ATTACHMENTS

Strategy, Finance and Risk Committee Meeting
Separate Attachments 1

Monday, 20 June 2022

Table of Contents

Further Information Requested by Strategy Finance and Risk Committee at Local Alcohol Policy Hearings.

Information Requested by the Strategy, Finance and Risk Committee

LAPs in other metro areas

Metro Area	Current LAP status	Background
Auckland	Revised provisional policy – under appeal	Provisional policy adopted in May 2015. This was appealed and after a high court decision it has been appealed to the Supreme Court
Hamilton	Discontinued provisional policy	After a provisional policy was appealed in 2017 and negotiations failed to resolve the issues, Council decided to discontinue the provisional policy.
Wellington	Discontinued provisional policy	Provisional policy adopted in October 2013 and appealed. The appeal was successfully upheld after been heard in October/ November 2014 with the decision made in January 2015. In March 2015 Wellington Council decided not to appeal the decision and in March 2016 decided not to resubmit and discontinue.
Christchurch	Discontinued revised provisional policy	Developed a provisional policy in May 2015 and after appeals were successful a revised provisional policy was notified in September 2016 and in November 2017 a decision was made to discontinue the process after further appeals.
Dunedin	Adopted policy	Provisional policy adopted in June 2015 appeals heard November/December 2016 and decision in February 2017. A revised provisional policy was notified in May 2018 and adopted October 2018.

Guide to Community Preventive Services

The Effectiveness of Limiting Alcohol Outlet Density As a Means of Reducing Excessive Alcohol Consumption and Alcohol-Related Harms

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Abstract: The density of alcohol outlets in communities may be regulated to reduce excessive alcohol consumption and related harms. Studies directly assessing the control of outlet density as a means of controlling excessive alcohol consumption and related harms do not exist, but assessments of related phenomena are indicative. To assess the effects of outlet density on alcohol-related harms, primary evidence was used from interrupted time–series studies of outlet density; studies of the privatization of alcohol sales, alcohol bans, and changes in license arrangements—all of which affected outlet density. Most of the studies included in this review found that greater outlet density is associated with increased alcohol consumption and related harms, including medical harms, injury, crime, and violence. Primary evidence was supported by secondary evidence from correlational studies. The regulation of alcohol outlet density may be a useful public health tool for the reduction of excessive alcohol consumption and related harms.

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Introduction

Excessive alcohol consumption, including both binge drinking and heavy average daily alcohol consumption, is responsible for approximately 79,000 deaths per year in the U.S., making it the third-leading cause of preventable death in the nation.[1] Approximately 29% of adult drinkers (≥18 years) in the U.S. report binge drinking (five or more drinks on one or more occasions for men and four or more drinks for women) in the past 30 days, as do 67% of high school students who drink.[2,3] The direct and indirect costs of excessive alcohol consumption in 1998 were $184.6 billion.[4] The reduction of excessive alcohol consumption is thus a matter of major public health and economic interest.

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The density of retail alcohol outlets is often regulated to reduce excessive alcohol consumption and related harms. Alcoholic beverage outlet density refers to the number of physical locations in which alcoholic beverages are available for purchase either per area or per population. An outlet is a setting in which alcohol may be sold legally for either on-premises or off-premises consumption. On-premises settings may include restaurants, bars, and ballparks; off-premises settings may include grocery and convenience stores as well as liquor stores. In 2005, the most recent year for which data are available, there were more than 600,000 licensed retail alcohol outlets in the U.S., or 2.7 outlets per 1000 population aged ≥18 years.[5] The number of outlets per capita in states with state-owned retail outlets varied from a low of 0.48 per 1000 residents in Mississippi to a high of 7.25 per 1000 in Iowa.[5]

Alcohol outlet density is typically controlled by states. Under state jurisdiction, outlet density may be regulated at the local level through licensing and zoning regulations, including restrictions on the use and development of land.[6] This regulation may be proactive as part of a community development plan, or in response to specific issues or concerns raised by community leaders. However, local control can be limited by state pre-emption laws, in which state governments explicitly or implicitly curtail the ability of local authorities to

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regulate outlet expansion.[7] Thus, both state and local policies need to be considered when assessing factors that affect outlet density.

The WHO has published a review that identifies outlet density control as an effective method for reducing alcohol-related harms.[8] Similarly, in 1999, the Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Prevention review concluded that there was a "medium" level of evidence supporting the use of outlet density control as a means of controlling alcohol-related harms.[9] In addition, several organizations have advocated the use of outlet density regulation for the reduction of alcohol consumption and alcohol-related harms. These include the European Union (in their 2000–2005 Alcohol Action Plan)[10] and the WHO Western Pacific Region.[11] The criteria used in the WHO report are not specified and may be expert opinion rather than systematic assessment of the characteristics of available studies. The SAMHSA review uses specified characteristics of included studies in drawing conclusions; however, the studies included are not up to date. In the present synthesis, 14 of the studies reviewed were published after 2000. Finally, a recent review by Livingston et al.[12] presents useful conceptual hypotheses and notes the importance of outlet "bunching"—which the team referred to as "clustering"—density at a more micro level.

Further, the present review assesses whether interventions limiting alcohol outlet density satisfy explicit criteria for intervention effectiveness of the *Guide to Community Preventive Services* (*Community Guide*), and assesses studies available as of November 2006. In addition, unlike any of the prior documents, the present review considers evidence from assessments of policies that are not explicitly considered density-related but that have direct effects on outlet density (i.e., privatization, liquor by the drink, and bans). If effective, policies limiting alcohol outlet density might address several national health objectives related to substance abuse prevention that are specified in *Healthy People 2010*.[13]

Guide to Community Preventive Services

The systematic review described in this report represents the work of CDC staff and collaborators on behalf of the independent, nonfederal Task Force on Community Preventive Services (Task Force). The Task Force is developing the *Community Guide* with the support of the USDHHS in collaboration with public and private partners. The book *The Guide to Community Preventive Services. What Works to Promote Health?* presents the background and the methods used in developing the *Community Guide*.[14]

Methods

The methods of the *Community Guide* review process[15,16] were used to assess whether the control of alcohol outlet density is an effective means of reducing excessive alcohol consumption and related harms. In brief, this process involves forming a systematic review development team (the team); developing a conceptual approach to organizing, grouping, and selecting interventions; selecting interventions to evaluate; searching for and retrieving available research evidence on the effects of those interventions; assessing the quality of and abstracting information from each study that meets inclusion criteria; drawing conclusions about the body of evidence of effectiveness; and translating the evidence on intervention effectiveness into recommendations. Evidence is collected on positive or negative effects of the intervention on other health and nonhealth outcomes. When an intervention is shown to be effective, information is also included about the applicability of evidence (i.e., the extent to which available effectiveness data might generalize to diverse population segments and settings), the economic impact of the intervention, and barriers to implementation. The results of this review process are then presented to the Task Force on Community Preventive Services (Task Force), an independent scientific review board from outside the federal government, which considers the evidence on intervention effectiveness and determines whether the evidence is sufficient to warrant a recommendation.[15]

Conceptual Approach and Analytic Framework

Outlet density is hypothesized to affect excessive alcohol consumption and related harms by changing physical access to alcohol (i.e., either increasing or decreasing proximity to alcohol retailers), thus changing the distance that drinkers need to travel to obtain alcohol or to return home after drinking. Increases in the density of on-premises outlets can also alter social aggregation, which may adversely affect those who are or who have been drinking excessively, leading to aggressive or violent behavior (Figure 1). With alcoholic beverages acquired in off-premises settings, the consumption more often occurs at the purchaser's home, and excessive consumption may be associated with domestic violence and suicidal behavior.

Decreases in off-premises or on-premises alcohol outlets, or both, are expected to decrease access to alcoholic beverages by increasing the distance to alcohol outlets, increasing alcohol prices, reducing exposure to on-premises alcohol marketing, and potentially by changing social norms around drinking, thereby decreasing excessive alcohol consumption and related harms. Decreases in outlet density are expected to decrease social aggregation in and around on- and off-premises alcohol outlets which, in turn, may decrease aggressive behavior potentially exacerbated by alcohol consumption.[17] Finally, decreased density increases distances traveled to and from alcohol outlets, thus increasing the potential for alcohol-related crashes. However, this potential harm could be mitigated by decreased alcohol consumption and hence decreased alcohol-impaired driving.[18,19] Thus, the expected effect of outlet density on motor-vehicle crashes may be mixed.[20]

The effect that density has on consumption and harms may be further influenced by at least seven characteristics

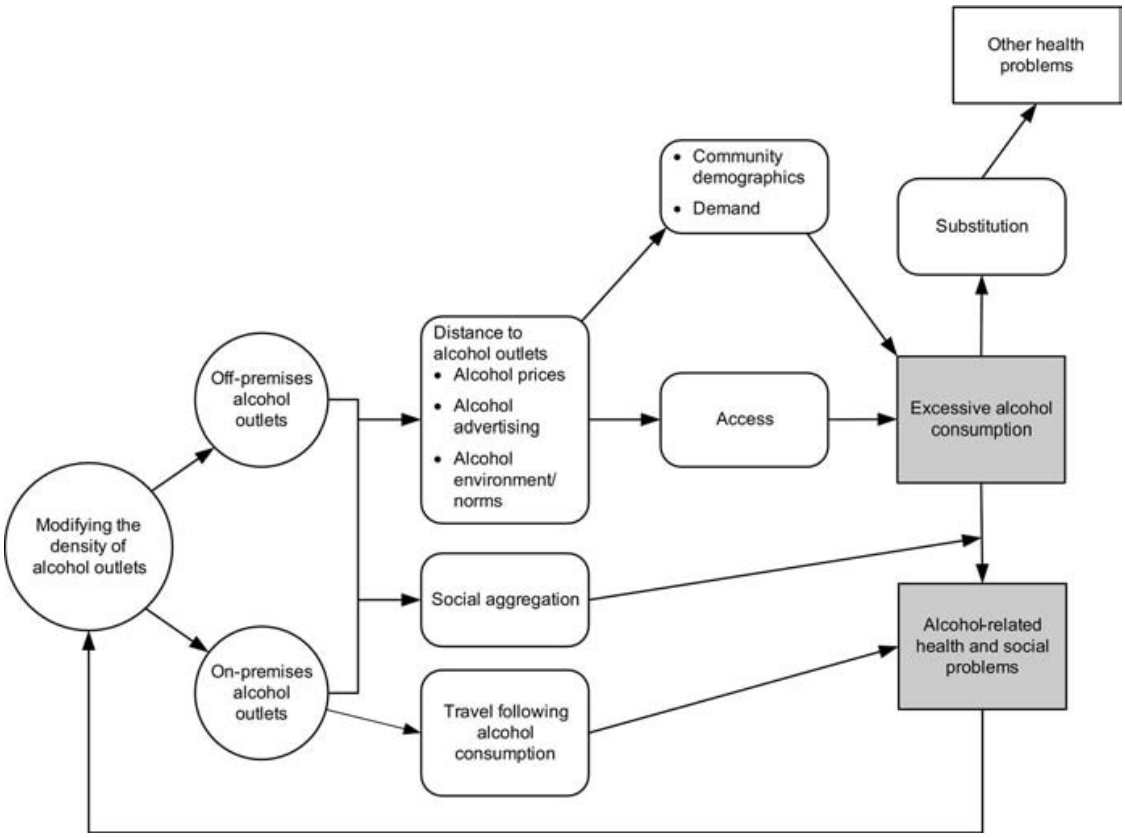

Figure 1. Analytic framework showing the hypothesized effects of changes in outlet density on excessive alcohol consumption and related harms

of retail alcohol outlets and the communities in which they are located: (1) outlet size (i.e., the physical size of the retail premises or the volume of its sales); (2) clustering (i.e., the level of aggregation of outlets within a given area); (3) location (i.e., the proximity of alcohol retail sites to places of concern, such as schools or places of worship); (4) neighboring environmental factors (e.g., demographics of the community and the degree of isolation of a community); (5) the size of the community (which may affect access to other retail sites); (6) the type and number of alcohol outlets (e.g., bar, restaurant, liquor store, grocery store) in a community may also influence whether and how outlet density affects drinking behavior[21]; and (7) alcohol outlets may be associated with illegal activities, such as drug abuse, which may also contribute to public health harms. As with other policies and regulations, the effects of regulations affecting outlet density may depend on the degree to which the policies are implemented and enforced.

There are several challenges to directly evaluating the effectiveness of local policies in changing outlet density on alcohol consumption and related harms. Direct studies of the effects of policies changing density on alcohol-related public health outcomes have not been conducted. Policy changes may occur in small communities in which documentation and data may be unavailable and where the number of retail alcohol outlets, alcohol-related outcomes, or both may be small; thereby it may be difficult to assess the relationship between outlet density and excessive alcohol consumption and related harms. Further, the effects of policy decisions on outlet density may be gradual. Other changes in alcohol control policies (e.g., enhanced enforcement of the minimum legal drinking age) may occur simultaneously, making it difficult to isolate the effect of changes in outlet density on drinking behavior.

The team used both primary and secondary scientific evidence to help address these challenges and to comprehensively assess the impact of changes in alcohol outlet density on excessive alcohol consumption. Primary evidence included studies comparing alcohol-related outcomes before and after a density-related change. In this category were (1) studies assessing the impact of privatizing alcohol sales—commonly associated with increases in density; (2) studies assessing the impact of bans on alcohol sales—associated with decreases in density; and (3) studies of other alcohol licensing policies that directly affect outlet density (e.g., the sale of liquor by the drink). Time–series studies (i.e., studies in which the association between changes in outlet density and alcohol-related outcomes is assessed over time) were also used to provide primary evidence

of intervention effectiveness, even when the cause of the observed change in outlet density was unknown. The team did not include studies of strikes in the production or distribution of alcoholic beverages or studies of interventions among college populations. Secondary evidence included cross-sectional studies, which do not allow the inference of causality.

