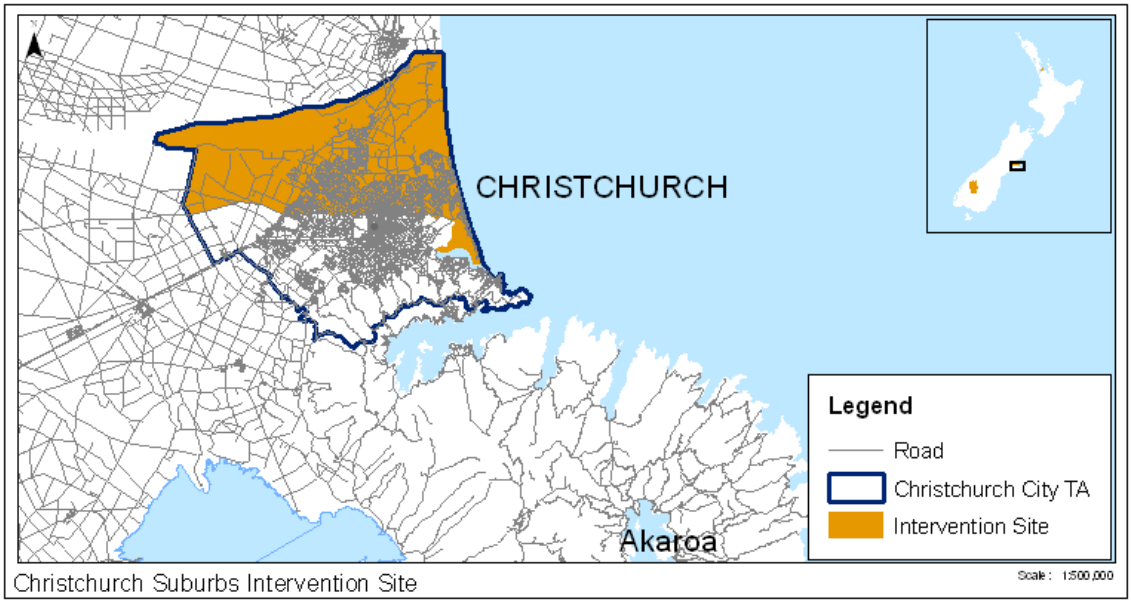
The Manukau police team is continuing to refine the Graduated Response Model (GRM) regionally as part of the Police Alcohol Action Plan. When identifying premises for monitoring, Manukau police use a scoring system with points allocated to alcohol-related offences depending on the seriousness of offences - similar to a demerit system. When premises reach a certain score they are contacted, initially within the context of improving their management and staff training, business planning in terms of strategies to deal with certain patron demographics, bar migration issues, etc. They do this alongside a continuum/log of events/interventions by all the agencies involved; police, licensing inspectors and public health staff.

3.2.2 Christchurch northern suburbs

The northern suburbs of Christchurch were selected as a research site because suburban licensed premises have had a relatively low level of attention from regulatory and enforcement agencies to date. It was hoped that introducing heightened monitoring and enforcement to premises in this suburban area might result in observable

improvements to premises management practices and a measurable reduction in alcohol-related harm.

The research focused on premises in the areas covered by the Papanui and New Brighton police stations. This area broadly covers the area north of the city to the Waimakariri river, bounded by the city boundaries on the west and the coast on the east (including the New Brighton spit). Suburbs in this area include Yaldhurst, Harewood, Russley, Burnside, Bryndwr, Fendalton, Merivale, Papanui, Casebrook, Northcote, Redwood, Belfast, Styx, Northwood, Marshland, Ouruhia, Mairehau, St Albans, Shirley, Richmond, Dallington, Westhaven, Avondale, Wainoni, Bexley, Aranui, Burwood, Parklands, Waimairi Beach, Northshore, North New Brighton, New Brighton, South New Brighton and Southshore.



Christchurch Suburbs Intervention Site

There are approximately 50 public bars in the northern suburbs, as well as a number of workingmen's clubs, sports clubs and other licensed premises. Small clusters of bars are located at the New Brighton, Papanui and Merivale shopping areas (four to six premises each) with a further two premises at the Palms shopping centre in Shirley. The liquor licences of these premises enable them to remain open until 1am, 2am or 3am at the weekends. The remaining bars are suburban bars, most of which close around 11pm to midnight.

Most premises in the study area normally receive little attention from the Police and regulatory agencies. Liquor licensing is a part-time responsibility of two general duties police officers in the area: one for the Papanui police station and one for New Brighton. Enforcement visits are usually undertaken two to three times a year over two nights by each of these officers, accompanied by one or two other police officers, as part of the Police's Community Alcohol Action Programme (CAAP). These visits generally occur on a Thursday and Friday night. Regional public health services (Community and Public Health) and the District Licensing Authority are not active in the area, only undertaking visits in conjunction with new licence and renewal applications as required. Community and Public Health also undertakes some training of bar staff on occasion.

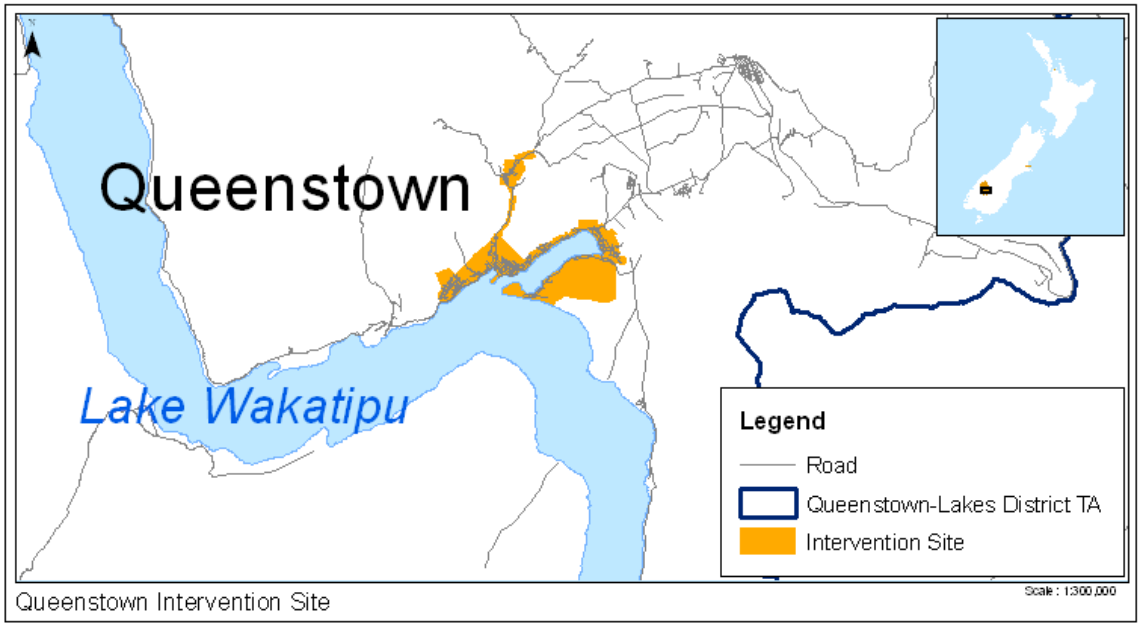
The three agencies work more closely together within the central city. The three agencies all have staff dedicated to liquor licensing and effectively work as an interagency team. They meet regularly, undertake joint monitoring visits to licensed premises most weekends, co-ordinate any enforcement action required and are all involved in training sessions for bar staff. While focused on the central city, the multi-

agency group does conduct some monitoring of suburban premises, including periodic visits to some of the busier premises within the study area.

3.2.3 Queenstown

Queenstown-Lakes District has a resident population of approximately 23,000 with three quarters of this population aged between 15 and 64 years. In comparison to New Zealand as a whole, the Queenstown population is less diverse ethnically and slightly more affluent that the rest of the country, with significantly less unemployment. Consistent with Queenstown's reputation as a popular tourist destination, the most numerous occupational group according to the 2006 census was Service and Sales Workers. Tourism figures for 2003 indicate that there were over 850,000 overnight visitors in 2003, spending $374.7m in the region.[2]

There are over 300 licenses in the Queenstown-Lakes area, according to Council information. Only 33 of these are held in bars or nightclubs in Queenstown, with the remainder of licenses held by staff working in gift shops or wineries in the region. The majority of these bars and nightclubs are clustered in the central tourist area of the town.



Queenstown Intervention Site

Prior to the appointment of a full-time liquor licensing officer in November 2005, the majority of the 33 premises in Queenstown received periodic monitoring from police and other regulatory agencies, apart from occasional focussed operations and attention around licensing renewals. Night-time monitoring and enforcement visits involving police and the licensing inspector usually occurred once every six weeks. Public Health South also conducted visits to licensed premises. These visits were generally carried out only when a licensee applied for renewal. In Queenstown, Public Health South prefer to keep their visits separate from police and council regulatory visits, in order to maintain their focus on health issues rather than regulatory compliance issues. Two public health staff dedicate one day each per week to licensing issues across the Otago region, an area much broader than the study's central Queenstown focus. Public Health South also undertakes some training of bar staff through facilitation of DrinkSafe workshops.

From December 2005, police created and filled a new liquor licensing officer position and there was a consequent increase in licensed premises monitoring and other compliance activity.

[2] New Zealand Regional Tourism Forecasts 2004 – 2010. Queenstown RTO. August 2004.

3.3 Enforcement intervention

In all three sites, agencies were asked to heighten their focus on intoxication, including increasing their monitoring of licensed premises. They were asked to coordinate with each other. This included participating in local liaison meetings and sharing intelligence on local environmental factors impacting on enforcement. Agencies were also asked to provide information on the scheduling of their visits to enable coordination with the research team conducting observations of the visits (discussed in section 3.6 below).

The monitoring visits were to be intelligence-driven and targeted to locations and times identified as having heightened risk of alcohol-related harm. For example, agencies were asked to consider visiting premises where there were previous incidents requiring a police response (e.g. disorderly conduct, intoxication, sales to underage patrons, assaults, or other disturbances) and/or where there was Alco-Link data identifying them as a premises where individuals commonly consumed alcohol shortly before committing an offence and/or where there was other intelligence held by the agencies suggested the premises should receive a heightened focus (e.g. previous non-compliance with Sale of Liquor Act requirements).

Agencies were asked to record any intoxication and other areas of non-compliance identified during the monitoring visits. They were to discuss what they observed with the duty manager and to take follow-up action with licensees and general managers as required. The enforcement agencies were asked to actively pursue any ongoing compliance issues that could not be resolved through other means, by applying to the Liquor Licensing Authority for alteration, suspension or cancellation of the relevant liquor license(s) or general manager's certificate(s).

Each research site presented different types of licensed premises and drinking environments, and so the agencies adopted slightly different approaches to suit local conditions. These different approaches are more fully documented in the results section. The regulatory interventions involved:

- *Intervention periods*
  In Manukau East, the agencies conducted a series of five heightened monitoring and enforcement interventions, each lasting one to two weeks. In Christchurch northern suburbs, two six-week interventions were planned. In Queenstown, the regulatory agencies planned to heighten their monitoring and enforcement during the entire winter season (late June to early October). This coincided with a period of traditionally high tourist volumes and high activity in the local night-time economy.

- *Level of coordination*
  The interventions in Manukau East and Christchurch northern suburbs were planned to involve joint monitoring visits to licensed premises by a combination of police officers, licensing inspectors and regional public services staff members. In Queenstown, Public Health South staff members chose to keep their visits separate, but to support the other agencies by increasing the focus on intoxication in their work with licensees.

- *Use of specialist staff*
  In Manukau East, the police officers involved in conducting monitoring visits were liquor licensing specialists. In Christchurch northern suburbs, Police planned to use a combination of specialist liquor licensing officers (normally based in the central city) local part-time liquor licensing officers and general duties police officers. In Queenstown, the police officers to be involved in the monitoring visits were either the specialist liquor licensing officer or general duties officers who would be assigned premises visits as a part of their directed patrolling plans. Monitoring in all three sites

also involved licensing inspectors and specialist staff from the relevant regional public health service.

- *Visibility of police officers*
  In Manukau East, police officers were to conduct visits out of uniform. In Christchurch, the agencies decided that the police would alternate between nights in uniform and nights in plain clothes. The Queenstown intervention involved uniformed police officers.

- *Conduct of premises visits and follow-up action*
  The Manukau East regulatory agencies agreed to monitor each licensed premises using their multi-agency monitoring check-list, which covers the main Sale of Liquor Act requirements. The regulatory agency staff were to talk to the duty manager about what they observed and highlight any non-compliance issues. If intoxicated patrons were identified, the premises would be automatically upgraded in line with the Graduated Response Model used in Manukau East.

In Christchurch northern suburbs, the visits were to follow the same approach used by the regulatory agencies in central Christchurch. This approach involved one person in the regulatory team locating and talking to the duty manager during a licensed premises visit, while the other(s) walk around and observe the premises. Any areas of non-compliance with the Sale of Liquor Act are discussed with the duty manager. The agencies first response to any areas of non-compliance identified is to offer assistance in 'getting it right'. Where problems persist, follow-up action is taken with the Liquor Licensing Authority.

In Queenstown, when a regulatory team visits a licensed premises, one person locates and talks to the duty manager, while the other(s) walk around and observe the premises. Any compliance problems identified during the monitoring visits were to be resolved through meetings between police officers, the licensing inspector and public health staff with the licensees and general managers concerned. If compliance issues persisted then the police and licensing inspector were to apply to the liquor licensing authority for alteration, suspension or cancellation of the relevant liquor license(s) or general manager's certificate(s).

3.4 Alcohol-related harm indicators

3.4.1 Recorded offence data

Police-recorded offence statistics were used as an indicator of alcohol-related crime outcomes. Data was selected covering three offence categories commonly associated with alcohol-affected offenders and/or victims:

- Violence: covering all violence offences excluding kidnapping (but including homicide and assault and intimidation offences)
- Drugs and antisocial: covering disorder offences only
- Property abuse: covering property damage offences

These offence categories were chosen as indicators because alcohol has been identified as a potential aggravating factor in all these types of crimes. These offences all feature as common categories involving alcohol affected offenders; as indicated by Police's Alco-Link data. Other studies of alcohol-related harm have utilised similar offence data. New Zealand and international research shows links between alcohol and street crime such as violence, disorder and property damage (e.g. APHRU, 2001; Teece and Williams, 2000; Casswell *et al,* 1997; Felson *et al,* 1981 cited in Quigley, Leonard and Collins, 2003; Makkai, 1998). Some of these prior studies have drawn potential links

between the level of alcohol consumption and the likelihood of committing violence, disorder and property crime.

The data was also filtered using the time of recorded offending in order to sensitise the analysis to the prevalence of alcohol-related crime at times likely to coincide with relatively high levels of patron intoxication. Data was chosen covering Friday night (Friday 2100 to Saturday 0600) and Saturday night periods (Saturday 2100 to Sunday 0600).

Table 3: Offences used to indicate alcohol-related crime

ALCOHOL RELATED CRIME INDICATORS			
INCLUDED IN ANALYSIS		*EXCLUDED FROM ANALYSIS*	
Offence category/class		*Offence type*	
Code	*Description*	*Code*	*Description*
1400	Grevious assault	1550	Assault on police
1500	Serious assault	1560	Assault on person assisting police
1600	Minor assualt	1610	Assault on police
		1620	Assault on person assisting police
5000	Property damage		
3500	Disorder		
TIME FILTERS APPLIED TO OFFENCE DATA			
INCLUDED IN ANALYSIS		*EXCLUDED FROM ANALYSIS*	
Friday 2100 to Saturday 0600 Saturday 2100 to Sunday 0600		Sunday 0600 to Friday 2100 Saturday 0600 to Saturday 2100	

The majority of violence, disorder and property crimes occur at locations other than licensed premises (such as on public streets and in parks). It was felt that because the research design solely involves assessing the impact of police patrols to licensed premises, this means that the interventions themselves are unlikely to introduce any significant confounding effect on recorded levels of these indicator statistics. Given that the intervention in all three locations was focused primarily on bar management, and not on patrons, then monitoring visits alone did not necessarily impact on the detection of alcohol-related offending.

In addition to the core indicator offences (violence, disorder and property damage), some other offences relating to alcohol-related crime were also monitored (for example, underage drinking). However, as the intervention involved proactive policing, it is noted that the rate of issuance of alcohol offences could arguably be affected by the increased Police presence in licensed premises during periods of heightened activity.

The following additional options for indicator statistics were considered but rejected:

- Sexual attack offences were considered but were excluded from analysis as there were very few of these that occurred in public places.
- Dishonesty offending was not proposed as an indicator because the majority of dishonesty offences recorded in official crime statistics are not prominently represented in Alco-Link data.
- Traffic offence data was collected, but interpreted cautiously, because recorded traffic alcohol offences are expected to show a high dependence on the frequency and location of proactive police traffic alcohol operations. The frequency and location of these traffic operations was not controlled during the study.

Offence data was obtained for the period five years before the year of study (2001 to 2005). This data enabled a seasonal comparison to be made between offences committed during the heightened enforcement periods during 2006 and those recorded during the same time periods in prior years. There was a change in the Police database system during the time the data was collected. This is addressed in section 3.8.1 of the report.

3.4.2 Alco-Link

Data from Alco-Link was obtained from Police. The Alco-Link system involves police officers assessing the level of intoxication of any person apprehended. The arresting police officer assesses whether the offender is under the influence of alcohol and, if they are affected, asks the person where they consumed their last drink. It is important to note that the assessment of the level of offender intoxication that is made by the apprehending officer may not be as consistent as assessments of intoxication made by police staff who frequently monitor licensed premises (such as specialist liquor policing staff).

The data from Alco-Link is arguably a sensitive indicator of the impact of any alcohol enforcement interventions. This is because offences can be specifically linked to alcohol involvement and drinking locations and, if applicable, to individual premises. Offences occurring at residential dwellings were excluded from the Alcolink data that was analysed.

Alco-Link has been implemented nationally quite recently with data only available from July 2005 to January 2007. Thus, the ability to review earlier periods (i.e. prior to July 2005) to assess seasonal effects on the data is limited.

3.4.3 Sale of Liquor Act 1989 and liquor ban offences

Records of Sale of Liquor Act offences and Liquor Bylaw offences were obtained from each site to assess the wider alcohol context within which the licensed premises interventions took place. Both these data sets, covering the years 2001 to 2006, were available from police.

Time series analysis was not conducted on either data set as they were not considered to be reliable indicators of the regulatory interventions applied during this study.

The Sale of Liquor Act data covers offences such as sale of alcohol to minors and sale to intoxicated persons, among other types of offences. The data covers offences occurring at different types of locations such as on-licensed premises, clubs and off licensed premises. Offences occurring at each type of location were not able to be reliably separated. Importantly, the level of recorded offending was not necessarily a reliable indicator of the extent of intoxication or sale to minors because local police practice dictates the extent to which Sale of Liquor Act offences are recorded as crimes in official offence statistics. Where Sale of Liquor Act offences are resolved by informal means or by making applications to the Liquor Licensing Authority, then they are not usually recorded in official crime statistics.

The Liquor Bylaw offences identify when police have recorded breaches of local liquor bans. These are offences in public places (and not on licensed premises). However, they do provide insight into environmental factors such as the existence of broader issues, public place alcohol consumption and the level of police enforcement of liquor bylaws.

3.4.4 Emergency department presentations

The research team could access data on alcohol-related presentations at hospital emergency departments from Queenstown only. This was due to limitations on the availability of this data at other sites; for example, the existence of hard copy files versus electronic copies, the ability to access anonymised data, and willingness of hospital staff to assist with data collection.

There was careful consideration of the implications of the Privacy Act in any handling of data. The collection and use of the information was covered by approvals obtained from the Ministry of Health's multi-agency ethics committee.

The emergency department information obtained from Lakes District Hospital in Queenstown comprised two data sets:

1. A table of demographic and medical data covering all emergency department presentations occurring during 2005 and 2006.
2. A database identifying alcohol-related presentations by patients who were international visitors to Queenstown. This data also covered the period 2005 and 2006.

The research team investigated whether they could obtain some other types of data across all three study sites. The primary focus was hospitalisation data collected by District Health Boards according to International Statistical Classification of Diseases and Related Health Problems (ICD coded records). It was hoped that using data such as this, collected over lengthy time periods, would enable the assessment of seasonal variations in alcohol related medical conditions. This would have assisted in the assessment of impacts on alcohol harm from the regulatory interventions. However, due to limitations of the ICD coded data, this was not possible.

3.4.5 Ambulance attendance

Ambulance attendance at alcohol-related incidents provides a further indicator of alcohol-related harm. Researchers secured anonymised case record data from St John Ambulance Service for each of the three geographic areas.

St John Ambulance Service records information on the time of an incident, the nature of the emergency and, in the case of Manukau East and Christchurch northern suburbs, the geographic location. The type of injury is recorded by paramedics at the scene, based on standard case codes. The categorisation is made according to the most serious injury so while there is an 'intoxicated' case code, many alcohol-related incidents will be recorded under other codes such as 'intentional injury by another' or 'other accidents'.

The researchers discussed which case codes are most commonly used by St John Ambulance Service paramedics in relation to alcohol-related incidents in each of the three geographic areas. Data with relevant case codes were included in the study.

Data were obtained for the period from 2001 to 2005 in order to provide a baseline for comparison with the 2006 experimental period. There was a change in the St John Ambulance Service coding system during the period of interest (for example, code 23C08-OD/Ingestion/Poisoning was preceded by Code 761-Possible Drug/Alcohol) and code A4A00 Assault/rape was preceded by Code 560-Assault. This issue is discussed in greater detail in the section 3.8.1 of this report.

Table 4: Ambulance case codes that were used to indicate possible alcohol-related harm

INCLUDED IN ANALYSIS	
Case Code	*Case Description*
560	Assault
570	Fall
761	Alcohol poisoning
04A, 04B, 04D, 04O	Assault /Rape
23B, 23C, 23D, 23O	Ingestion/poisoning
27A, 27B, 27D	Stab/gunshot wound

3.4.6 Alcohol-related incidents

Alcohol-related incident data were obtained from the Police's incident and offence records (INCOFF). Police record the attendance of officers at a range of non-crime related incidents that police are called to. The incident data obtained were:

- Code 1K, which are incidents where police are called to attend to an intoxicated person requiring police assistance. This can be used as an indication of public drunkenness where there is a high level of intoxication.
- Code 1H, which are incidents where police are called to attend to an incident at a licensed premises.

3.5 Statistical Model/Data analysis

A quasi-experimental, interrupted time series (ITSE) research design was used to evaluate the impact of increased periods of multi-agency liquor enforcement activity during defined periods of time (the "heightened" enforcement periods) versus "normal" regulatory and enforcement activity in licensed premises in the research areas; Manukau East, Christchurch northern suburbs and Queenstown. The timing of the heightened enforcement periods and the approach taken in each site varied according to local conditions, which meant that any influential change at the national level would not overlap with the intervention periods in all three sites.

The ITSE data were analysed using the autoregressive integrated moving average (ARIMA) modelling for time series data. ARIMA models are a powerful class of models which can be applied to many real time series to better understand the trends in the data or to predict future patterns or points in the series. ARIMA models include an autoregressive component (to account for the fact the data are correlated or not independent) and a moving average. Into this model the weekly totals of the response were predicted using not only the intervention period but other possible influences.

Over the study period of March to December 2006 an environmental scan was conducted in each of the three sites. Effects likely to affect the results of the evaluation were factored into the ARIMA modelling analysis. Specific controlling factors tested for

significant influence in the Queenstown model are the winter festival, the skiing season and Easter weekend when two large public events were held in the region ('Warbirds over Wanaka' and 'Race to the Sky'). Specific to Manukau East were the local drink driving blitzes, the Airport Foodtown reducing its alcohol selling hours, the extension of a liquor ban to Howick and two youth worker programmes. Specific to Christchurch northern suburbs were the local drink driving blitzes and the introduction of a locked door policy applied to licensed premises located in central Christchurch. A change in the Police Crime database and a change in coding outcomes for St John Ambulance data were also included in the models as factors.

Where possible, data were collected from 2001 onwards in order to ascertain seasonal effects in the data and also to obtain sufficient data from different periods of enforcement activity.

Time series analysis was not used on police incident data (1H and 1K incidents) due to limitations of those data. It was assessed that the recording of 1H and 1K incident data was affected considerably by Police practice.

Time series analysis was not used on Emergency Department data. There were two Emergency Room datasets obtained from Queenstown; analysis of the first dataset involved selecting individuals aged 16 to 65 years as these ages were more likely to involve acute incidents of alcohol-related harm (and not long-term medical conditions). The proportion of presentations to the Emergency Department in 2005 and 2006 were compared to identify whether Emergency Department incidents reduced in 2006, the year in which the intervention ran. This type of analysis was done as Accident Compensation Claim numbers were missing periodically throughout the dataset making the identification of accidents in the data unreliable. Qualitative analysis was undertaken on the second dataset as the numbers of cases with descriptions of reason for presentation were unreliable and numbers were small. Thematic analysis was undertaken on individuals 16-65 years to identify patterns in Emergency Department presentations that were relevant to alcohol and alcohol-related harm.

Time series analysis was not used on liquor ban or Sale of Liquor Act offences as these data were not directly related to the intervention. They were utilised as contextual information, as opposed to indicators of the intervention.

3.6 Observation of police/multi-agency visits

For each of the three research sites, non-participant observations were carried out to examine the impact of regulatory agency visits and the interactions of regulatory staff with patrons and bar staff. Observers were also asked to describe the licensed premises environment during both non-intervention and intervention periods.

The "complete" or "non-participant" observational method was considered suitable for this research project as the behaviour under study occurs openly and in a public place. This method is preferable to other, more invasive observational strategies because the level of associated "reactivity" is minimised. That is, non-participant observation minimises the chance that research subjects will alter their behaviour due to the presence of the researchers in the research environment. This approach is particularly appropriate for busy, public venues such as licensed premises because, as Schutt (2001: 272) notes "*In social settings involving many people, in which observing while standing or sitting does not attract attention, the complete observer is less likely to have much effect on social processes.*"

Thus, although observers were present in the field of study (i.e. drinking establishments) reactivity concerns were minimal. Observers made every effort to exercise discretion in their observation and recording and avoid any direct interaction with other patrons, as

well as limiting their contact with servers to requesting (non-alcoholic) beverages and/or food.

Ethical concerns surrounding the research project are also minimised with this approach, as compared to observational strategies involving more researcher involvement (Schutt, 2001).

3.6.1 Recruitment, training and management of observers

In Queenstown, observations were undertaken by members of the research team. In Manukau East and Christchurch northern suburbs, externally-recruited observers were used. They were selected based on their previous training and experience in carrying out observational studies and their ability to "fit in" to the licensed premises where observations were conducted. Most observers recruited were post-graduate social science students.

Observers were vetted to identify any conflicts of interest, including connections to the hospitality industry or previous work for the New Zealand Police. The external observers had no contact with the police staff, licensing agency staff or public health workers involved in the study at any point during the course of the research.

Observers were trained by research project personnel, using a common training package and research protocols. This helped to promote consistency between the three research sites. Observation reports were also reviewed by the research team to ensure that observers were consistently applying their training, and research protocols, throughout the course of the study. Observers were required to sign confidentiality agreements.

Observers attended a formal health and safety training seminar as part of their induction at the outset of the study. Material covered in this session included identifying potential hazards and developing strategies to deal with any hazards identified. Throughout the study observers were supervised by a research co-ordinator at each site, who was in contact by cell-phone while observers were "in the field".

3.6.2 Scheduling of visits

Observers worked in pairs or threes, generally working Thursday, Friday or Saturday nights during the heightened monitoring periods. Schedules of premises to be visited and the timing of observations were produced by the research co-ordinators after receiving the schedule of regulatory visits from the police. Queenstown observations were undertaken in one week blocks, reflecting the more continuous nature of the night economy in that location during the winter season.

Observers were scheduled to arrive at each venue 20-30 minutes prior to a scheduled police visit, and to remain for 15 -20 minutes after the police had left the premises. The observers' schedules allowed for police visits of up to 20 minutes in duration, which meant that observers were in each of the premises for approximately one hour.

Observations were also made during the month prior to the interventions, between periods of heightened interventions (Manukau East and Christchurch northern suburbs) and following the end of heightened interventions. Observations during these times were not co-ordinated with the police schedule; this allowed a shorter period of observation of 30 minutes duration.

3.6.3 Observational procedure

Observers were provided with street maps and details of the locations of the premises they were scheduled to visit each night.

Upon entering each bar/nightclub, observers undertook a thorough “walk-through” in order to identify subjects of interest and to familiarise themselves with the premises. At this stage observers identified the most suitable place(s) to locate themselves in the establishment. This decision was made by finding a location that represented the best balance in terms of unobtrusiveness combined with suitability for observing the patrons and serving staff (selection took into account visibility of subjects; visibility of the bar; and whether a large portion of the establishment could be observed). Safety issues were also considered in this decision, such as access to the bar staff and strategic concerns such as having a wall on at least one side wherever possible.

A set of guidelines covering the observational requirements was developed by the researchers in consultation with the observers. Throughout the course of their observations, researchers were asked to consider six variables on licensed premises:

- Environment (including crowding, visibility and noisiness).
- Individual behaviour/intoxication (including aggression, physical co-ordination and other obvious signs of alcohol impairment).
- Group dynamics (including group size, behaviour within or among groups and interaction with others on premises).
- Serving practices (including whether patrons were denied service and if patrons were provided drinks by their associates)
- Supervision (including if people are turned away at door and if so, why and whether staff appear to have oversight of drinking areas).
- Regulatory visits (including any changes in patron behaviour during or following each visit, changes in serving behaviour during or following each visit and any changes in supervision of bar).

Observers were instructed to use the same indicators used by police to assess whether any person appeared observably affected by alcohol and or other drugs to the extent that their speech, balance, coordination or behaviour is clearly impaired. These indicators are: altered speech patterns, such as slurred speech; glassy, bloodshot eyes, lack of focus, loss of eye contact; aggressive, belligerent or argumentative behaviour; and lack of co-ordination, stumbling or swaying. These indicators are consistent with existing international research in the area, (for example, including that by Toomey et al, 2001). Observers did not directly engage with patrons to assess speech and eye contact, though at times they located themselves nearby to make assessments of these factors.

The observers provided written reports of their observations based on the variables outlined above. These notes were written as soon as practicable after making the observations. Several observers found it useful to make notes while they worked; some jotted notes between visits, and others saved text messages into their phones to prompt their recall for their written records.

3.7 Participant feedback

Towards the end of the study, participant feedback was sought from police officers, licensing inspectors and public health staff involved in delivering the regulatory interventions and from licensees and general managers after the interventions were completed. Feedback from the latter group was anticipated to be useful in identifying industry perceptions of enforcement, how they considered regulatory activities during the study impacted on their activities, and any advice on future regulatory procedures. Separate focus groups were undertaken in each of the three sites. These were supplemented by key informant interviews in cases where participants were unable to attend the organised focus group meetings.

Focus group interviews were chosen because they are particularly suited to obtaining several perspectives on the same topic. These interviews were designed to obtain information about participants' perceptions of the regulatory agency interventions. Such interviews are not intended to generalise findings to a whole population, given that they involve a small number of participants and the likelihood that participants will not be a representative sample. They represent the views of the particular participants involved in this study.

Participants for the regulatory agency focus groups were selected on the basis of availability. They included police staff of mixed rank. Participants in the licensees/general managers' focus group interviews were drawn from a list of premises that had been visited frequently during the interventions.

The focus groups followed a similar format. The format involved discussion around six key areas:

1. What they knew about the interventions
2. What participants "gut feelings" were about the interventions
3. What they liked about the interventions
4. What they didn't like about the interventions
5. How the interventions could be improved
6. Agreement on key points to summarise findings.

Focus-group interviews were also conducted with observation staff and used to validate data collected from other participant focus-group interviews.