Inclusion and Exclusion Criteria

To be included in this review, studies had to meet the following criteria: First, they had to evaluate changes in outlet density or policy changes that clearly resulted in changes in outlet density. Studies of policy changes (e.g., privatization or the legalization of liquor by the drink) had to provide evidence that there was a corresponding change in alcohol outlet density. Second, studies had to be conducted in high-income nations,[a,22] be primary research (rather than a review of other research), and be published in English. Third, studies had to report outcome measures indicative of excessive alcohol consumption or related harms. Direct measures that had the strongest association with excessive alcohol consumption included binge drinking, heavy drinking, liver cirrhosis mortality, alcohol-related medical admissions, and alcohol-related motor-vehicle crashes, particularly single-vehicle nighttime crashes, which are widely used to indicate motor-vehicle crashes due to drinking and driving.[23] Less direct measures included per capita ethanol consumption, which is a well-recognized proxy for the prevalence of heavy drinkers in a population[8,24]; unintentional injuries; suicide; and crime, such as homicide and aggravated assault. In most studies included in this review, consumption is measured by sales data; the team referred to this measure as "consumption" and note the exceptional study in which self-reported consumption is directly assessed. Fourth, studies had to be published in a peer-reviewed journal or in a government report. Reports not published or published by private organizations were not included.

Search for Evidence

The following databases were searched from inception up to November 2006 to identify studies assessing the impact of changes in alcohol outlet density and other review topics: EconLit, PsycINFO, Sociological Abstracts, MEDLINE, EMBASE, and EtOH (no longer available after 2003). The search yielded 6442 articles, books, and conference abstracts, of which 5645 were unique. After screening titles and abstracts, 251 papers and articles and 17 books were retrieved specifically related to outlet density; five articles could not be retrieved. After assessing quality of execution and design suitability (see below), 88 articles or books were included in the review. The actual number of studies that qualified for the review was less than this, however, because some studies were described in more than one report or publication.

Assessing the Quality and Summarizing the Body of Evidence on Effectiveness

Each study that met the inclusion criteria was read by two reviewers who used standardized review criteria (available at www.thecommunityguide.org/library/ajpm355_d.pdf) to assess the suitability of the study design and threats to validity. Uncertainties and disagreements between the reviewers were reconciled by the team. The classification of study design was based on *Community Guide* standards, and thus may differ from the classification reported in the original studies. Studies with greatest design suitability were those in which data on exposed and control populations were collected prospectively. Studies with moderate design suitability were those in which data were collected retrospectively or in which there were multiple pre- or post measurements but no concurrent comparison population. Studies with least-suitable designs were cross-sectional studies or those in which there was no comparison population and only a single pre- and post-intervention measurement. On the basis of the number of threats to validity (maximum: nine; e.g., poor measurement of exposure or outcome, lack of control of potential confounders, or high attrition) studies were characterized as having good (one or fewer threats to validity); fair (two to four threats); or limited (five or more threats) quality of execution. Studies with good or fair quality of execution, and any level of design suitability (greatest, moderate, or least), qualified for the body of evidence synthesized in the review.

The team summarized the results of cross-sectional studies based on whether drinking occurred on- or off-premises. However, some studies did not stratify their findings by outlet type and so were presented in a combined category. For each outcome and setting, the team summarized study findings by comparing the relative number of positive and negative findings. Finally, elasticities—summary effect measures showing the percentage change in an outcome per 1% change in an exposure (e.g., outlet density)—were calculated if the study provided sufficient information.

Other Harms and Benefits, Applicability, Barriers, and Economics

Harmful and beneficial outcomes not directly related to public health (e.g., vandalism or public nuisance) were noted if they were described in the studies reviewed or if the team regarded them as plausible. In addition, if an intervention was found to be effective, the team assessed barriers to implementation; the applicability of the intervention to other settings, populations, or circumstances; and the economic costs and benefits of the intervention.

Results

Intervention Effectiveness—Primary Evidence

Time–series studies of alcohol outlet density change. The team found ten studies[20,25–33] that directly evaluated the effect of changes in outlet density over time without identifying the causes for density changes. Of these, eight were "cross-sectional time–series" (i.e., panel)

[a]World Bank High-Income Economies (as of May 5, 2009): Andorra, Antigua and Barbuda, Aruba, Australia, Austria, the Bahamas, Bahrain, Barbados, Belgium, Bermuda, Brunei Darussalam, Canada, Cayman Islands, Channel Islands, Cyprus, Czech Republic, Denmark, Equatorial Guinea, Estonia, Faeroe Islands, Finland, France, French Polynesia, Germany, Greece, Greenland, Guam, Hong Kong (China), Hungary, Iceland, Ireland, Isle of Man, Israel, Italy, Japan, Republic of Korea, Kuwait, Liechtenstein, Luxembourg, Macao (China), Malta, Monaco, Netherlands, Netherlands Antilles, New Caledonia, New Zealand, Northern Mariana Islands, Norway, Oman, Portugal, Puerto Rico, Qatar, San Marino, Saudi Arabia, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Trinidad and Tobago, United Arab Emirates, United Kingdom, U.S., Virgin Islands (U.S.)

studies of greatest design suitability[20,25–29,31,33] and two were single-group time–series studies of moderate design suitability.[30,32] Eight of the studies were of good execution[25–31,33] and two were of fair execution.[20,32] Few took spatial lag (i.e., the likelihood that neighboring geographic units are not statistically independent) into account. Five studies assessed associations between changes in outlet density and population-level alcohol consumption,[25,26,28,31,33] and the remainder assessed specific alcohol-related harms.[20,27,29,30,32]

Consumption. All five studies that assessed the association between outlet density and population-level alcohol consumption found that they were positively associated; increased density was associated with increased consumption, and vice versa. Three studies examined the relationship between outlet density and the consumption of spirits in the U.S. The first study estimated that, from 1955 to 1980, for each additional outlet license per 1000 population, there was an increase of 0.027 gallons in per capita consumption of spirits ethanol ($p<0.01$).[28] The second study reported an elasticity of 0.14 ($p<0.01$) for outlet density and spirits for the period 1970–1975.[31] The third study examined the association of outlet density and the sale of spirits and wine in 38 states over a period of 18 years; the effects of consumption on density were separated out by use of two-stage least squares regression. The elasticity for spirits and wine was found to be 0.033 (NS) and 0.015 (NS), respectively.[26]

A study assessing trends from 1952 to 1992 in the United Kingdom[25] reported an elasticity of 2.43 ($p<0.05$) for off-premises density and beer consumption but no significant association for other beverages (except hard cider). Finally, a study[33] examining data from 1968 to 1986 in Canada reported a significant association between reductions in off-premises density and reductions in alcohol consumption. This study also found an association between changes in outlet density and cirrhosis mortality, which was mediated by changes in alcohol consumption. When the alcohol consumption variable was added to the analytic model, the coefficient for cirrhosis mortality was no longer significant.

Motor-vehicle crashes and other injury outcomes. Two studies by one author,[20,30] using the same methods and database in California, found mixed results when evaluating the association between on- and off-premises outlet density and fatal and nonfatal motor-vehicle crashes in small California cities (i.e., with total populations <50,000) during two different time periods and among different populations. The first study assessed the association between outlet density and crashes from 1981 through 1989 across all age groups. The author found a negative association between off-premises outlet density and both fatal and nonfatal crashes, and a positive association between on-premises outlets and both fatal and nonfatal crashes.[20] The second study assessed the association between outlet density and fatal and nonfatal crashes from 1981 through 1998 among people aged ≥60 years. This study reported a negative association for nonfatal crashes (elasticity: −0.69, $p<0.05$) and a positive association for fatal crashes (elasticity: 1.18, $p<0.05$).

Three studies[27,29,32] assessed the relationship between outlet density and suicide or interpersonal violence. A study of young people aged 10–24 years in the U.S. from 1976 through 1999 found positive associations between outlet density (on- and off-premises outlets combined) and suicides for most gender and age strata assessed, but only the findings for boys/men aged 15–19 years were significant (elasticities ranged from −0.03 to 0.10 for girls/women and from 0.05 to 0.12 for boys/men).[29]

The effect of changes in the density of on-premises outlets and violent crime was investigated in Norway from 1960 through 1995.[32] The researcher used autoregressive integrated moving average (ARIMA) modeling and found that each alcohol outlet was associated with 0.9 violent crimes investigated (by the police) per year. A supplementary analysis found that this association persisted even after controlling for amount of alcohol consumption, suggesting that the effect of increased density was independent of the effect of increased alcohol consumption ($p<0.03$). This suggests that the social aggregation of drinkers in and around alcohol outlets directly affects assaults, as indicated in Figure 1 (under "social problems").

Finally, a study of 581 California neighborhoods identified by ZIP code from 1996 through 2002[27] indicated that an increase in on- and off-premises outlet density was associated with an increase in hospitalizations for assault, but that this association varied for on-premises and off-premises locations, and among various types of on-premises locations (e.g., bar or restaurant) as well. The researchers used random-effects regression models, taking spatial lag into account, thus allowing for the lack of independence of neighborhoods in the association of outlets and alcohol-related harms. Within a given ZIP code, the elasticity for off-premises outlets and alcohol-related assaults on residents was 0.167 ($p<0.001$); for restaurants, it was −0.074 ($p<0.01$); and for bars, 0.064 ($p<0.001$). The elasticity for bars and assaults involving residents of neighboring ZIP codes was also significant (0.142, $p<0.001$); however, the elasticities for off-premises alcohol outlets and for restaurants relative to assaults involving residents of neighboring ZIP codes were not significant. Based on these results, the authors estimated that, on average, eliminating one bar per ZIP code in California would reduce the number of assaults requiring overnight hospitalization by 290 per year in the state.

Summary

Seven of nine time–series studies found positive associations between changes in outlet density and alcohol consumption and related harms, particularly interpersonal violence. However, two studies assessing the relationship between alcohol outlet density and motor-vehicle crashes in small California cities during two different time periods[20,30] had inconsistent findings for which no clear explanation was apparent. The studies reviewed also suggested that the association between outlet density and interpersonal violence may at least partially be due to social aggregation in and around alcohol outlets, and that the density of outlets in a given locale can also influence the probability of assaults involving residents of neighboring communities.

Privatization Studies

Alcohol privatization involves the elimination of government monopolies for off-premises alcohol sales to allow sales by privately owned enterprises. In the U.S. and Canada, privatization occurs at the state or provincial level; in many European nations, privatization may occur at a national level, currently guided by policies of the European Union. In the U.S., one alcoholic beverage may be privatized at a time; for example, wine might be privatized (i.e., subsequently for sale in commercial settings) while spirits may not be privatized, or may be privatized at a different time. Typically, privatization results not only in a substantial increase in the number of outlets where alcohol can be purchased but also in changes in alcohol price, days and hours of sale, and marketing.[21,34] This combination of events limits the ability to attribute subsequent changes in alcohol consumption and related harms to changes in outlet density alone. Nonetheless, because of the impact privatization generally has on outlet density, the team concluded that privatization studies were relevant for assessing the impact of changes in outlet density on excessive alcohol consumption and related harms.

The effects of privatization on the privatized beverages are assessed first, followed by an assessment of the effects of privatization on beverages other than those for which sales were privatized. If privatization affects consumption and related harms by means of increased outlet density, the consumption (and related harms) of the privatized beverage should increase, while consumption of other beverages might decline if usual drinkers of these other beverages now switch to the newly available privatized beverage. Comparing the association between alcohol consumption and alcohol-related harms associated with privatized and nonprivatized alcoholic beverages, respectively, provides a basis for assessing the impact of privatization on alcohol consumption and related harms while controlling for other factors that might be occurring simultaneously.

Following an analysis of the effects of privatization, this section then reviews the effects of remonopolization, that is, reversing privatization by reinstatement of government monopoly control over the retail sales of alcohol beverages. This policy change would be expected to have the opposite effects of privatization and result in lower alcohol outlet density.

Eleven events of privatization and one of remonopolization, analyzed in 17 studies and reported in 12 papers,[35–45] met the review inclusion criteria. The units of analysis were eight U.S. states (AL, ID, IA, ME, MT, NH, WA, WV); two Canadian provinces (Quebec and Alberta); and (in the sole study of remonopolization) Sweden. Several studies assessed overlapping privatization events. For example, two research teams assessed the privatization of wine and then spirits in Iowa,[34,38,39,45] and two researchers assessed early phases of the privatization of wine in Quebec, while one of these researchers also assessed the later phases, with each phase counted as a separate privatization event.[36,46] In addition, several papers assessed the effects of privatization in more than one state and provided separate effect estimates for the privatization in each state; for purposes of this review, each state-level assessment was treated as a separate study. Finally, a single state or province could privatize different beverages at different times, resulting in separate privatization events. Altogether, the events assessed in these studies occurred between 1978 and 1993. In all areas assessed, the number of outlets increased dramatically following privatization. The studies used ARIMA time–series study design; all except two studies[36,46] reported results for comparison populations.

All studies used alcohol sales data as a measure of population-level alcohol consumption. One study also assessed fatal motor-vehicle crashes (MVCs),[42] another study[34] also evaluated single-vehicle nighttime crashes and liver cirrhosis. The single study of remonopolization[40] assessed hospitalizations for alcoholism, alcohol intoxication, and alcohol psychosis combined, alcohol intoxication alone, assaults, suicides, falls, and MVCs.[40] Fourteen studies (in seven papers)[35,38,39,42–44,46] were of greatest design suitability; three studies (in two papers)[37,40] were of moderate design suitability. All studies were of fair execution.

Effects of Privatization on Privatized Beverages

Seventeen studies[35–44] assessed the effects of privatization on the sale of at least one of four beverage types (wine, spirits, full-strength beer, and medium-strength beer) in ten settings. The median relative increase in alcohol sales subsequent to privatization was 42.0%, with an interquartile interval of 0.7% to 136.7%. That is, among the studies reviewed, compared with consumption prior to privatization, the median effect was

an increase of 42.0% in consumption of the privatized alcoholic beverage. Studies of three events of privatization, two in Iowa and one in Alberta, yielded inconsistent findings, which merit further description.

In Iowa, wine was privatized in 1985, and spirits in 1987. Wagenaar and Holder[35,43] reported that wine consumption increased 93.0% (95% CI=69.3, 120.2) from baseline to 44 months after privatization of retail wine sales. Following the subsequent privatization of retail spirits sales in Iowa 2 years later, these researchers[35,43] reported a 9.5% (95% CI=3.5, 15.9) increase in spirits consumption; they also found no evidence that privatization affected cross-border alcohol purchasing.[35,43] In contrast, Mulford and Fitzgerald[39] found that wine privatization in Iowa was associated with a nonsignificant increase of only 0.5% (95% CI= −13.2, 16.4) in wine sales, and that spirits privatization was associated with a nonsignificant increase of 0.7% (95% CI= −4.3, 6.0) in spirits sales. Differences between the findings of these research groups may be due to differences in time periods assessed, modeling variables and procedures, beverage types included in the assessment (e.g., Mulford and Fitzgerald exclude wine coolers that were not affected by the policy change and Wagenaar and Holder do not), use of a control population, and outcome measurement. Fitzgerald and Mulford[34] also report small unadjusted rate decreases in single-vehicle nighttime crashes (−1.6%) and alcoholic cirrhosis mortality (−5.5%) associated with the privatization of wine and spirits in Iowa.

A study in Alberta, Canada, estimated that gradual privatization over a period of 20 years resulted in an increase in spirits consumption of 12.7% (95% CI=2.2, 24.4) and no change in either wine or beer consumption.[42] Although the process of privatization occurred over an extended period, the major events of privatization occurred essentially at the same time (in 1992); thus, considered in aggregate, privatizing spirits in Alberta increased total alcohol sales by 5.1% (95% CI= −2.8, 13.7) over this 20-year period. Despite the increased alcohol sales, the authors reported that there was an estimated 11.3% (95% CI= −33.8, 19.0) decrease in traffic fatalities. However, neither the increase in total alcohol sales nor the decrease in traffic fatalities was significant.

Effects of Privatization on Beverages Not Subject to Privatization

Five publications[37,38,43,44,47] assessed the effects of privatization in eight settings on the concomitant sales of alcoholic beverages that were not privatized during the same period. Overall, these studies reported that there was a minimal decline: a median of 2.1% (interquartile interveral [IQI]: −4.8% to 2.7%) in the sales on nonprivatized beverages.

Effects of Remonopolization on Alcohol-Related Outcomes

A single before-and-after study[40] evaluated the effects of remonopolization of sales of medium-strength beer in Sweden. This study compared the association between the number of retail alcohol outlets and the occurrence of six different alcohol-related outcomes during a 51-month period following the remonopolization of medium-strength beer, with that for a similar period prior to remonopolization. Among young people aged 10–19 years, alcoholism, alcohol intoxication, and alcohol psychosis (which were considered in combination) decreased by 20% ($p<0.05$) following remonopolization. These outcomes also decreased by >5% among people aged ≥40 years, although the change was not significant ($p>0.05$). Hospitalizations for acute alcohol intoxication also decreased between 3.5% and 14.7% ($p>0.05$); suicides decreased by 1.7% to 11.8% ($p>0.05$); and falls decreased by 3.6% to 4.9% ($p>0.05$) following remonopolization, although none of these changes were significant either. Motor-vehicle crashes (MVCs) significantly decreased by 14% ($p<0.05$) in all age categories except one (those aged 20–39 years). Other nonsignificant changes include assaults, which decreased by 1.4% among those aged 20–39 years, but increased by 6.9% to 14.8% ($p>0.05$) in the other age groups: 10–19, 40–59, ≥60 years. The authors did not provide any explanation for this seemingly inconsistent finding.

Summary

These studies indicate that privatization increases the sales of privatized beverages but has little effect on the sales of nonprivatized alcoholic beverages. The one study that evaluated the reintroduction of government monopoly control of sale of an alcoholic beverage (medium-strength beer) found that remonopolization led to a significant decrease in motor-vehicle crashes for most age groups and a significant decrease among youth for several, but not all, alcohol-related harms.

Studies of Alcohol Bans

The team found seven studies[18,41,48–52] that examined the effects of bans on local on- or off-premises alcohol sales or consumption (i.e., “dry” towns, counties, or reservations). Five studies examined the effects of bans in American Indian and Native settings in Alaska,[49,50,53] northern Canada,[52] and the southwestern U.S.[51] Two studies assessed the effects of bans in nontribal areas of the U.S. and Canada.[18,41] Two studies were of greatest design suitability[18,41]; two of moderate design suitability[50,51]; and three of least suitable design.[49,52,53] All were of fair execution. The studies examined events that occurred from 1970

through 1996. Two additional studies modeled the association of multiple policies, including local policies of dry counties, with spirits consumption[28] and with juvenile suicide.[29] Both of these studies were of greatest design suitability and good execution, and the team considered them comparable to studies of bans and as primary evidence.

An additional cross-sectional study of bans[54] was not used as primary evidence of effectiveness, but provided insights into the effect that alcohol availability in areas surrounding dry communities (e.g., outside Indian reservations) has on the occurrence of alcohol-related harms among residents of the dry communities.

Effects of Alcohol Bans in Isolated Communities

All of the studies that evaluated the effect of bans in isolated northern communities found substantial reductions in alcohol-related harms with the exception of suicide.[18,41,49,51–59] In the communities that instituted bans, rates of harm indicated by alcohol-related medical visits were reduced by 9.0% for injury deaths to 82% for alcohol-related medical visits (CIs not calculable). One of these studies[50] found that the effects were reversed when the ban was lifted, and found similar benefits when the ban was then reimposed (Figure 2).[50] Two of these studies suggest that bans on alcohol sales in isolated communities led residents to decrease their use of other intoxicants. In Barrow, Alaska, medical visits for use of isopropyl alcohol declined during ban periods.[50]

An additional study qualitatively evaluated a Canadian Inuit community[52] that overwhelmingly voted to ban alcohol in 1978. Although comparative data are not available from this study (and the study thus does not meet review inclusion criteria), it is notable that during the 3 years following the implementation of this prohibition there were only five arrests for the illegal possession of alcohol and, of these, four were associated with a single incident. The reported reduction in alcohol consumption in general and among youth in particular was linked with several societal benefits, including improved mental and physical health among community members, and a reduction in conflicts within the community. The ban on alcohol sales was associated with a reduction in the use of other substances of abuse (e.g., inhalants) by youth.

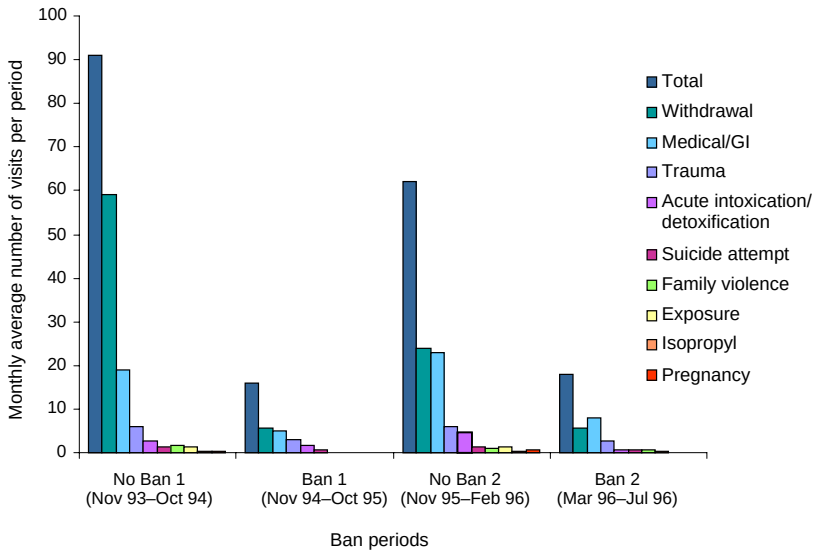

Figure 2. Alcohol-related outpatient visits associated with changes in alcohol ban policy, Barrow, Alaska, 1993–1996[50]

Effects of Alcohol Bans in Less-Isolated Communities

Studies assessing the impact of bans (particularly bans on on-premises sales) in less-isolated communities have produced mixed results. Some studies have found that bans are associated with increases in alcohol-related harms, including motor-vehicle crashes[18,46] and alcohol-related arrests.[51] However, two studies[28,29] found that states that had a larger proportion of their population living in dry counties had less alcohol consumption and related harms than states that had a smaller proportion of their population living in dry counties. One study[28] found that living in dry counties was associated with lower rates of spirits consumption ($p<0.01$). The other study found small, nonsignificant associations with male suicide (elasticities of −0.002 to −0.066) and female suicide (elasticities of −0.021 to −0.038).[29]

A cross-sectional study of injury deaths in New Mexico[54] highlights the potential harms associated with alcohol sales bans in areas (in this case reservations, 80% of which are dry) that are adjacent to other areas where alcohol is readily available. This study found that in these settings, although the relative risk (RR) of total injury deaths was greater for American Indians than for whites (RR=3.1; 95% CI=2.6, 3.6), the relative risk was greatest for deaths involving pedestrians struck by vehicles (RR=7.5; 95% CI=5.3, 10.6) and for hypothermia (i.e., freezing to death; RR=30.5; 95% CI=17.7, 48.7). Furthermore, American Indians in New Mexico who died of these causes were likely to

have elevated blood alcohol levels (an average of 0.24 g/dL and 0.18 g/dL for pedestrian deaths and hypothermia, respectively). A disproportionate number (67%) of these deaths occurred in counties bordering reservations, despite the fact that most American Indians live on reservations. Although the design of this study does not allow causal inference regarding the effect of bans, these findings suggest that travel between dry reservations and adjacent areas where alcohol is readily available may increase the risk of death from these external causes among those traveling off-reservation to purchase alcohol.

Summary

The effectiveness of bans in reducing alcohol-related harms appears to be highly dependent on the availability of alcohol in the surrounding area. In isolated communities, bans can substantially reduce alcohol-related harms. However, where alcohol is available in areas nearby those with bans, travel between these areas may lead to serious harms.

Studies of Licensing-Policy Changes Affecting Outlet Density

The team identified four studies of national or local licensing-policy changes that resulted in increased outlet density. The studies were conducted in Iceland,[60] Finland,[47] New Zealand,[61] and North Carolina.[62] The policy changes assessed occurred between 1969 and 1990. The North Carolina study was of greatest design suitability and good execution. The other three studies were of moderate design suitability and good execution.[47,60,61] These studies examined various indices of alcohol consumption; the North Carolina study also assessed effects on alcohol-related motor-vehicle crashes. Another study assessed the effect of a change in national policy controlling the sale of table wine in New Zealand.

Effects on Excessive Alcohol Consumption and Related Harms

The only U.S. study that met criteria for this category of interventions evaluated the decision by several North Carolina counties to allow on-premises sale of spirits (i.e., "liquor by the drink" [LBD]), replacing the previous option of "brown-bagging,"[62] in which patrons of an establishment bring their own alcoholic beverage (in a bag) and the establishment supplies other items (e.g., a drink glass, ice, water). Of the 100 counties in North Carolina, three approved liquor by the drink in November 1978 and eight approved it in January 1979. The policy change was followed by the opening of many bars and lounges adjacent to restaurants. Interrupted time–series models indicated that, relative to counties that did not change their policies, sales of spirits increased in LBD counties by 8.2% ($p<0.05$) among the first group of counties to adopt the new policy, and by 4.3% ($p<0.05$) among the second group. Nighttime single-vehicle crashes among men of legal drinking age also increased in both early- and late-adopting counties by 18.5% ($p<0.01$) and 15.7% ($p<0.01$), respectively. However, there were no significant changes in rates of nighttime single-vehicle crashes among boys/men aged <21 years, who were not permitted to drink spirits and were thus not (legally) affected by the policy change.

In Finland, the enactment in 1969 of a policy allowing the sale of medium-strength beer resulted in a 22% increase in the number of monopoly alcohol outlets and a 46% increase in restaurant liquor licenses, and permitted 17,400 grocery stores to sell medium-strength beer. During the year following these changes, overall alcohol sales in Finland increased by 46%. Of the increase, 86% was attributed by the researchers to the increased availability of beer. Overall alcohol consumption increased by 56%, with the greatest volume increases among those drinking more than a half liter of pure alcohol per year (1/2 liter of pure alcohol is equivalent to 1/3 gallon of 80-proof liquor). However, alcohol consumption increased significantly among all adults at all levels of alcohol consumption in Finland subsequent to this policy change, regardless of their baseline pattern of consumption, including those who had previously reported that they had not consumed alcohol during the past year.

In Iceland,[60] a policy change in 1989 resulted in an expansion in off-premises monopoly outlets and commercial on-premises outlets in Reykjavik and in rural areas. Over the subsequent 4-year period, consumption increased by 43% among men who drank more than 350 centiliters of alcohol per year at baseline, but changed minimally among women and men who drank at lower levels.

In New Zealand,[61] a policy change in 1989 allowed the sale of table wine in grocery stores, resulting in an increase of approximately 25% in the number of wine outlets in the country over a 2-year period. This resulted in a 17% (95% CI=9.8%, 24.9%) increase in wine sales during this time, but in no change in the sales of other alcoholic beverages. This indicates that there was an overall increase in alcohol consumption in New Zealand subsequent to this policy change, and that wine, the privatized beverage, was not being substituted for other nonprivatized alcoholic beverages.

Summary

These studies consistently indicated that more permissive licensing procedures increased the number of on- and off-premises alcohol outlets, which in turn led to increases in alcohol consumption. Two of these studies specifically reported increases in alcohol consumption among heavy drinkers, and one study reported an increase in drinking among survey subjects who reported not drinking during a specified period at the

baseline assessment. The single study that evaluated alcohol-related harms (alcohol-related motor-vehicle crashes) found that they increased substantially after allowing the sale of liquor by the drink.

Intervention Effectiveness—Secondary Evidence

Although the primary evidence just reviewed is heterogeneous in topic and design and does not allow summary tabular presentation, the secondary evidence presented below is based on consistent statistical procedures and readily allows a summary table.

Cross-Sectional Studies

Findings from studies of on- and off-premises outlets combined. The 28 cross-sectional studies[19,55–57,63–86] that assessed the association of outlet density (on-premise and off-premise, not distinguished) assessed 47 alcohol-related outcomes. Of these outcomes, 41 (87.2%) found a positive association, that is, as density increased, so did consumption and alcohol-related harms, and vice versa (Table 1, A). Positive associations were found for consumption-related outcomes (e.g., per capita alcohol consumption); violence and injury outcomes; and several medical conditions (e.g., liver disease). The mean elasticities ranged from 0.045 for crime to 0.421 for motor-vehicle crashes.