3.8 Limitations

3.8.1 Data limitations

Recorded offence data

The offences analysed were restricted to those likely to involve alcohol, because of their type (including violence, disorder and property damage) and the hours they occurred. Offences occurring between 9pm Friday and 6am Saturday, or between 9pm Saturday and 6am Sunday were identified as most likely to involve bar patrons and alcohol. This does not mean that all cases had alcohol involved but these were the times when it was likely that cases involving alcohol should have had their greatest influence on overall trends. The offences were also restricted to those reported with accurate time and date data.

There was a change to the Police offence database when police implemented a new computer system, which became operational from July 2005. At this point, the rate of offence recording increased by approximately five to ten percent. This change in efficiency was largely as a result of having introduced more efficient technology, increasing the emphasis on staff training relating to offence records, and other associated system changes. The change in offence recording did not occur during the intervention period. However, it was possible that the computer changeover could have affected the data collected during 2005 so the change was included in the model.

There are limitations associated with the availability of spatially precise crime data, because of the limited geographical information available in official Police offence statistics. Historically, official crime statistics were not classified according to precise location attributes (such as x-y coordinates). Hence, data collected for this study were classified according to police geographic station boundary areas; the most precise geographic boundary attribute available across the period 2001 to 2006.

When offence categories were analysed separately (e.g. violence, or disorder, or property damage) the numbers of offences recorded in each site were relatively small, making it difficult to detect significant changes.

Alcohol involved traffic crashes

Motor vehicle crashes recorded as involving alcohol are not solely influenced by the number of drunk drivers on the road. Weather may have an effect, particularly during winter when roads might be icy. The numbers of motor vehicle crashes in each site were relatively small making it more difficult to detect significant changes.

Road alcohol offences

The rate of recorded road alcohol offending is likely to be a function of the level and location of police enforcement activity, as well as indicating any prevalence in drink driving.

Alco-Link

The Alco-Link data is a non-random sample of offenders. Alco-Link is not fully independent of the intervention, because the data is actually used to target licensed premises for increased enforcement activity. However, the vast majority of Alco-Link data is derived from offenders apprehended by police staff not involved in the study and from arrests made at locations other than licensed premises. Furthermore, any apprehensions occurring on licensed premises are highly unlikely to have been made by officers involved in the heightened regulatory activity, as the sole focus of the officers involved in the interventions was to work with licensees and general managers to identify and resolve alcohol-related compliance issues, as opposed to apprehending patrons for any criminal activity. The exception was in Queenstown, where general duty officers participated in regulatory visits alongside duties involving patrolling Queenstown and responding to crime and incidents.

There are elements of the Alco-Link data collection process, such as intoxication assessments, which are based on subjective assessments by officers who have differing levels of experience in making such assessments. It is arguable that the Alco-Link data is not consistently accurate because licensed premises identification depends on the ability or inclination of intoxicated persons to identify the premises they have been drinking at prior to their apprehension. There has been no independent verification of the quality of the Alco-Link data (unlike official police crime statistics which have been subjected to quality control procedures for many years). This makes it difficult for the researchers to confidently establish a baseline for comparison with survey results obtained during the enforcement interventions. The proportion of apprehensions accompanied by Alco-Link information has improved with the national implementation of the survey during mid 2005. This implementation has impacted on the baseline; there is no data previous to 2005 so the ability to use data from prior years to assess seasonal effects in the data collected for this study has been limited.

Ambulance data

A limitation of all the ambulance data is that it is observational over a long period of time and changes in the way it is collected, recorded or stored could have a large influence on the data. The St John call out coding system changed on 1 October 2006, during the evaluation period of this study. The researchers are uncertain about the impact of the Ambulance Services computer system changeover. In Christchurch, the effect of the coding change appears quite marked (as discussed in Section 4). The coding system changeover may also have affected data in the other sites.

The ambulance data was restricted to assaults and alcohol/drug poisonings, since a reduction in intoxication seemed likely to reduce the numbers of these incidents.

Emergency department data

There are limitations associated with the data obtained from emergency departments. In particular, there is limited availability of comparable historical data and issues associated with consistency of coding.

A major limitation for the emergency department data was that it could not be obtained in Manukau East or Christchurch northern suburbs.

In Queenstown, two datasets were obtained. The first dataset included unreliable reporting of Accident Compensation Claim numbers during 2005. This meant the researchers could not identify acute incidents or accidents from medical conditions or longer term illness for some cases. The second dataset contained mainly overseas visitors to Queenstown, the numbers were small and descriptions of reason for presentation were missing for many cases.

Incident data
There were very few IH and 1K incidents in any of the sites and collection of this data is greatly affected by police data recording practices. This limited the use of these data sets, precluding any statistical analysis of the information.

Sale of Liquor Act 1989 & liquor ban offences
Data was obtained relating to Sale of Liquor Act offences (such as the illegal sale of liquor to minors). However, it was not possible to accurately separate the on-license events from the off-license events for Sale of Liquor offences. Also, because police often address Sale of Liquor Act violations using licensing processes (rather than pursuing court prosecutions), official offence data does not always include information about some Sale of Liquor Act offending. These limitations precluded the use of Sale of Liquor act data as an outcome indicator.

Key informant data
The key informant/focus group component of the study is not meant to reflect a statistically representative sample of any particular expert or industry group. These interviews represent 'convenience samples' of groups that have interests and perspectives on issues concerning the control of intoxication on licensed premises.

Observational data
The use of observational measurements has some inherent difficulties, in terms of the subjective nature of observations and the ability to promote consistency in recording and interpretation of observations. The research team did, however, provide training and support to observers along with ongoing internal quality review.

3.8.2 Limitations of the Quasi-Experimental Design

Although some alcohol policy studies are performed over an extended period (see Holder *et al.,* 1997), resources and the objectives of the current research precluded a longer time frame.

In this type of quasi-experiment, it can be difficult to separate the impacts of the intervention from other factors that might impact on indicators of alcohol-related harm. It was considered important that Police enforcement strategies not change significantly over the experimental time period. There were, however, some measures that may have impacted on observed alcohol-harm outcomes. These matters are addressed in more detail later in the report, and include alcohol initiatives within the central city in Christchurch and heightened policing of licensed premises in Queenstown that, commenced during December 2005. This is necessary as a major change in police practice could compromise the ability to attribute any changes in outcome parameters to the effects of the intervention. Other factors deemed to have possibly affected the data over the time of the study have been introduced into the statistical modelling in an attempt to understand their likely effect.

Many of the data examined here do not specifically relate to incidents from on-licensed premises. This is a limitation of the data analysis as it makes it more difficult to separate the effects of the interventions at on-licensed premises from incidents at a wide range of non-licensed premises. New Zealand Alcohol Surveys in 2000 & 2004 indicate that around one third of all drinking occurs in licensed premises (Habgood et al 2001; Ministry of Health 2007). Police Alco-Link data indicates that nationally around one quarter of alcohol-related offending involves drinking at licensed premises.

The research was dependent on the agreement and buy-in (and then continued compliance with agreed intervention methodology, including agreed timing for regulatory activity) among police officers, licensing inspectors and regional public health unit staff.

3.9 Ethical review and other approvals

Ethical review of the research methodology was obtained from the Multi-region Ethics Committee administered by the Ministry of Health. Ethics approval focused on approval for access to Police, Emergency Department and Ambulance data.

Approval for the research methodology and associated police operational proposals was also sought and obtained from the New Zealand Police's Research and Evaluation Steering Committee.

Approvals for the proposed tactical interventions and protocols for interaction between the research team and operational police staff were agreed in consultation with the management of participating agencies.

4 Results

4.1 Implementation of Intervention

4.1.1 Nature and timing of intervention

Manukau East

In Manukau East the intervention involved undertaking four approximately one week multi-agency liquor enforcement heightened interventions and one almost two week heightened intervention. This involved interventions for one week of almost every month from March to September, the exception being that no monitoring occurred during June or August, but there were two weeks of almost consecutive visits during July. In Manukau East ten problematic on-license premises were selected for particular focus. Multi-agency compliance visits were conducted at those premises on weekdays and weekends nights (8pm – 1am), usually for six consecutive nights.

The monitoring involved the Police licensing team (out of uniform) and staff members from other agencies (Auckland Regional Public Health Service and licensing inspectors) visiting the targeted premises and conducting an assessment according to their multi-agency check-list, which covers the main Sale of Liquor Act requirements. Agencies talked to the duty manager about what they had observed and any non-compliance issues. If there were obvious cases of intoxication, the premises was to be automatically upgraded from Level 1 (Of Note) or Level 2 (Troublesome) to Level 3 (Problematic) and appropriate action taken both at the time as well as initiation of the license suspension process with the LLA.

Christchurch northern suburbs

In Christchurch northern suburbs, the intervention involved two heightened enforcement periods, each lasting six weeks. Visits were conducted over six weekends between Thursday 6 July and Saturday 12 August 2006. There was a gap of approximately 10 weeks between the two interventions, when the level of monitoring and enforcement action dropped back to usual levels. The second intervention, starting on Thursday 26 October 2006 for three weekends, was paused during Canterbury Anniversary weekend on 17-18 November and then continued for a further three weekends, ending on Saturday 9 December 2006.

During the heightened enforcement periods, joint monitoring visits were undertaken to licensed premises by police officers, licensing inspectors and/or Community and Public Health staff. The agencies undertook the visits over two nights of every weekend, alternating between Thursday/Friday visits one weekend and Friday/Saturday visits the next. The visits were scheduled between the hours of 9.45pm and 1.15am and were planned for every half hour to enable coordination with research observations.

Each visit was undertaken by two police officers and a licensing inspector. For the first intervention, a staff member from Community and Public Health also participated in every second weekend of licensed premises visits. However, Community and Public Health staff were unable to participate in the second intervention.

During the first intervention, the police officers were in uniform for the first night of each weekend and in plain clothes for the second night of visits. Personnel from other agencies were in plain clothes for all visits. However, following the first intervention, the agencies decided that having highly visible police officers conduct the visits was more effective in influencing the behaviour of bar staff and patrons and so, for the second intervention, all visits were undertaken by uniformed police officers. The one exception

was a weekend where only one police officer was available and the Police considered that it would be safer for the officer to be in plain clothes.

Before each intervention started, the agencies developed a target list of premises, each to be visited at least once over the weekend. The target list was based on the agencies' previous experience and knowledge of licensed premises in the study area and other intelligence such as Alco-Link data.

The visits were conducted using the same approach as taken by the regulatory agencies when operating in the central city. On arrival at the premises, one person talked to the duty manager, while the other(s) walked around and observed the premises and talked to patrons. The Police completed a 101 LPV form during the visit to identify and record any areas of concern, along with basic details on the date and time of the visit. A 101 LPP form was used to assess and record any signs of intoxication by patrons. The District Licensing Authority also completed its standard monitoring checklist. Any areas of non-compliance with the Sale of Liquor Act were discussed with the duty manager. Where necessary, the agencies undertook follow-up action during normal business hours.

The focus of the visits was on ensuring that premises were aware of, and fulfilling, their responsibilities in relation to intoxication, although other licence conditions (such as display of the duty manager name) were also checked during visits. A combined training/briefing session was held for participants from all three agencies before the first intervention to provide guidance on conducting an effective licensed premises visit and observing signs of intoxication, and to make them aware of the purpose of the research.

There was no formal communication to licensees about the intervention or the research. However, some premises were advised verbally by the agencies that there would be an increased focus on intoxication in licensed premises in the area, either shortly before the intervention commenced or near the start of the intervention. Agencies also advised some premises that there would be ongoing monitoring of the premises, after having identified specific concerns about intoxication or other licensing issues.

Queenstown

The Queenstown intervention was intended to be a sustained intervention over a three month period. Police agreed that the best approach in the Queenstown-Lakes district was to carry out a sustained intervention involving heightened premises monitoring during Queenstown's entire winter season, beginning from June 23rd, 2006, the beginning of the annual "Winter Festival" and sustained until the end of the skiing season (traditionally the end of September/early October). In reality, the police began their heightened regulatory and enforcement activity much earlier. Heightened regulatory activity commenced during December 2005, following the establishment by Police of a new full time liquor licensing officer in Queenstown. Monitoring was also then further increased during the month preceding the intended start date of the intervention.

During the winter period, police and the licensing inspector focused their attention on bars and nightclubs in central Queenstown. This covered thirty-three licensed premises located in central Queenstown. The compact nature of many of Queenstown's licensed premises and their close proximity to one another, meant it was possible for enforcement staff to visit or observe some premises more than once a night.

There are a number of bars that fall outside this central area which are also monitored by enforcement agencies. Outer areas (including Glenorchy and Arrowtown) and other types of licensed premises (restaurants) were to remain subject to normal regulatory activity during the research period.

The police visits were to be carried out by all five sections of general duties staff on duty in Queenstown, under the direction of the recently appointed liquor licensing Sergeant.

Training directed at enhancing the effectiveness of police licensed premises visits was provided to all police sergeants in Queenstown during June, prior to the monitoring that was planned for the winter season. This provided them with a framework for recording information collected during visits and highlighted good practice recommendations for conducting visits. Section leaders were trained and were responsible for training their team members.

There were no other initiatives or interventions planned by police, public health or the council during the intervention.

The intervention was intended to increase focus on intoxication and other risky drinking behaviours in licensed premises. Licensed premises targeted in the intervention in Queenstown were selected by Police in consultation with their health and licensing agency partners on the basis of local intelligence analysis. Premises were selected where there had previously been incidents requiring a Police presence (for example, disorderly conduct, intoxication, sales to underage patrons, assaults, or other disturbances), and/or there was Alco-Link data identifying the premises as one where individuals consumed alcohol shortly before committing an offence.

4.1.2 Level of monitoring and enforcement activity

Manukau East

Eighty-four monitoring visits were made to selected on-license premises in Manukau East. During the intervention periods in March, April and July between 20 and 23 visits were made to the 10 targeted premises. For the shorter intervention period of 2-8 July seven visits were made and 14 visits were made in the September intervention period. Premises were visited on weekdays and weekend nights.

There were 25 problems or issues noted in the premises over the heightened intervention periods. A range of issues were identified: intoxicated patrons; no bar manager's certificate visible and a locked fire exit. Issues were discussed with the bar managers at the premises at the time and if appropriate the premises received a score on the graduated harm matrix.

Chart 1 **Number of visits to premises**

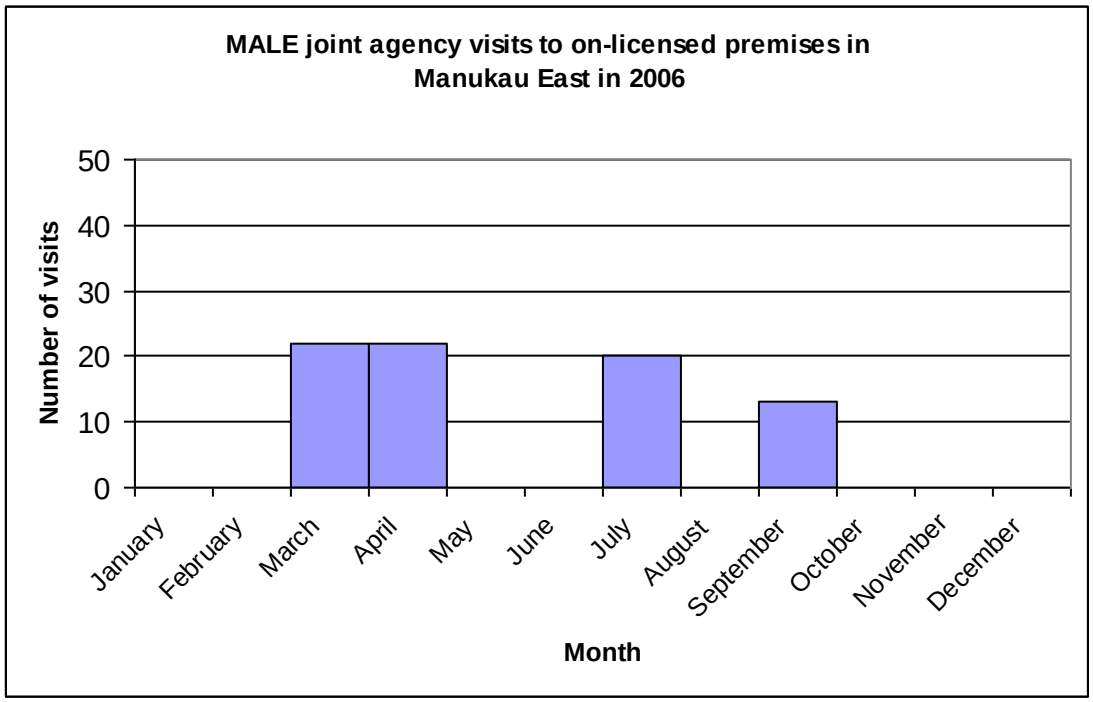
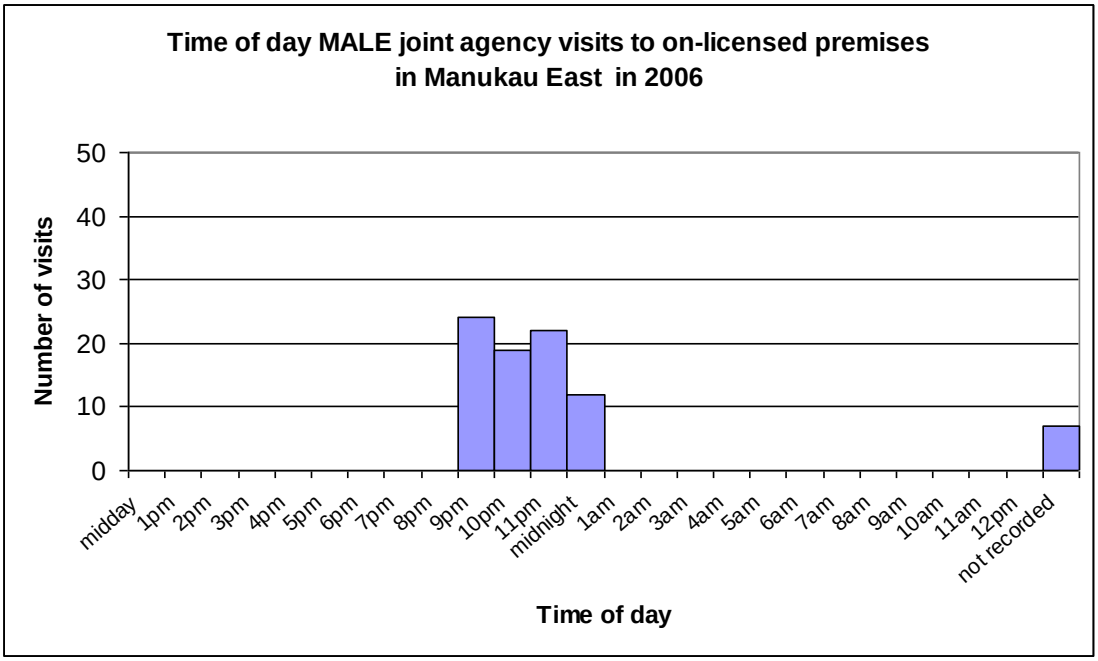


Chart 2 **Time of visits to premises**



The majority of the monitoring visits occurred before midnight in Manukau East. Around 24 visits were undertaken between 9pm and 10 pm, around 20 between 10pm and 11pm and around 22 visits between 11pm and midnight. Approximately 12 visits were undertaken between midnight and 1am.

Christchurch northern suburbs

For the first intervention, agencies identified 14 target premises to be visited at least once over the two nights of each weekend. Halfway through the intervention, two premises were removed from the target list and substituted with two new premises. In addition, two further premises were visited during the intervention; one in response to updated intelligence information; the other because the agencies had time to spare between scheduled visits. In total, agencies undertook 83 visits to 18 licensed premises over the six-week intervention period. Most premises were visited once each weekend but some premises were visited on both nights of some weekends and others received fewer visits, either because of changes to the schedule or because a premises was closed when agencies visited. Visits took place between 9.40pm and 1.05am.

Many of the premises visited were relatively quiet during the first intervention. This may have been due to the extremely cold weather over this period, even taking account of the fact that the intervention was undertaken during the winter months.

Agencies identified a number of issues during the monitoring visits including intoxication, failure to display the liquor licence at the main entrance, inadequate food signage and/or the lack of a duty manager on site. Most issues were dealt with by discussion with the duty manager at the time of the visit. However, follow up action was required for two premises.

When intoxicated persons who had been served by bar staff were identified on premises, this was discussed with the barperson and the duty manager at the time of the visit, with a follow-up meeting arranged between the Police, licensing inspector, Community and Public Health and the licensee and bar manager. Regulatory agencies reiterated their concerns about intoxication and the need for earlier intervention by bar staff at this

follow-up meeting. Additional training for bar staff was offered and the licensee and bar manager were advised that further monitoring of the premises would be taking place.

In another case where agencies identified concerns with the management of a premises, a follow-up phone call was made by the Police to remind the licensee of his/her responsibilities under the Sale of Liquor Act and to advise him/her that further monitoring of the premises would be taking place.

For the second intervention, agencies scheduled visits to 15 target premises over the two nights of each weekend, however where time allowed extra premises were visited. In total, agencies undertook 84 visits to 20 licensed premises over the six-week intervention period. As for the first intervention, most premises were visited once each weekend but some premises were visited on both nights of some weekends and others received fewer visits. Visits took place between 9.30pm and 1.15am.

The agencies identified some issues relating to intoxication, failure to display a licence at the main entrance, failure to display the duty manager's name and, in one case, serving non-dining patrons after the hours permitted by the licence. These issues were all dealt with by discussion with the duty manager at the time of the visit.

Chart 3 **Number of visits to premises**

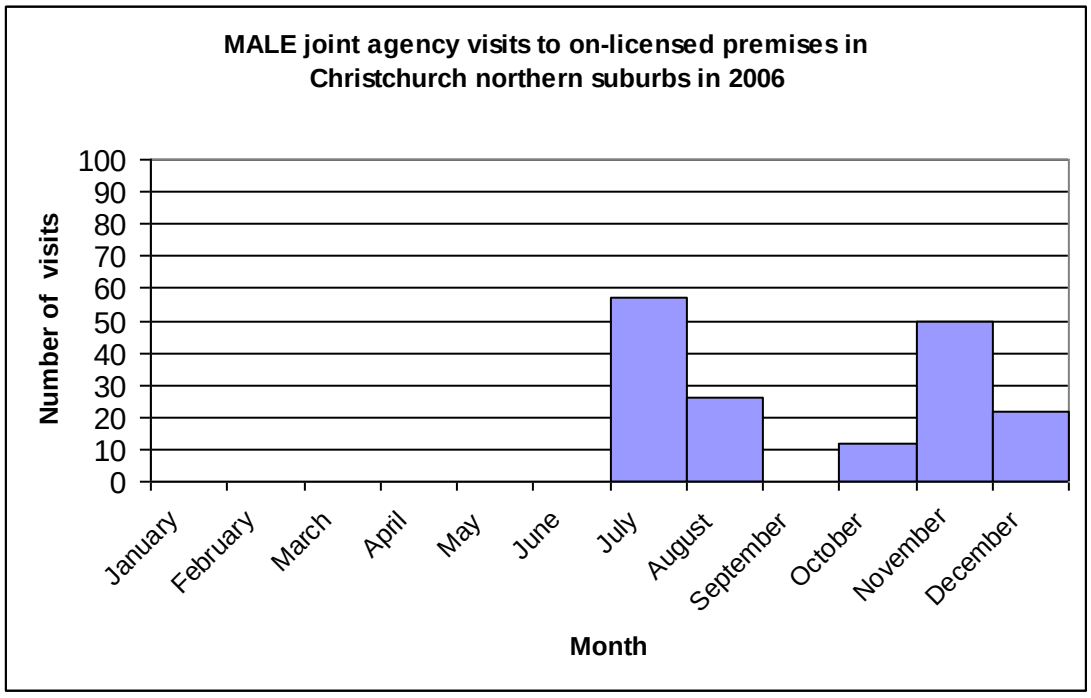
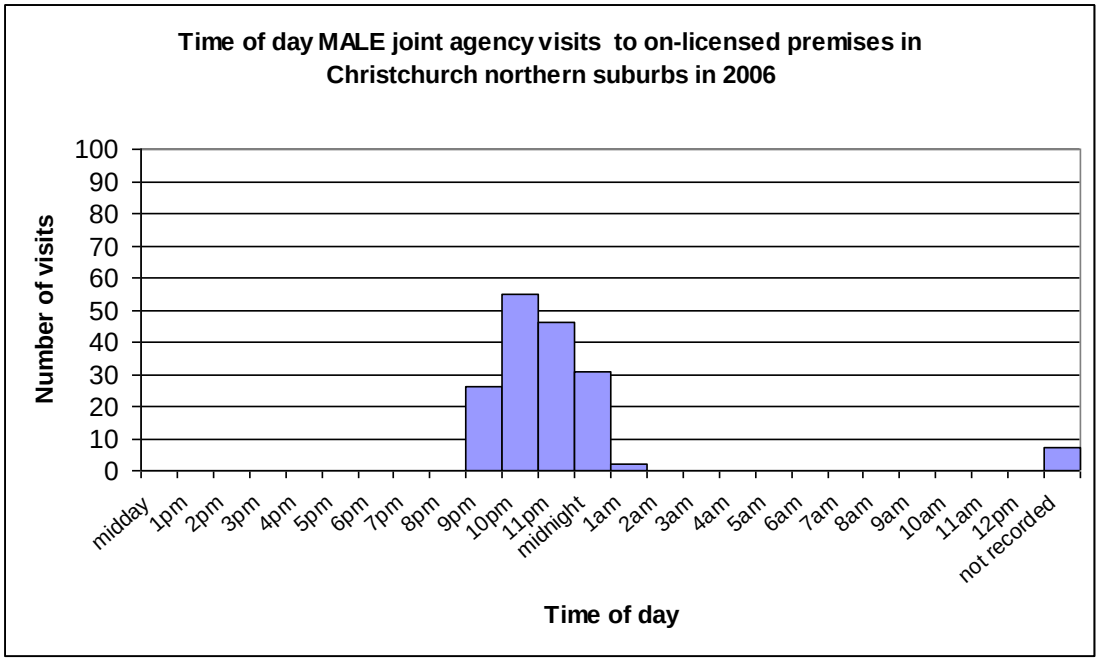


Chart 4 **Time of visits to premises**



Queenstown

Regulatory compliance activity began to increase compared to historic levels prior to the winter season and contrary to the regulatory compliance activity planned for the study. This occurred primarily as a result of Police appointing a full time liquor licensing officer for the first time in Queenstown. This appointment and subsequent intensive alcohol issues and liquor licensing focus resulted in an increase in licensed premises monitoring and other compliance activity. The increase in activity began to occur during December 2005.[3]

There was a second increase in monitoring that occurred during May 2006. At this time licensed premises monitoring was further increased, and this heightened level of monitoring was maintained during the early part of the 2006 winter season. This additional licensed premises monitoring was performed by a range of police staff including the police licensing sergeant and by other police staff in Queenstown. Furthermore, during the winter festival commencing 23rd June 2006, local police visits to licensed premises were supplemented by the presence in Queenstown of a police liquor licensing group normally based in Invercargill.

[3] Personal communication, police liquor licensing sergeant, Queenstown.

Chart 5 **Number of visits to premises**

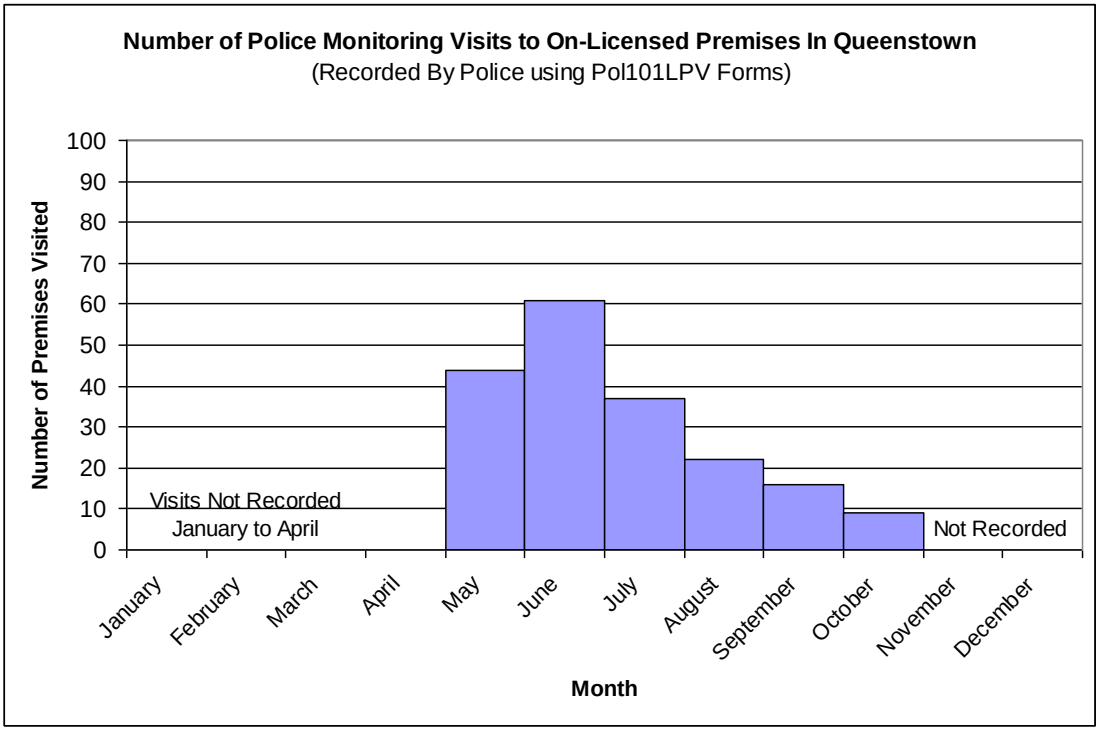
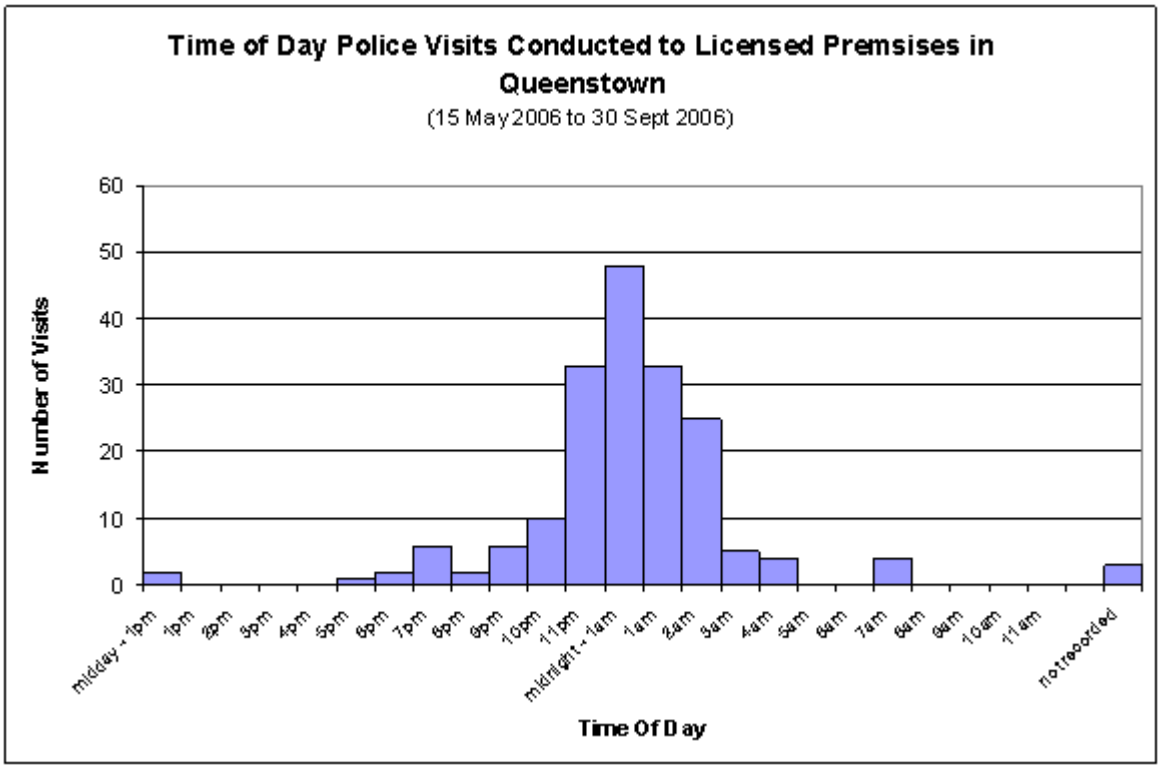


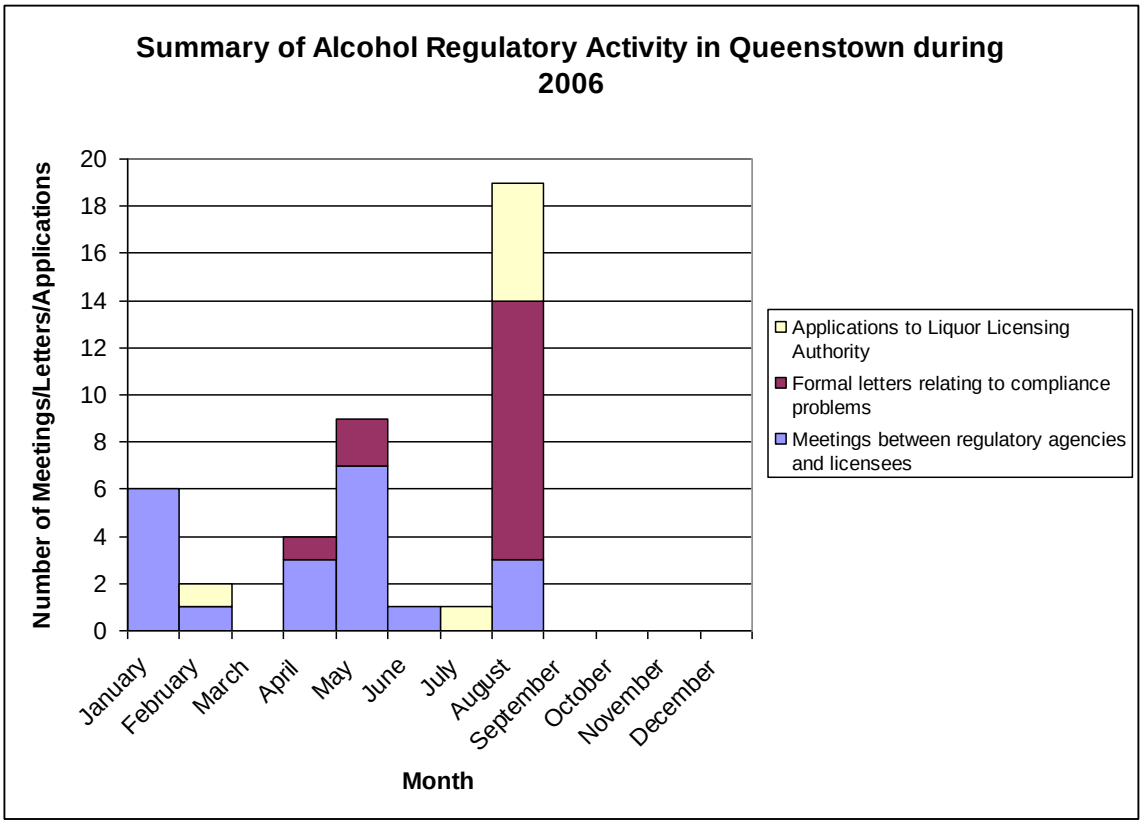
Chart 6 **Time of visits to premises**



As a result of the increased monitoring of licensed premises from December 2005 and the further increase that occurred during 2006, the amount of communication between police, council staff and local licensees also increased. This communication was required to resolve compliance issues identified during the monitoring visits. The communication took the form of meetings between the regulatory agencies and

licensees and general managers and was supplemented by written correspondence following up the meetings to formally document identified compliance problems and agreed resolutions. As the demands for these interactions increased, police appeared to encounter problems finding enough time to devote to meetings. This occurred from August 2006. From that point on, most interactions with local liquor industry members began to consist primarily of telephone and written interactions. In cases where compliance problems could not be resolved through these communication mechanisms, police submitted applications to the Liquor Licensing Authority to suspend licenses and to suspend or cancel general managers' certificates. Several of these applications were made during 2006. The following chart highlights the specific nature, volume, and timing of these regulatory activities.

Chart 7 **Summary of regulatory activity in Queenstown**



4.2 Other factors impacting on alcohol-related harm

In each of the three sites (Manukau East, Christchurch northern suburbs and Queenstown) an ongoing environmental scan was maintained throughout the period of the study, reviewing the local environment for any activities that might impact on the research, for example:

- Public activities (sports fixtures, concerts, public holiday celebrations, etc) involving alcohol or heightened periods of Police presence / action
- High profile alcohol-related crimes
- Activities of other agencies seeking to limit alcohol-related harms
- Alcohol industry promotional activities
- Any extreme weather events that might impact on public activities
- General media commentary.

The environmental scan information was important as it fed into the data analysis documented later in this report.

Manukau East

Over 30 newspaper articles mentioning alcohol appeared in Manukau City papers during the period of the study. The vast majority of these appeared in the later half of 2006. There was no publicity about the research study or the heightened focus on intoxication in Manukau East by the Police or other agencies. A considerable proportion of articles reported calls for greater restriction of alcohol in terms of: a) imposing liquor bans in public spaces such as reserves, streets and playgrounds; b) policy changes to allow individuals and council committees greater power to object to the establishment of licensed premises in their area; and c) amendments to the Sale of Liquor Act regarding the location and number of liquor outlets, especially in lower socio economic areas.

Earlier in the study period (in March 2006), a few articles were published reporting on action such as a Youth Corp team patrol, which aimed to patrol streets and befriend problem youth in Manukau, council staff as youth ambassadors to patrol near a public library, and a conference looking at how Pacific people are drinking and what the best interventions might be. *Project Walkthrough*, a Maori Wardens' initiative involving wardens walking through premises to check for underage drinkers and intoxicated patrons, was operating in one premises involved in the intervention and Maori wardens visited this premises eight times in one month in 2006.

Many of the articles in the second half of the study period linked alcohol to a number of recent crimes such as assault, armed robbery, teen prostitution, and murder. A few articles reported on alcohol control enforcement measures such as drink driving campaigns and Maori wardens walking through premises as part of *Project Walkthrough*.

A number of articles reported efforts to educate readers about alcohol. Topics included the distribution of booklets informing young people about the dangers of drugs and alcohol, warning mothers not to share a bed with their baby when under the influence, cutting back on alcohol to reduce the risk of stroke, reporting that alcohol is a factor in mental distress and teen violence, warning readers not to take BZP pills with alcohol, and how the use of a Community Alcohol and Drugs service helped a woman to escape a relationship with a substance abuser. There was also a report of police spreading the message against drink driving at a concert.

Some of the articles documented other initiatives on alcohol that were operating in Manukau at the time of the Multi Liquor Agency Enforcement intervention, such as calls for liquor bans and enforcement measures including drink driving blitzes. It is possible that these initiatives had some influence on the community and licensed premises and their staff. Articles related to actions being taken and enforcement measures such as drink driving and Maori Warden Patrols may influence patrons and premises as they may have been aware alcohol consumption was sometimes being monitored. However, the impact of these articles on awareness in the community during the intervention period may have been minimal, as only two articles were published.

Overall, the coverage of alcohol issues by local print media reflected a growing community concern with alcohol issues. Concern was reported over the ease of availability, number of outlets, drinking in public places, and violence as a result of drinking.

Other issues in Manukau included:

- There were two local drink driving blitzes reported in local media in October and December 2006;
- In December 2006 the Airport Foodtown in Manukau stopped selling alcohol 24 hours;

- There was an extension of a liquor ban to include Howick which was an area directly involved in the Multi Liquor Agency Enforcement study;
- Funding was given to a youth worker group to begin educating youth about alcohol and drugs and to make resources such as pamphlets.

Christchurch northern suburbs

The first intervention was undertaken during July and August 2006. Christchurch experienced extremely cold weather during this period, with temperatures below average and rainfall above average for this time of year. During the monitoring visits, bar staff commented to agencies that premises were much quieter than usual and attributed this to the weather conditions. It is possible that this had a flow-on effect on the level of alcohol-related harm during this period.

Agencies undertook few visits to licensed premises in the study area outside of the two intervention periods. The most significant level of activity was Police visits to licensed premises as part of its Community Alcohol Action Programme (CAAP). Police officers visited most premises in the northern suburbs as part of three CAAP campaigns in 2006: 16-17 February, 26 May and 28-29 September. There were also several Police call-outs to specific incidents at some of the licensed premises targeted in the study.

Joint monitoring visits were undertaken to a number of premises in the study area by the central city multi-agency group in early 2006 before the research got underway. However, few visits were undertaken later in the year because of the heightened focus on premises in the northern suburbs during the research. Agencies continued to focus largely on the inner city during this period but also took the opportunity to visit other suburban premises that were not included in the study area (for example, Hornby and Riccarton premises).

A major focus for the central city multi-agency group in 2006 was the introduction of a "lockdown" for inner city licensed premises, by way of voluntary accord. The lockdown, also known as a "one-way door", involves licensed premises refusing to allow entry to new patrons after 4am. Those already present on the premises continue to be served until closing time but once they leave, they are not permitted to re-enter. The lockdown aims to prevent problems caused by migration between bars. The lockdown was trialled in April 2006, over Easter, and formally introduced in October 2006.

The lockdown is only being applied within the central city, and operates at a time when suburban premises have closed (that is, after 4am). However, the introduction of such a new high-profile initiative may have had some effect on the behaviour of licensees and/or patrons throughout the city.

There was no publicity about the research study or the heightened focus on intoxication in the northern suburbs by the Police and other agencies. Several alcohol-related issues did receive media coverage during the course of the year but these tended to focus on the inner city:

- There was a focus on central city "hotspots" for alcohol-related violence in January 2006.
- In June and July 2006, there were several articles about the high number of young teenagers seen by Christchurch Hospital's emergency department each weekend as a result of binge drinking.
- There was media coverage of the trial of a 3am one-way door over Easter (in April 2006) and again in October 2006, when it was formally introduced as a 4am lockdown.

Local papers also reported national issues such as the drinking age and, to a lesser extent, the review of liquor advertising.

The only media coverage of alcohol-related issues in the suburbs involved warnings to drivers that the Police would be (or had been) out and about in an effort to deter drink-driving. These reports occurred during October to December 2006, in the lead-up to two long weekends and Christmas.

Queenstown

A number of alcohol themes were followed by the Queenstown media during 2006. The interest was mainly maintained by the weekly free community newspaper, the Mountain Scene. This newspaper has a weekly circulation of 16,000. There was also some commentary in other newspapers (The News, another free local weekly) and on Queenstown-focussed websites (the Mountain Scene's website and queenstown.com). There was also some reporting in daily regional papers (The Otago Daily Times and Southland Times) although regional newspapers did not regularly report large amounts of local Queenstown content.

The frequent media interest kept alcohol issues at the forefront of community awareness during the year. The media carried a number of articles during 2006 that indicated major events were occurring. The most significant influences were:

- The Easter period, when several events (the Easter public holiday, an Airshow, and a motor race) brought what was reported to be up to 100,000 visitors to the Queenstown and Wanaka region over the Easter period.
- The start of the Ski season, which formally commenced with the opening of the Coronet Peak and Remarkables ski areas and the 10-day Queenstown Winter Festival, which commenced on 23rd June 2006.
- There were numerous other smaller public events and festivals through out the year (e.g. Jazz festival, rodeo, Glenorchy Races, Music concerts), though none attracted as much media attention or drew as many visitors to the region as the Easter events and the Winter ski season.

Police appointed a sergeant to a full time liquor licensing role in November 2005. This was the first time the police alcohol portfolio had been a full-time role in Queenstown. This initiative generated some comment in the media during late 2005. At the end of that officer's tenure, during late 2006, there was substantial media comment about the impact of the first year of the new role.

- On 19th October 2006, it was reported in a lengthy article that the police liquor licensing officer had resigned.
- On 26th October 2006, the LLO was reported as making "no apologies" for the shake-up of the local liquor industry.
- In early November it was reported that Queenstown's new "booze cop" (the replacement LLO) had been appointed.

The monitoring activities of the regulatory agencies and their interactions with the local licensing industry emerged into the media during early 2006 when it was reported that a number of premises had been issued "final warnings" regarding their compliance with the Sale of Liquor Act:

- On 27th April 2006, under the headline "Obey the Law or Else", a lengthy article reported that 12 Queenstown liquor outlets (11 bars) had been formally warned regarding underage patrons, intoxication, and disorder.
- This was followed on 10th May 2006 by a pro alcohol-industry editorial themed "Like it or Not We're a Party Town".

- On 4th June 2006, queenstown.com published an article on intoxication headlined "Has a good time turned bad in Queenstown".
- On 3rd July 2006, queenstown.com featured another article about intoxication on licensed premises.

There was some reporting of action taken by police who sought suspension of several premises' licenses and several managers' certificates during the year:

- On 4th May 2006, the nine-month adjournment of an application for a Managers Certificate because of licensing breaches (serving intoxicated and under age patrons) was reported.
- On 7th December 2006 it was reported that the licence of the Frankton Arms Tavern had been suspended for 24 hours for intoxication and disorder problems that occurred the previous summer.

Another issue emerged when it was reported that a number of premises had failed to receive special licenses to extend their licensing hours to open during Easter events and during the period of the World Soccer Cup. Special license applications were made by a number of premises for these events, but were opposed by police. Eventually the DLA granted a number of licenses, despite the police opposition.

- On 19th April 2006 it was reported that several special licenses had been granted by the DLA, for trading over Easter, despite police opposition.
- On 21st June 2006 it was reported that special licenses had been granted to several premises to screen World Cup Soccer games.
- On 22nd June 2006, the police liquor licensing officer wrote an article outlining the reasons for the special license oppositions and more broadly covering her role and expectations of the liquor industry.
- On 28th September 2006 it was reported that the LLA considered the DLA was wrong to grant licenses and that the applications should have been referred to the LLA for a decision.

There was some interest in party pills being sold on licensed premises:

- On 10th August 2006, a paragraph reported that police considered alcohol and party pills were contributing to crime and disorder problems.
- On 14th September 2006, an editorial considered the pros and cons of party pills being sold by licensed premises.
- On 27th July 2006, an editorial commented on the inadequacy of penalties (primarily police diversions) for selling party pills illegally to underage persons.

There was also some other alcohol reporting:

- On 8th June 2006, it was reported that a DrinkSafe banner promoting responsible drinking, had been erected in a prominent public place in Queenstown by Public Health South, but was later was removed by Council Staff. This was reportedly as a result of councillors receiving negative feedback from members of the public.
- On 29th June 2006 it was reported that alcohol supply issues threatened a one-day international cricket fixture planned for Queenstown during the coming summer.
- On 14th September 2006 four off-licenses were reported to have been caught selling alcohol to under-age persons in a controlled purchase operation.

- On 19th October 2006, the suspension of an off-licence was reported arising from these CPOs.

Police contribute to a weekly crime and safety section in the Mountain Scene. This section regularly carried police reports of alcohol related crime and behavioural problems, such as assaults, disorderly behaviour, and drink driving. These alcohol problems were headlined several times:

- On 2nd March 2006, “Bar Room Brawls”.
- On 9th March 2006, “Late Night Skylarks”.
- Also on 9th March 2006 a Queenstown bar owner was quoted as saying disorder problems were due to a lack of policing during the early hours of the morning.
- On 27th July 2006, “Birthday Bashing”.
- On 28th September 2006, “Back to Brawl Town”.
- On 16th November 2006, “Early Booze Blitz”.

In addition to these headlines, on 31st August 2006, there was an editorial examining whether people felt safe from crime in Queenstown.

In September 2006, the Queenstown Lakes District Council announced they were reviewing the district liquor licensing policy. The Council issued a consultation paper on its proposals and there was media commentary on liquor licensing issues:

- The policy review was first signalled on 9th March 2006.
- A small article on 7th September 2006 reported that the alcohol policy was being reviewed; proposing changes to closing times, proposal for a lock-down, limitations to happy hours, and restrictions on the sale of party pills.
- On 21st September 2006, a feature article quoting Queenstown’s Mayor was published by the Mountain Scene. The article examined the links between Queenstown’s ‘booze culture’ and social and crime problems. The article considered the merits of the Council’s alcohol policy proposals.
- On 9th October 2006, Queenstown.com and on 12th October 2006, SceneSpeak both urged people to have their say on the licensing policy proposals.
- On 23rd November 2006, it was reported that submissions had been “pouring in” on the policy proposals.

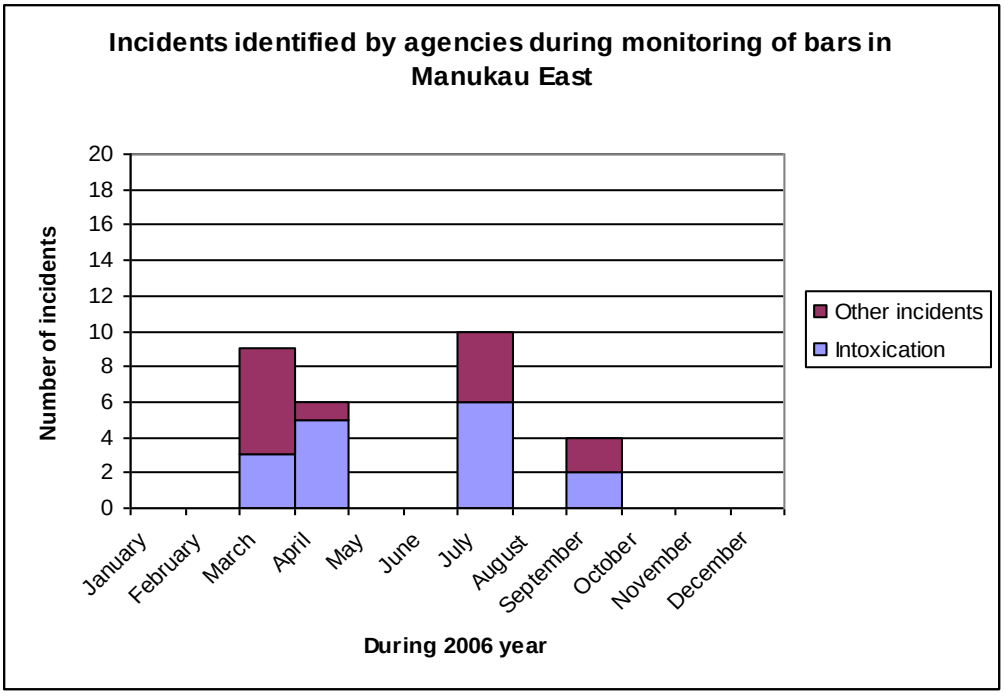
4.3 Alcohol-related harm indicators

4.3.1 Intoxication

Manukau East

In total 16 intoxicated patrons were identified by the multi-agency liquor enforcement team during the heightened intervention periods. There were 13 other issues noted by the team.

Chart 8 **Incidents in Manukau East**



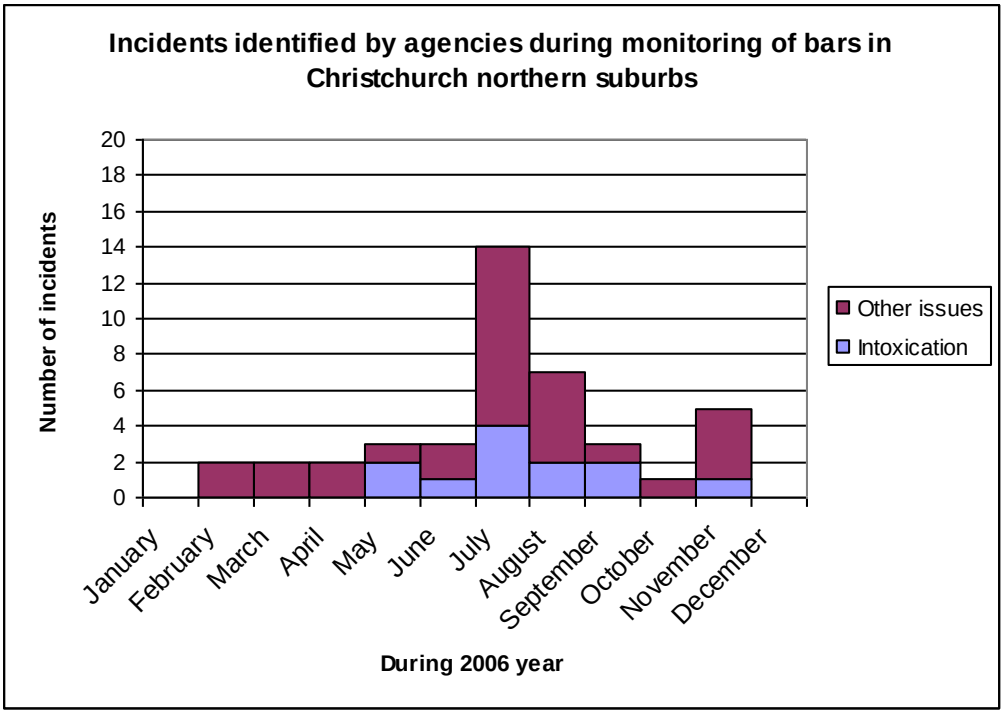
Christchurch northern suburbs

In Christchurch northern suburbs, the agencies identified relatively few problems with intoxication on licensed premises. During the first intervention, agencies identified several intoxicated persons at one premises in the first week of the intervention. This was dealt with by a formal meeting with the licensee and bar manager, at which the agencies outlined their concerns and emphasised the premises' responsibilities under the Sale of Liquor Act. At other premises, agencies noted that some patrons were slightly intoxicated or were showing early signs of intoxication and discussed this with the duty manager at the time of the visit. In some cases, agencies reported that intoxicated persons were outside the premises and had already been refused service and/or entry.

In the second intervention, only one clearly intoxicated person was identified on licensed premises during the entire intervention. This person was asked to leave the premises and the duty manager received a verbal warning. On a few other occasions, agencies noted that there were some patrons becoming intoxicated and that the premises should be monitored in the future.

Observers also found most premises to be relatively quiet and, overall, did not identify significant levels of intoxication. However, they identified more intoxication than the regulatory agencies had during their monitoring visits. On a number of occasions, observers expressed surprise that the agencies had not spoken with patrons who, in the opinion of the observers, were clearly showing signs of intoxication. In some cases, they reported that such patrons made extra effort not to draw attention to themselves during agency visits and that bar staff also assisted to conceal some intoxicated patrons. Observer findings are discussed in more detail in section 4.4.

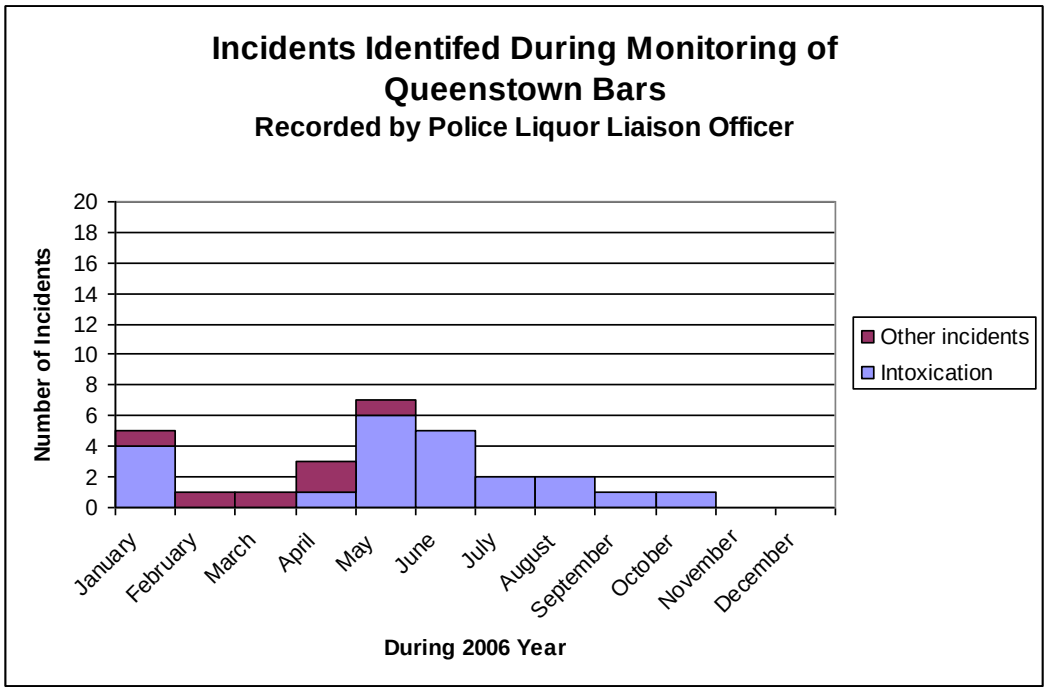
Chart 9 **Incidents in Christchurch northern suburbs**



Queenstown

In Queenstown, the monitoring carried out by Police and the licensing inspector identified occasional problems with intoxication on licensed premises. Twenty-three incidents of intoxication were noted in police files maintained throughout 2006. There were also several other compliance issues noted during the year, including instances of minors on licensed premises and issues with general manager certification.

Chart 10 **Incidents in Queenstown**



4.3.2 Other liquor offences

Table 5 Number of Sale of Liquor Act 1989 offences

	Manukau East	Christchurch northern suburbs	Queenstown
2002	81	7	18
2003	60	4	13
2004	19	4	5
2005	11	2	14
2006	7	3	5
2006 non-HIPS	5	3	2
2006 HIPS	2	0	3

Table 5 shows the number of liquor offences and Sale of Liquor Act offences recorded in official police crime statistics for the three sites. It includes both on and off-license offences. This is intended to provide contextual information. The numbers of offences were most frequent in the Manukau East and Queenstown sites. There were five offences recorded during the Multi Liquor Agency Enforcement heightened intervention period; two in Manukau East, three in Queenstown and none in Christchurch northern suburbs. Note the data limitations identified earlier in the report, suggest that recorded Sale of Liquor Act offences are an unreliable indicator of licensed premises compliance.

Table 6 Number of Liquor Ban offences: local government

	Manukau East	Christchurch northern suburbs	Queenstown
2002	0	0	0
2003	10	0	1
2004	20	1	0
2005	26	1	29
2006	114	0	33
2006 non-HIPS	106	0	33
2006 HIPS	8	0	0

Table 6 identifies the number of liquor ban offences recorded in the three sites. Manukau East had the largest number of liquor ban offences, particularly in 2006 when the extension of a liquor ban area occurred. For Christchurch northern suburbs, a liquor ban was in place in one coastal park area (Spencer Park) on New Year's Eve.

The Queenstown liquor bylaw came into effect on 1st December 2003. The area where alcohol is banned covers the Queenstown central business district, gardens and foreshore. The bylaw covers the Christmas holiday period from 27th December to 5th January each year and can be extended by council resolution to include other days. During 2005 and 2006 the council resolved to extend the liquor ban to include the winter festival:

- During 2005, the ban covered the duration of the winter festival from Friday 1 July to Sunday 10 July.

- During 2006, the ban covered a shorter period from Friday 23 June until Wednesday 28 June.

The liquor ban offences provide contextual information only. The data do not provide a reliable indicator of public place alcohol consumption during the intervention periods. Recorded offences are likely to be highly dependent on the timing and resources applied to police enforcement operations. The location and periods to which liquor bans apply are not aligned with the monitoring periods for, or locations of, premises.

However, there was a significant increase in crime in Manukau East after the extension of the liquor ban to Howick, a reason why the extension was deemed necessary. This also corresponded with a drop in St John Ambulance callouts in the Manukau East area.

4.3.3 Alcohol-related incidents

Table 7 Number of IK Incidents

	Manukau East	Christchurch northern suburbs	Queenstown
2001	3	11	
2002	1	2	
2003	3	2	
2004	7	2	1
2005	144	133	50
2006	82	62	36
2006 non-HIPS	71	48	21
2006 HIPS	11	14	15

Table 7 identifies the number of 1K incidents recorded by police in each site, both during a heightened intervention period (HIP) and normal activity. A 1K incident is where police are called to attend to an intoxicated person who requires police assistance (for example they may be drunk and behaving in a disorderly manner, or be incapacitated). There were very few incidents of 1K incidents recorded in each intervention site until 2005. The reason for the increase in recorded 1K incidents from 2005 is not fully understood, though it may relate to changes in police computer recording systems during 2005.

Queenstown experienced a significant rise in 1K incidents during Easter weekend when two regional events (an airshow ‘Warbirds over Wanaka’ and a motor race ‘Race to the Sky’ were held).

There were no IH incidents recorded in any of the intervention sites during 2006.

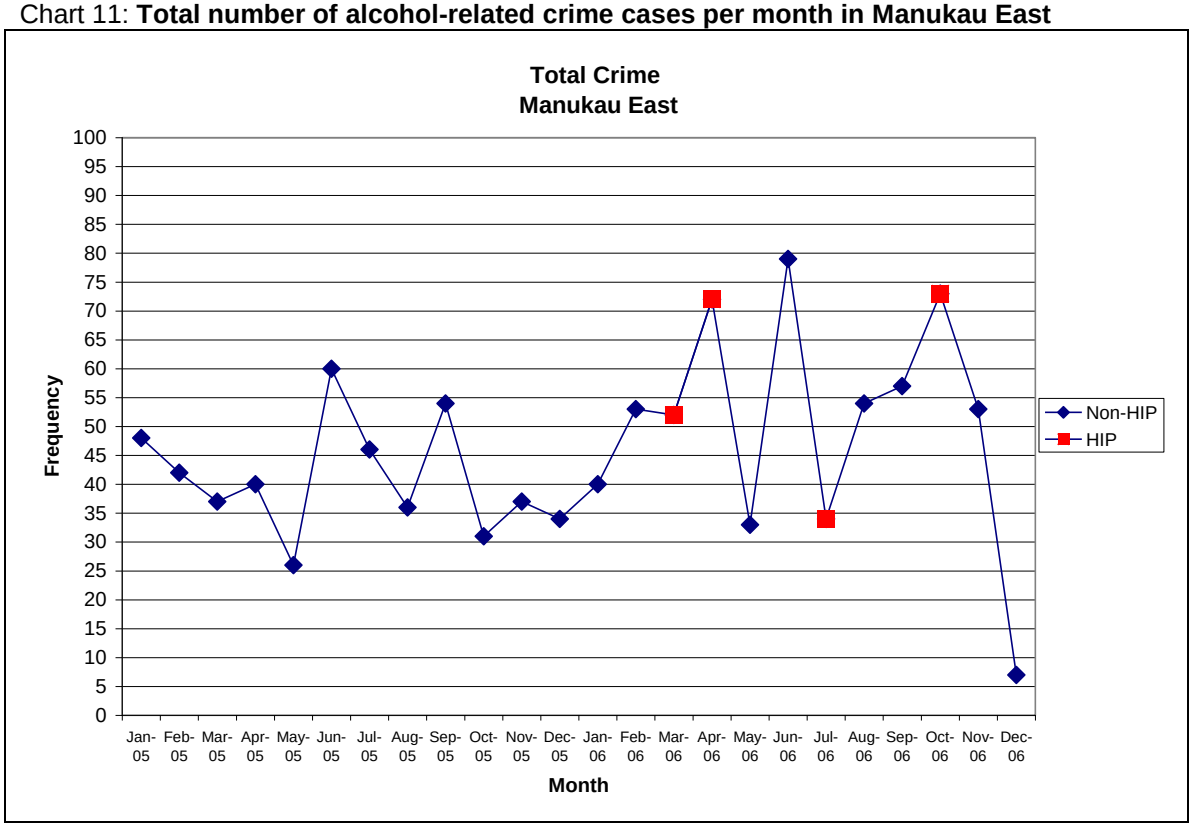
4.3.4 Recorded offence data

The heightened intervention periods in all three sites did not result in a significant reduction in any individual categories of crime such as violence, property damage or disorder. Combining data from each of these three categories shows Queenstown alone had a significant drop in crime during the intervention period.