Findings from studies of on-premises outlets. The 23 studies[23,58,78,79,87–105] that assessed the association of outlet density and alcohol-related outcomes in on-premises outlets reported on 25 outcomes. Of these, 21 (84.0%) indicated a positive association (Table 1, B). Positive associations were also found for consumption-related outcomes, several forms of violence and injury outcomes related to alcohol consumption, and one medical condition. Mean study elasticities could be estimated for most outcome types, and values ranged from 0.021 for child abuse to 0.250 for population consumption.

Findings from studies of off-premises outlets. The 23 studies[58,79,89–92,94–99,101–111] that assessed the association of outlet density and alcohol-related outcomes in off-premises outlets reported on 24 outcomes. Of these, 18 (75.0%) also indicated a positive association (Table 1, C). Positive associations were found for consumption-related outcomes, several forms of violence and injury outcomes related to alcohol consumption, and one medical condition. Mean study elasticities could be estimated for most outcome types and values ranged from −0.15 for injury to 2.46 for population consumption. Mean elasticity was also high (0.483) for violent crime.

Summary

Cross-sectional studies generally show consistent positive associations between alcohol outlet density and excessive alcohol consumption and related harms, with the possible exception of injuries, for which the findings were less consistent. The largest effect sizes were for studies relating outlet density to population consumption and violent crime.

Table 1. Cross-sectional studies, outcomes by setting type

Outcomes	# of studies	% positive	M elasticity
A. ON- AND OFF-PREMISES AGGREGATED			
Consumption			
Population consumption	7	85.7	0.27
Binge drinking	5	80.0	
Underage drinking	2	100.0	
Violence and injury			
Violent crime	15	93.3	0.32
Injury	3	100.0	0.23
Motor-vehicle crashes	6	50.0	0.42
Drunk driving	1	100.0	
Crime	2	100.0	0.04
Medical conditions			
Alcohol medical visits	1	100.0	
Alcoholism	1	100.0	
Liver disease	4	100.0	
Total all premises	47	87.2	
B. ON-PREMISES			
Consumption			
Population consumption	3	33.3	0.25
Binge drinking	1	100.0	
Violence and injury			
Violent crime	4	100.0	0.12
Injury	3	100.0	0.14
Motor-vehicle crashes	6	66.7	0.05
Drunk driving	2	100.0	
Crime	1	100.0	
Child abuse	2	100.0	0.02
Medical conditions			
Liver disease	3	100.0	0.06
Total on-premises	25	84.0	
C. OFF-PREMISES			
Consumption			
Population consumption	2	100.0	2.46
Binge drinking	1	100.0	
Violence and injury			
Violent crime	6	100.0	0.48
Injury	3	66.7	−0.15
Motor-vehicle crashes	5	80.0	0.10
Drunk driving	2	50.0	
Crime	1	100.0	
Child abuse	2	100.0	0.01
Medical conditions			
Liver disease	2	50.0	−0.05
Total off-premises	24	76.9	

Summary of the Body of Scientific Evidence on Alcohol Outlet Density and Excessive Drinking and Related Harms

Using a variety of different study methods, study populations, and alcohol measures, most of the studies included in this review reported that greater outlet

density is associated with increased alcohol consumption and related harms, including medical harms, injuries, crime, and violence. This convergent evidence comes both from studies that directly evaluated outlet density (or changes in outlet density) and those that evaluated the effects of policy changes that had a substantial impact on outlet density, including studies of privatization, remonopolization, bans on alcohol sales and the removal of bans, and changes in density from known policy interventions and from unknown causes. Studies assessing the relationship between alcohol outlet density and motor-vehicle crashes produced mixed results.[18,20,62,112]

Other Benefits and Harms

Communities commonly seek limits on alcohol outlet density, either through licensing or zoning, for purposes that may not be directly related to public health (e.g., the reduction of public nuisance, loitering, vandalism, and prostitution).[7,113] Although the team did not specifically search for studies that assessed these outcomes, some of the studies the team reviewed suggested that there may be an association between outlet density and these outcomes as well. For example, a study from New South Wales, Australia, reported an association between outlet density and "neighborhood problems with drunkenness" but did not find a significant association with property damage.[114] There was evidence of one potential harm of decreased outlet density (i.e., an increase in fatal single-vehicle nighttime vehicle crashes) presumably associated with an increase in driving in response to greater distances between alcohol outlets.[19]

Applicability

Evidence of the association of outlet density and alcohol consumption and related harms derives from studies conducted primarily in North American and in Scandinavian countries. One study[27] indicated that the impact of changes in outlet density may be affected by demographic characteristics (e.g., gender distribution) of the population; in this case, the association of outlet density with assaults requiring hospitalization was stronger where there was a greater proportion of boys/men in the population. Most of the studies reviewed assessed the effects of increased outlet density, which is a consequence of the general trend toward liberalization of alcohol policies associated with outlet density. Few data were found from which to draw inferences about regulations that control or reduce outlet density.

Studies of bans on alcohol sales, conducted primarily among American Indian and Alaska Native populations, consistently report a reduction in excessive consumption and related harms following the implementation of a ban on alcohol sales, possession, or both, provided the area affected by the ban was not surrounded by other sources of alcoholic beverages.

Barriers

Reductions in outlet density, with resultant reductions in consumption, are likely to have substantial commercial and fiscal consequences, and thus may be opposed by commercial interests in the manufacture, distribution, and sale of alcoholic beverages. In keeping with its commercial interests, the alcoholic beverage industry has tended to support policies that facilitate outlet expansion.[115]

State pre-emption laws (i.e., laws that prevent implementation and enforcement of local restrictions) can also undermine efforts by local governments to regulate alcohol outlet density.[7] Indeed, the elimination of pre-emption laws related to the sale of tobacco products is one of the health promotion objectives in *Healthy People 2010*.[13] However, there is no similar objective in *Healthy People 2010* related to the sale of alcoholic beverages.

Economic Evaluation

The team's systematic economic review did not identify any study that examined the costs and benefits of limiting alcohol outlet density. Although there has been speculation that reducing the number of alcohol outlets may result in a loss of revenue to state and local governments owing to a loss of licensing fees and alcohol tax revenues, the team found no studies that have documented this speculation. In addition, there may be economic gains resulting from revenue generation from merchants and consumers who would otherwise avoid areas known to have a high alcohol outlet density; however, the team found no studies about this topic. Moreover, in 2006, alcoholic beverage licenses accounted for only $406 million (0.9%) of the $45 billion that state governments received from all licensing fees, and alcohol taxes accounted for only 0.7% of all taxes ($4.9 billion of $706 billion) collected by state governments (www.census.gov//govs/statetax/0600usstax.html).

Even in the absence of published data on program implementation costs and other costs related to this intervention, it should be expected that the cost of restricting access to alcohol by limiting the number of alcohol outlets is likely to be small relative to the societal cost of excessive alcohol consumption in the U.S. For example, in 1998, the most recent year for which data are available, the societal cost of excessive alcohol consumption in the U.S. was $185 billion, including, among other costs, approximately $87 billion in lost productivity due to morbidity, $36 billion in lost future earnings due to premature deaths, $19 billion in medical care costs, $10 billion in lost earnings due to crime, $6 billion in costs to the criminal justice

system, and $16 billion in property damage related to motor-vehicle crashes.[4] Moreover, each state alcohol enforcement agent is responsible for monitoring an average of 268 licensed establishments[116]; thus, reducing the number of retail alcohol outlets might reduce their enforcement responsibilities. In summary, no existing study examines the economic costs and benefits of limiting alcohol outlet density.

Research Gaps

Although the scientific evidence reviewed indicates that the regulation of alcohol outlet density can be an effective means of controlling excessive alcohol consumption and related harms, it would be useful to conduct additional research to further assess this relationship:

- There are few if any studies evaluating how local decisions are made regarding policies affecting alcoholic beverage outlet density or the consequences of such policy changes. Such case studies may be difficult to conduct, but they could provide important insights to guide policy decisions regarding alcohol outlet density in other communities.
- The majority of outlet density research explores the impact of increasing alcohol outlet density on alcohol-related outcomes; there is a lack of research on the impact of reducing outlet density. This might be done by observing the impact of temporal changes in outlet density on excessive alcohol consumption and related harms.
- The association of on- and off-premises alcoholic beverage outlets with illegal activities such as prostitution and drug abuse should be examined. In themselves, these may have adverse public health and other outcomes; in addition, they may confound the apparent association of alcohol outlets with these outcomes.
- Relatively little is known about the impact of density changes relative to baseline density levels. Some authors (e.g., Mann[117]) have proposed that the association between outlet density and alcohol consumption follows a demand curve, such that when density is relatively low, increases in density may be expected to have large effects on consumption, and when density is relatively high, increases in density should be expected to have smaller effects.[21,117] Thus, it would be useful to assess this hypothesis empirically using econometric methods, with different kinds of alcohol-related outcomes. Such information would allow communities at different alcohol outlet density "levels" to project the possible benefits of reducing density by specific amounts or the potential harms of increasing density.
- For public health practitioners, legislators, and others attempting to control alcohol outlet density to reduce alcohol-related harms, it would be useful to catalog approaches to regulation beyond licensing and zoning that may have an effect on outlet density (e.g., traffic or parking regulations that, in effect, control the number of driving patrons who may patronize an alcohol outlet).
- A primary rationale for limiting alcohol outlet density is to improve public health and safety. Furthermore, the economic efficiency of limiting outlet density is difficult to assess without data on the economic impact of this intervention. To remedy this, future studies on the impact of changes in alcohol outlet density should assess both health and economic outcomes, so that the economic impact of this intervention can be assessed empirically.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the CDC.

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Further Information on LAP - Toi Te Ora - 2 of 3

The relationship between alcohol outlets and harm

A spatial panel analysis for New Zealand, 2007-2014

November 2016

Cameron, M.P., Cochrane, W., and Livingston, M.
A report commissioned by the Health Promotion Agency

COMMENTS

The Health Promotion Agency (HPA) commissioned the University of Waikato to undertake this research as part of a HPA alcohol research investment round. The lead researchers involved in the project are Michael Cameron and William Cochrane (Waikato University) and Michael Livingston (La Trobe University).This research examines the relationship between alcohol outlets and social harm measured by Police activity and road traffic crashes. The analysis uses a longitudinal panel data set for the period 2007-2014 covering all of New Zealand.

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THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

The relationship between alcohol outlets and harm: A spatial panel analysis for New Zealand, 2007-2014

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Commissioned Research Report

Prepared for the Health Promotion Agency

November 2016

The relationship between alcohol outlets and harm: A spatial panel analysis for New Zealand, 2007-2014

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Disclaimer

The views expressed in this report are those of the authors and do not reflect any official position on the part of the University of Waikato, or the Health Promotion Agency.

Table of Contents

List of Figures

List of Tables

Executive Summary

- This research project was commissioned by the Health Promotion Agency (HPA) and has three overall objectives:
    1. To investigate the impacts of alcohol outlet density on police activity at the local (Census Area Unit) level across New Zealand;
    2. To evaluate how these impacts have changed between the period before passing of the Sale and Supply of Alcohol Act 2012 (SSAA) on 18 December 2012, and after; and
    3. To evaluate the direct and mediating effects of local alcohol policies (LAPs) on the relationships between alcohol outlet density and police activity.
- We use longitudinal panel data for the period 2007-2014 covering all of New Zealand to evaluate the relationships between alcohol outlets (by type) and both police events (by type) and motor vehicle accidents. The models are Poisson (count models) that use counts of police events and motor vehicle accidents as outcome variables, and counts of outlets as the key explanatory variables.
- Our results are broadly similar to, but smaller in magnitude than, those from the earlier literature.
- Despite the generally smaller coefficients than earlier research, there are a number of commonalities. In particular, off-licence outlets appear to have a number of positive relationships with alcohol-related social harms, while the relationships for on-licence outlets are more mixed. These relationships have generally been smaller in earlier New Zealand research, but in this work are demonstrably larger than the effects for other outlet types.
- Moreover, the relationship between outlets (by type) and social harm are mediated by population and social deprivation in a number of cases (i.e. the relationship in an area depends on population and/or social deprivation). For example, an increase in licensed clubs is significantly associated with violence in areas with low populations (i.e. rural areas) but not in areas with larger populations (i.e. urban areas). To generalise, social deprivation appears have more mediating influence on the relationships for licensed clubs and other on-licence outlets (primarily restaurants and cafés), while population (a proxy for rural or urban location) appears to have more mediating influence for bars and night clubs, and off-licence outlets.
- The short period of data available after the implementation of the SSAA and LAPs limited our ability to find robust changes in these relationships between the period before and the period after implementation of the SSAA or any LAPs.
- Despite the limitations, this research adds to the weight of evidence that links alcohol outlets and social harms.

1. Introduction

The Sale and Supply of Alcohol Act (SSAA) was passed on 18 December 2012, replacing the Sale of Liquor Act 1989. The SSAA was born out of a review conducted by the Law Commission (Law Commission, 2010), and aims to achieve safe and responsible sale, supply and consumption of alcohol, and to minimise harm from excessive and inappropriate use of alcohol. The changes in the SSAA have implications for licensing and licensing conditions, trading, social supply, promotions, community voice and amenity and good order.

The SSAA included a number of important changes in the way alcohol was sold in New Zealand, which came into force from 18 December 2013. Among those changes were new national maximum trading hours, and the ability for any local authority to adopt a Local Alcohol Policy (LAP) with provisions that differ from the generic provisions of the SSAA and that apply to their area. Specifically, Section 77 of the Act specifies that LAPs may include policies on any or all of the following matters relating to licensing (and no others):

a) location of licensed premises by reference to broad areas;
b) location of licensed premises by reference to proximity to premises of a particular kind or kinds;
c) location of licensed premises by reference to proximity to facilities of a particular kind or kinds;
d) whether further licences (or licences of a particular kind or kinds) should be issued for premises in the district concerned, or any stated part of the district;
e) maximum trading hours;
f) the issue of licences, or licences of a particular kind or kinds, subject to discretionary conditions; and
g) one-way door restrictions.

The impacts of alcohol outlet density are a key concern of community stakeholders (McNeill et al., 2012), particularly given that alcohol outlet density has been shown to be highest in poorer and more disadvantaged areas (Cameron et al., 2012b; 2013b; 2013c; Hay et al., 2009; Pearce et al., 2008). Past research in New Zealand (see Section 2 for further details) has demonstrated that alcohol outlet density and proximity to alcohol outlets are related to a range of indicators of harm, including problem drinking (Connor et al., 2011; Huckle et al., 2008), violent and other crime (Day et al., 2012; Cameron et al., 2012c; 2012d; 2013a; 2014a;

2014b), and motor vehicle accidents (Cameron et al., 2012c; 2012d; 2013a; Matheson, 2005). These results are similar to those reported internationally (Cameron et al., 2012a; Livingston et al., 2007; Popova et al., 2009).