The change in the Police database system before the multi-agency liquor enforcement intervention occurred was included in the modelling of crime data. However the change was not a significant factor and did not affect results.

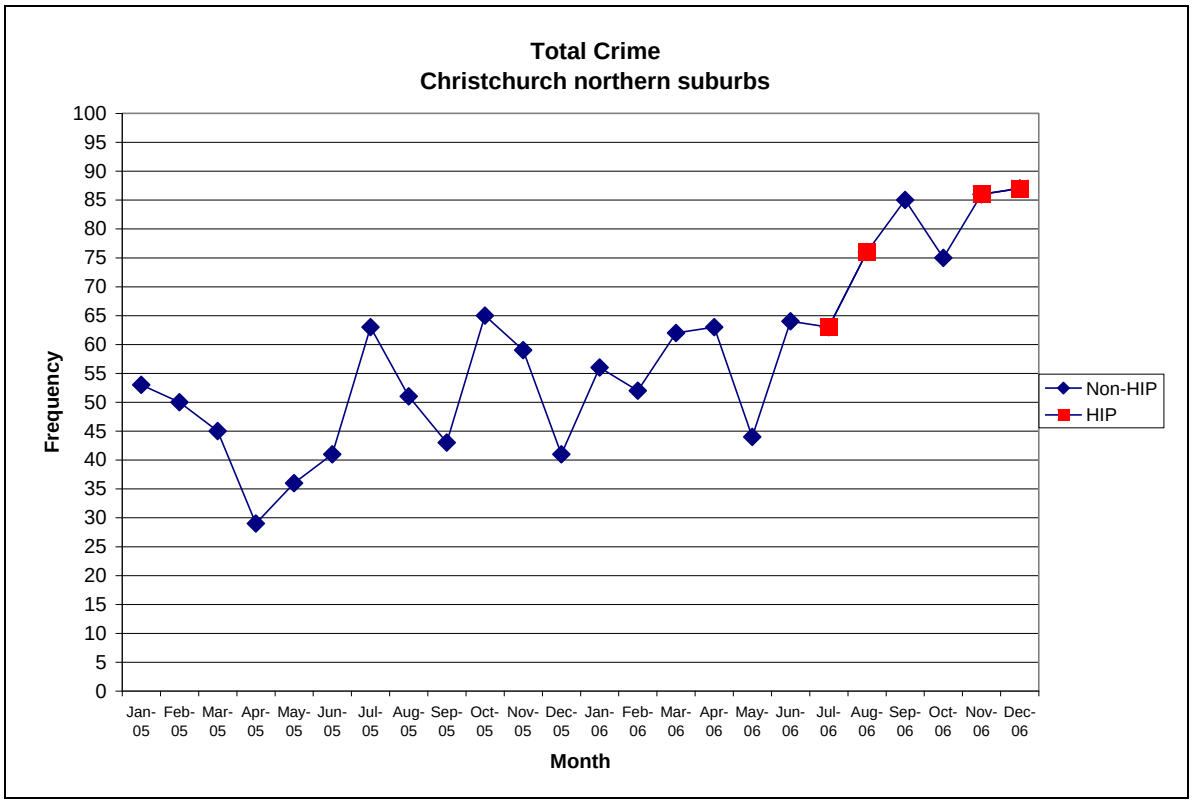
The following charts contain data for the 2005 and 2006 years. The staticial analysis however was conducted using data that also included earlier years (data from 2001 to 2006).

Chart 11: **Total number of alcohol-related crime cases per month in Manukau East**



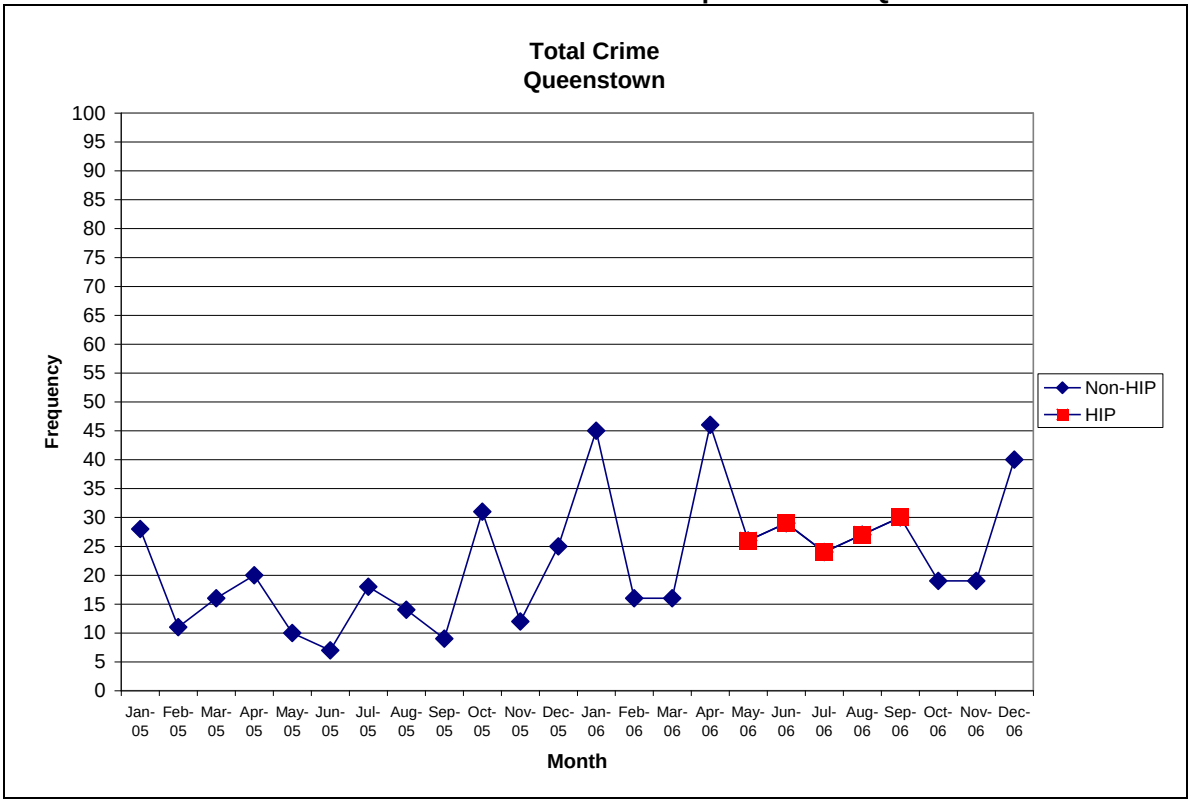
The heightened intervention period did not show a significant reduction in total alcohol-related crime in Manukau East (which included violence, property damage or disorder).

Chart 12: **Total number of alcohol-related crime cases per month in Christchurch northern suburbs**



The heightened intervention period did not show a significant reduction in total alcohol-related crime in Christchurch northern suburbs (which included violence, property damage or disorder). There was a non-significant increase in total crime in Christchurch northern suburbs and this may have been due to an increase in property damage (see Chart 12).

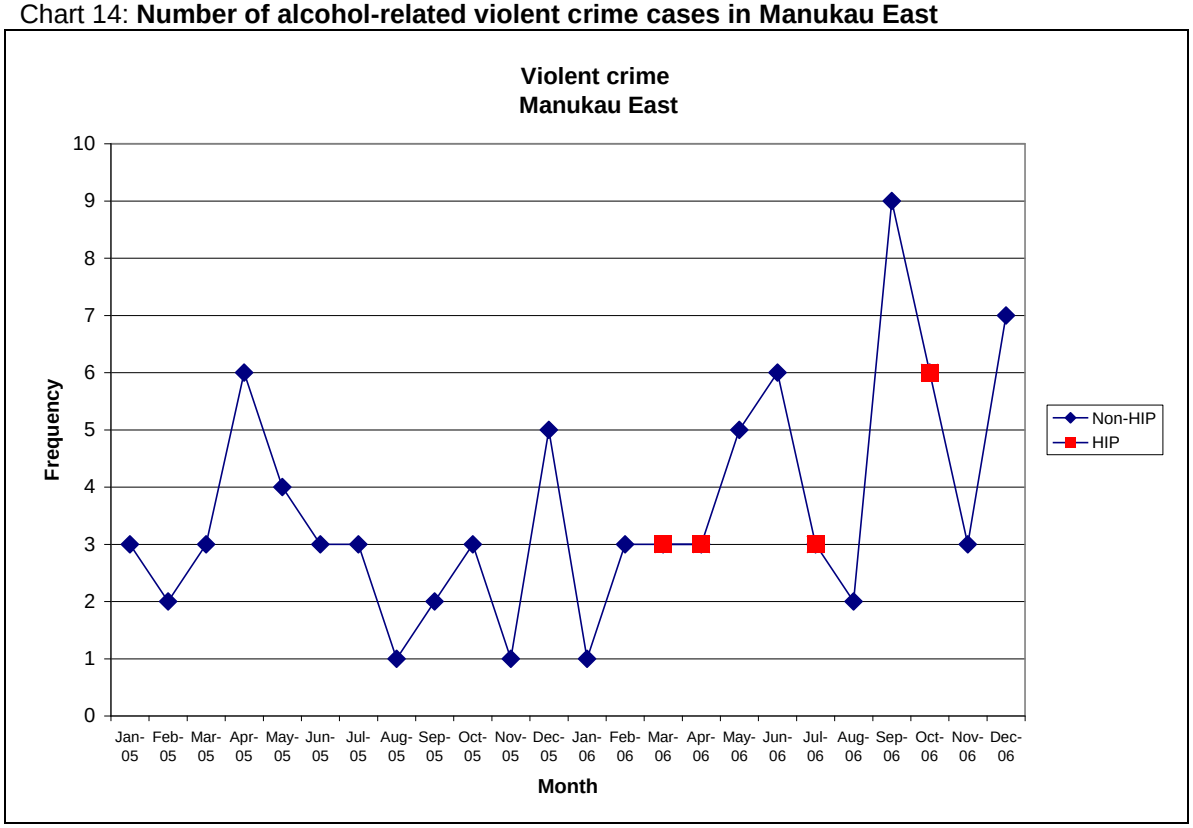
Chart 13: **Total number of alcohol-related crime cases per month in Queenstown**



The ARIMA analysis indicates that Queenstown had a statistically significant decrease in total alcohol-related crime during the intervention period from May 2006 to September 2006. However, the practical significance of the decrease in alcohol-related crime during the intervention period is small. The overall level of crime throughout the year is higher than the historical average, but this is affected by long-term (multi-year) trends in crime levels.

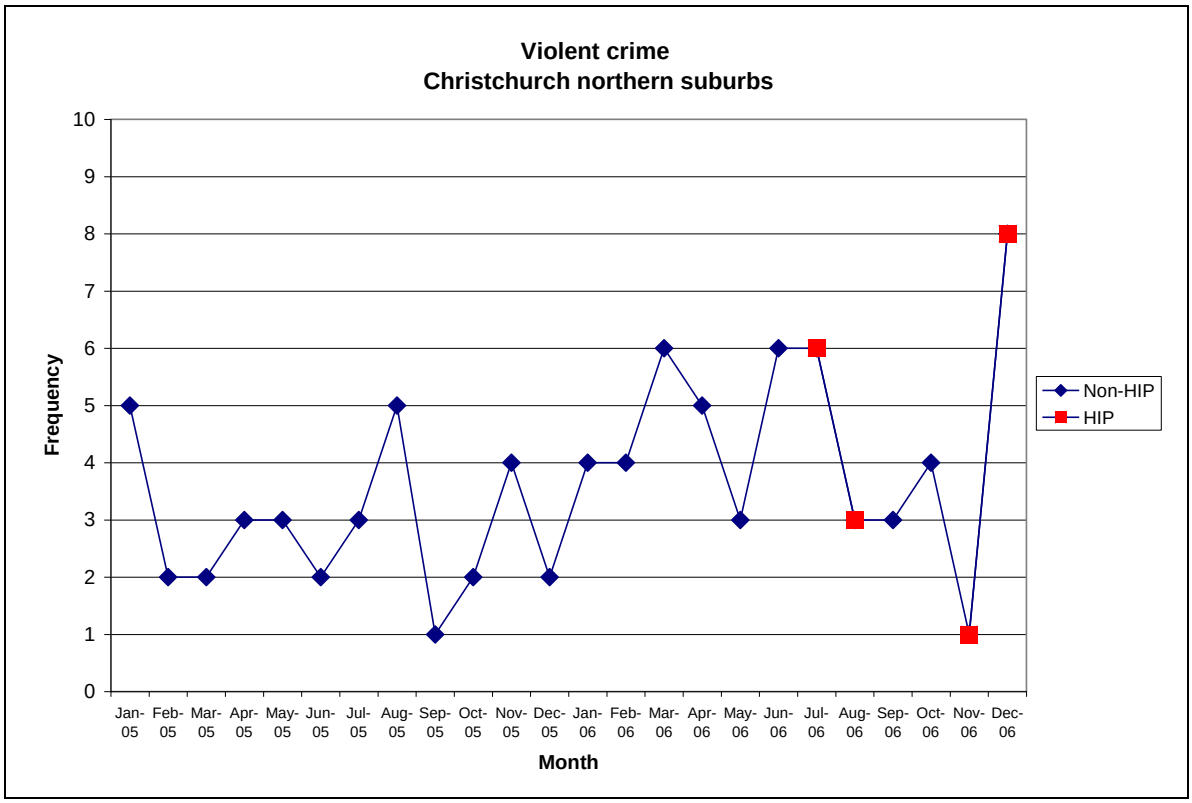
The following three charts identify fluctuations in the number of recorded violent crimes in each of the three sites. Notably, the number of violent crimes recorded each month is relatively small (fewer than 10 offences per month in each site). The ARIMA analysis did not detect any impact from the interventions above baseline statistical variability.

Chart 14: **Number of alcohol-related violent crime cases in Manukau East**



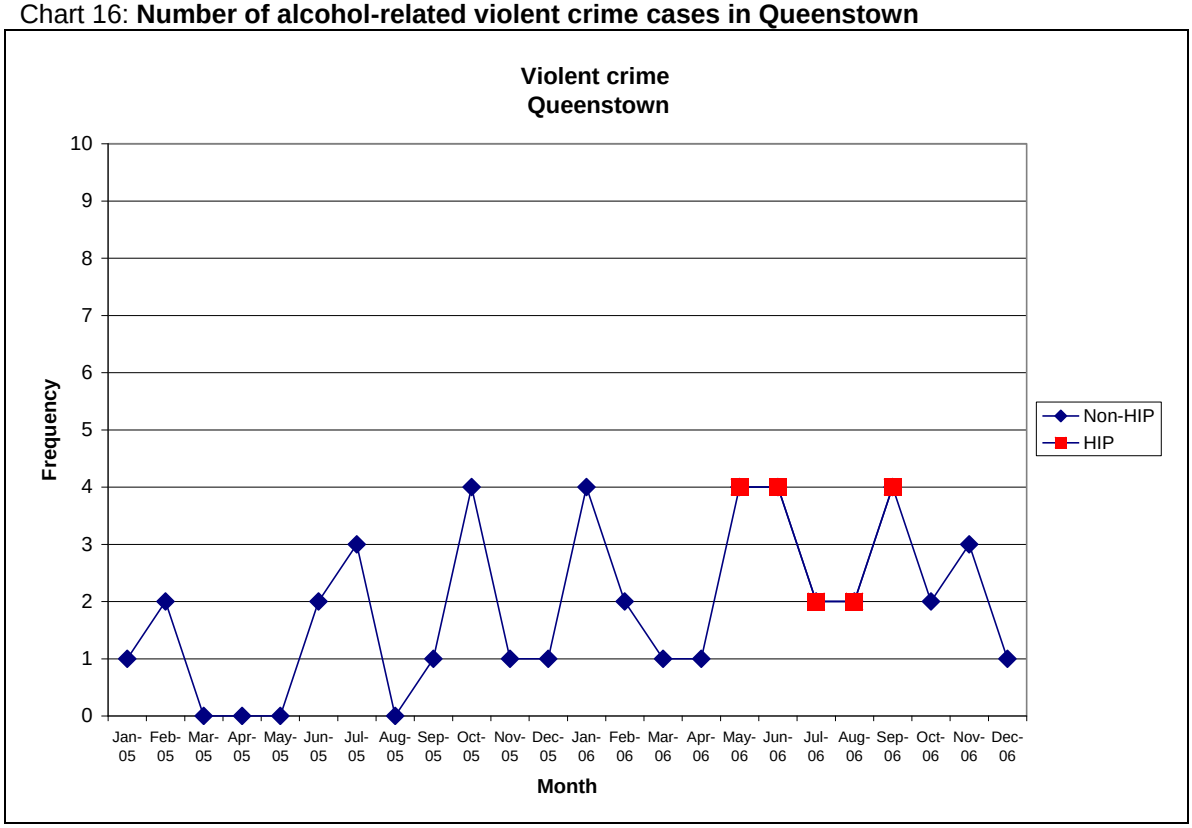
There was no significant change detected in recorded violent offences during the intervention period in Manukau East.

Chart 15: **Number of alcohol-related violent crime cases in Christchurch northern suburbs**



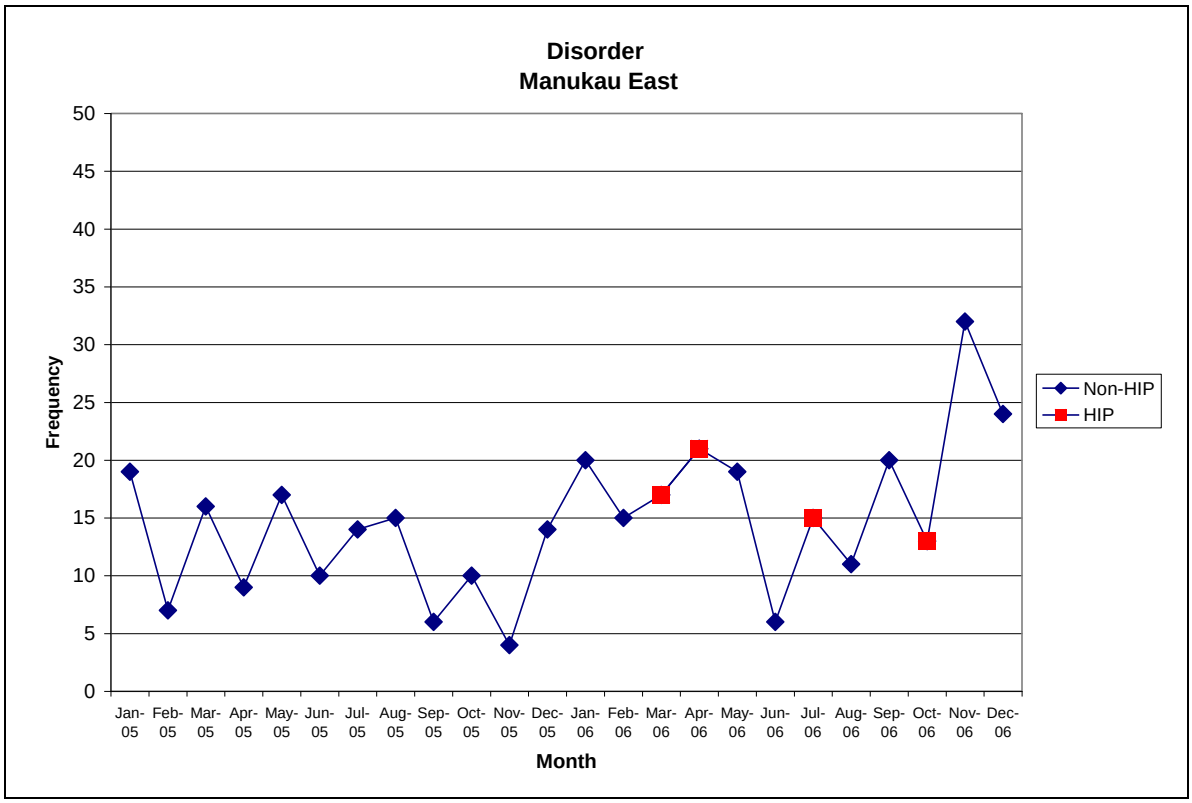
There was no significant change detected in recorded violent offences during the intervention period in Christchurch northern suburbs.

Chart 16: **Number of alcohol-related violent crime cases in Queenstown**



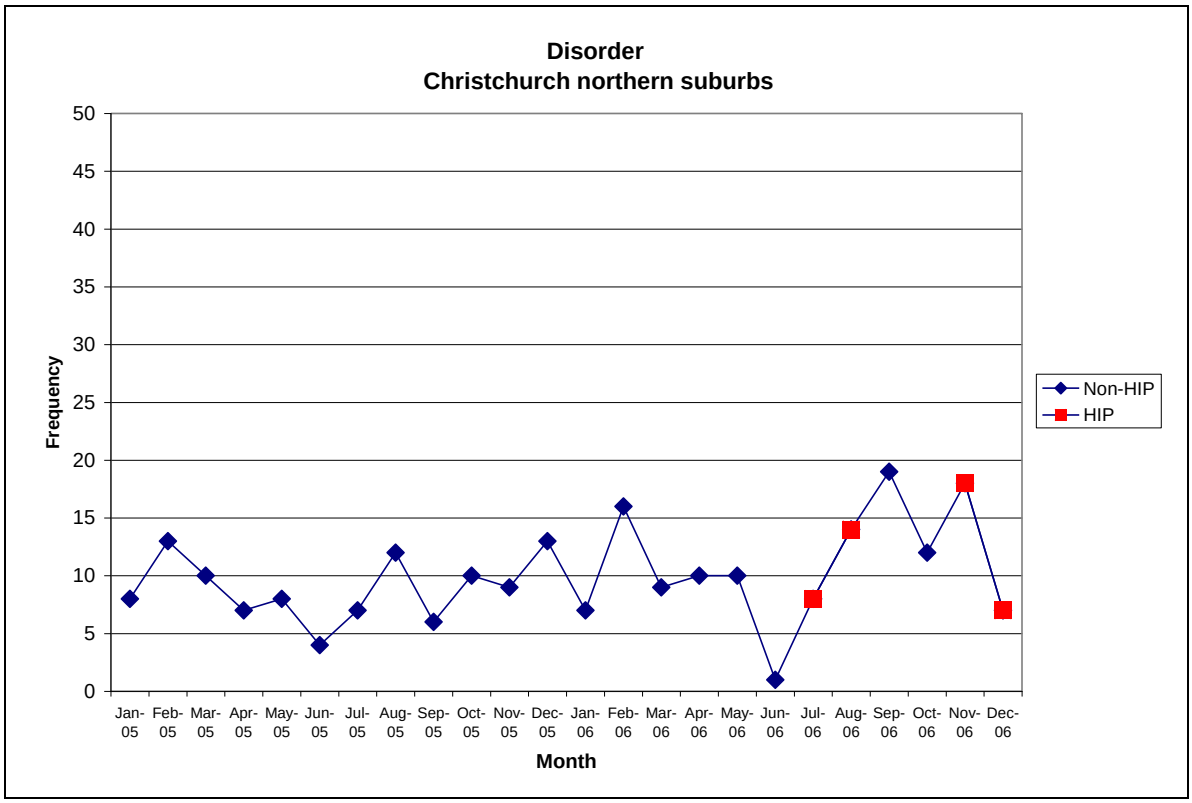
There was no significant change detected in recorded violent offences during the intervention period in Queenstown.

Chart 17: **Total number of disorder cases in Manukau East**



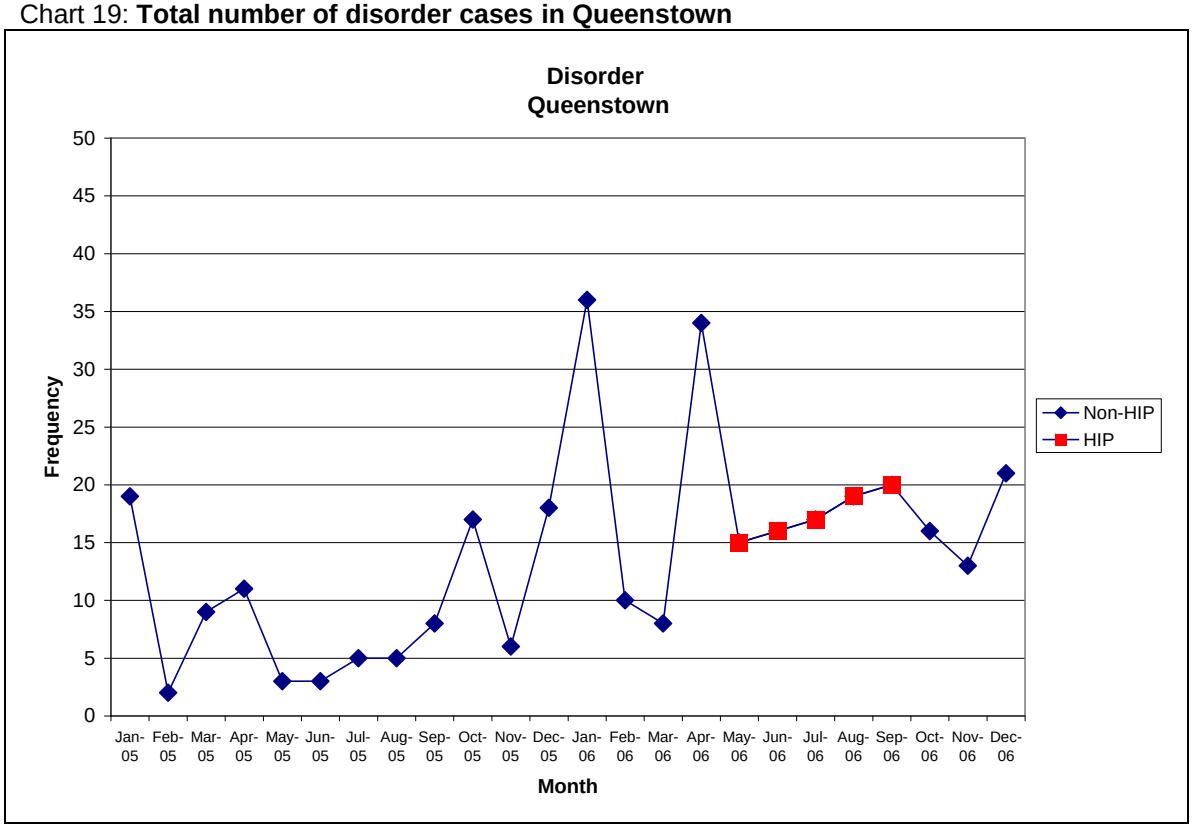
There was no significant change detected in disorder offences in Manukau East during the intervention period.

Chart 18: **Total number of disorder cases in Christchurch northern suburbs**



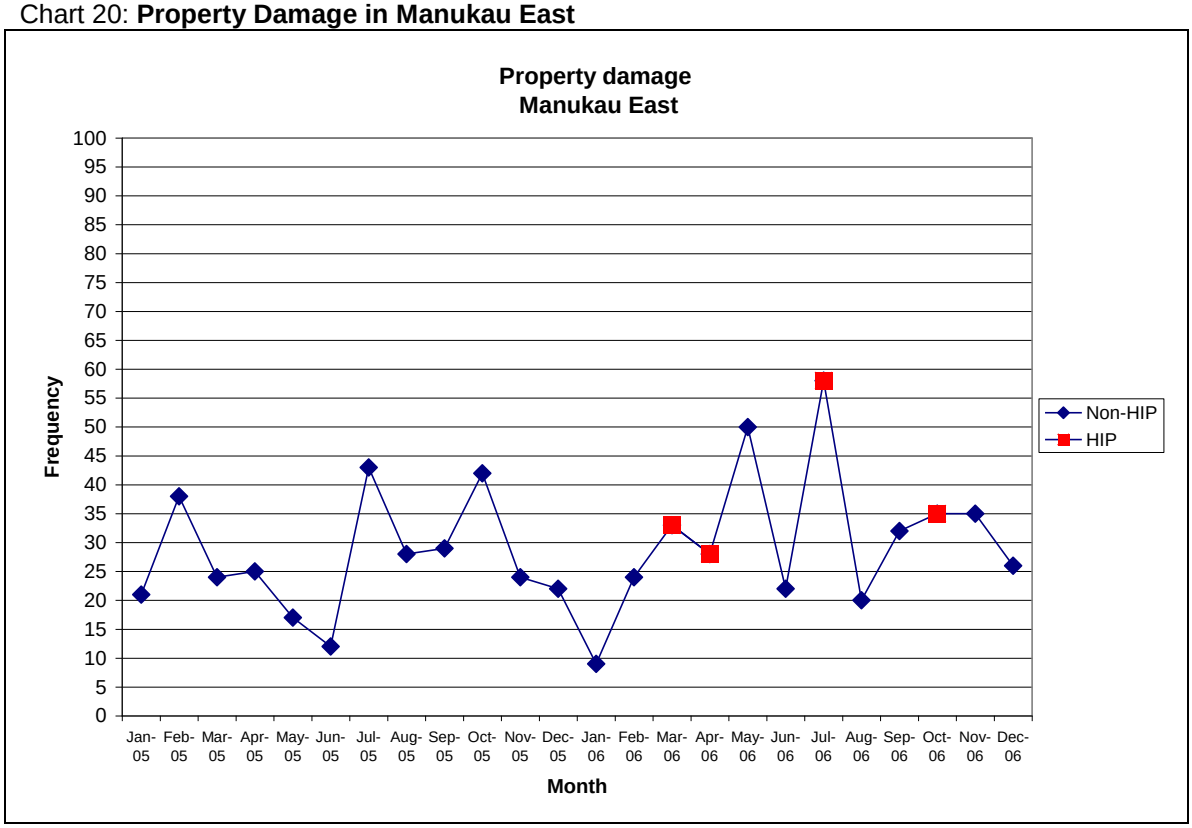
There was no significant change detected in disorder offences in Christchurch northern suburbs during the intervention period.