Given the potential for change in outlet density as a result of the implementation of LAPs, this provides a timely opportunity to better understand these relationships in the local context in New Zealand. Where a local alcohol policy has restricted alcohol outlet density, this provides a natural experiment on the impacts of alcohol outlet density on associated harms (see Cameron et al. (2012a) for a discussion of natural experiments on alcohol outlet density).

This research project was commissioned by the Health Promotion Agency and has three overall objectives:

1. To investigate the impacts of alcohol outlet density on police activity at the local (Census Area Unit) level across New Zealand;
2. To evaluate how these impacts have changed between the period before implementation of the SSAA, and after; and
3. To evaluate the direct and mediating effects of local alcohol policies on the relationships between alcohol outlet density and police activity.

This research builds on previous work undertaken by members of the same research team in Manukau (Cameron et al., 2012c; 2012d) and the North Island of New Zealand (Cameron et al., 2013a; 2014a; 2014b). We extend the previous analyses by considering the entire country, and by considering the periods before and after the implementation of the SSAA. Unfortunately, due to the short period of data after the first LAPs became operative, we could not complete Objective 3. However, we do consider the mediating effects of social deprivation and population.

Moreover, previous analyses of the relationship between alcohol outlet density and social harm in New Zealand have used cross-sectional data, whereas we employ a panel dataset that is longitudinal. Using longitudinal data on alcohol outlet density and harms reveals the impact of alcohol outlet density in a cleaner way than past studies, because variable patterns over time in the data can be explicitly controlled for and because statistical power is much greater when analysing longitudinal data. There are benefits to this type of evaluation even when alcohol outlet density has not changed. Looking at the relationship when outlet density is effectively unchanged has the potential to reveal the mediating effects of other local

alcohol policy changes (and the SSAA more generally) on the relationship between alcohol outlet density and harms. For example, if a local alcohol policy specifies reduced opening hours for on-licence outlets, then the effect size of the relationship between on-licence outlet density and policy activity may decrease. A better understanding of the combination of these two effects (direct and mediating) will be important in terms of providing policy-relevant guidance on local alcohol policies in the future.

This report outlines the methodology and summarises the findings in terms of the relationships between alcohol outlet density and a few key outcome variables: different types of police events, and motor vehicle crashes. These particular indicators of social harm were selected mainly because of the availability of spatially-explicit data that lends itself to appropriate modelling. We note that these measures have been used in previous research (Cameron et al., 2012c; 2012d; 2013a; 2014a; 2014b). Alternative measures either have inappropriate spatial data recording (e.g. accident and emergency admission or hospitalisation data, where data are coded to the patient's home address, rather than the location where the harm occurred – see Cameron et al., 2012c), or are unavailable at this time (e.g. ambulance events, child abuse data).

The report is structured as follows:

- Section 2 briefly reviews the literature with specific relevance to New Zealand;
- Section 3 details the data and methodology;
- Section 4 presents and briefly discusses the results; and
- Section 5 concludes.

2. The relationships between alcohol outlets and social harm

Studies examining relationships between alcohol outlet density and social problems have consistently found significant and positive relationships (Cameron et al., 2012a; Livingston et al., 2007; Popova et al., 2009). There have been several recent reviews of the international literature, including Livingston et al., (2007), Popova et al., (2009), Cameron et al., (2012a), and Gmel et al., (2016). Across these studies, relationships between outlet density and social harm appear to vary significantly, both within and between studies, and depend on the type of outlet, category of crime, and the setting. For instance, studies in Australia have shown that the density of pubs is strongly associated with general assault rates, but that off-licence

outlets are more strongly associated with domestic violence rates (Livingston, 2008; 2011). Similarly, studies in the U.S. have found contrasting results, with some observing stronger associations between assault and off-licence outlets rather than bars (Gruenewald et al., 2006; Pridemore and Grubesic, 2013), while others have shown the opposite (Franklin et al., 2010). This has led some researchers to conclude that the number of outlets may matter less than the type of outlets that are present in a location and the characteristics of those outlets, following the critique of Lugo (2008). The setting appears to matter as well. Recent studies in Australia and the U.S. have demonstrated that density of alcohol outlets matters more in areas of already high outlet density, and in neighbourhoods with high levels of social deprivation (Livingston, 2008; Mair et al., 2013). Furthermore, the relationship between crime and alcohol outlet density may vary spatially and in non-systematic ways. For instance, Cameron et al. (2013a) demonstrated significant differences in the relationship between alcohol outlet density and police events, but the differences were not linked to observable differences between areas.

The New Zealand-specific literature on alcohol outlets generally finds similar effects to those reported in the international literature, in terms of their locations and relationships with consumption and social harms. That is, the relationships are generally positive but depend on context. A number of studies show that alcohol outlet density is positively associated with social deprivation in New Zealand (as measured by the New Zealand deprivation index). Pearce et al. (2008) examined spatial relationships between food and alcohol outlets and social deprivation at the meshblock level in main urban areas across New Zealand in 2004 and 2005. They found a positive association between the number of licensed alcohol outlets per 10,000 population and social deprivation (higher numbers of outlets were associated with more socially deprived areas). This pattern was also found for food outlets (supermarkets, convenience stores and fast food outlets). Hay et al. (2009) used data from 2001 to examine the relationship between distance from each meshblock to the nearest alcohol outlet with social deprivation. Their results show that overall social deprivation was positively associated with shorter distance to the nearest alcohol outlet (people have greater access to alcohol outlets when they live in more socially deprived areas). These associations however vary by outlet type, with restaurants having a different spatial profile, and with urban/rural status, where the pattern tended to be more marked for urban areas. Cameron et al. (2012b) describe the spatial characteristics of alcohol outlets in the Manukau City area in January 2009. They show that on-licence outlets were most dense in areas with good transport networks and that

off-licence outlet density was related to population density and with relative social deprivation (that is, higher population density and higher relative deprivation are associated with higher density of off-licence premises).

Some studies have found positive associations between alcohol outlet density and drinking patterns or negative social outcomes for specific populations or geographic areas. In an early study, Wagenaar and Langley (1995) used an interrupted multiple time-series design and nation-wide alcohol sales data from 1983 to 1993 to examine the effect of the Sale of Liquor Act 1989, which permitted grocery stores to begin selling table wine. They found that the number of alcohol outlets increased significantly following the law change, and that there was a 17 percent increase in wine sales between the period before and the period after the new Act came into effect. Kypri et al. (2008) looked at the association between alcohol outlet density (number of outlets within a given distance of the respondent's home) and survey measures of drinking patterns and alcohol-related harm in a sample of 2,550 tertiary students from six university campuses in 2005. They found overall a significant positive relationship between outlet density and the number of drinks per typical day, alcohol-related problems in relation to respondents' own drinking and second-hand effects (problems experienced from others' drinking). The observed effects were stronger for off-licence outlet density than for on-licence outlet density, and stronger for outlet density within a one kilometre radius than for outlet density within a three kilometre radius. Huckle et al. (2008) surveyed 1,179 12-17 year olds from the Auckland region in 2005 about drinking patterns and behaviour, and examined the relationships of these variables with alcohol outlet density. They found a significant positive relationship between outlet density (defined as the number of outlets within 10 minutes' drive of the respondent's home) and how much was consumed on a typical drinking occasion. No significant relationships were observed between outlet density and the frequency of drinking or the frequency of intoxication. A significant positive relationship was found between outlet density and social deprivation (as measured by the deprivation index). Connor et al. (2011) conducted a national survey of 1,925 18-70 year olds in 2007 looking at alcohol consumption and drinking consequences. Outlet density was defined as the number of alcohol outlets within one kilometre of each survey respondent's home address. Using a cross-sectional design, they found a significant positive association between binge drinking (defined as consuming more than five drinks on a single occasion once a month or more) and the density of off-licence outlets and bars and clubs, but not for

restaurants. No significant associations were found between outlet density and the average amount of alcohol consumed per year, or risky drinking.

Other New Zealand studies have focused more directly on the relationship between alcohol outlets and social harms. Matheson (2005) used geographically weighted regression to investigate the relationship between alcohol outlet type density and single-vehicle night-time crashes (between 2000 and 2004) and found that the relationship varied significantly between District Health Board areas in Auckland. Cameron et al. (2012c; 2012d), using spatial seemingly unrelated regression at the Census Area Unit level, found that alcohol outlet density was significantly positively associated with a range of social harm indicators (police incidents and motor vehicle crashes) in Manukau City in 2008-2009. Specific police incident categories such as violence or property damage were associated with different outlet types (see introduction for more detail). Day et al. (2012), using a cross-sectional ecological design, examined the association between serious violent crime recorded from 2005-2007 and alcohol outlet density. They found that areas with the greatest access (shortest travel distance) to alcohol outlets were associated with the highest incidence of serious violent crime. Off-licence premises were a significant predictor of area-level violent crime regardless of distance to alcohol outlets.

Most recently, Cameron et al. (2013a; 2016a; 2016b) used geographically weighted regression (GWR) to further explore the location-specific relationships between alcohol outlet density and both police events and motor vehicle accidents. They reported global (overall) models for the relationships based on average relationships for the measures of social harms and alcohol outlet densities in the North Island (which relies on a similar approach to other spatial models), as well as locally-specific parameter estimates (at the Census Area Unit level). In the global models, bar and night club density appeared to have the most robust and largest effects, being significantly positively associated with all categories of police events, and with motor vehicle accidents. Supermarket and grocery store density generally had statistically significant and positive effects on police events, but was significantly negatively related to motor vehicle accidents. Licensed club density and other on-licence density were significantly positively related to many of the categories of police events. The locally-specific (GWR) results demonstrated that global models potentially masked substantial local differences in the relationships between alcohol outlet density (by type) and social harms. All of the parameter estimates were demonstrated to vary greatly

across the North Island, and were statistically significant in some areas, and statistically insignificant in other areas.

Cameron et al. (2016a) further explored the locally-specific relationships between alcohol outlet density and violence, and found similar results to the earlier Cameron et al. (2013a). However, in both cases the spatial variation in the relationships appeared to be non-systematic. That is, there didn't appear to be other mediating factors that affected the locally-specific relationship between alcohol outlet density (by type) and social harms. This latter result may have been the result of the GWR framework that was applied, which is known to be sensitive to choices made during the modelling, among other limitations (Wheeler and Tiefelsdorf, 2005). Cameron et al. (2016b) concentrated on the relationships with property damage events and found that, after off-licence outlets were combined into a single category (rather than separating out supermarkets and grocery stores), alcohol outlet density of all types had statistically significant and positive relationships with property damage events, and that these relationships did not show significant spatial variation. Moreover, bars and night clubs had the largest marginal effects, along with licensed clubs.

Overall, the New Zealand and international literature demonstrates that there are generally positive correlations between alcohol outlets and social harms, but these correlations are not consistent across all studies. The different results across studies may be attributed to differences in study design such as the analysis techniques employed or the specification of the data, and/or contextual factors relevant to the location of the study, for example urban or rural, socio-demographic characteristics of the study area, and so on. All of the New Zealand literature to date on the relationships between alcohol outlet density and measures of social harm (and much of the international literature as well) is based on what are, essentially, cross-sectional ecological designs. As noted in the introduction, there are significant gains to be had by instead using a design that makes use of longitudinal or panel data. We outline our approach to this in the following section.

3. Data and Methods

3.1 Data

Lists of current liquor licences in New Zealand were obtained from the Ministry of Justice, covering quarterly intervals from 2005 to 2014. These lists included details on the name of

the licensee, the name of the premises, its address, and the type of liquor licence held.[1] Address data can often be geocoded to point locations using an address locator file in a suitable Geographic Information Systems software package. Unfortunately, many of the addresses in the lists were incomplete. To overcome this problem, we employed a manual process to geo-code the outlets to the Census Area Unit (CAU) level.

The manual geo-coding was performed by searching for each address using a combination of the Statistics New Zealand StatsMaps (http://www.stats.govt.nz/statsmaps/home.aspx) Google Maps (http://maps.google.com), and Google Street View (https://www.google.co.nz/maps/streetview/), to ensure triangulation and accurate geo-coding. All addresses were geocoded twice, by separate research assistants, and any inconsistencies were investigated and resolved by one of the researchers.[2] Ultimately, we achieved a 100 percent geo-coding success rate to the Census Area Unit level.

Following geo-coding, all of the quarterly cross-sectional lists of outlets were combined into a single longitudinal dataset. This dataset allows us to identify and follow individual outlets' status (licensed or not) over time. Using this dataset, duplicate outlets were more easily able to be identified and excluded, because in any time period there may be multiple outlets with the same name and/or the same address details. This exclusion of duplicates was generally able to be achieved even when outlets changed names or when the address details changed between periods.

Moreover, we were able to identify many instances where the same outlet initially appeared in the longitudinal dataset, then dropped out for one or more periods, before reappearing in a later period. These continuity problems could arise because of one of three reasons:

1. An outlet's licence genuinely lapsed for one or more periods before being renewed;
2. An outlet's licence appeared to the Ministry of Justice to have lapsed, but this is only because an application for licence renewal had (at the time the cross-sectional data was exported by the Ministry of Justice) not yet been decided by

[1] Special licences (licences granted for one-off events) are not included in this dataset, as they are not systematically reported to the Ministry of Justice, and are unlikely to have a long-term impact on social harms as would be observed in the quarterly data we use.
[2] The geo-coding success rate differed between research assistants, but overall was approximately 96 percent, leaving about 4 percent of cases that required resolution by the researchers.

the District Licensing Committee (under the SSAA; or the Liquor Licensing Authority under the Sale of Liquor Act 1989); [3] or

3. There was an error in the dataset.

Situations 2 and 3 must be corrected for in order to minimise measurement error in the outlet counts dataset. Where these continuity problems were four quarters (one year) or shorter, and where the outlet did not change names in the interim, we adjusted the data to include the outlet throughout the 'missing' period.[4] Outlet types (as noted in the Ministry of Justice data) that were clearly erroneous were also corrected at this stage.