Chart 19: **Total number of disorder cases in Queenstown**



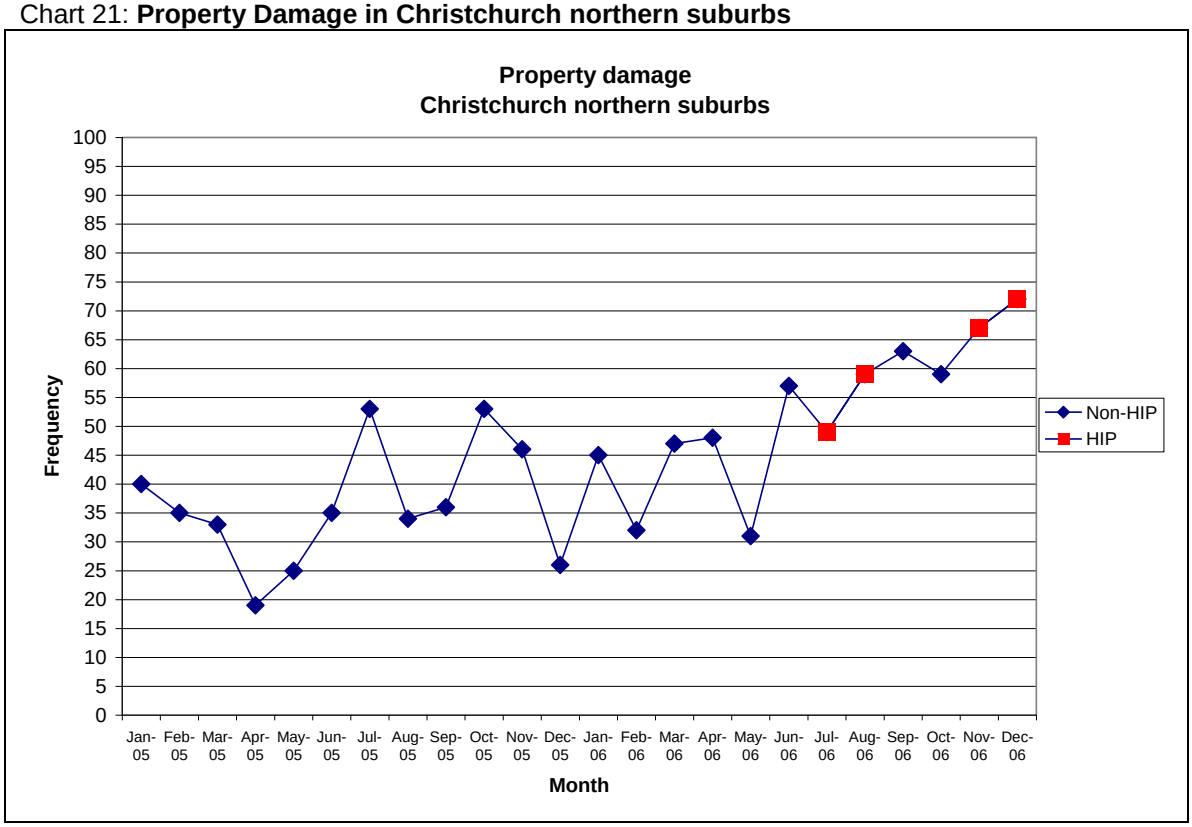
In Queenstown there was no significant change detected in disorder offences during the intervention period. The number of disorder offences steadily rises during the intervention but as can be seen in the immediately preceding months this increase follows patterns of previous years.

Chart 20: **Property Damage in Manukau East**



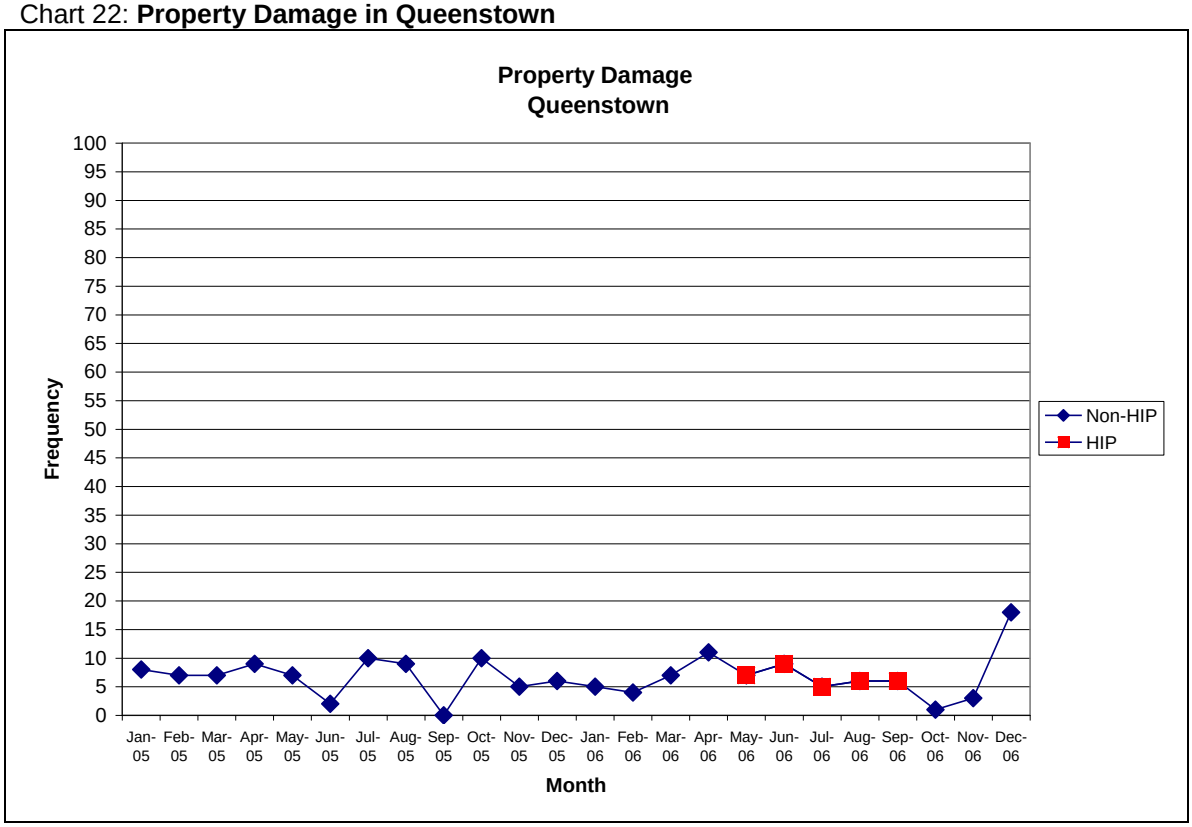
There was no significant change detected in property damage offences in Manukau East during the intervention period.

Chart 21: **Property Damage in Christchurch northern suburbs**



In Christchurch northern suburbs, the numbers of recorded property damage offences significantly increased in the intervention periods and in the period between the two interventions.

Chart 22: **Property Damage in Queenstown**

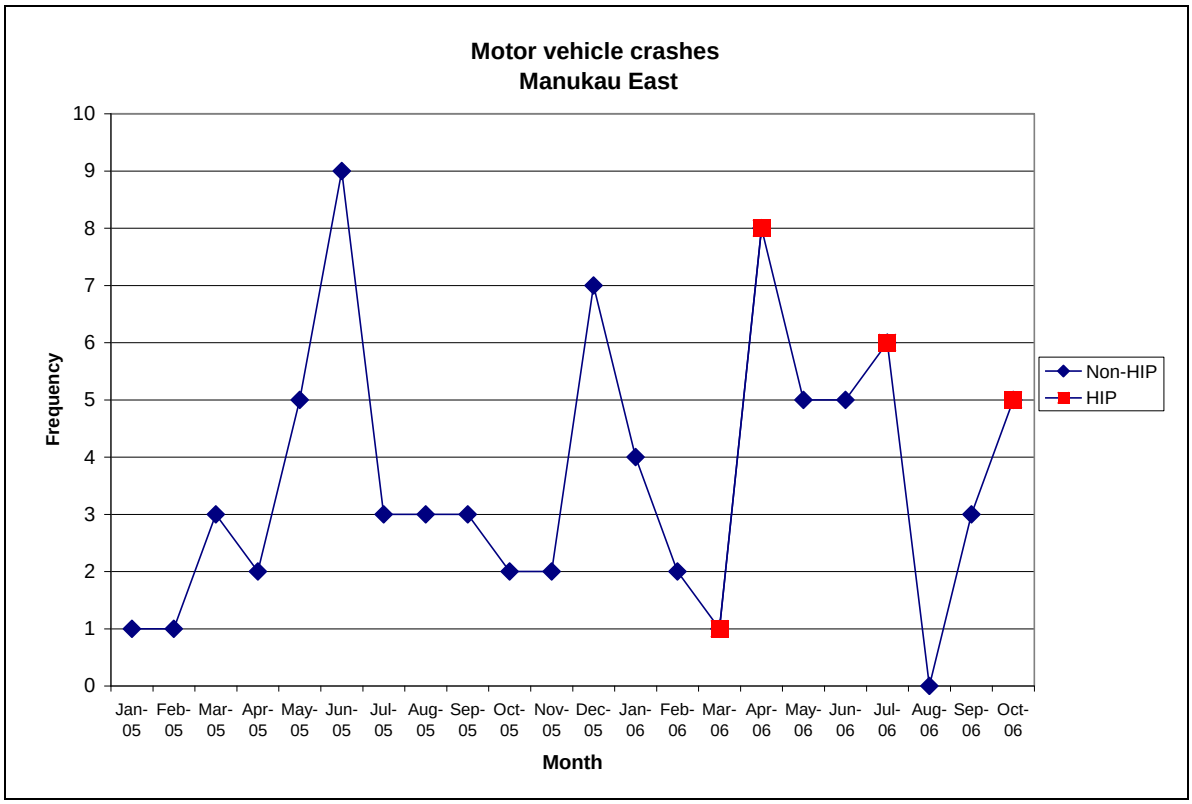


There was no significant change detected in property damage offences during the intervention period in Queenstown.

4.3.5 Alcohol-Related motor vehicle crash data

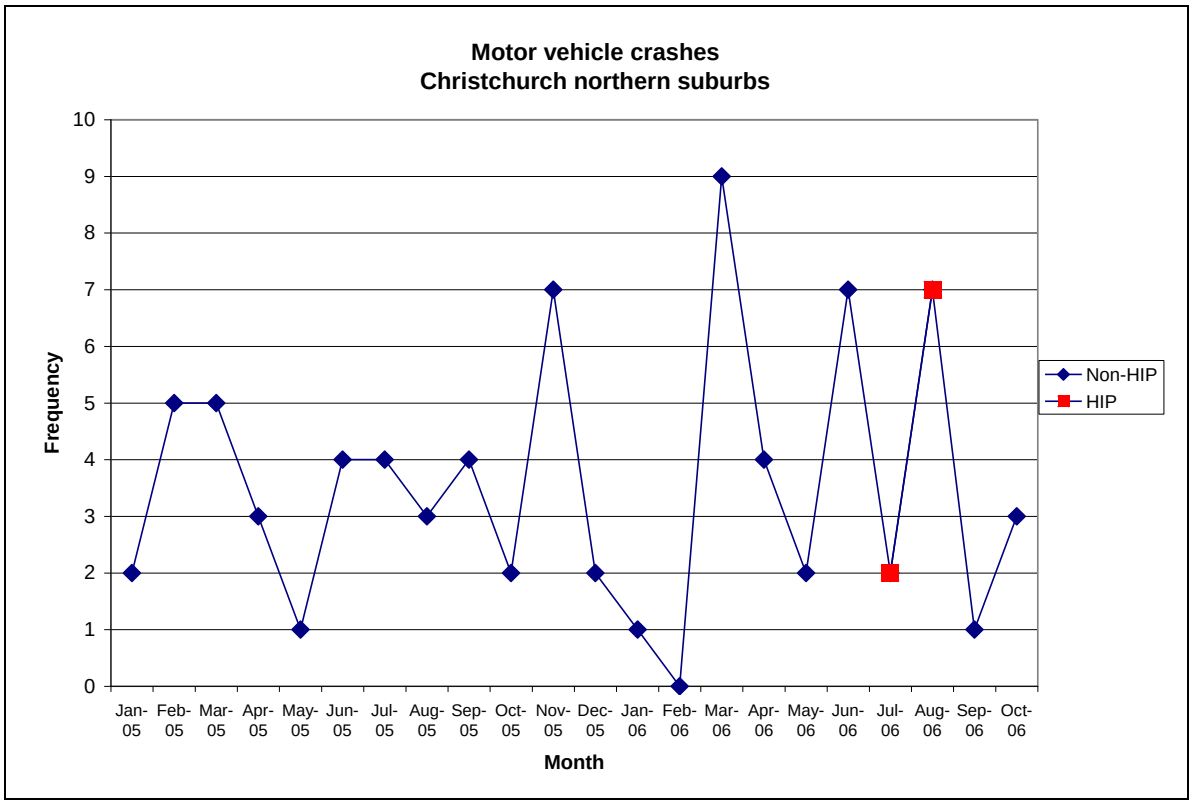
The numbers of recorded alcohol-related motor vehicle crashes in each site are small and it is therefore expected that time series analysis might not identify impacts on this parameter as a result of the regulatory interventions.

Chart 23: **Alcohol-related Motor Vehicle Crashes Manukau East**



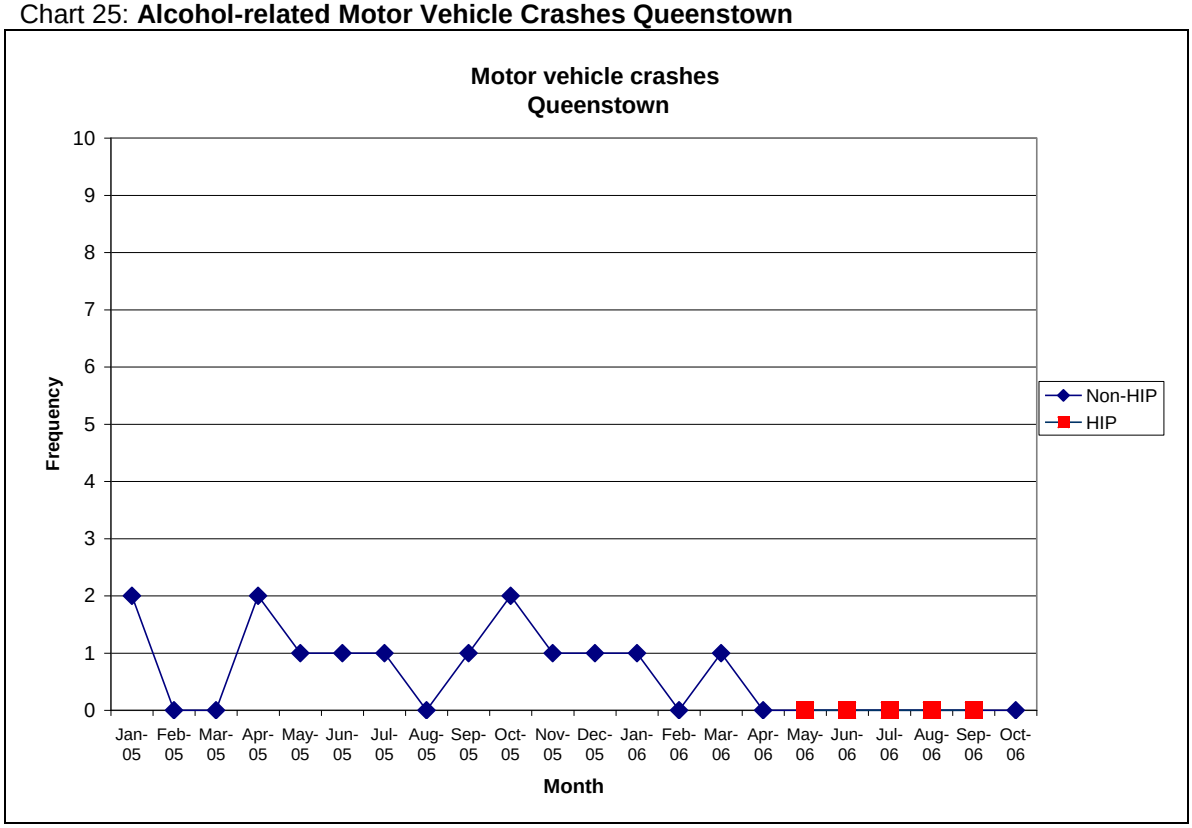
There was no significant change in alcohol-related motor vehicle crashes during the intervention period in Manukau East.

Chart 24: **Alcohol-related Motor Vehicle Crashes Christchurch northern suburbs**



There was no significant change in alcohol related motor vehicle crashes during the intervention periods.

Chart 25: **Alcohol-related Motor Vehicle Crashes Queenstown**

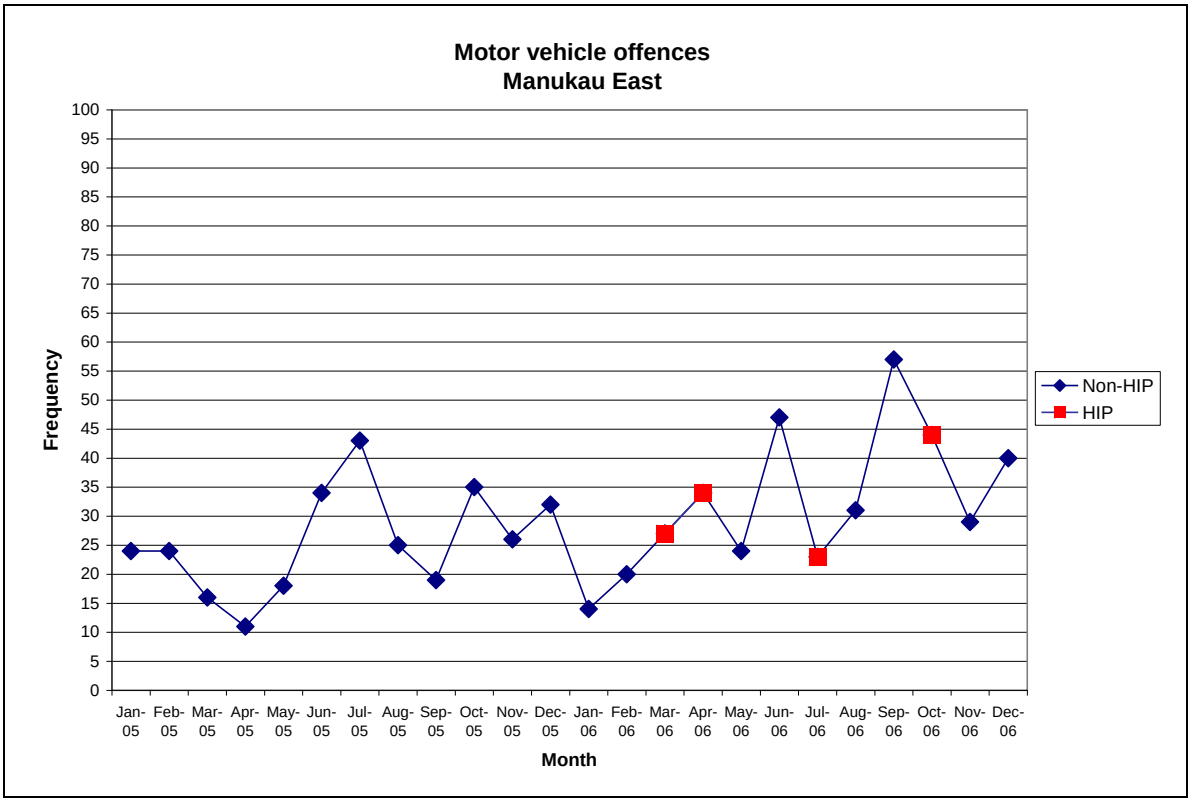


There were no alcohol-related crashes in Queenstown during the intervention period[4].

[4] While observers noted a heightened presence of Road Traffic policing during the entire Winter Period, the timing of traffic policing initiatives was not controlled for or addressed in the modelling.

4.3.6 Road Alcohol Offence data

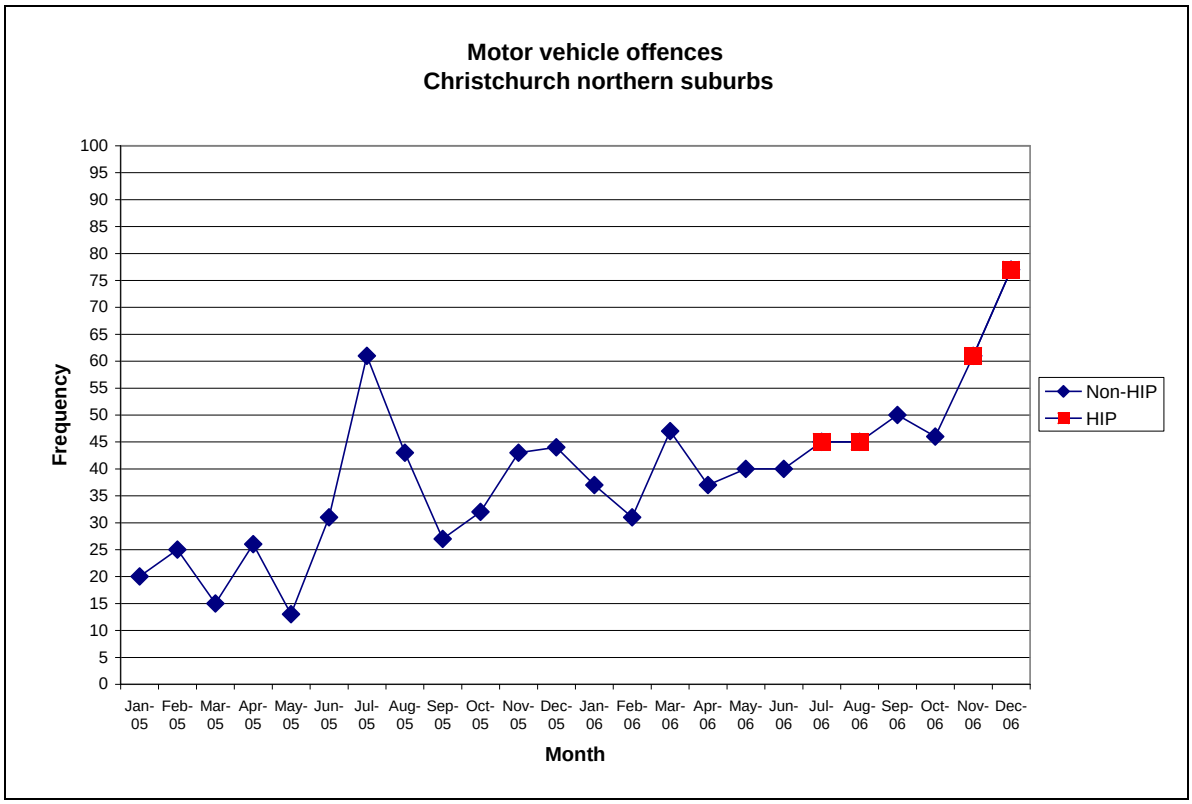
Chart 26: **Road Alcohol Offences Manukau East**



The heightened intervention did not show a significant reduction in road alcohol offences in Manukau East. Numbers of road alcohol offences in 2006 were above the average of 2001-2005 and were trending upwards before the intervention began.

Drink driving ‘blitzes’ in 2006 in Manukau East corresponded with a significant reduction in St John callouts and 1K incidents.

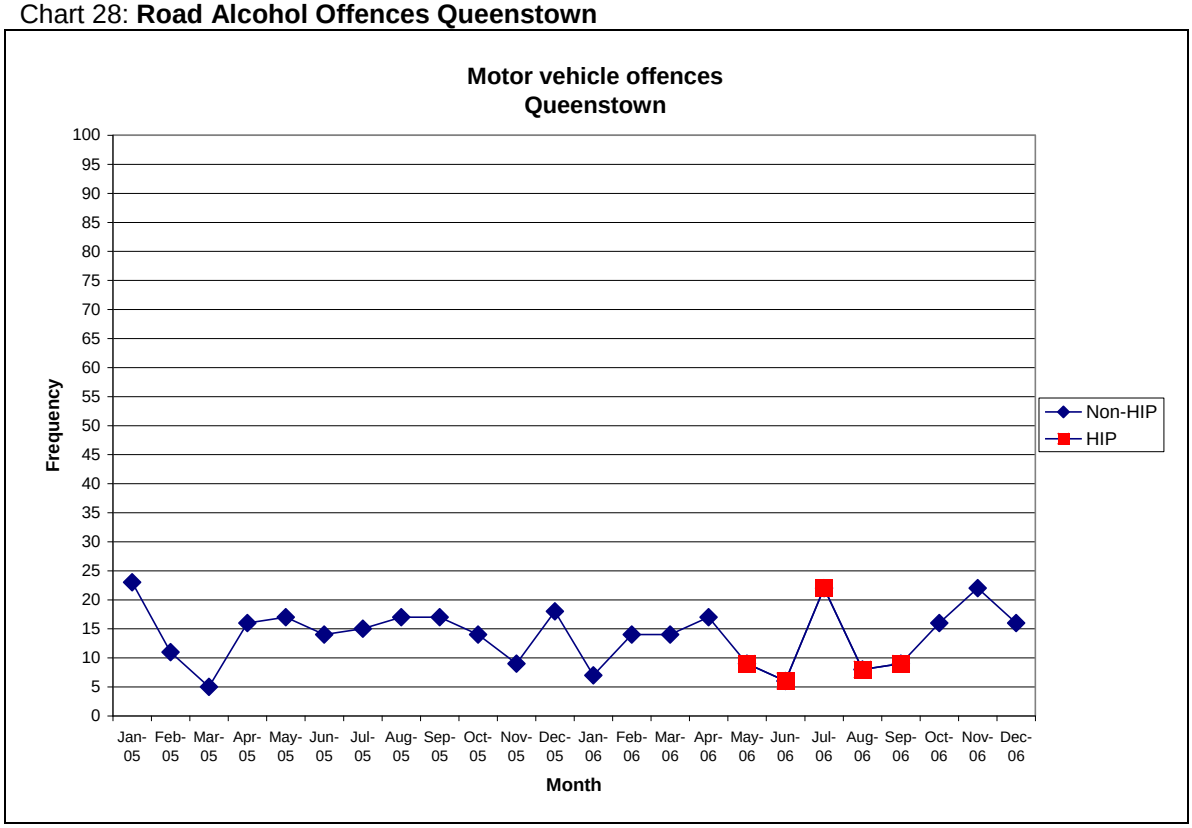
Chart 27: **Road Alcohol Offences Christchurch northern suburbs**



The heightened intervention did not show a significant reduction in road alcohol offences in Christchurch northern suburbs. Although the data trended upwards at the end of 2006 this was not a significant increase.

Drink driving ‘blitzes’ in 2006 in Christchurch northern suburbs corresponded with a significant reduction in alcohol-related motor vehicle offences and cases of property damage and disorder.

Chart 28: **Road Alcohol Offences Queenstown**

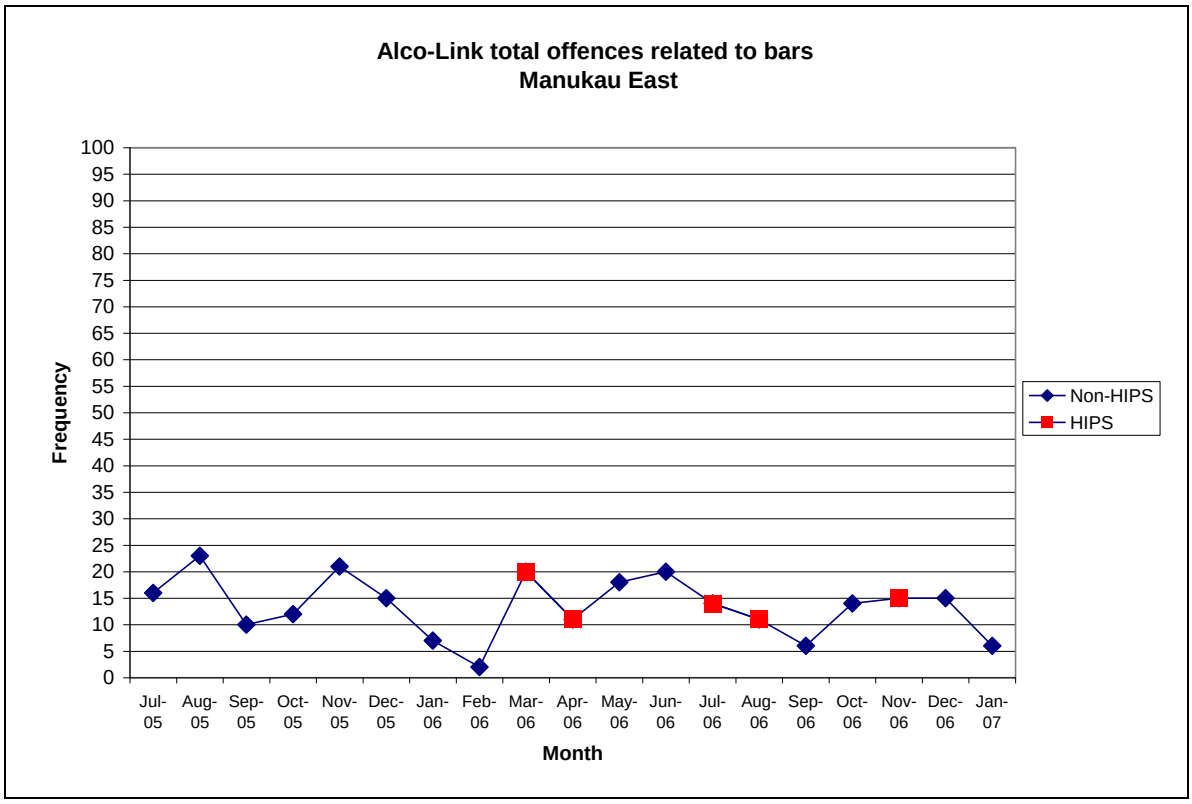


The heightened intervention did not show a significant reduction in road alcohol offences in Queenstown. Though May, June, August and September were months of lower recorded offending than the historical averages for the corresponding month, the ARIMA modelling did not identify any statistically identifiable impact on the time series data occurred as a result of the intervention.

4.3.7 Alco-Link data

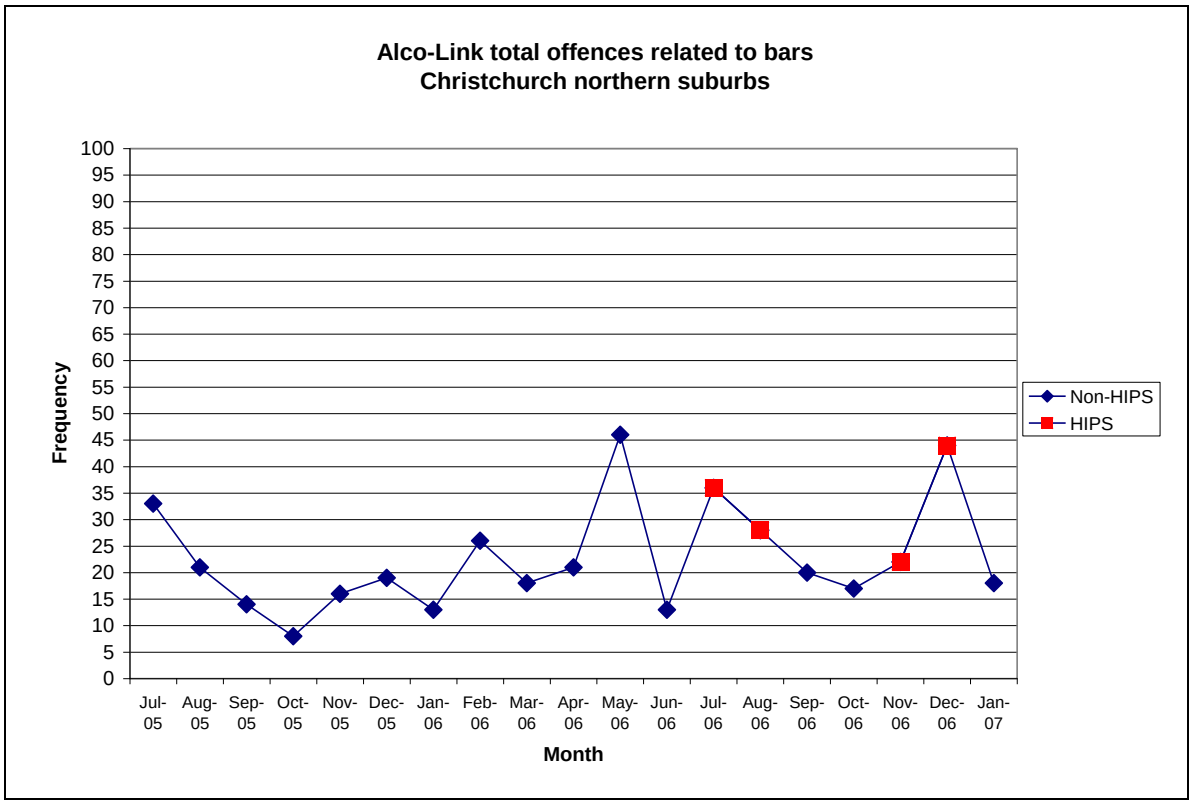
Alco-Link data is plotted in the following three charts. As identified in the data limitations section, this data was not available for periods prior to June 2005. There has therefore been limited ability to identify seasonal patterns of variability, in order to model impacts on alcohol-related offences recorded during 2006. The ARIMA modelling is therefore based on time series analysis that does not address seasonality.

Chart 29: **Alco-Link offences in Manukau East**



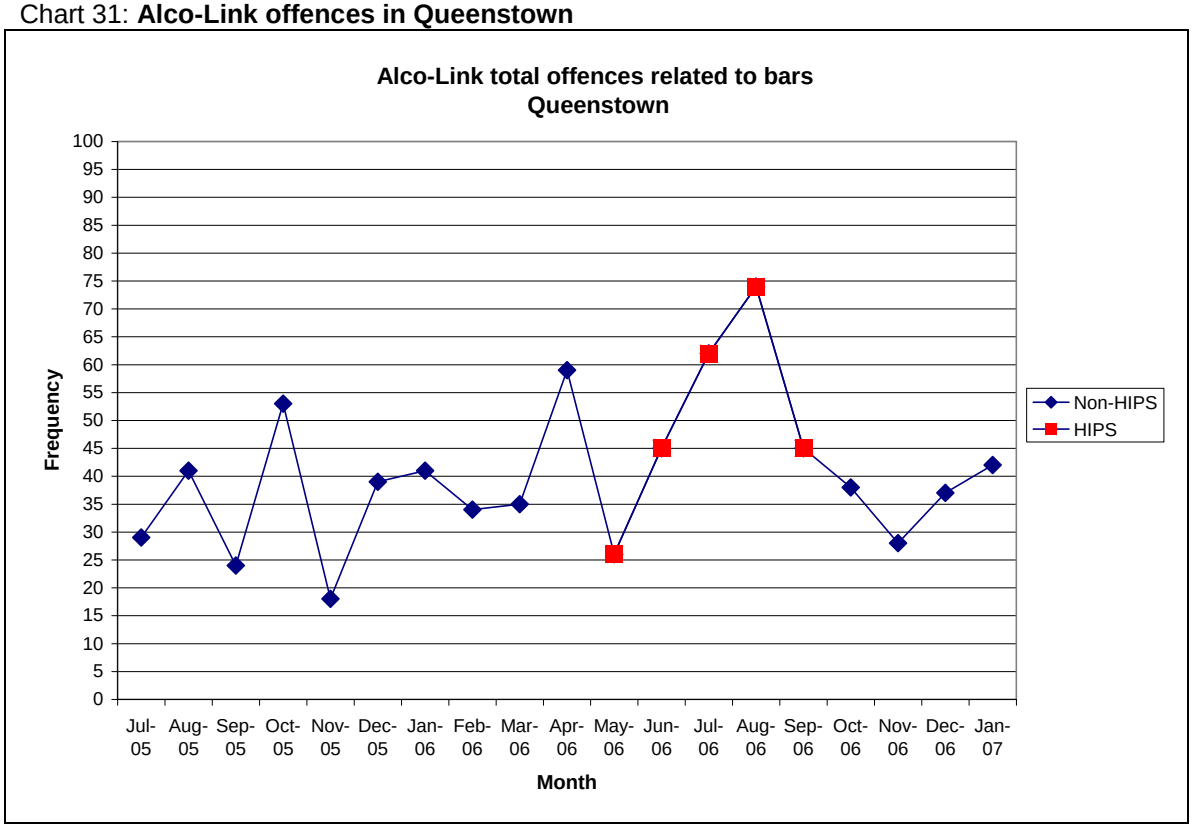
The Alco-Link data showed no reduction in recorded alcohol-related offences during the periods of the heightened regulatory interventions in Manukau East.

Chart 30: **Alco-Link offences in Christchurch northern suburbs**



The Alco-Link data showed no reduction in recorded alcohol-related offences during the periods of the heightened regulatory interventions in Christchurch northern suburbs.

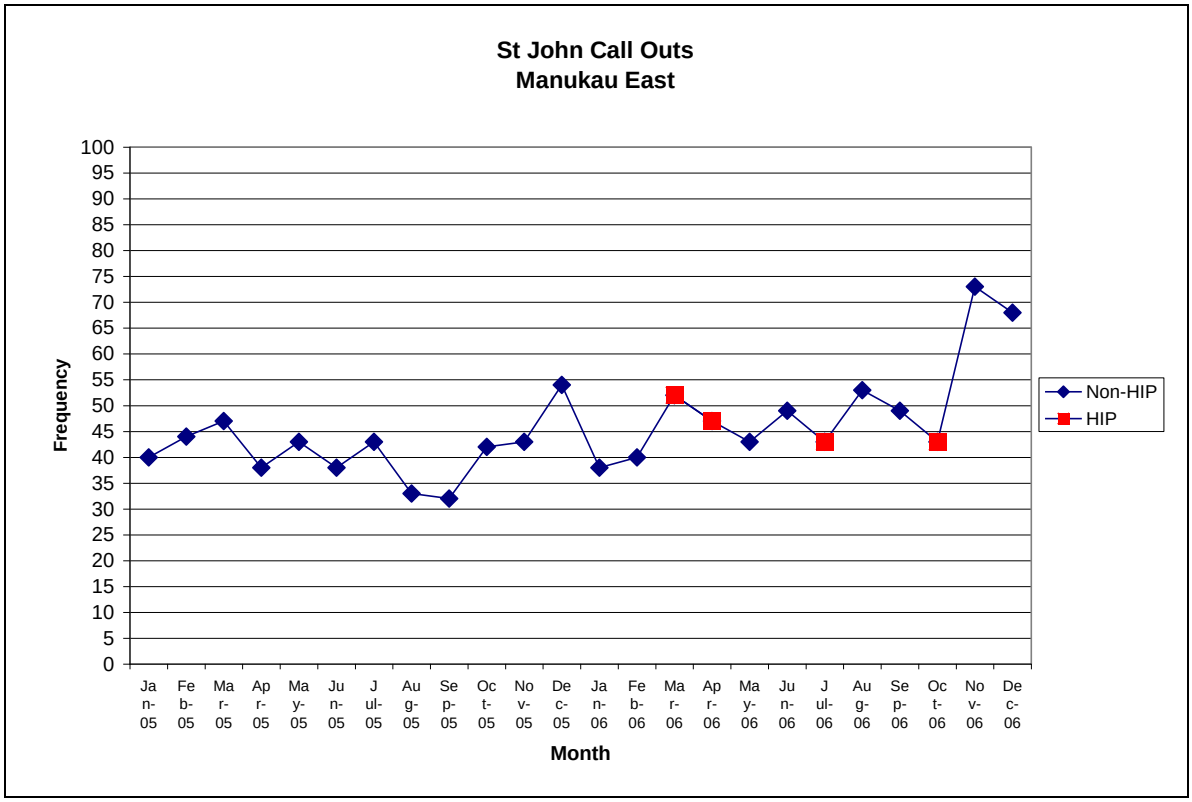
Chart 31: **Alco-Link offences in Queenstown**



The Alco-Link data showed no reduction in recorded alcohol-related offences during the periods of the heightened regulatory interventions in Queenstown.

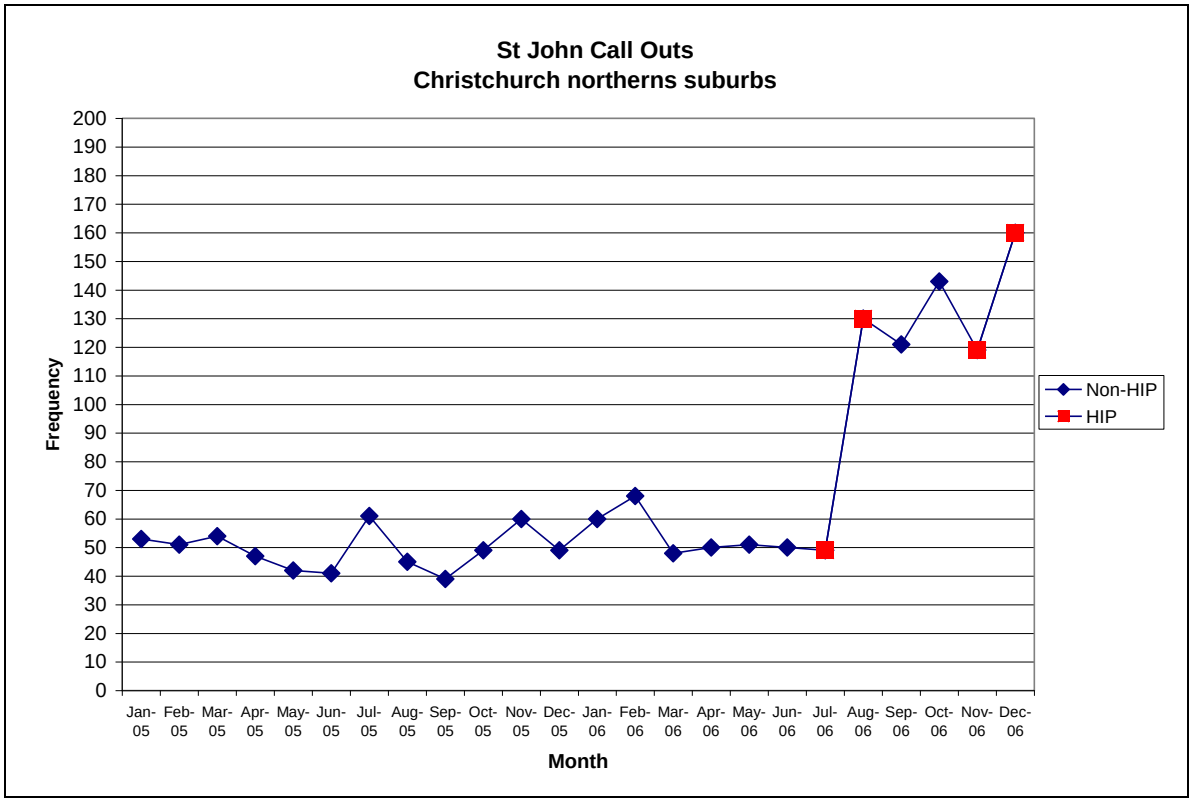
4.3.8 Ambulance Attendances

Chart 32: **St John Ambulance alcohol-related attendances Manukau East**



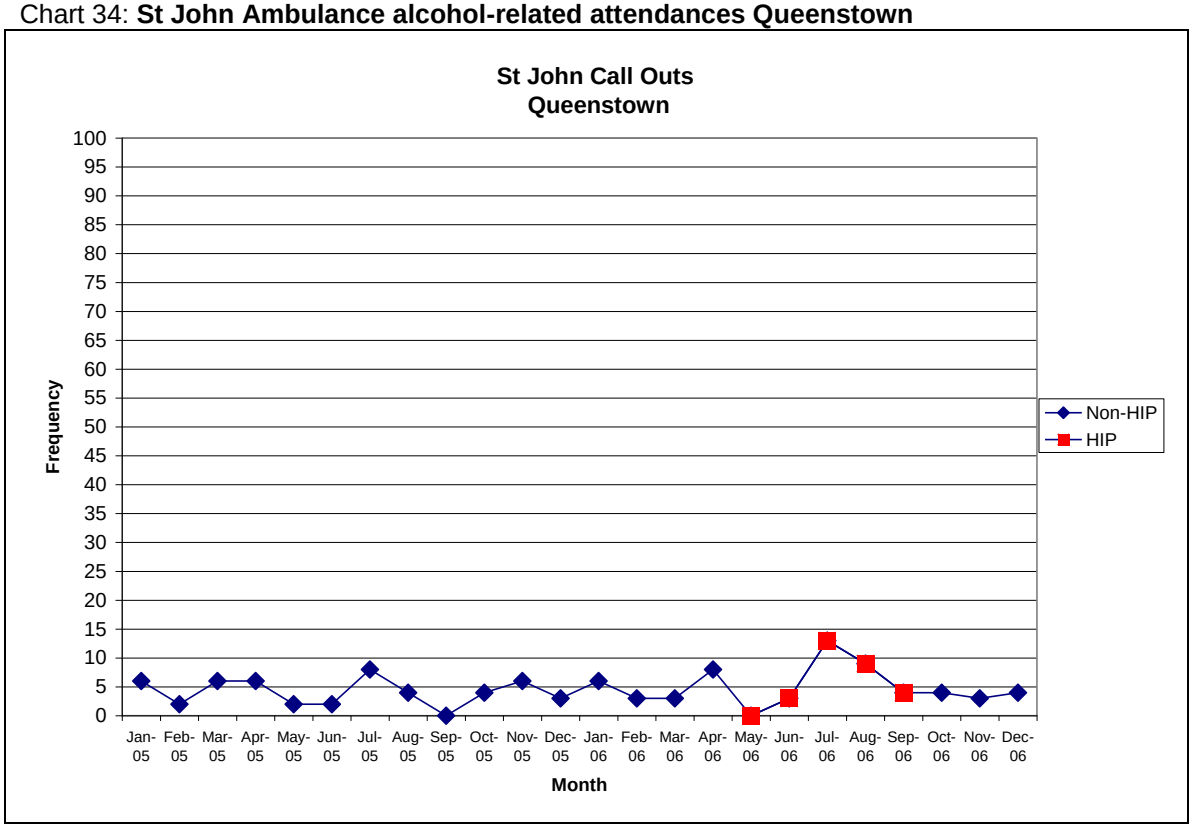
There was no significant reduction detected in alcohol-related St John ambulance attendances as a result of the regulatory interventions in Manukau East.

Chart 33: **St John Ambulance alcohol-related attendances Christchurch northern suburbs**



There was no significant reduction detected in alcohol-related St John ambulance attendances as a result of the regulatory interventions in in Christchurch northern suburbs. The apparent increase in call-outs relates to the change in the coding system (see section 3.8.1 where this issue is addressed in more detail).

Chart 34: **St John Ambulance alcohol-related attendances Queenstown**



There was no significant reduction detected in St John ambulance alcohol-related attendances as a result of the regulatory interventions in Queenstown.

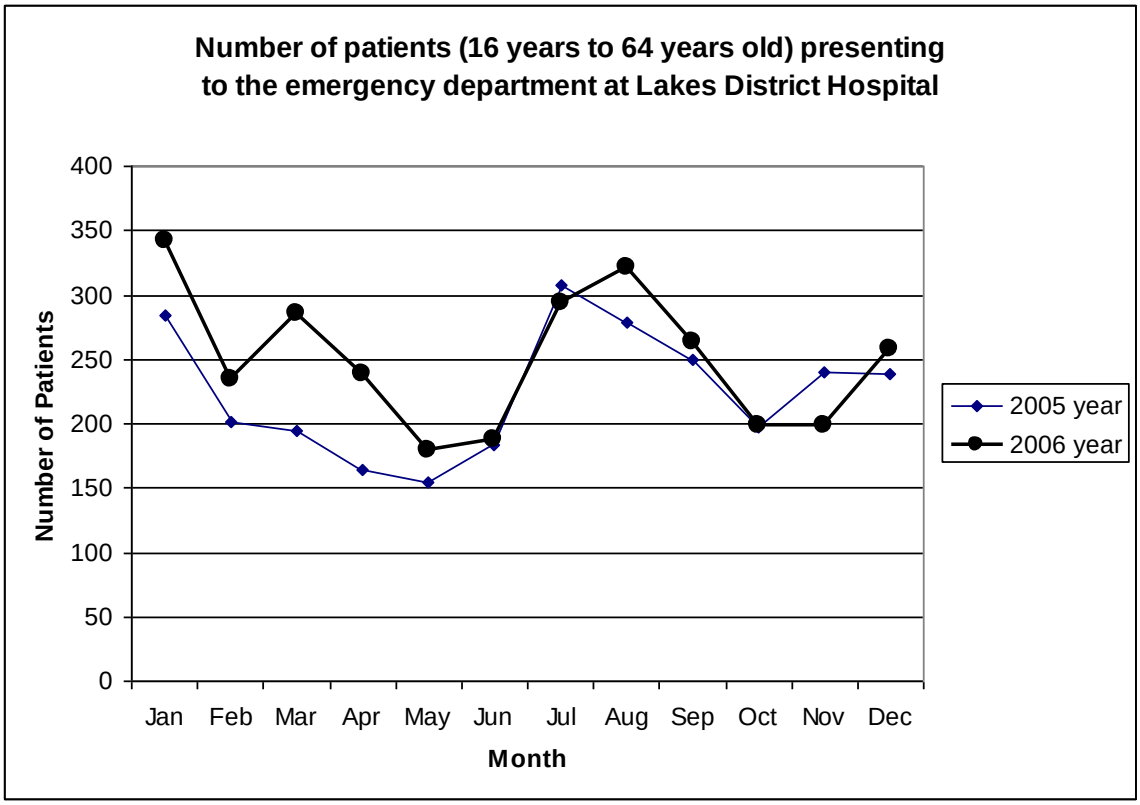
4.3.9 Emergency department presentations

Emergency department presentation information is only available for Queenstown.

All patient presentations

One collection of data obtained from Queenstown identified the total number of patients presenting to the Lakes District Hospital emergency department during 2005 and 2006. Young and elderly patients were excluded from analysis, because they are considered to be unlikely to drink on licensed premises and are therefore unlikely to be impacted by the regulatory interventions applied during this study.

Chart 35: **Emergency department presentations in Queenstown in 2005 & 2006**



There was no significant difference detected between 2005 and 2006 (the year in which the interventions occurred) in the number of presentations to the Emergency Department in Queenstown (according to Student's t-test; p-value=0.26).

Overseas resident presentations

Detailed information about alcohol involvement in emergency department presentations was collected for a subset of patients; those who were overseas visitors to New Zealand. Non-residents accounted for approximately 23 percent of emergency presentations to the Lakes District Hospital Emergency Department. The small number of incidents involving identifiable alcohol factors among the overseas patient presentations precluded statistical analysis of the data to assess any impact from the regulatory intervention. However, a number of qualitative observations can be made:

Approximately 75 percent of the patients were male, and the average age was 25 years. The majority of the arrival times were between 11pm and 6am (76 percent). The incidents were reported as having taken place in various locations such as bars, nightclubs, areas surrounding bars, streets and in town.

The most common injuries were related to the head, followed by external head-related injuries such as lacerations to the head or face or being knocked out. Many of these injuries were recorded as having resulted from fights or assaults. Some other head related injuries were likely caused by anxiety, collapse, overdose, seizure, incoherence, unconsciousness, headaches, disorientation or memory loss. Many of these injuries appeared to be related to people combining alcohol with party pills, or as the result of a binge drinking episode. There were a small number of cases in which people feared their drinks had been spiked as their reaction to the normal amount of alcohol consumed was unusually strong.

Some injuries were related to the body such as laceration to the hand, twisted ankle, bruising to hip or back, or injury to the foot, legs, knee, elbow, arm or shoulder. A much smaller number of body-related incidents were internal. These may have included more medical conditions (as opposed to accident) such as gastrointestinal bleeding, vomiting, alcohol poisoning, and abdominal pain.

In a number of cases, males were assaulted while walking home after drinking. A number of injuries resulted from slips or falls on stairs, floors, or in the street.

4.4 Non-participant observations

Non-participant observers were used to examine the impact of police visits and police interactions with patrons and bar staff during the period of heightened police presence. Observers were also asked to describe the licensed premises environment during both the "non-intervention" and the two intervention periods in the Manukau East and Christchurch northern suburbs sites.

In Queenstown there was no interruption in the intervention period so observations were carried out in approximately one-week blocks. These observations were carried out before, during and after the intervention.

4.4.1 Manukau East

Licensed premises

In 2006, there were 488 licensed premises (bars/taverns/clubs and restaurant/cafes) in the whole of the Manukau city region although there were less in the eastern area (237 including sports clubs and 217 excluding sports clubs). Of these licenses, the majority were held by restaurants and cafes and there were 30 bar, tavern and night club licenses. The premises varied in size and number of patrons, ranging from small premises catering for 20-30 patrons to larger premises that could hold a hundred or so patrons. All bars are required to be closed by 3am in Manukau East, however some premises closed before this time (around midnight and 1am) during the study period.

Server Behaviour

A range of server behaviour was observed. Some bar staff served multiple drinks to individuals and some served 'trays' of glasses of alcoholic beverages to groups. The majority of patrons, however, were served one or two drinks at a time by the bar staff. During busy times observers reported that it appeared difficult for bar staff to assess patrons' level of intoxication as the exchange between staff and patron was very rushed. Denial of entry to a premises was only reported once but was difficult to for the observers to assess from inside the premises what the reason for denial of entry was. Only a few intoxicated patrons were denied service but overall the observers did not see many visibly intoxicated patrons in the premises. In a few cases, when the multi-agency team visited, service slowed while the regulatory agency staff were present or after they left. This occurred as bar managers ceased serving and took on security duties or managed staff. At the start of the study the observers saw some patrons leaning on, and drinking at, the bar. Over the time of the study most premises appeared to make an effort to keep the bar areas clear from patrons leaning on the bar.

With regard to host responsibility, some premises had food available; others only had bags of chips or nuts. In a few places free non-alcoholic drinks were served (water, Coke). One premises introduced a host responsibility strategy with free water and food for patrons. The observers felt that this was in direct response to the multi-agency visits.

The timing of these changes occurred about half to two thirds way through the intervention period.

There were some changes seen around the bar area for some premises including a noticeable increase in signage following the interventions. This was noted in nearly all premises, for example, the addition of a new sign regarding serving under 18s, not serving intoxicated patrons, warnings not to drink and drive, and dial-a-taxi information. This was also associated with a decrease in alcohol advertising posters in a couple of venues, and greater prominence of menus and signage encouraging patrons to eat. Changes made were maintained beyond the multi-agency visits.

Supervision

Supervision was usually carried out by security staff and sometimes bar managers. This was seen to occur both inside the premises and at the door of the premises (mainly by door security staff). Supervision differed at different types of premises. In the smaller premises the supervisory staff may have included one bouncer at the door and the bar staff inside. In the larger 'nightclub' type premises there were sometimes two or more staff who were assigned to door duty and other staff who were assigned walk-through duty where they walked through the premises supervising patron behaviour. In some premises the glass collectors were observed to be watching patron behaviour. Observers noticed greater supervision of patrons by staff at the time of the multi-agency visits. They also noted that these improvements continued in some premises even when the multi-agency team were not visiting the premises. In some other premises the increased attention to patrons did not continue once the multi-agency team had left. Over the study period greater numbers of security staff were observed (in some cases extra security was possibly linked to a particular social function occurring at the time). One bar had made significant progress in eliminating the consumption of alcohol within a car park near the premises.

The observers noted that communication between managers and their staff increased at the time of the multi-agency visits. They also noted that in some premises communication between supervisory staff and bouncers improved over the time of the study, that is, the improvements seen at the time of the visits continued. In some of the larger premises, bouncers and supervisory staff had ear pieces and could communicate with one another via their ear piece. The frequency with which they did so appeared to increase when the multi-agency team was visiting. In some premises security staff were observed moving around the premises more during the multi-agency visits. Supervision may have been compromised in very crowded premises however more than half of the visits took place when premises were at low capacity.

Age identification checks were made in many cases, however in some instances the observers noticed younger patrons who should have been checked were not. Often ID checks were not made when patrons were clearly under the age limit.

There were some observations of patrons being denied service at the bar. However the observation team did not see many patrons who were visibly intoxicated in the premises during the observations over the time of the study.

Multi-agency visits

In Manukau East the multi-agency visit teams comprised police members, heath protection officers and licensing inspectors. The police members were not in uniform when they were conducting these visits. Patron behaviour was largely unaffected by the multi-agency visits. This was felt by observers to be largely due to the police not being in

uniform and to the way the visits were conducted. The visits and intervention focused on the bar staff and manager and did not focus on the patrons, as such, in the premises. Most patrons did not notice when the multi-agency group were present in the premises. However, a small number of individuals who did notice police with a notebook, distanced themselves by moving away or by going outside and waiting until the police left before ordering a drink. A loud, play-fighting group of young males calmed down when they noticed the police. Occasionally patrons questioned why the intervention team was visiting.

Staff behaviour was affected by police visits in several ways. Staff in one venue reduced the volume of music being played during a police visit, while another had turned down music prior to a visit. In the absence of security staff, a bar manager was noted to change from serving customers to walking through the bar. Some bar managers met with their staff after a visit to discuss issues raised. Intervention teams were well received by bar staff and the multi-agency group appeared to have a good rapport and relationship with the bar staff and managers.

4.4.2 Christchurch northern suburbs

Licensed premises

There were approximately 50 public bars in the northern suburbs during the study period. There is considerable variation in the nature of these premises and the clientele they cater for. Patronage varies from 10-20 people at any one time to up to 150 people.

Many premises are small suburban premises that cater for a regular local clientele who are of varied ages and often appear to know each other. These premises tend to be relatively quiet, although some have live entertainment on some nights. Many have sports playing on large TVs and gaming machines are available at many premises. These premises have closing hours of 11pm to midnight.

Other premises are located in small clusters at each of the main shopping areas within the study area (New Brighton, Papanui, Merivale and Shirley). These premises are open until 1am, 2am or 3am at the weekends. They tend to be livelier and attract a wider range of clientele, although each has a slightly different style: some attract a younger age group; some attract a well-dressed professional crowd; others are more casual and have live bands; some premises provide for dancing.

Some of the bars within the study area encourage “party buses” to visit. These are organised bus trips that take groups from premises to premises over the course of a night. Party bus patrons tend to be younger, dressed in fancy dress or silly outfits and are looking to dance and socialise rather than sit and have a quiet drink.

Server behaviour

Observers noted differences in server behaviour depending on the type of premises and the clientele. The presence of party bus patrons also affected server behaviour.

Some premises were described by observers as being ‘locals,’ having a steady set of regular clients who often appeared to know the servers, and sometimes interacted with them across the bar. Other premises seemed to have a more party-focused clientele who generally had less interaction with servers. When these party-focused venues were quiet, observers noted they had a sombre or ‘dead’ mood, as opposed to the quiet, friendly atmosphere of local bars. The main variation to this trend was when party buses came to one of the venues that was otherwise a ‘local.’

Observers identified a clear delineation between party bus patrons and regulars. They observed that while some servers played up to the party atmosphere, in most cases servers became very busy and interacted less with patrons once party buses arrived. Observers noted that in crowded venues, in particular when a number of party buses were on site, there were often not enough staff serving. On some occasions, security staff (identified by uniforms and/or earpieces), were behind the bar to help out. Observers felt that oversight from the bar, and assessment of patrons' level of intoxication, would be very difficult when working at such a rapid pace. Moreover, in a number of the venues, lighting and layout made it hard to observe patrons, a situation that was exacerbated when the venue was busy.

Interaction with patrons was generally confined to people whom servers seemed to know; there was a noticeable differentiation between 'regulars' and those who turned up on party buses or who were not known to staff. Observers felt that in some circumstances, serving with minimal interaction may have contributed to intoxicated patrons continuing to be served. Observers also noted that servers appeared to serve regulars who may have consumed too much alcohol. In one instance it was clear to observers that a heavily intoxicated woman (she could not balance on her chair) had been given a bottle of wine by the server she knew. She fell off her chair, observed by bar staff, and was propped up by a friend and allowed to remain in the premises.

Most patrons bought single drinks, and beer was the most frequently purchased beverage at most premises. However, this varied according on the type of premises, with patrons drinking more wine at the more "upmarket" bars. Observers noted that while non-alcoholic drinks were readily available and usually cheap, few patrons were observed purchasing non-alcoholic drinks. Multiple drinks appeared to be purchased most frequently by groups of younger patrons, including some groups from party buses. Drinks purchased were most commonly multiple shots or jugs of beer. Party bus patrons, particularly younger women, were observed drinking ready-to-drink spirit mixes (RTDs) more frequently than other groups of patrons. Servers were occasionally observed encouraging patrons to drink shots, in one case a group of shots by a single patron. Observers noted a small number of cases where people buying multiple drinks appeared to be intoxicated.

There were some reports of what observers felt could be high levels of intoxication (e.g. difficulty standing, balancing or walking; sleeping and difficult to rouse). There were more frequent reports of what seemed to be lesser degrees of intoxication, such as overly loud or flirtatious behaviour or dancing, and/or glassy eyes and flushed faces.

Observers noted only one occasion where a drink was denied to a person who appeared intoxicated. However, observers did note at least three occasions when people who appeared to be intoxicated were served. Servers very rarely asked for identification. Observers noted a number of young-looking people being served, sometimes in venues where there was no security on the door. Again, the impact of the large number of party bus participants appeared to hamper the ability of servers to properly assess someone's age. In addition, observers felt that younger servers may have been reluctant to ask for identification from people around their age. In one instance, a bartender was sent to ask for identification from one of the observers and mentioned that he felt very uncomfortable asking for identification from people older than himself.

Most bar staff stayed firmly behind the bar. On a number of occasions observers reported going into venues where there were bottles and/or glasses left on tables. One observer wondered whether younger bar staff might feel intimidated by large groups, particularly in venues where the crowds were large, older (40-50 years) and boisterous.

Supervision

Observers only noted one instance of a person being removed from a premises. However, this appeared to be due to the patron making unwelcome advances on women rather than high levels of intoxication. A few heavily intoxicated (for example, sleeping) patrons were left undisturbed in bars, and on a number of occasions observers noted patrons who were intoxicated enough to have difficulty walking, talking, balancing and exhibiting what appeared to be intoxicated behaviour.

Door patrols and identification checking were inconsistent, particularly before the intervention, but with limited improvement during and after the interventions. Observers frequently noted that there was no one on the door. As noted above, servers did not usually ask for identification. This might indicate that servers may see identification as a door job, and where there is no door person, identification is not checked. Among the venues where identification checking was potentially necessary (those with a younger clientele), checking and/or presence of door staff was not consistent by venue or by intervention phase. Where security staff were observed, they appeared to be relatively passive, infrequently moving through the venue (if at all), with the exception of passes during police visits. One particular issue that arose was security staff (identified by clothing and/or earpieces) helping out behind the bar when venues were busy. Once again, this was commonly linked to the arrival of party buses. Observers noted that the level of security and supervision in these cases was inappropriate for the number of patrons on site.

The observers did not report anyone being denied entry due to intoxication. They did note a few occasions of unusual behaviour outside a premises (for example, men urinating on cars in a carpark) and speculated as to whether they would have been allowed re-entry if someone had been on the door. At one premises, a patron who was stumbling and appeared intoxicated tried to leave immediately after the police and other agencies. Security staff appeared to stop him and then later escort him from the premises after he had a heated discussion with the bar manager. The observer commented that it appeared as if the security staff wanted to make sure the police had left properly.

Observers noted that the party bus influx at some premises made it difficult for anyone to assess the state of intoxication once people were inside, and would make it hard for security staff to properly supervise and readily deal with problems. They noted several instances of behaviour that was marginal in terms of intoxication and potentially dangerous – these were seen by bar staff but not dealt with by anyone. Approaches to security were inconsistent: during the second intervention: security staff at one venue asked a man to put his shirt back on while dancing; however, staff at another did not prevent young men running off chairs they had placed on the dance floor.

Multi-agency visits

The agency visits varied in terms of whether the police were uniformed or in plain clothes, and the style in which officers approached and talked to staff and patrons. Observers noted a wide range of approaches. In some cases, officers entered the premises together, one approaching the duty manager and two standing either side of the door and not interacting with patrons. In other instances, officers arrived in a staggered fashion and interacted freely with patrons and staff. Generally, observers noted that when police and the other agencies took a more relaxed approach, staff and patrons were more cooperative and tended to be less anxious. The majority of visits were brief – between five and ten minutes.