Following some initial explorations of the data, it was observed that there were a number of issues with data quality in 2006, and after the middle of 2014. The issues with the early data suggested that there were a number of licences in the dataset that were not current, as an unusually large number of outlets disappeared in the first quarter of 2007. After 2014, a change in the way addresses were recorded in the dataset made matching much more difficult. We restricted our analysis to data on outlets between January 2007 and June 2014 (a total of 30 quarterly observations).

Following Cameron et al. (2013a), liquor licences were then classified by type, using the taxonomy described in Table 1 below. Some outlet types were excluded from consideration at this stage. Catering licences, auctioneers, mail order companies and conveyances were excluded because the location of the licence is likely to be largely unrelated to the location of drinking, which may occur far from the community in which the licence is located. Vineyards, hospitals, gift stores and florists were excluded because we expected any spatial relationship with drinking patterns and/or harm to be very weak for these outlet types. This follows the earlier approach adopted by Cameron et al. (2013a).

[3] We note that outlets that have applied for a renewal of their licence, but where the renewal has not yet been granted, are allowed to continue to trade under the previous license terms until the licensing decision has been made.
[4] We did not explicitly track the number of these adjustments that were made.

Table 1: Taxonomy of alcohol outlet types

Code	Main Types	Also includes…
01	Clubs	Off-licensed chartered clubs, off-licensed social clubs
02	Sports Clubs	
11	Bottle Stores	Off-licensed distilleries
12	Grocery Stores	On-licensed grocery stores
13	Supermarkets	
14	Off-licenced hotels	Off-licensed tourist houses
15	Off-licenced taverns	
19	Other off-licences	Off-licensed breweries, locational licences, complementary licences
21	Bars and night clubs	Adult entertainment venues, taverns, TABs, casinos
22	Restaurants and cafés	BYO restaurants, universities, airports
23	Accommodation and function centres	Conference venues, hotels, tourist houses
29	Other on-licences	Theatres, tasting only, gyms, music venues
31	Dual-licenced hotels	[Hotels and tourist-houses that hold both an on- and off-licence]
32	Dual-licenced bars	[Taverns, etc. that hold both an on- and off-licence]
33	Dual-licenced restaurants	[Restaurants, etc. that hold both an on- and off-licence]

While it is possible to analyse the data using the full taxonomy of alcohol outlet types shown in Table 1, this would pose a number of problems for the analysis. Most importantly, given that there are only small numbers of outlets of some types spread across the entire country, this would likely lead to spurious results in the statistical analysis. Having only a small number of some outlet types amplifies the effect of any measurement error, leading to overestimated standard errors and a bias towards statistical insignificance in the coefficients. Moreover, having a large number of likely-correlated variables in the analysis leads to problems of multicollinearity, which has a similar effect in terms of overestimated standard errors. We argue that there is little reason to believe that there are substantial differences between some of the outlet types, in terms of their effects on social harms, and reducing the number of outlet types is a standard approach applied in the international and New Zealand literature (e.g. see Cameron et al., 2013a).

Reducing the number of outlet types from Table 1 into categories for analysis necessarily involves a number of subjective decisions. First, as Gmel et al. (2015) note, off-licences and on-licences should be analysed separately. However, a further decomposition of outlet

categories is necessary, reflecting the fundamental difference in purpose between establishments (Cameron *et al.*, 2012c). Where drinking is one of the main activities (as in clubs and bars) the marginal effects are likely to be different to on-licence outlets where drinking is incidental to another activity (such as restaurants and cafés). Similar logic applies to off-licences, where the type of customer catered for by supermarkets and grocery stores may be different from that of other off-licence outlets. Previous research has shown that the relationships between alcohol outlets and social harms are different for different types of outlets (and hence, different licence types) (Cameron *et al.*, 2012c, 2012d).

Cameron et al. (2013a) aggregated the outlet types from Table 1 into five categories, including dual-licensed outlets in *both* the corresponding on-licence and off-licence categories. This approach leads to a double-counting of dual-licensed outlets. However, there is no generally accepted method of dealing with these outlets, in either the international or New Zealand literature. As these outlets involve both off-licence and on-licence sales, they are not easy to subcategorise and any choice about their categorisation is necessarily somewhat arbitrary. We opted instead to leave dual-licensed outlets as separate categories initially, and empirically test whether the relationship between these outlet types and measures of social harm were statistically significantly different from those of similar outlets (see Section 3.3 for further details).

We also note that Types 14 and 15 are unlikely to be observed in isolation. Most outlets that are initially coded as Type 14 (off-licensed hotel) should really be either Type 23 (accommodation and function centres) or Type 31 (dual-licensed hotels), while most outlets that are initially coded as Type 15 (off-licensed tavern) should really be either Type 11 (bottle stores) or Type 32 (dual-licensed tavern). All of the outlets categorised as Types 14 or 15 were carefully investigated by one of the researchers, before being recoded to a more appropriate type (leaving no outlets coded as Type 14 or Type 15).

Using the types in Table 1, outlet counts per CAU were initially aggregated into the following categories for analysis:

1. Clubs (Types 01 and 02);
2. Bottle stores (Type 11);
3. Other off-licences (Types 12, 13, and 19);
4. Bars and night clubs (Type 21);
5. Restaurants and cafés (Type 22);

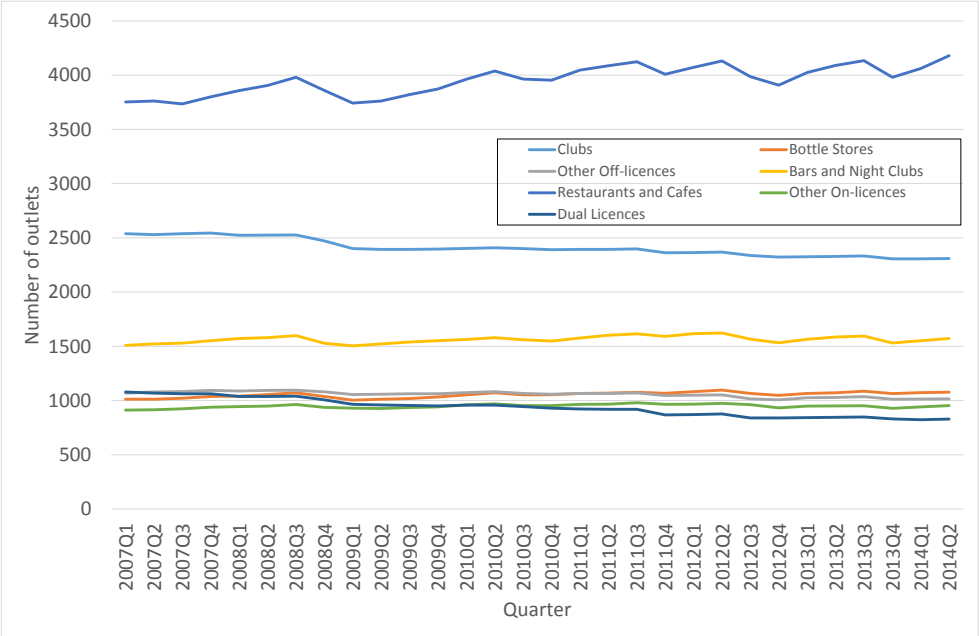
6. Other on-licences (Types 23 and 29);
7. Dual-licensed hotels (Type 31);
8. Dual-licensed taverns (Type 32); and
9. Dual-licensed restaurants (Type 33)

Counts for the number of outlets within each of the 1,862 Census Area Units across the country were obtained.[5] We used licence counts rather than calculating outlet density in relation to population size or geographic area or other similar measures. The reasons for this are outlined in detail in Section 3.2.

The total outlet count for each licence type from 2007Q1 to 2014Q2 is presented in Figure 1. Over this period, the total number of licences increased slightly, from 11,873 in 2007Q1 to 11,973 in 2014Q2. The peak number of total licences was 12,276 in 2008Q3, and the minimum was 11,587 in 2012Q4. Overall restaurants and cafés make up the highest proportion of outlets by type, followed by licensed clubs, and bars and night clubs. However, even though the total number of licences has not changed much over this period, the distribution of licences by type has changed substantially. In particular, the number of licensed restaurants and cafés has increased 11.4% (from 3,753 to 4,180) and the number of bottle stores has increased by 6.3% (from 1,013 to 1,077). The corresponding increase in the national population over that period was 7.3% (or 8.7% for the population aged 15 years and over), so only the increase in restaurant and café numbers has been faster than population growth. In contrast, dual licences have decreased by 23.2% (from 1,079 to 829) and licenced clubs by 9.0% (from 2,539 to 2,310). As noted by Cameron et al. (2013a), the global financial crisis does not appear to have caused a significant drop in the number of licences, but equally, there does not appear to have been a significant increase in the number of licences for the 2011 Rugby World Cup. It is possible that these two events offset each other, in terms of their effect on the aggregate number of licences.

[5] Islands, harbours, tidal flats and the like were excluded due to minimal populations. Fiordland was also excluded for the same reason. In all cases, 2013 Census Area Unit boundaries were used.

Figure 1: National alcohol outlet counts by type, 2007Q1 to 2014Q2



Data on police-attended motor vehicle accidents were obtained from the Ministry of Transport Crash Analysis System (CAS) database. Data on police events were obtained from the New Zealand Police Communications and Resource Deployment (CARD) database. Both datasets covered the period from 2007 to 2014, and each dataset was first cleaned to remove duplicate events or occurrences. Following Cameron et al. (2013a), the police data were then restricted to events that were coded to specific offences, and then broken down into seven categories (a more complete breakdown of the offences included in each category is given in Appendix I):

1. Antisocial behaviour offences
2. Dishonesty offences
3. Drug and alcohol offences
4. Property abuses
5. Property damage
6. Sexual offences
7. Violent offences (including family violence)

The data were geo-coded to the CAU level using an automated process in ArcGIS, then converted to counts per CAU per quarter.

In addition to the above data, three control variables were included: (1) Statistics New Zealand subnational population estimates for each CAU; and (2) New Zealand Deprivation Index (NZDep2013), a commonly used index of small area socioeconomic deprivation (Atkinson *et al*., 2014); and (3) the proportion of young men aged 15-24 years from the 2013 Census.[6] Population is included as an exposure variable, following Liang and Chikritzhs (2011) – where populations are higher we can expect to observe more police events and motor vehicle accidents. Social deprivation is expected to be related in particular to police events (Krivo and Peterson, 1996), and has proven to be an important variable in past analyses of New Zealand data (e.g. see Cameron et al., 2013a). Police events and motor vehicle accidents are both associated with young men more than other demographic groups, so we expect areas that have larger numbers of young men to have higher incidence of these events.

Summary statistics for the variables (across all quarters included in the dataset) are presented in Table 2. The number of observations is 55,860, being 1,862 Census Area Units each observed for 30 quarters. The mean number of violence events is 5.24 (in a quarter; equivalent to an annualised 21 events) with a median of three events. Dishonesty offence events and antisocial behaviour events are the most common (means of 18.75 and 10.48 respectively), while sexual offence events are the least common (mean of 0.46). Interestingly, with the exception of licensed clubs the median of all other outlet types is zero. This tells us that more than half of all observations (being 30 quarterly observations for each of the 1,862 Census Area Units) have zero outlets of each type (except licensed clubs). In other words, as noted in the final column of Table 1, there are a large number of Census Area Unit quarterly observations that have no outlets at all. This provides further support for the merging of different outlet categories discussed earlier in this section. Similarly, in terms of the dependent variables the median number of drug and alcohol offence events and sexual offence events is also zero – that is, for both of these types more than half of observations have zero events.

[6] While this variable does change over time, the change is slow and fairly linear so we use only one observation from the 2013 Census.

Table 2: CAU summary statistics across all quarters 2007Q1-2014Q2 (n=55,860)

Variable	Mean	Median	SD	Min	Max	Proportion of 'zeroes'
Dependent variables						
Violence events	5.24	3	8.12	0	170	21.7%
Antisocial behaviour events	10.48	4	20.00	0	439	20.7%
Dishonesty offence events	18.75	10	29.55	0	579	6.9%
Drug and alcohol offence events	1.22	0	5.54	0	297	60.4%
Property abuse events	2.88	1	4.58	0	94	30.5%
Property damage events	4.44	2	6.24	0	121	24.8%
Sexual offence events	0.46	0	1.31	0	19	75.6%
Motor vehicle accidents	1.76	1	2.75	0	48	45.3%
Outlet variables						
Licensed clubs	1.29	1	1.65	0	12	42.3%
Bars and night clubs	0.84	0	3.95	0	89	74.5%
Restaurants and cafés	2.12	0	6.67	0	141	52.0%
Other on-licence	0.51	0	1.57	0	27	75.8%
Bottle stores	0.57	0	1.16	0	21	67.4%
Other off-licence	0.57	0	0.98	0	18	62.5%
Dual-licensed hotels	0.22	0	0.58	0	7	86.8%
Dual-licensed taverns	0.26	0	0.64	0	11	80.9%
Dual-licensed restaurants	0.02	0	0.17	0	3	97.8%
Control variables						
Population (000s)	2.34	2.12	1.70	0	13.65	N/A
NZDep2013	995.1	975.5	80.2	850	1356	N/A
Proportion young males (%)	6.22	5.97	3.18	0	35.43	N/A

3.2 Outlet counts vs. outlet density

The focus of previous research into the relationship between alcohol outlets and social harms (such as that summarised in Section 2) has essentially been undertaken to determine whether an additional outlet (of a specific type) is associated with more social harms. From a policy or land use planning perspective, research into these relationships should inform whether adding an additional outlet (of a specific type) will increase social harms. Many previous studies have often used alcohol outlet *density*, measured as the number of outlets per unit of population, the number of outlets per unit of area, or the number of outlets per roadway mile, as the key variable of interest in the analysis. The hypothesis is that an increase in the

measure of accessibility (alcohol outlet density, however measured) is associated with increased social harms (however measured). However, despite the fact that we have used density measures (in terms of outlets per 10,000 population) in our own previous work (e.g. see Cameron et al., 2012c; 2012d; 2013a; 2016a), we argue that the focus on density measured in this way is theoretically flawed, and leads to measures that may not accurately capture the effects of an additional outlet on social harms.