Police removed some people who were underage, but no one for intoxication despite observers noting that some patrons were showing obvious signs of intoxication. Observers were also surprised that police did not approach certain young-looking individuals on some occasions. There was no clear pattern in terms of who police targeted for assessment. Observation reports suggest that police spent a lot more time talking to duty managers in side rooms (with doors closed) than on the floor assessing patrons and service behaviour.

Observers noted some changes in server behaviour during the visits by police and other agencies, most frequently obvious displays of nervousness by duty managers and bar staff. These changes ranged from duty managers suddenly becoming much more active behind the bar and on the floor, and more frequent (or in some cases initial) sweeps for glasses. Observers noted multiple instances of staff running to warn managers, and also staff warning patrons (some possibly underage and/or intoxicated) and apparently advising them to leave or stay quiet. Some of those patrons were served as soon as police left.

The most specific example of changing server and security behaviour was an incident in which observers were told by a staff member to leave a room. They had noted two young women in the room whom they strongly suspected were underage, and who were drinking alcohol. When the police arrived the room was closed off. The young women came out of the room once the police left, and were served spirits. During a visit a few weeks later, the same young women were bundled into the kitchen when police arrived.

Generally, however, the interventions did not appear to significantly affect server behaviour, apart from initial nervous reactions and increased glass runs. Security staff and managers were often observed going around with the agencies during their visits. Staff reactions to police visits appeared to lessen during the second intervention, with staff being less nervous and behaviour being more consistent (for example, not being too concerned about glasses left on tables).

There were limited observations of drinking behaviour changing during the agency visits. However, in a number of cases many clientele left after the agencies had visited. This was sometimes related to the visits occurring near closing time. In other instances, observers noted that the visit appeared to have 'killed the mood.' Observers noted a number of occasions when patrons left premises once the police arrived. They did not appear to be consistently underage or intoxicated, and may have been leaving anyway. Others may have wanted to avoid contact with the police for different reasons. Observers also reported that some patrons, who had previously been loud and boisterous or who were showing signs of intoxication, appeared to make special effort to keep quiet during the agency visit.

There was one reported incident of hostility toward the police, during which a patron in an outside smoking area was spoken to and then removed by police, resulting in other patrons criticising police and accusing them of arresting the patron. Most commonly patrons appeared to be amused by or interested in what police were doing, rather than nervous or hostile toward them. Observers noted several instances of patrons approaching and talking to police.

In several instances the agencies arrived just after party buses had left premises that appeared to experience the most frequent instances of intoxication and young-looking clients. Given that the party buses seem to have a significant influence on the venues they visit, this may have skewed the agencies' experience of those venues.

One observer noted that that police seemed a little nervous about approaching large groups of people, and that training may be needed for some officers with regard to dealing with awkward situations. For example, police officers were frequently approached and touched (sometimes kissed) by patrons. Some took it in their stride whereas others were clearly uncomfortable.

Overall, the agency visits seemed most effective when conducted in a collegial manner, working within the crowd as well as concentrating on managers. The vast majority of observed visits were good natured, and the 'comfort level' on all sides appeared to increase with the second intervention.

4.4.3 Queenstown

Licensed premises

There were thirty-three on-licensed premises within the Queenstown central business area during the study period. These ranged in size from small wine bars that normally cater to fewer than 20 patrons at any one time to large venues with capacities exceeding 200-300 patrons.

The venues cater for a variety of different types of patrons. When visited by observers, some premises appeared to be frequented predominantly by local residents. The majority of premises, however, appeared to cater largely for visitors to Queenstown. The style of each bar (e.g. quiet venues versus dance venues, versus up-market wine and cocktail bars) largely governed the age ranges of patrons attracted to each venue; with quieter and smaller bars often attracting an older patronage than the larger and more entertainment-oriented venues.

Opening hours of each premises varied. Many premises opened during the middle of each day and closed between midnight and 3am. Others traded for 24 hours each day.

Server Behaviour

Observers noted examples of good and bad server behaviour throughout the interventions. Server behaviour varied according to a number of key factors. The most significant variables appeared to be the style and size of bar (which affected the number and type of clientele), the layout of the bar and how busy the bar staff were. Generally, the more upmarket bars tended to be smaller, attracted an older clientele and had less intoxicated patrons. However, there was variation within bars in that some nights some bars would have many intoxicated people and other nights few, if any. The beginning of the Queenstown winter festival marked an increase in patronage and in the number of intoxicated patrons that were noticed on premises. There were some bars that consistently had intoxicated patrons before and throughout the intervention.

In general, it was more likely for intoxicated people to be identified at point of entry than at the bar. Servers were rarely observed denying patrons service throughout the observational period and at times were seen actively encouraging moderately intoxicated people to consume more alcohol. For example, on one occasion bar staff were encouraging already intoxicated patrons to down two shooters each and then immediately afterwards, serving them spirits (both patrons consuming more than two standard drinks in less than five minutes). At some establishments people who were obviously intoxicated were not only served but were observed purchasing multiple drinks and lining them up in front of them. In one bar, the bar staff organised 13 shot glasses of a cocktail and then the staff joined two patrons in 'sculling' them. The patron and his friend (who had been drinking at the bar for some time), consumed three and four shots

respectively in a few minutes, encouraged by the bar staff. It was not uncommon for bar staff to line up multiple shots and beer chasers in this venue. Bar staff in other premises also encouraged excessive consumption by patrons. In many venues bar staff didn't seem to show any concern about serving people multiple drinks all night and in most cases they couldn't tell whether patrons were consuming all the drinks themselves or sharing them. Extremely intoxicated patrons were usually able to have drinks purchased for them by their friends or associates.

Bar staff appeared to have difficulty assessing the intoxicated state of patrons and rarely asked patrons for identification. This was particularly problematic when servers were busy and, in some venues, staff were so busy they hardly looked up all night. The sheer volume of patrons and the 'crush' at the bar affected the ability of bar staff to assess patron intoxication. Bar staff with their heads down, rushing to serve patrons, were unable to interact well with patrons, thus limiting their ability to identify intoxicated patrons. The layout of some of the bar areas also affected the ability of bar staff to assess patrons' state of intoxication.

Changes observed in serving behaviour appeared to be related more to the volume of drinks being served than to changes in server behaviour as a result of the intervention. As bars were quieter later in the winter season, the ability of bar staff to monitor levels of intoxication appeared to become easier. However there were changes noted in the bars relating to provision of food and free water and the level of vigilance of security staff. One bar in which patrons had been observed vomiting on the dance floor earlier in the season, was serving carafes of water and making free food available by the end of the observational period. The 'bleachers' people had previously danced on had been removed and people were more likely to be dining than dancing.

There were few changes in server behaviour during the police visits. Again this varied according to the clientele/style of bar. Bar staff did tend to slow service a little in some bars, but usually as a result of patrons not approaching the bar while police were present.

Supervision

Host responsibility practices appeared evident in many of the bars in the intervention, particularly during the very busy winter festival and soccer world cup periods. In some bars finger food was offered to patrons early in the evening and many of the patrons were eating meals or bar snacks they had purchased themselves. There was less evidence of this later in the evening. However, in bars where it was a requirement of a special license to provide food, then food was provided to often very large numbers of patrons. Also in some 'high-volume' venues observers were often not charged for the non-alcoholic drinks ordered.

There were many intoxicated persons identified by observers during the winter period. While it was difficult for staff to identify intoxicated people because of the sheer volume of people packed into some of the venues, there were opportunities for door staff to identify inebriated patrons as they approached the bars. Security staff were observed refusing entry to intoxicated patrons on a number of occasions, but also admitted patrons who were obviously intoxicated. Having two security staff on the door appeared to improve the chances of identifying intoxicated patrons before they reached the front of the queue and put their "sober face" on. Men appeared to be better at disguising their intoxication than women.

Early in the intervention, there was very little evidence of intoxicated patrons being removed by bar staff, however later in the intervention, in one bar, security or the

manager were observed encouraging intoxicated people to leave. This was particularly evident when the police were present. However, on one occasion a security staff member was observed telling a patron she was too drunk to be allowed in, only to change his mind five minutes later. The patron was admitted and then proceeded to dance in a very flamboyant and anti-social manner and was not removed. Female patrons were also seen dancing on the bar in this venue encouraged by other patrons and certainly not discouraged by bar staff.

Observers noted in some venues that bar managers/security people actively mingled with patrons which gave them opportunities to assess degree of intoxication. However, they only seemed to remove patrons if police were present or approaching. Observers very rarely observed removal (by bar staff) of patrons for intoxication once they were in the bar, apart from when a police visit was imminent or in progress. However, there were some observations of patrons being denied entry for intoxication. It is not possible to quantify the frequency of this occurring since observers were only able to observe this on occasions when they were in queues or observing from the street. It was rarely possible to observe this from inside the licensed premises so it is likely that this occurred more frequently than reported.

Observers noted that security staff became more attentive during visits. Security staff would sometimes stop admitting people during a police visit. This created longer queues and a decreasing number of patrons within the venue.

Multi-agency visits

The majority of visits observed during the intervention were made solely by police members, although other agencies were also involved in a number of visits that were observed. At the beginning of the intervention police visits were very rarely observed and when visits did coincide with observations those visits were noted by observers to be very brief. This changed as the intervention progressed. The style of visit did not change much over the period of the intervention, but the length of time police officers spent at each venue lengthened. At all times managers and bar staff appeared to cooperate fully with police and appeared to be more vigilant after police visits. Because of the concentration of licensed premises in this location it was possible for police to visit bars more than once a night, although this was not observed. In the early part of the intervention police appeared to be targeting door staff rather than staff within the venues and police were not observed very often within venues and when they were the visits were very brief. Police didn't appear to be actively looking for intoxicated people and often spoke briefly to the duty manager or licensee, then left. Later in the intervention visits to targeted bars were more frequent and lasted longer with more interaction with staff and patrons. There was a noticeable change in staff behaviour following these visits in some bars. Police showed a reluctance to enter bars that were seriously overcrowded and usually spoke to staff in the doorway rather than moving through the venue.

As the intervention progressed, bar managers/owners appeared to approach police as soon as they entered the premises and were often engaged in conversation with police for most of their visit. In larger establishments two members of the police might walk through the venue or adopt a position to watch patrons. While intoxicated patrons were able to 'sober up' for short visits, the longer police observed, the more likely they appeared to be able to identify and question intoxicated patrons. Some male patrons appeared more able to sustain 'sober' behaviour than some female patrons who often headed for the toilets when police arrived. Some bar staff were observed being more attentive to their patrons during police visits and usually this resulted in more attentive behaviour after the visit, and on occasion an intoxicated patron was encouraged to

leave. However, it was more common for bar staff behaviour to return to 'normal' after the departure of Police.

4.5 Focus group comments

Focus group interviews were held with staff members from the regulatory agencies, with non-participant observers and with licensees. Participants were asked to identify what they did differently, what aspects of the intervention went well and which aspects did not work so well and were then asked to identify any improvements or changes they would make. Licensee feedback was sought in all three sites however, attendance was low or non-existent in both the Christchurch northern suburbs and Manukau East sites with just two participants in Christchurch northern suburbs and none attending in Manukau East. In Queenstown five licensees/bar managers attended the focus group.

Participant feedback from enforcement agencies in Queenstown differed from the other sites in that participants were interviewed individually due to resource constraints (police staff were only able to be released one at a time due to training commitments). However, a wide cross-section of staff were interviewed and responses were collated and analysed as per other centres. Observer feedback from Queenstown also differs from the other two sites in that it is provided by the research team (of three) who undertook all observations at this site. The following paragraphs are a summary of the key issues identified in each of these feedback interviews.

4.5.1 Enforcement agencies

Manukau East

Participants felt that the collaboration between agencies worked well and that the multi-agency approach used in their District had raised their profile amongst other districts. They stated that the interventions had given them:

> "*an opportunity to work together, to establish connections and build relationships within and amongst agencies involved in the enforcement of the SOLA on licensed premises*".

They felt that licensees had an increased perception of risk and probably a better understanding of the agencies' roles as a result of the intervention and that compliance had improved. Some felt that this increased perception of risk of enforcement was as effective as 'actual' enforcement. They felt that compliance had increased over the period of the study and stated that by the end of the intervention period

> *"we would ask licensee/manager for something to be done and it would be done by next visit".*

They also felt that the targeted approach using data from Alco-Link and other local intelligence provided better value for money compared to previous approaches which had been largely '*responsive*'.

There was some concern raised that the non-participant observers were unable to share information with the enforcement agencies about activities in the premises – particularly illegal activities. Non-participant observers were limited by the ethical parameters of the study and were unable to liaise with enforcement agency staff. When asked how the study could be improved some participants felt that too many premises were visited and that a satisfactory cross-section of premises could be obtained with half the number of premises. Participants also thought more flexibility was required as they found it embarrassing having to repeat visits to premises that were generally compliant. They felt

that this was a significant cost/benefit issue and that 'unnecessary' visits should be dropped.

Christchurch northern suburbs

Participants felt that the collaborative approach of the project worked well and Police and licensing inspectors enjoyed working closely together. Community Public Health staff were only able to participate in visits during the first intervention due to resourcing issues. Participants identified several things that they did differently during the project. There was an increase in the number of visits to the targeted premises which are usually only visited two to four times each per year. Premises were identified through Alco-Link and local intelligence and the 'top' 12 to 14 premises were targeted. Police staff involved included community constables and general duties staff, as well as the liquor licensing officer. Police staff usually wore plainclothes in the first part of intervention, while during the second intervention police staff were more likely to wear their uniforms. Licensing inspectors and community public health staff wore plainclothes.

Participants identified several things that worked well during the project. These included that licensees became more aware that visits would happen and '*lifted their game*' accordingly. They felt that good general managers stuck to the letter of the law and it would be good to let those people know they are doing well. Police also felt that using different regulatory agency staff, with different perspectives, kept the premises "*on their toes*" and that more onus was put on the licensees to monitor intoxication. Participants felt that higher visibility of police resulted in improved practice by licensees and bar staff (uniformed police in suburbs at that time of night resulted in a noticeable response from patrons and licensees). Participants also identified a good cost/benefit or "*bang for buck*" in terms of increasing the perception of risk to licensees. Participants also felt the interventions were good for patrol staff who don't usually get time to do hotel visits and for others it was good being in the community at a different time to usual and in different circumstances.

There were a number of things participants felt could be done differently or better. The first of these was a training session at the beginning of the project for all staff involved. Participants felt that the a big commitment was required of the Liquor Licensing Officer, who was taken away from other work to complete the monitoring requirements and that this indicated a need for a full-time licensing portfolio. They also felt that a specialist team should be formed and if adequately resourced this would give a strong message to licensees. Participants stressed that this was particularly important in light of recent research findings which suggest on average that 70 percent of crime is alcohol-related.

There was also concern amongst Christchurch northern suburbs participants about the lost potential for intelligence gathering by the observers who were limited by the ethical parameters of the study. Police participants felt that intelligence from the observers could have provided useful information allowing enforcement agencies to change their tactics and perhaps target premises more effectively. The geographical spread of premises was also seen as limiting the effectiveness of the project. Participants also noted the lack of involvement of Community Public Health in the second intervention due to staffing issues. There was also a question about whether it was necessary to improve documentation. Christchurch northern suburbs participants also expressed a desire to talk to staff from other centres involved in the study to learn more about how things went in the other locations.

Queenstown

Some participants felt that the intervention had given police a more focussed approach to conducting licensed premises monitoring and described changes to the nature of the visits. In the past visits were described as '*walk in, walk out*' and participants felt the new style encouraged bar staff to cooperate with police. One participant felt that having more people involved in the monitoring facilitated longer and better visits, with patrons relaxing more during visits. Participants also mentioned having a specialist (full-time) liquor licensing officer helped as this kept the focus on intoxication. Other participants felt that licensees were being more proactive in contacting regulatory agency staff to discuss issues and that they were receiving more requests for information from the licensing community. Most police staff had taken part in recent training on monitoring licensed premises and some mentioned the involvement of the specialist alcohol "RAID" squad in Invercargill, which contributed resources to some monitoring visits, as being beneficial. Paying more attention to documentation was also mentioned as having been part of the training.

Participants mentioned a positive attitude towards an increased police presence from most licensees and that licensees seemed more interested in making their relationship with the enforcement agencies work. However, some participants felt that bars might be less likely to contact police when they had problems because they wouldn't want to show up in the Alco-Link statistics.

Some participants reported anecdotal examples of improvements in monitoring intoxication, including examples of bar staff questioning or removing patrons or refusing them entry. Media interest in the increased focus on intoxication was felt to have helped raise the profile of the intervention amongst licensees and the public. One participant mentioned anecdotal evidence from a taxi driver who felt that the intoxication levels of his passengers had decreased.

Police participants mentioned resourcing issues as limiting their ability to increase their presence in bars and also mentioned that there are always times when higher priority incidents are going to affect their ability to proactively monitor premises.

"*A focus on traffic takes staff away from policing bars*"

Duplication of alcohol data was identified as an issue, as the licensing Sergeant maintains a separate database of information collected during licensed premises monitoring. This was seen as unnecessary given that the Police national computer system (NIA) provided the capability to record this type of information. The need for correct training in the use of NIA codes in order to provide accurate and consistent data both locally and nationally was seen as important.

Participants felt Queenstown was different to other towns in that it was a '24 hour party town' and another mentioned the "Happy Hour" influence. Some participants also mentioned issues relating to party pills particularly relating to definitions of 'intoxication' on-licensed premises. Most participants expressed an interest in the results of the study and some also thought Queenstown should be involved in future studies.

4.5.2 Observer feedback

Manukau East

Observers noted that the enforcement agencies had a good relationship with bar staff and security. They also felt that later in the intervention bar staff were more relaxed about the police visits with less 'panic'. They did observe security staff alerting bar staff to the imminent arrival of police officers and the consequent removal of underage

patrons or children from the premises. The relationship of enforcement staff and patrons in bars was felt to be positive and that police staff wearing 'mufti' contributed to this.

Observers noted improvements in bar signage, provision of food and water and signage relating to safe transport options in some licensed premises over the period of the interventions. They also mentioned that improvements in licensees understanding of their responsibilities as a result of the "non-punitive" and collaborative approach of enforcement agencies had had a positive effect.

In summary, observers felt that the positive relationships generated by the collaborative approach of staff from the enforcement agencies, had resulted in improvements in the bar environment and a better understanding of their responsibilities relating to the Sale of Liquor Act 1989, both for licensees and patrons.

Christchurch northern suburbs

This intervention differed from the other two sites in that a number of premises had visits by party buses and at some venues as many as four buses could be visiting at once with around 150 extra patrons on the premises. Observers felt that this had a significant effect on bar staff security and serving practices. Another issue raised was a period of particularly cold weather during the first intervention which may have resulted in fewer patrons than usual on premises.

Observers noted a variety of approaches to visits by enforcement agencies over the period of the intervention and noted that enforcement visits varied according to the composition of each group. Observers noted some very short regulatory visits with little or no interaction with bar patrons. Enforcement staff were most often observed talking to bar staff (managers and security staff) only and sometimes spent more time outside the venue than inside. Police staff were observed chatting to patrons occasionally but this was not common. The 'manner' of enforcement agency staff during most visits was described as "*matter-of-fact*". Observers noted a more positive response from bar staff when agency staff interacted more with bar staff.

Observers noted some improvements in host responsibility initiatives in some venues, involving better signage and provision of free water. Server practices, in terms of bar staff serving intoxicated patrons, did not seem to change over the intervention with intoxicated patrons rarely questioned or refused service. However, observers noted that some bars were consistently "*good*" (i.e. rarely had intoxicated patrons) while others were consistently "*bad*" (consistently served intoxicated patrons). In some venues, the bar staff not only served intoxicated patrons, but some staff drank with intoxicated patrons. Observers also noted that when bars were very busy (e.g. when patrons from party buses arrived) bar staff were less able to assess patron intoxication. Observers noted changes to bar staff behaviour during police visits in that staff became more diligent. For example, 'glassies' would get busier clearing glasses promptly and if staff saw police coming or if police were talking to security staff at the door, then staff would rush around removing intoxicated or underage patrons. Observers also noted that bar staff relaxed again after police visits. This was not observed in "*good*" bars, where staff remained relaxed and behaviour didn't change.

Most improvements identified by observers involved improvements to their observational practice. Because of the low numbers of patrons in some venues and the variety of types of venues visited, it was difficult for observers to "*fit in*". Female observers in pairs felt conspicuous in bars where the majority of patrons were male and they faced the 'hazard' of attracting unwanted attention. The wide geographic focus of the study also presented logistical challenges for observers particularly when going from 'high end' to 'low end'

bars in the same evening. The scheduling changes in the second part of the study helped with logistics.

Queenstown

Observers noted a variety of approaches to visits by enforcement agencies over the period of the intervention. Generally, the length of the visits increased later in the intervention, but there were also variations depending on the make-up of the staff involved. Visits involving the Liquor Licensing Sergeant and District Licensing staff tended to be longer than other visits. As the intervention progressed visits by 'general duties' staff appeared to last longer and become more thorough. Later in the intervention police staff appeared more likely to enter bars than earlier in the intervention when some police appeared to focus more on talking to door security staff.

There was consistent monitoring of the streets in the central drinking district throughout the study, the only exception being during the coldest period of the study when police appeared more likely to patrol the streets in cars. During World Soccer Cup games, licensees' compliance with the conditions of their special license was checked. Police appeared to show a reluctance to enter crowded bars at the beginning of the intervention, but were observed later in the winter period moving through and staying in crowded venues to observe patrons.

Host responsibility initiatives appeared to improve in some venues, although some bars were consistently good at this throughout the intervention. Server practices in terms of bar staff serving intoxicated patrons did not seem to change over the intervention. It was rare to see either a request for identification or a refusal of service to an intoxicated patron. In fact, in some venues, the bar staff frequently not only served intoxicated patrons, but some staff even encouraged these patrons to drink irresponsibly. In other bars the staff seemed too busy serving drinks to even look at patrons and many appeared unaware of their responsibilities or unable to assess intoxication. However, security staff moved frequently through such venues and appeared to assess the state of patrons. On occasion they would take a patron aside and either give them water or remove them from the premises. Door staff were also observed refusing entry to patrons and this appeared to increase as the intervention progressed, particularly in those venues that had been targeted by the enforcement agencies. In another less 'visited' venue a patron who was obviously intoxicated was admitted after being told she was not allowed to enter.

Observers noted levels of intoxication and the number of intoxicated patrons on premises to be consistently high throughout the intervention period, although this varied according to such factors as how many people were in town that night/morning (sometimes this was affected by weather), what type of events were occurring, how many people were in a particular premises, and how busy bar servers were. On nights when 'family' events were occurring, generally the number of people showing signs of intoxication appeared to be relatively low earlier in the night. However, later on the same evening, it was not uncommon to observe higher levels of intoxication amongst all kinds of patrons (not just the young 'party' crowd). Other environmental observations such as the amount of litter, broken glass and vomit on the streets were also evidence of consistently high levels of intoxication throughout the study period. During the peak of the ski season, the amount of vomit on the pavement was worse than at any other time and this was even evident earlier in the evening as families were making their way home from dinner.

4.5.3 Licensee feedback

There was no licensee or general manager feedback in Manukau East and only two licensees were able to attend the focus-group interview for licensed premises in the Christchurch northern suburbs intervention area. In Queenstown five people were able to attend the focus-group interview. The responses from Christchurch northern suburbs and Queenstown have been combined below under the key themes identified and any comments specific to each site are identified as such.

Focus-group interviews are not intended to generalise findings to a whole population, given that they involve a small number of participants. They represent the views of the particular participants involved in this study.

Agency Visits

Participants had noted changes in the way enforcement agencies had conducted their visits. The frequency of visits was identified as having increased and participants noticed that police tended to spend more time on the premises. In Queenstown, participants had also noted an increased focus on intoxication and alcohol-related harm through the frequent and numerous articles in local papers. Queenstown participants also commented on the attitude and behaviour of the local police liquor licensing officer, with whom they felt they had made an effort to cultivate a positive relationship. Some participants felt that this had been damaged by the '*heavy-handed'* approach taken by the liquor licensing officer and commented on the demeanour of police entering the bar and not acknowledging staff. Some licensees had advised their staff to approach the police as they entered the bar and introduce them to the duty manager. In Christchurch northern suburbs too, one participant was concerned about the demeanour of police staff and felt that patrons were uncomfortable with their presence, as it was felt to be provocative. This participant noted that this police visit had provoked some patrons.

"*Patrons didn't like it…there were a couple* (of patrons) *who'd had a bit to drink and one started commenting loudly*"

However, the other Christchurch northern suburbs participant described their relationship with police as "excellent" and described an increase in visits over the period of the study, including multi-agency visits. This participant said their bar was usually visited around four times a year, but had at least three visits in as many weeks during the period of this study. This participant thought that police made their presence felt and described how a visible police presence on the local roads had had an effect on people's drink-driving.

Participants in both locations were happy with their relationship with the licensing inspector and Regional Public Health staff.

Intoxication

While participants in both locations felt they were able to monitor intoxication well in their premises, some were also unhappy with police responses to requests for assistance when they had problems in the bar and felt that such incidents were given a low priority. Participants also described problems with patrons migrating from other bars and in Christchurch northern suburbs there had been some problems with minors on party buses. In Queenstown participants felt that police had taken a "hard line" with them over intoxication but were slow to respond when bar staff called for help. Queenstown participants commented on problems when intoxicated persons are identified on their premises. One issue was the limited opportunity for input into police assessments of intoxication and the delay between the incident and the licensee receiving a written report about the incident. One participant felt that this time delay prevented them from

providing video evidence to challenge police assessments of intoxication as there were delays in bringing the problem to the attention of bar management and participants felt that the opinion of bar staff did not seem to count.

Some participants were reluctant to call for help when there was an intoxicated person on the premises as it could count against them in Alco-Link statistics. Alco-Link statistics were also seen as unreliable as participants felt the recollections of intoxicated people were unreliable (i.e. the last bar they remember drinking at) and consequently it shouldn't be used in court against bars.

Interventions

Participants in Christchurch northern suburbs had noticed an increased police presence in their premises and while one participant felt this to be 'provocative', the other participant described good communication and understanding of the reasons for the increased presence and described the success of an increased police focus on road patrols and how that had changed the behaviour of patrons.

Queenstown participants didn't notice any marked increase in police visits or street patrols. They reported that the liquor licensing officer had advised them that police didn't have the resources to increase numbers. However, they did report that more police "*stopped by to chat*" more often and all participants felt that a positive working relationship with police was important and a priority. Some participants wondered why an increased presence would be required as they felt that crime in Queenstown was "*trivial*" and "*low level*". They didn't perceive any increase in the amount spent on alcohol in the area, although one participant felt that there had been an increase in off-license sales.

Overall, Queenstown participants felt they had a positive relationship with police staff, but not with the liquor licensing officer at that time. There was also some uneasiness about the style of the police RAID group from Invercargill. Participants reported good working relationships with the licensing inspector and with Regional Public Health staff. Participants had noticed an increased focus on drink-driving and described some positive relationships with police when dealing with non-alcohol related issues.

Improvements

Improvements suggested by Queenstown participants included a need for more evidence to be provided to licensees about crime statistics and the need for more police on the streets. The demeanour of police during visits was identified as important in both sites, with licensees preferring a friendly and collaborative approach by police enforcement staff. Some Queenstown participants suggested that police should introduce themselves when they enter bars, and raise issues as they happen, rather than notifying bar managers much later. Participants felt the licensees and bar managers were being asked to shoulder a lot of responsibility for alcohol-related problems and that a better relationship with police was required.

Most participants felt that a positive relationship with police was important and this could be achieved with good communication and more information about what is happening, perhaps through a monthly meeting to discuss problems and issues as they occur.

5 Discussion

5.1 Purpose of interventions

The aim of this research was to measure the effectiveness of targeted multi-agency enforcement interventions in reducing alcohol-related harm caused by intoxication and other risky drinking behaviours. The research was based an earlier study which sought to establish whether crime and alcohol-related harm can be reduced by regulatory agencies heightening their focus on the enforcement of Sale of Liquor Act requirements for responsible alcohol service, particularly relating to intoxication. The current research was undertaken to provide feedback to regulatory agencies. The current study evaluated the effectiveness of targeted multi-agency enforcement approaches in three different locations. The approaches taken in each of three research sites varied slightly according to local conditions and regulatory agency resourcing, however regulatory agencies in each area created similar conditions in all sites to encourage compliance with the requirements of the Sale of Liquor Act (1989).

The research was informed by prior research that indicated a heightened enforcement approach targeting licensed premises offered an opportunity to address alcohol-related harm, as drinking on licensed premises has been associated with a greater risk of injury from violence than other locations (Borges et al, 2004). Although New Zealand research has shown the majority of drinking takes place in people's homes (Habgood *et al,* 2001), a significant proportion of drinking takes place on licensed premises and licensed premises have been implicated as high-risk settings for harmful drinking (Casswell and Zhang, 1997.). Other research suggests that risk of injury from drinking is higher when drinking on licensed premises, particularly attacks from persons who are not known to their victim (Morris *et al,* 2003). An Australian study revealed that the largest proportion of alcohol-related assaults (over a third) took place in licensed premises; and they were more likely to take place at night and in the weekend (Teece and Williams, 2000). New Zealand data has indicated that licensed premises are the last place of drink in up to 33 percent of police apprehensions. However, it is possible that this figure may be higher given there are a large number of cases where no premises have been identified by police survey. This data also revealed that alleged offenders who named a licensed premise as their last place of drink, were more likely to be extremely intoxicated than those whose last place of drink was not a licensed premise (Broughton, 2004*a,b,c;* Newton, 2004*a,b,c)*. More recently police Alco-Link data has shown that 76% of offenders who were assessed to be moderately to extremely intoxicated had their last drink in a licensed premises (Alcohol Data Pinpoints Hotspots, March 2006).

Prior research has also indicated that intoxication and aggression are more likely to occur in some licensed premises than others (Plant et al, 2002). Consequently, the approach taken to heightened enforcement in all three sites involved targeted night-time monitoring of licensed premises, informed by police Alco-Link statistics and local intelligence and accompanied by communication with licensees and owners about the heightened regulatory agency focus on intoxication.

5.2 Regulatory activity

Historically, enforcement of the Sale of Liquor Act has involved monitoring of licensed premises by Police and district licensing inspectors, in order to identify compliance issues. Agencies in all three sites increased their visits to targeted premises and took action to address areas of non-compliance identified during these monitoring visits. Agencies engaged in local inter-agency liaison meetings and communicated with local licensees and general managers to resolve compliance and other performance issues.

They also used other mechanisms to raise awareness of alcohol service issues, such as by communicating concerns about intoxication through the news media.

The nature of the monitoring visits varied between the three sites, and also varied over time. For example, night-time monitoring visits in Christchurch northern suburbs and Queenstown tended to be brief, and agencies often confined their visits to talking with duty managers and licensees and seemed less likely to engage with patrons, particularly in more crowded premises. In Queenstown, visits became longer as the period of heightened regulatory activity progressed. Longer visits resulted in the police having more time during visits for interacting with patrons. Observers noted that agency visits appeared more low-key during the second of the two regulatory interventions in the Christchurch northern suburbs and that police officers appeared to become more comfortable over time when undertaking licensed premises visits.