For instance, take the number of outlets per 10,000 population (our preferred measure from earlier work) as a measure of accessibility. Now consider two areas (Area A and Area B), that both have the same land area and the same road accessibility (and the same socioeconomic characteristics, etc.). Now say that both areas have the same population, but that Area A has twice as many outlets as Area B. It would probably be reasonable to say that Area A has greater accessibility to alcohol. The measure of outlet density would reflect this, being twice as high for Area A than for Area B. People in Area A do not need to travel as far to obtain alcohol, as the nearest outlet would be closer to them. Outlets in Area A face more competition and as a result may open more hours, and charge lower prices. All of these effects lead to a lowering of the 'full cost' of alcohol for people living in Area A, relative to those in Area B. A lower full cost of alcohol should be associated with greater alcohol consumption, and consequently more alcohol-related harm.

Now consider an alternative scenario. Say that Area A and Area B still have the same land area, road accessibility, etc. *and* they both have the same number of outlets, but that Area A has half the population of Area B. Is it reasonable to suggest that Area A has more accessibility to alcohol now? Certainly, the measure of outlet density would still be twice as high for Area A than for Area B. But, people in Area A have to travel just as far to obtain alcohol as those in Area B, and outlets in Area A face the same level of competition as those in Area B. So, there isn't good reason to believe that there would be greater alcohol consumption, and consequently more alcohol-related harm, in Area A than in Area B. So while the measure of outlet density would be different in the two areas, the accessibility of alcohol would be no different between them.

This problem can easily lead to incorrect inferences about the relationship between alcohol outlets and outcome variables, and arises from the denominator in the outlet density measure – in the case of the example above, population. Areas with the same number of outlets (and the same in terms of their other characteristics) but different populations cannot be expected

to necessarily have differential accessibility to alcohol. Accessibility to alcohol is determined by the numerator (the number of outlets) not the denominator. This problem is similar for other denominators, including land area and roadway miles.

The 'denominator problem' of alcohol outlet density measures means that we need to re-think the approach to density. Overall, we are in agreement with Liang and Chikritzhs (2011), that alcohol outlets should be measured in terms of their absolute number and not in terms of density. However, we argue this for theoretical rather than pragmatic reasons.[7] Importantly, **we note that this does not necessarily mean that the concept of alcohol outlet density itself is flawed**. It only requires us to re-think the measurement of alcohol outlet density in terms of counts of outlets, rather than in terms of outlets per unit population (or area, or road miles).

Finally, we note that even if we were unconcerned about the 'denominator problem' noted above, we argue that adopting a model of counts rather than density is appropriate when using a fixed effects panel model (as we describe in the following section), because time-invariant or slowly changing variables typically present statistical problems for fixed effects panel models (where time-invariant variables are subsumed into the fixed effects).

3.3 Analysis method

Previous research by this research team has used two different methods to estimate the impact of alcohol outlet density: (1) aspatial and spatial models, including spatial error models, spatial Durbin models, and spatial seemingly unrelated regression models (Cameron et al., 2012c; 2012d); and (2) geographically-weighted regression (GWR) models (Cameron et al., 2013a; 2014a; 2014b). The latter models have the advantage that, in addition to accounting for spatial interdependency between locations, they allow for the estimation of effects at each locality (e.g. at each Census Area Unit). However, GWR models are sensitive to the presence of outliers, and interpretation of the reasons underlying differences in the locally-specific impacts of alcohol outlet density is difficult (Páez et al., 2011).

Given that the dependent variable is comprised of count data (i.e. the number police events of a given type, or the number of motor vehicle accidents), the appropriate class of models to

[7] Liang and Chikritzhs (2011) argue that outlet numbers should be used in order to mitigate problems of outliers in the measure density that arise in areas that have a small population.

apply in the analysis are Poisson models. However, as spatial modelling of count data is relatively new in the literature, there are currently no available routines for running spatial Poisson models that can fully accommodate panel data. Instead, we follow Figueiredo et al. (2014) in initially approximating spatial effects by clustering standard errors at the Territorial Authority level. We then include as explanatory variables not only the number of outlets by type (and other explanatory variables) in the area unit of interest, but also a weighted average of the number of outlets by type in neighbouring area units (essentially this is termed a 'spatial lag of X' (SLX) model). The combination of spatial lagged explanatory variables and clustering of standard errors can be expected to adjust for any spatial autocorrelation in the data (see Cameron et al. (2012c) for further discussions of spatial autocorrelation with specific application to alcohol outlet models).

Using a panel model, with 1,862 area units and 30 time periods provides 55,860 observations for the analysis. We run several model specifications for each dependent variable, each with different included explanatory variables. These models are summarised in Table 3. The basic model (Model I) includes as explanatory variables only the direct effect of outlet counts (by type), population (in 000s) and the square of population. The square of population is included in order to capture any non-linear effects of population size, and is commonly used as a control in many applications. We cannot include social deprivation as a control variable at this stage, as the measure of social deprivation we are using (NZDep2013) is only updated following each Census; instead, the inclusion of Census Area Unit fixed effects will capture (for the most part) the relationship between social deprivation and the dependent variable (see below for further details). We initially included separate explanatory variables for all nine outlet types noted in Section 3.1, but statistical tests showed that the coefficients for some outlet types were not consistently statistically significantly different from each other; our final specification for Model I (and other models) includes as outlet types only four categories: (1) licensed clubs; (2) bars and night clubs (including dual-licensed taverns); (3) other on-licence outlets (including restaurants and cafés; accommodation and function centres; dual-licensed restaurants; and dual-licensed hotels); and (4) all off-licence outlets (including bottle stores; and supermarkets and grocery stores). We report the results of the tests of equality of coefficients for the different outlet types in Appendix II.

Model II adds a temporal lag of the dependent variable to the specification. This controls for serial autocorrelation – where the dependent variable is correlated with its own past and future values – which is a fairly common problem with longitudinal or panel data. Serial

correlation reflects that areas that have in the past experienced more violence events are likely to have more violence events in the future. This type of 'persistence' in the data leads to incorrect statistical inference, since the observations are not independent of each other. Including a temporal lag of the dependent variable reduces or eliminates this problem.

Model III adds to the specification interactions between the outlet counts (by type) and social deprivation, and interactions between the outlet counts (by type) and population. The inclusion of these interactions reflects that the relationship between outlets (by type) may be different in areas of high deprivation from the relationship in areas of low deprivation (and similarly, different between high population and low population areas). To reduce the problem of overfitting (where the number of explanatory variables becomes so large that the model starts to capture the effect of random noise, rather than the underlying relationships), we retain in the final Model III only the interactions that are statistically significant (at a level of $p<0.1$).[8]

Model IV adds a temporal lag of the total number of police events in the Census Area Unit to the specification. Under routine activity theory (Clarke and Felson, 1993; Cohen and Felson, 1979), crime occurs as a routine activity *in the absence of suitable guardians*. Research to date on the relationships between alcohol outlet and crime has not adequately controlled for the intensity of policing. Areas where police are more active (conducting more regular patrols, etc.) should be expected to have less crime. However, because of the likelihood of endogeneity (e.g. the number of violence events is part of the total number of police events in an area) we include the temporal lag of the total number of police events in an area. This captures the fact that, holding all else equal, we should expect that areas that see more regular police activity will experience less crime.

Finally, Model V adds to the specification spatial lags of the outlet counts (by type) and population. This captures the relationship between the number of outlets (or population) in *surrounding* areas on the dependent variable. The spatial lags were calculated as the inverse-squared-distance weighted average of the values of the variables in the nearest thirty surrounding Census Area Units. Because the weights are based on distance between the centroids of the Census Area Units, areas that are further apart contribute less to the average than areas that are closer to the Census Area Unit of interest.

[8] We choose the 10% level of significance here as an appropriate compromise between overfitting (by including more variables by using a cut-off level of significance) and potentially omitting important explanatory variables (by including fewer variables by using a higher cut-off level of significance).

Table 3: General model specifications

Included variables:	Model I	Model II	Model III	Model IV	Model V
Outlet counts (by type)	Yes	Yes	Yes	Yes	Yes
Population, and square of population	Yes	Yes	Yes	Yes	Yes
Temporal lag of dependent variable		Yes	Yes	Yes	Yes
Interactions between outlet counts (by type) and both social deprivation (NZDep2013) and population*			Yes	Yes	Yes
Temporal lag of total police events				Yes	Yes
Spatial lag of outlet counts (by type), and population†					Yes
Area unit fixed effects	Yes	Yes	Yes	Yes	Yes

* Only statistically significant (p<0.1) interactions are retained in the final Models III-V; † Only statistically significant (p<0.1) spatial lag variables are retained in the final Model V.

In addition to the five model specifications laid out in Table 3, we test three further specifications (the latter two of which we report only in Appendix V). In the first additional model (Model VI), we start with Model IV and then add interactions between the outlet counts (by type) and a dummy variable set equal to one for all periods after the introduction of the Sale and Supply of Alcohol Act (i.e. for all six periods after December 2012). This allows us to test whether the relationships *changed* following the passing of the Act.[9] In the

[9] Ideally, we would have liked to have tested whether the relationships changed following the full implementation of the Act on 18 December 2013. However, with only two periods of data available after that date, the statistical analysis using the implementation date (rather than the date the legislation was passed) was unsurprisingly unable to identify any statistically significant changes.

second additional model (Model VII), we again start with Model IV and then add the square of each outlet count (by type). This allows us to test for non-linear effects of the number of outlets on the dependent variable. Finally, in the third additional model (Model VIII), we again start with Model IV and then add dummy variables for each outlet type that are set to equal one when there are zero outlets of that type in the area. This allows us to test whether there are discontinuities in the relationship between outlets and each dependent variable for the first outlet, i.e. whether the first outlet in a particular area has an outsized effect on the dependent variable. Because of the risk of overfitting in these models that include many (and potentially closely related) explanatory variables, we report these additional models only in Appendix V, and offer a general comment on the overall results in Section 4.3.

One downside of using a panel model specification is that time-invariant variables will not be able to be included directly, and instead enter the model through the area unit fixed effects. In our case, this means that social deprivation (of which there is only one observation, at the 2013 Census) cannot be included in the model. However, we can evaluate the impact of social deprivation on the dependent variables by following a Hausman-Taylor approach (Hausman and Taylor, 1981). This involves a two-stage process. In the first stage the panel Poisson model is estimated, which includes estimation of all of the area unit specific fixed effects. The second stage involves regressing the area unit fixed effects (which are essentially the average effect of all time-invariant factors associated with the dependent variable) against the time-invariant variables, including social deprivation. This process allows us to estimate the relationship between the dependent variable and time-invariant variables, including social deprivation and land area. We report these second-stage results for each dependent variable at the end of the results for Model V.

4. Results and discussion

This section outlines and discusses the results of the statistical analysis. We consider the results with violence events in the most detail in Section 4.1, as this is the outcome variable most often considered in the international and New Zealand literature. We then summarise the key results for all other outcome variables in Section 4.2 (with additional detail on these models of other outcome variables provided in Appendix III). Section 4.3 looks at the extent to which these relationships have changed before and after the passing of the Sale and Supply of Alcohol Act on 18 December 2012. Finally, Section 4.4 briefly discusses the results of

other models that tested the effect of discontinuities around zero and non-linear effects of the number of alcohol outlets.

4.1 Violence events

The estimated regression equations for violence events (measured as the number of events per quarter in each CAU) are presented in Table 4, including all five model specifications noted in the previous section. Note that each model includes two stages – the first stage includes as explanatory variables the counts of outlets (by type), population and its square, temporal lags of the dependent variable and total police events, and any significant interactions or spatial lags; and the second stage includes the time-invariant variables (land area, social deprivation, and the proportion of the population who are male aged 15-24 years). In the first stage regressions, the incidence rate ratios (IRRs) are reported, along with the standard errors on the coefficients.[10] The IRRs can be interpreted as the (multiplicative) increase in the incidence of violence events associated with a one unit increase in the explanatory variable. In the second stage regressions, the raw coefficients are reported, along with the standard errors on the coefficients. These coefficients are the linear (marginal) effect of a one-unit increase in the explanatory variable (land area or social deprivation) on the number of violence events.

In Model I, only bars and night clubs, and other off-licence outlets (e.g. supermarkets and grocery stores), are statistically significantly associated with greater levels of violence events, holding all else constant, though we note that off-licence outlets are only statistically significant at the 10% level of significance. An additional bar or night club is associated with 0.9 percent more violence events, and an additional other off-licence is associated with 2.3 percent more violence events. In contrast, licensed clubs and other on-licence outlets (e.g. restaurants, cafés, and accommodation providers) show no statistically significant relationship with violence events. Population and its square are both highly statistically significant, demonstrating the significant non-linear relationship between resident population and violence. The coefficient on population is greater than one, and the coefficient on the square of population is less than one. This means that areas with larger populations have

[10] The coefficients can be obtained from the IRRs by taking the log of the IRRs.

more violence events, but that the effect of additional population becomes smaller as the population of the CAU becomes larger.

Once serial correlation has been controlled for (Model II), no outlet types are statistically significant.[11] The temporal lag of violence events (the number of violence events in the previous quarter) is highly statistically significant, demonstrating that this control variable was necessary to account for serial correlation in the dependent variable.

Adding interactions between outlet types and social deprivation and population (Model III) changes the results somewhat. The direct effect of licensed clubs becomes statistically significant. However, the relationship between licensed clubs and violent events is not straightforward, because there is a significant interaction between the number of licensed clubs and social deprivation, as well as between the number of licensed clubs and population (we discuss the significant interactions in the discussion of Model V later in this section). The IRR for the interaction between licensed clubs and social deprivation is larger than one showing that holding population constant, while licensed clubs have an overall association with violence events that is positive, this association is largest in areas of low deprivation, and smallest in areas of high deprivation. The IRR for the interaction between licensed clubs and population is larger than one showing that holding social deprivation constant, while licensed clubs have an overall association with violence events that is positive, this association is largest in areas of low population, and smallest in areas of high population (see also the discussion of Model V below). In contrast to Model II, the coefficient on all off-licence outlets returns to statistical significance in Model III (at the 10% level of significance). In contrast, other on-licence outlets have an overall association with violent events that is negative and statistically significant, but this negative association is largest in areas of low deprivation, and becomes smaller in areas of high deprivation (see also discussion of Model V below). There are no significant interactions for bars and night clubs or off-licence outlets.