Variation in the style of premises visits between sites may have reflected the prior experience of individual officers in undertaking licensed premises visits. In Manukau East the police staff involved were a well-established team of officers with a focus on liquor licensing and monitoring. Observers there noted that the intervention teams were well-received by bar staff and that the multi-agency group appeared to have good rapport and relationships with bar staff and managers. In Christchurch northern suburbs, most police staff involved in the interventions were general duties officers who usually monitor licensed premises infrequently. In Queenstown, visits were conducted by a range of police staff. Some monitoring was performed by general duties staff who had undertaken a short period of training in conducting licensed premises visits. Other monitoring was performed by the specialist police liquor licensing officer, sometimes working in conjunction with the district licensing inspector. Over the Winter Festival period, local Queenstown staff were assisted in their monitoring activities by members of an experienced police liquor licensing team from Invercargill. Observers in Queenstown noted good relationships between most police staff and licensees and managers during the police visits. However participant feedback revealed some animosity towards the local police liquor licensing officer. Participant feedback revealed a desire by agency staff to maintain positive relationships with licensees and managers.

Collaborative approach

Enforcement of the Sale of Liquor Act involves monitoring visits to licensed premises conducted by the Police and licensing inspectors, in order to identify compliance issues. These visits provide a mechanism for motivating licensees and general managers to comply with their Sale of Liquor Act obligations. In practice, visits vary in style from educative visits conducted outside peak drinking times (such as during afternoons or early evenings) through to compliance monitoring targeting licensed premises hot spots and conducted during peak drinking times. Educative visits sometimes involve staff members of public health units alone, or in combination with police and/or licensing inspectors. Compliance visits usually involve police, sometimes accompanied by district licensing inspectors. However specific roles depend on local regulatory agency practices.

In this study, staff members from all three agencies were asked to heighten their focus on intoxication, including increasing their monitoring of licensed premises. They were asked to coordinate with each other and this involved participating in local inter-agency liaison meetings and sharing intelligence on local factors impacting on enforcement. This collaborative approach is supported by the *New Zealand Police Alcohol Action Plan*, *2006,* which encourages police to work with relevant stakeholder groups and with bar owners and managers as stakeholders in reducing alcohol-related harm. Local research has found that proactive, informal tactics can be effective and that staff from regulatory agencies report most satisfaction when the three agencies work together (Hill, 2005). In

an Australian study, Homel et al, (2001) identify a multi-agency approach as one of the features of a successful community intervention.

Regulatory agency participants in this study felt that the collaborative approach of the project worked well and that the visits to licensed premises were generally well-received by the local liquor industry. In Queenstown, regulatory agency participants noted that licensees had become more proactive in contacting them to discuss issues, although there was some reluctance to contact police when they had problems on the premises as they did not want their premises to be highlighted in Alco-Link statistics. In Manukau East participant feedback identified improvements in licensees' understanding of their responsibilities as a result of a perceived "non-punitive" and collaborative approach adopted by enforcement agencies. Observers felt that the positive relationships generated by this approach by the regulatory agencies had resulted in improvements in the bar environment and a better understanding of responsibilities relating to the Sale of Liquor Act 1989, both for licensees and patrons.

Feedback from the few licensees who participated in the focus groups was mixed. Some licensees considered that the intervention had contributed to more positive relationships with agencies. However, others expressed some concerns at the demeanour of police staff and felt that police were provocative and made patrons uncomfortable. Previous studies examining licensee attitudes towards the enforcement of licensing laws confirms a preference for this collaborative approach over what can be perceived as more aggressive interactions (Webb et al, 1996).

Perception of risk

An increased perception of risk among licensees (that is risks associated with any failure to comply with the Sale of Liquor Act) was identified by agency staff in all three sites as being a significant effect of the interventions. Regulatory agency staff felt that licensees had an increased perception of risk as a result of the heightened focus on intoxication. This was also indicated by comments made by licensees in the Queenstown and Christchurch northern suburbs.

Although, licensees were informed of a heightened focus on intoxication by regulatory agency staff in all three sites, media interest in alcohol issues was low in Manukau East and Christchurch northern suburbs. In Queenstown, police had frequent communication with the local media and the sudden increase in monitoring visits coincided with an increase in media attention to alcohol issues in the local media, which continued throughout the heightened regulatory intervention period. The Queenstown police contributed comments and content for many of these articles. This media attention provided a high level of coverage of alcohol issues in Queenstown during 2006. It is likely that this media interest throughout the intervention period and the prosecutions undertaken during and after the intervention period contributed to the increased perception of risk to licensees.

Awareness among the target group and visibility of enforcement action in response to identified problems has been shown to be essential to creating a compliance environment (McKnight and Streff 1994, Weatherburn 2000). The nature of enforcement action varied across the three research sites. In Manukau East, the agencies adopted a formal graduated response system and applied this during the intervention. Issues were dealt with more informally in the Christchurch northern suburbs, which may have reflected the detection of few compliance problems during the course of the intervention. Issues relating to intoxication were discussed with the duty manager at the time of the visit and, in one case, resulted in a formal meeting between agencies and the licensee. In Queenstown, numerous compliance issues were identified and this resulted in a high level of follow-up activity. These problems were initially dealt with by way of meetings

between the regulatory agencies and licensees and general managers, supplemented by written communication, such as warning letters. Later in the intervention period the regulatory agency staff were more likely to telephone and/or write to licensees/managers due to a high workload associated with preparing applications to the liquor licensing authority to suspend or cancel some licenses and managers' certificates.

It is possible that the high level of media interest including publicity around licensing action taken by the regulatory agencies in Queenstown, contributed to the measurable effectiveness of the intervention detected at this site. Visibility of police staff may have also had an impact. It is notable that there was a measurable effect in Queenstown and in the earlier Wellington study. Both these sites have a higher density of licensed premises compared with the Manukau East and Christchurch northern suburbs sites, and uniformed police patrols (usually on foot – but including car patrols), would have had a been highly visible to security staff, bar staff and the general public. This may have contributed to a higher perception of risk.

Premises management

Observers identified some changes in bar management that could be attributed to the agency monitoring visits in all three sites. Observers noted improvements in host responsibility initiatives at some premises, such as the provision of free food and water, increased food and bar signage (e.g. signs about not serving minors and intoxicated people) and information on taxis and safe transport options. In Manukau East, observers also noticed a decrease in alcohol advertising posters in some premises. These changes were maintained beyond the heightened intervention periods.

In most cases however, observers did not identify sustained improvements in serving practices. Observers noted that bar staff behaviour often changed during the agency visits resulting in increased supervision of patrons, removal of intoxicated or underage patrons and greater diligence about clearing away glasses. However, while these improvements were briefly maintained in some premises, in most premises staff behaviour returned to 'normal' shortly after the agency visits were completed.

Observers noted that in busy bars it appeared difficult for bar staff to assess patrons' level of intoxication as the exchange between staff and patrons was very rushed. Few intoxicated people were denied service; however, in two of the sites (Manukau East and Christchurch northern suburbs), this may have reflected relatively low levels of intoxication. In some bars, particularly in Queenstown, observers noted that some bar staff encouraged excessive consumption of alcohol by patrons. Instances of this practice were common over the course of the study. Previous New Zealand research has identified the challenges faced by bar staff in very busy premises (Webb et al 1996:12).

In Manukau East and Queenstown, observers noted some improvements in security practices. In Manukau East, greater numbers of security staff were observed as the study progressed. Observers noted that one licensee made significant progress in eliminating the consumption of alcohol within a car park near the premises. In Queenstown, there appeared to be an increase in the practice of door staff refusing entry to intoxicated persons, particularly in premises targeted by the enforcement agencies. Licensees' appeared to become more diligent in removing intoxicated patrons over the course of the intervention. In Christchurch, the suburban nature of the research site meant security staff were observed less frequently. However, they were utilised in busier bars and in bars which had visits from "party buses".

The regulatory agency staff who participated in the intervention considered that the increased frequency of monitoring visits had increased the perception of risk to licensees, resulting in improved bar management and compliance with Sale of Liquor Act (1989) requirements. Some participants felt that this increased perception of risk of

enforcement was as effective as taking any further action (such as seeking license suspension or prosecution). However, international research has indicated that the effectiveness of enforcement interventions can be dependent on subsequent penalties. A mix of visibility, publicity and perceptions of risk of penalties have collectively been shown to increase compliance in compliance-based approaches (McKnight and Streff, 1994; Weatherburn, 2000) and that without a perception of risk of penalties, liquor licensing laws have been shown to have poor deterrent effect (Stockwell 2001). It is possible that the licensing action taken against several premises in Queenstown contributed to the measurable impact of the intervention on indicator statistics in this site.

Intoxication

It is not clear from the available quantitative data whether the regulatory interventions were successful in reducing levels of intoxication. Regulatory agencies appeared to identify more incidents involving intoxication during the heightened intervention periods but this may have reflected the increased level of monitoring activity during these times. The level of intoxication observed on licensed premises appeared to differ between the research sites. In Manukau East, observers identified few intoxicated people in licensed premises. In Christchurch northern suburbs, the overall level of intoxication appeared to be relatively low. However, observers noted intoxicated people in some of these premises and expressed surprise that the agencies did not approach patrons whom they felt were clearly showing signs of intoxication. In some premises, particularly in large venues in Queenstown, it was very difficult for agency staff to move within the venue and discussions with bar managers/licensees were conducted in very noisy conditions.

In Queenstown, observers noted high levels of intoxication and the number of intoxicated patrons on premises appeared to remain consistently high throughout the intervention period. Queenstown bars had generally higher numbers of patrons than bars at the other two study sites and many of the Queenstown bars held 24hr licenses. Observations in Queenstown were almost all conducted between 11pm and 4.30am. It is possible that this late night observational period contributed to observers noting more intoxicated people and higher levels of intoxication than were noted in the other two sites. Briscoe and Donnelly (2003) demonstrated a relationship between the hours of trading on licensed premises and violent assaults; with extended trading hours being associated with greater numbers of assaults occurring on premises. Levels of intoxication in Queenstown also appeared to vary according to other factors such as the weather, what type of events were occurring, how many people were in a particular premises, and how busy bar servers were, and the 'type' of premises being observed. The 'type' of venue is discussed in more detail in a following section.

International research suggests that enforcing serving regulations and legal responsibilities of bar staff and owners can be an effective measure in reducing alcohol-related harm (Babor et al, 2003) and bar staff have been described as the "gatekeepers" contributing to community drinking practices (Buka and Birdthistle, 1999). In the current research, bar managers and licensees were the main focus of the targeted approach, although bar staff were made aware of the heightened enforcement and focus on intoxication, both by the increased night-time monitoring and (hopefully) through communication with their managers. However, while there was some evidence of improved bar security practices, the observations of licensed premises suggest that there was little change in server behaviour over the course of the study in relation to intoxication. Observers noted that intoxicated patrons were rarely questioned or refused service by bar staff and that staff were often too busy to assess a patron's level of intoxication.

Survey data from NSW, Australia indicates that while many patrons are becoming intoxicated on licensed premises, relatively few are experiencing responsible beverage

service initiatives in these settings (Donnelly and Briscoe, 2003). While there is no local research which examines patrons' experience of responsible beverage service practices in as much detail as the Australian study, results of the National Alcohol Survey conducted in 2000 indicated that 73 percent of respondents who drank at pubs/hotels/taverns and 76 percent of those who drank in nightclubs thought it was likely that a drunk would be served alcohol there (Habgood *et al*, 2001). In the current study, observations revealed that staff in some bars were more likely to serve an intoxicated patron than other bars.

In Christchurch northern suburbs, observers noted that in some bars, alcohol service practices were consistently "good" and these bars rarely had intoxicated patrons on the premises. In other bars, serving practices appeared to be consistently "poor" and these bars consistently had intoxicated patrons on the premises. This was also apparent in Queenstown, where intoxicated patrons were consistently identified in a small group of premises. Indeed, in some venues, the bar staff not only served intoxicated patrons, but some staff drank with intoxicated patrons. In other venues, bar staff and management practiced responsible service and followed host responsibility guidelines and consequently these bars were targeted less frequently during the intervention by the regulatory agencies.

In Queenstown, observers noted that door staff became more thorough in their assessments of patrons level of intoxication and increasingly refused entry to intoxicated persons as the intervention progressed. However, some patrons were apparently able to disguise their degree of intoxication, particularly when queues were short. The longer an intoxicated person spent in the queues, waiting to enter premises, the less chance they appeared to have of maintaining a relatively sober demeanour. Door security staff who engaged in conversation with waiting patrons appeared more likely to identify intoxicated patrons.

Characteristics of premises

Observations in Queenstown revealed that premises that were larger, crowded, dirtier and with cheaper drinks were more likely to have intoxicated patrons. Patrons at these premises were likely to exhibit behaviours associated with a higher level of intoxication. Staff in these premises appeared to not only have a higher tolerance for unsafe drinking, but in some cases, encouraged and participated in such behaviour.

Earlier research has shown that the physical environment of the licensed premises can be as important as serving practices. Aspects of the physical environment have been associated with increased aggression in licensed premises. These included unclean or poorly maintained venues, poor ventilation, inconvenient access to the bar, inadequate seating, high noise level, crowding, dancing, and pool playing. Other aspects of the social environment that have been shown to influence levels of aggression within licensed premises include the standard of behaviour expected by the premises and staff interactions with patrons (Homel *et al,* 2004). In another study, Quigley *et al* (2003) attempted to examine the characteristics of bars in which violence occurs while accounting for the personalities of those who patronise the bar. Analysis of the characteristics of the bars themselves revealed that bars in which violence occurred were reported to be smokier with poorer ventilation, more crowded, dirtier, darker, noisier, warmer and more likely to have pool tables, dancing and illegal activities than bars where no violence occurred and the cost of drinks was lower in these premises. The results of the study confirmed that the patrons who frequent violent bars have different characteristics than those who do not (more likely to be younger, less "agreeable" and more impulsive than patrons who visit non-violent bars), but that the

strongest predictors of violence in the bars arise from the characteristics of the premises, rather than the patrons.

Heightened awareness

The regulatory agencies considered that increased monitoring and enforcement activity had raised awareness among the liquor industry regarding intoxication and associated compliance requirements. In Christchurch northern suburbs, police commented that premises were kept "*on their toes*" and that more onus was put on the licensees to monitor intoxication. Agency participants in Queenstown provided anecdotal examples of improvements in monitoring intoxication, such as bar staff questioning or removing patrons or refusing them entry and a taxi driver commenting that he had encountered fewer intoxicated customers toward the end of the winter period. Media interest in the increased focus on intoxication in Queenstown was felt to have contributed to raising the profile of alcohol service issues and intoxication amongst licensees and the public.

Licensees in Christchurch northern suburbs and Queenstown felt they were able to monitor intoxication well in their premises. However, some were unhappy with police responses to requests for assistance when they had problems in the bar and felt that such incidents were given a low priority. Some bar managers and licensees indicated they were reluctant to call for help when there was an intoxicated person on the premises as they felt it may count against them in police Alco-Link statistics.

The qualitative feedback revealed an increased awareness among licensees and managers of their responsibilities in relation to intoxication.

Alcohol-related harm measures

In Queenstown there was a statistically detectable decrease in offending detected using the ARIMA modelling. This decrease was detected when all alcohol-related crime figures were aggregated. The practical significance of the decrease in crime during the intervention period was small and may translate into a reduction of practical significance for the regulatory agencies. The decrease in crime occurred during the period from May 2006 to October 2006. This statistically detectable decrease in recorded crime during the intervention period may be attributable to the increased alcohol regulatory activity and associated publicity. The analysis of crime data at an individual crime category level did not identify significant reductions in individual categories of crime, such as violence, property damage or disorder. However, when these categories are taken separately there are high levels of variability, which makes any impact on the time series more difficult to detect.

There was no significant reduction in St John Ambulance call outs at the Queenstown site. The number of ambulance call-outs to categories of injury related to alcohol-harm were relatively low, so any impacts on the time series from the intervention, even if present, would be difficult to detect.

There was no significant decrease in the number of presentations to Lake District Hospital Emergency Department during the intervention periods. The emergency department presentation data included data from all types of presentation, covering both accidents and medical conditions, and patients from a wider geographical area than that where the alcohol interventions were being applied. Data could not be specifically focussed on situations relating to alcohol, nor to any more specific classification scheme such as accidents. Thus, it is unsurprising that a statistically significant reduction in presentation rates could not be detected, as the indicator was not sensitised to alcohol-related presentations.

There were no road crashes involving alcohol in Queenstown during the intervention period. This was a statistically significant impact on the time series data, though it should be noted that there had also previously been other periods without alcohol-related crashes. There was not any significant reduction detected in road alcohol offences. The intervention period coincided with a period of lower recorded offending than the historical averages, however the ARIMA modelling did not identify this to be a statistically significant change.

In Christchurch northern suburbs, there was not any significant reduction detected in alcohol-related crime as a result of the regulatory interventions. There was also no significant change detected in alcohol-related motor vehicle crashes during the regulatory intervention periods. The heightened regulatory intervention did correspond with a significant reduction in road alcohol offences. However, it is not clear whether this occurred as a result of the regulatory interventions or whether it might have been affected by road alcohol enforcement activities or other factors. There was no significant reduction detected in St John ambulance attendances as a result of the regulatory interventions in Christchurch northern suburbs.

In Manukau East, there was not any significant reduction detected in alcohol-related crime as a result of the regulatory interventions. The heightened regulatory intervention did not correspond with any significant reduction in road alcohol offences. Numbers of road alcohol offences in 2006 were above the average for the years 2001 to 2005 and were trending upwards before the intervention began. There was no significant reduction detected in St John ambulance attendances as a result of the regulatory interventions in Manukau East.

5.3 Factors affecting outcomes

There were a number of external factors affecting the local environment in each site that may have influenced intoxication and alcohol-related harm outcomes. They included local drink driving blitzes, large public events, and other alcohol-related initiatives. Some of these possible influences were factored into the statistical analysis to test their effect.

The research found that drink driving 'blitzes' in Manukau East and Christchurch northern suburbs in 2006 corresponded with a reduction in alcohol-related harm. In Manukau East, there was a significant reduction in St John ambulance callouts and incidents of drunkenness detected by police. In Christchurch northern suburbs, the drink driving blitzes coincided with a significant reduction in motor vehicle offences and cases of property damage and disorder.

The research also identified that Queenstown experienced a significant rise in incidents of drunkenness before the intervention began during the Easter holiday weekend. This is when the 'Warbirds over Wanaka' and 'Race to the Sky' were held in the region, resulting in an influx of approximately 100,000 visitors to the region for that weekend.[5] .

Nature of interventions

The interventions were implemented differently in all three sites. In Manukau East the regulatory agencies already had an established relationship and had worked closely together for some time. In the suburban setting of Christchurch northern suburbs, the agencies had worked together previously, but on a less frequent basis. The regulatory intervention offered an opportunity for the suburban police staff to work more closely with the public health and licensing inspectors who already had a close working relationship with the central city police staff. In Queenstown, police had only recently appointed a full-

[5] Note that the Warbirds event is biennial, and so is expected to impact on 2006 statistics compared to the comparable 2005 period. Visitor numbers also increase annually and can be dependent on the length and quality of the ski season which might also impact on alcohol-related problems.

time liquor licensing officer. However, prior to 2006 the three regulatory agencies had often liaised closely to conduct premises monitoring and related regulatory activity.

Feedback from focus groups showed that the intervention had a positive impact on the quality and intensity of monitoring activity. In Queenstown, the increased monitoring started well before the originally proposed research timetable.

Observer feedback from the Christchurch and Queenstown sites suggested police and district licensing inspector staff spent less time on premises than their counterparts in Manukau East. Observers felt improvements to monitoring visits could be made by agency staff spending more time circulating through the premises and interacting with more staff and patrons.

The type of follow-up action taken in response to non-compliance varied in all three sites. In Manukau East, a structured Graduated Response Model was used, a less formal approach was taken in Christchurch, while in Queenstown the frequency and level of significance of non-compliance resulted in staff becoming engaged in considerable follow-up activity and preparing applications to the Liquor Licensing Authority. These actions in Queenstown appeared to affect the police licensing officer's ability to maintain cordial relations with the local licensees targeted.

Although communications with licensees were generally positive in all three sites, some licensees expressed concern about the demeanour of police staff on licensed premises. Visits undertaken in a more friendly and relaxed manner appeared to be better received by bar managers and licensees.

Ability to measure impact

Many of the alcohol harm indicators that were analysed in this research showed high variability. In particular, the number of crimes, road crashes and ambulance attendances at alcohol-related incidents were small in all three sites – making it difficult to identify statistically significant changes above the baseline variability. However, there is evidence from Queenstown that the interventions may have had a small impact on crime and other outcomes.

Much of the data collected could not be categorised to differentiate incidents occuring either in or around a licensed premises from other incidents in public places. Alco-Link data does provide a sensitive indicator to identify the impact of any licensed premises enforcement activity, as it identifies offences occurring after people have been drinking at licensed premises. Unfortunately, Alco-Link data has only been available since July 2005, making it impossible to identify prior patterns of offending that would have enabled impacts on harm to be evaluated using this parameter.

Site-specific considerations

The three sites provided the research with different situations in which to examine the effectiveness of enforcement approaches. In each case, there were factors that impacted on the potential effectiveness of the intervention and the ability to demonstrate an impact.

Prior to the research commencing, Manukau East already had an established police alcohol team and there were close regulatory agency relationships among police, the licensing inspector and public health unit staff. This was considered to be an effective regulatory environment and whilst the intervention was designed to heighten the frequency of monitoring visits in this specific geographic area, any changes were not expected to have a profound impact against the backdrop of existing effective monitoring and enforcement activity.

There was not a history of consistent monitoring of suburban licensed premises within the Christchurch northern suburbs. However, there was clearly effective regulatory

agency activity in the nearby Christchurch central city area. Heightening the monitoring activity in the suburbs had the potential to improve compliance. However, several factors are considered to have had a detrimental impact on the ability of the research to quantitatively demonstrate the impact of the more effective monitoring activity:

- The suburban licensed premises had relatively low patronage (compared to premises located in the central city).
- The size of the study area was large and offered many alternative drinking venues that were not part of the multi-agency focus (sports clubs, private residences, parks and other public places).
- In the assessment of alcohol-related harm in this site, it was difficult to differentiate outcomes from risky-drinking occurring within the central city from risky-drinking occurring in the suburban premises.

Queenstown offered the greatest potential to demonstrate an impact on alcohol harm from increased regulatory effectiveness. This was the only site to show any reduction in crime during the intervention period. Historically, there had been less monitoring of licensed premises in Queenstown than occurred during 2006, with police attention in prior years reportedly being more reactive rather than proactive. There were also higher perceived levels of alcohol harm arising from consumption on licensed premises in Queenstown compared to the other two research sites, due to the "party town" image of this resort town and the high number of 24 hour licences held.

The increased regulatory activity in Queenstown was accompanied by an increased interest from the media which sparked a debate within the community for the entire length of the intervention period about enforcement and monitoring of licensed premises and alcohol harm issues. An important part of the Queenstown police liquor licensing officer's role involved contributing to a weekly crime column and writing media releases, as part of the ongoing community debate about alcohol related issues in the town. The effect of this was to raise the profile of alcohol-related harm and the multi-agency approach to enforcement amongst licensees, bar managers and staff and the wider community. This was reflected in participant feedback at this site. It is likely that the increased awareness about intoxication had an impact on the management practices at some licensed premises.

6 Conclusions

This research aimed to measure the effectiveness of a heightened focus on intoxication in three different sites. A pilot study undertaken in Wellington in 2004 had shown a reduction in alcohol-related harm as a result of similar regulatory interventions. The sites in this study varied in both their environment and the nature of the interventions. If the sites in this study are compared with the pilot study site, the conditions established in the Queenstown site would most closely resemble the pilot site in Wellington, both in terms of geographic location and the quantity and types of premises involved. Visibility of agency staff was higher in Queenstown, with uniformed police staff conducting visits throughout the intervention. There was also a high level of media interest in this location, generated largely by the appointment of a full-time liquor licensing sergeant and the consequent increase in monitoring activity. This reflects similar conditions in Wellington during the pilot study, where media interest was high and was amplified by the publicity (Sim, Morgan and Batchelor 2005). Sustainable change is difficult and requires ongoing perception of risk, including penalties. Wallin et al. (2004) explain that for community action programmes to continue their successes over the long-term, the activities must become part of existing practices and regulations; that is become institutionalised.

Measurement of alcohol-harm indicators

The regulatory interventions in Queenstown coincided with a small reduction in the overall level of violence, disorder and property offences which may be attributable to the increased monitoring and enforcement activity and publicity about alcohol issues. This impact is supported by feedback collected from agency staff and local licensees, who all reported a raised awareness amongst licensees and bar staff of their responsibilities under the Sale of Liquor Act and the consequences of any non-compliance. The high level of media coverage of alcohol issues during the intervention may have contributed to the effect of the intervention in raising awareness of alcohol-related harm issues amongst licensees, bar staff and patrons.

It is possible that the wide geographic spread of licensed premises in the Manukau East and Christchurch northern suburbs research sites may have contributed to inconclusive results in these two sites. The timing of the monitoring and enforcement in these sites may also have affected alcohol-harm indicators. In Manukau East and Christchurch northern suburbs, most visits were undertaken before 1am. It is possible that patrons may have migrated to other locations (such as private homes or the adjoining Christchurch central city area) and consequently would appear “statistically” elsewhere. In Queenstown, many enforcement visits were undertaken between 1pm and 4am, which has been identified as the ‘peak’ time for alcohol-related incidents (Briscoe and Donelly, 2003).

Collaborative Approach

In all three sites, the agencies worked collaboratively to establish compliance, although the approach varied in the three sites. The collaborative aspect of the project worked well and agencies generally established good relationships with licensees and wanted to maintain these good relationships. Although the way in which the three regulatory agencies worked varied in the different research sites, regulatory agency participants reported a high level of satisfaction with the collaborative approach and identified many benefits. These benefits included good communication between regulatory agencies resulting in these agencies “*all singing from the same song sheet*”. Almost all participants described an enhanced experience, particularly Police staff, who appreciated the opportunity to work in a collaborative way with the other agencies. In sites where some police staff had not previously received thorough training in monitoring

licensed premises, police staff appreciated the opportunity to participate in monitoring of licensed premises to develop their skills in this area and to work with other staff with these skills. Regulatory agency staff also felt that the collaborative approach, working with managers and owners to encourage compliance, had been beneficial. Licensees also expressed a preference for a more collaborative approach from police staff in particular. An earlier New Zealand study revealed licensees/bar staff finding that police visits helped them to control drunkenness (Webb *et al*, 1996).

Intoxication and premises management

Intoxication was observed to be relatively common in the Queenstown site. There were lower levels of intoxication in the other two sites which may have been influenced by lower patron levels. The exception to this in Christchurch northern suburbs was the phenomenon of "party buses" at some venues. This brought in a different, usually younger crowd and at times placed pressure on bar and security staff. Some premises were not adequately staffed to deal with the influx of such a large number of patrons, albeit usually for a short period of time. In Manukau East, the problem patrons were sometimes not patrons at all, but rather the people congregating in car parks outside premises.

Observations revealed licensees in Queenstown sometimes used threats of penalties to persuade intoxicated patrons to leave premises. However, observers noted that patrons could have been removed earlier had bar staff utilised their resources more effectively to prevent intoxication. For example, 'glassies' were frequently observed moving throughout crowded premises collecting empty glasses, but seldom interacted with patrons, many of whom were extremely intoxicated. In addition, glassies were observed having to clean up broken glass next to extremely intoxicated patrons. Although the glassies interacted with obviously intoxicated patrons, there was no communication between bar security and the glassies. There is potential for earlier identification of intoxicated patrons if all staff are encouraged to identify intoxicated patrons and communicate with bar management.

Measurements of the number and timing of regulatory agency monitoring in all three sites indicated that the agencies established conditions required to encourage compliance and there were improvements in management of premises at all three research sites. However, the interventions appear to have been less successful in securing sustained changes in serving practices in some targeted premises. This may be an area in which agencies can assist premises to develop strategies to improve responsible server behaviour to prevent service to intoxicated patrons.

Type of premises

Earlier studies have shown that the physical characteristics of a premise contribute to alcohol-related harm problems and that problems are more likely to occur in a certain 'type' of premise (Homel *et al,* 2004; Quigley *et al* 2003). In Queenstown observers noted some common factors in the physical characteristics among 'problem premises'. This type of premises was more common in Queenstown with its high density of licensed premises, larger venues, younger crowd, drink specials and tolerance of harmful drinking behaviour in these premises. Although less intoxication was observed in Christchurch northern suburbs premises, there were some premises where this was likely to occur again and examples of bar staff deliberately removing or hiding intoxicated and underage patrons from agency staff were observed. The physical environment could also change quickly in venues hosting 'party bus' patrons, restricting the ability of bar staff to detect intoxication and serve patrons in a responsible manner. It may be that physical characteristics of bar could not only provide a rationale for targeting premises (in conjunction with Alco-Link and other intelligence data) but identification of such

premises by agencies could be a platform for working with these licensees to improve the physical environment to improve serving practice and compliance.

Perception of risk/Visibility

Qualitative observations and participant feedback revealed that the interventions had increased the "perception of risk" of enforcement action amongst licensees in all three sites. Participants felt that maintaining that perception of risk could contribute to safer premises with potential to reduce alcohol-related harm. Participants also commented on 'visibility' of regulatory agency staff and the effect this may have on people's perception of risk. In Manukau East, where police staff wore 'plainclothes', observers felt that patrons were largely unaffected by police visits. In Christchurch, participants felt higher visibility of uniformed police resulted in improved practice by licensees and bar staff. The presence of uniformed police in suburbs at night resulted in a noticeable response from patrons and licensees. The visibility of uniformed police staff undertaking night-time monitoring in Queenstown may have contributed to the effect of the interventions. It is likely that visibility in this site was higher than in the other two sites, due to the higher density of licensed premises in a confined urban area. Police staff were visible to bar staff and patrons while conducting visits and while patrolling the streets. Observers also noted frequent and friendly interaction between police and licensed premises door staff during street patrols.

6.1 Summary of Key Findings

- Overall, it appears that there was an observable improvement in premises management and compliance during the course of the intervention (e.g. management of door security), but observations of serving practices suggested less of an effect on serving behaviour.
- Qualitative observations and feedback identified a number of possible improvements. These included the following:
    - regulatory agency staff working more closely with licensees to identify practical improvements that they can make to the management of premises, particularly in the identification of intoxicated patrons.
    - examining the physical environment of problem premises and how this might be contributing to the ability of bar staff to assess intoxication. This could include addressing issues such as crowding, drink specials and in some premises, the high tolerance and encouragement of harmful behaviours.
    - Physical characteristics of bars could not only be used for targeting premises (in conjunction with Alco-Link) but identification of such premises by agencies could also be a platform for working with these licensees to modify the physical environment to improve compliance.
    - Police staff identified that training and experience gained conducting licensed premises monitoring enhanced their effectiveness in dealing with Sale of Liquor Act issues.
- Regulatory agency collaborative approaches resulted in high satisfaction amongst regulatory agency participants. Both regulatory agency and liquor industry staff involved in participant feedback indicated a willingness to work together to improve practice to prevent the service of alcohol to intoxicated patrons.

- Prior research has revealed that sustainable change is difficult to achieve and requires ongoing perception of risk, including penalties. Participants' feedback revealed a desire to maintain the increased perception of risk and identified creative solutions to achieving this with limited resources.
- A mix of visibility, publicity and perceptions of risk of penalties have collectively been shown to increase compliance in compliance-based approaches. Enforcement is crucial if liquor laws are to have an impact on server behaviour.
- Maintaining the benefits of such interventions over the long term requires the activities to become institutionalised. The activities need to become part of existing practices and regulations. Participants' suggestions for ongoing monitoring and enforcement included maintaining a collaborative approach with partner agencies and effective communication with licensees and owners.
- The indication that a small reduction in alcohol related harm may have occurred in one of the three sites in the current study is best explained by reference to the greater intensity of the intervention in that one site (including regulatory action and the application of sanctions). This is due in part to the different contexts provided by the three sites, issues which have to be taken into account in the application of any enforcement initiative.
- The overall findings are in keeping with previous research evidence which shows that visible enforcement combined with the application of sanctions, can reduce alcohol related harm.

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