Model IV adds the temporal lag of police events (the number of police events in the previous quarter), which proves to be highly statistically significant and positive, but relatively small in magnitude. In other words, areas where police events have previously been recorded in larger numbers (which we argue is a proxy for areas where police target their resources and are therefore subject to a higher degree of guardianship), may be expected to have

[11] As noted in Section 3.3, serial correlation reflects that areas that have in the past experienced more violence events are likely to have more violence events in the future.

significantly more violence events.[12] This demonstrates that previous studies may suffer from an omitted variable bias because of the absence of this important control variable. We discuss the coefficient on the lag of police events in more detail in Section 4.2. In this model, licensed clubs become statistically insignificant as a predictor of violence events, while bars and night clubs return to (marginal) statistical significance. Other effects are similar in size and significance to Model III, with the exception of the interaction between social deprivation and licensed clubs, which becomes statistically insignificant.[13]

Finally, Model V adds spatial lags of the outlets (by type) and population.[14] Only licensed clubs and other on-licence outlets demonstrate statistically significant spatial lags. Both spatial lags are negative, suggesting that an additional licensed club or other on-licence outlet in surrounding areas is associated with significantly less violence. All other variables show effects that are similar in magnitude and statistical significance to the earlier models, except that the direct effect of licensed clubs returns to statistical significance and the effect of bars and night clubs becomes statistically insignificant. The statistically insignificant interaction between social deprivation and licensed clubs is dropped from this model.

The direct effects (where relationships are not mediated by interactions) in Model V can be interpreted easily. An additional off-licence outlet is associated with 1.2 percent greater incidence of violence events (see the following pages for the interpretation of effects for licensed clubs and other on-licence outlets, where the interaction effects are also statistically significant).

In the second stage of Model V, holding all other factors constant, larger Census Area Units have statistically significantly fewer violence events. This probably arises because land area of CAUs is a proxy for differences between rural (large CAUs) and urban (small CAUs) areas. In other words, this result demonstrates that, holding all else constant, violence events happen more frequently in urban areas. Social deprivation shows a statistically significant and positive relationship with violence events, demonstrating that holding all else constant, significantly more violence occurs in more deprived areas. Finally, a higher proportion of

[12] Though see Section 4.2 for more details on this.
[13] This is likely because the lag of police events captures the variation in violence events that was explained by this interaction in Models I-III.
[14] As noted in Section 3.3, spatial lags represent the number of outlets (or population) in *surrounding* areas, so these variables capture any relationship between violence events in one area, and the number of alcohol outlets (or population) in surrounding areas.

young males (aged 15-24) living in an area is associated with significantly more violence events.

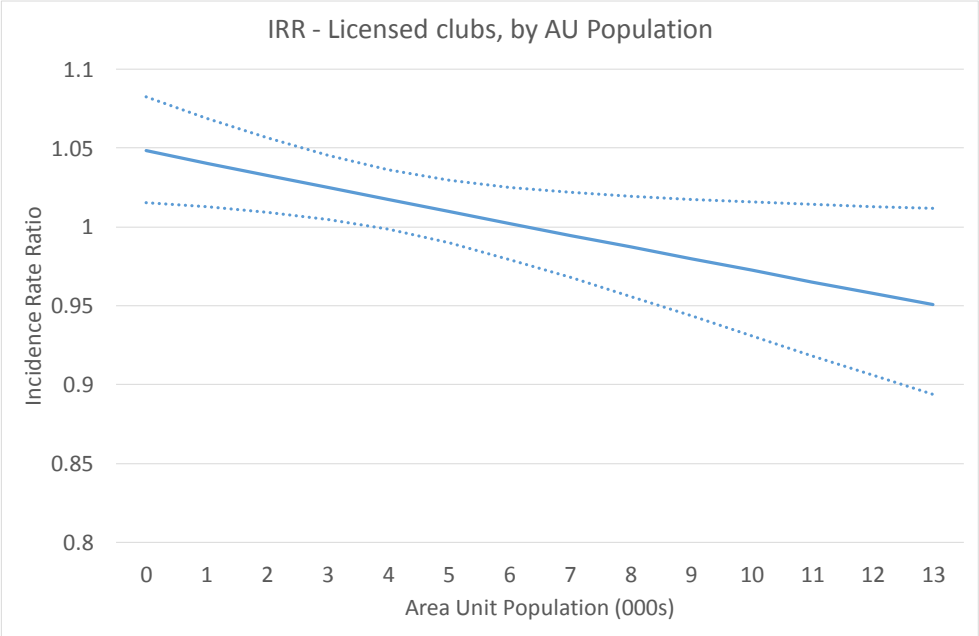
Table 4: Results – Violence events

	Model I	Model II	Model III	Model IV	Model V
First stage:					
Licensed clubs	1.032 (0.023)	1.014 (0.011)	1.303** (0.109)	1.227 (0.130)	1.048*** (0.016)
Bars and night clubs	1.009** (0.003)	1.003 (0.002)	1.002 (0.002)	1.004* (0.002)	1.005 (0.003)
Other on-licence	0.999 (0.003)	0.999 (0.001)	0.954*** (0.016)	0.940*** (0.018)	0.948*** (0.018)
All off-licence	1.023* (0.014)	1.006 (0.006)	1.003* (0.005)	1.007* (0.004)	1.012*** (0.004)
Population (000s)	1.256*** (0.076)	1.192*** (0.052)	1.281*** (0.057)	1.287*** (0.054)	1.318*** (0.050)
Population squared	0.985*** (0.005)	0.991*** (0.003)	0.986*** (0.003)	0.984*** (0.003)	0.983*** (0.002)
Temporal lag of violence events	-	1.009*** (0.001)	1.008*** (0.001)	1.005*** (0.001)	1.005*** (0.001)
Social deprivation * Licensed clubs	-	-	0.9998* (<0.001)	0.9999 (<0.001)	-
Social deprivation * Other on-licence	-	-	1.00004*** (<0.001)	1.0001*** (<0.001)	1.00005*** (<0.001)
Population * Licensed clubs	-	-	0.991*** (0.003)	0.993** (0.004)	0.993*** (0.003)
Temporal lag of all police events	-	-	-	1.001*** (<0.001)	1.001*** (<0.001)
Spatial lag of licensed clubs	-	-	-	-	0.911** (0.042)
Spatial lag of other on-licence	-	-	-	-	0.982** (0.009)
Second stage:					
Area (sq. km)	-	-	-	-	-0.0002*** (<0.001)
Social deprivation	-	-	-	-	0.007*** (<0.001)
Proportion young (15-24) males	-	-	-	-	0.042*** (0.009)

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; direct effects that are mediated by interactions are in shaded cells.

In Models III-V, the presence of statistically significant interaction terms makes interpreting the relationships less straightforward for licensed clubs and for other on-licence outlets. Instead, we need to consider how the relationship changes over the relevant range of social deprivation (or population) values. Figure 2 displays the relationship between licensed clubs and violence events across the relevant range of population. The solid line is the point estimate of the relationship at each level of social deprivation, while the dotted lines represent the 95% confidence interval. Where the range between the dotted lines encompasses one, the relationship is statistically insignificant, while where the range between the dotted lines lies everywhere above (or below) one, the relationship is statistically significant.

Figure 2: Relationship between licensed clubs and violence events, by population

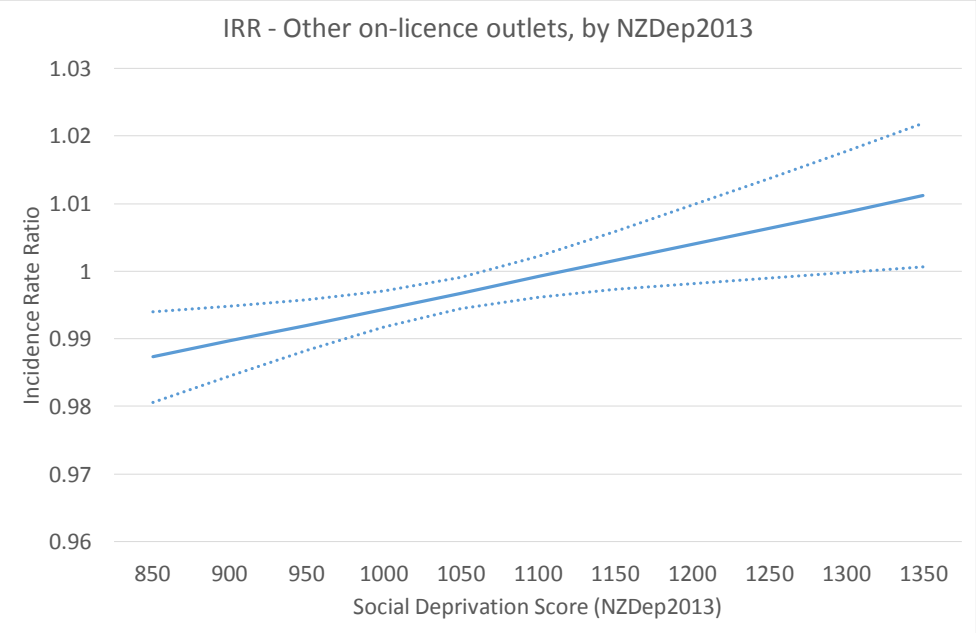


As shown in Figure 2, in Census Area Units with small populations the IRR is greater than one (more licensed clubs are associated with more violence), and this positive relationship is statistically significant (at the 5% level) up to populations of about 3000. Since the median population size is 2120 (refer to Table 2), this positive relationship is apparent for more than half of all Census Area Units, being those with the smallest populations (often rural areas and

urban areas with low population density). In Census Area Units with populations greater than 3000, the IRR is not statistically significantly different from one, so the relationship between licensed clubs and violence is only statistically significant for areas with small to average populations (though noting that this is apparent for the majority of Census Area Units).

Figure 3 displays the relationship between other on-licence outlets (restaurants, cafés, etc.) and violence events across the relevant range of social deprivation scores. At low levels of social deprivation, the IRR is less than one (more other on-licence outlets are associated with less violence), and this negative relationship is statistically significant (at the 5% level) up to a social deprivation score of more than 1050. Since the median social deprivation score is 976 and mean score 995 (refer to Table 2), this negative relationship is apparent for substantially more than half of all Census Area Units, being those with the lowest social deprivation levels (i.e. the 'richest' areas). At high levels of social deprivation, the IRR is greater than one (more other on-licence outlets are associated with more violence), but this positive relationship is only statistically significant (at the 5% level) at deprivation scores above about 1325, which includes only a handful of the most deprived areas in the country.

Figure 3: Relationship between other on-licence outlets and violence events, by social deprivation



4.2 Other outcome variables

In this section we present the results for other outcome variables. Rather than the detailed exposition of all Models I-V as in the previous section on violence events, we instead present only the results for Model V for each outcome variable. Interested readers can find the other model specifications (Models I-IV) for each outcome variable in Appendix III.

The estimated regression equations for other outcome variables (each corresponding to Model V) are presented in Table 5. In terms of the control variables, the temporal lag of the dependent variable is statistically significant and positive in all models except for sexual offences and motor vehicle accidents. As with violence events in the previous section, this demonstrates that there is significant serial correlation in most models.[15]

The lag of police events is statistically significant and positive in all models except dishonesty offences, drug and alcohol offences, and motor vehicle accidents. As with violence events in the previous section, this demonstrates that policing intensity or guardianship is important to control for in these models. However, the sign of the coefficient on policing is positive (as it was for violence events in the previous section), which is not necessarily the expected sign. If the lag of police activity variable is picking up the presence of guardians (consistent with routine activity theory), then the IRR should be less than one. That is, more intensive policing should be associated with lower incidence of crime. However, when the relationship is statistically significant, the IRR is always larger than one, such that more intensive policing is associated with higher incidence of crime. However, we note that policing intensity serves two functions. First, the presence of police has a deterrent or preventive effect – greater police presence leads to less crime, as criminals are less likely to commit crime in relative proximity to police. Second, the presence of police leads to an intervention or apprehension effect – greater police presence leads to an increase in apprehensions, which would be recorded as additional police events in our data. Since, we cannot separate the deterrent and intervention effects with our data, we conclude that the second effect must be dominating.

Population and its square are significant for most outcome variables, showing a positive non-linear relationship between population and crime, as shown in the previous section for

[15] As noted in Section 3.3, serial correlation reflects that areas that have in the past experienced more violence events are likely to have more violence events in the future.

violence events. In other words, areas with larger populations have higher levels of crime, but the crime increases with population at a decreasing rate.

Among the second stage variables, land area is statistically significant and negative in all models except for motor vehicle accidents, where it is statistically significant and positive, and property abuses, where it is statistically insignificant. This is consistent with most crime (except property abuses) being more likely to occur in urban areas, while motor vehicle accidents are more likely to occur in rural areas (after controlling for other variables), where there are more open roads with higher speeds. Social deprivation is positive and statistically significant in all models except for motor vehicle accidents, where it is statistically insignificant. This is consistent with socially deprived areas having more crime (as would be expected), but not more motor vehicle accidents. Finally, the proportion of young males in the population is positive and statistically significant in all models except sexual offences. Again, this is mostly consistent with what might be expected.

As for alcohol outlets, the relationships vary substantially between alcohol outlet types. Licensed clubs have no statistically significant un-mediated impacts on the outcome variables. As noted in the previous section, the relationship between licensed clubs and violence events is mediated by population (with a statistically significant relationship only observed for low-population areas). For dishonesty offences, the relationship with licensed clubs is mediated by social deprivation (shown in Figure 4). A statistically significant and positive relationship is observed between licensed clubs and dishonesty offences for low-deprivation areas (below a social deprivation score of about 1000), while in high deprivation areas (deprivation scores above about 1150) there is a statistically significant and negative relationship between licensed clubs and dishonesty offences. A similar mediated relationship is observed between licensed clubs and sexual offences (shown in Figure 5), where the relationship is significant and positive in very low-deprivation areas (below a social deprivation score of about 875), but significant and negative in high deprivation areas (deprivation scores above about 1100).

Bars and night clubs have a significant and positive un-mediated relationship with antisocial behaviour events, where an additional bar or night club in an area is associated with a 0.4 percent higher incidence of antisocial behaviour. Bars and night clubs have significant and negative un-mediated relationships with drug and alcohol offences, and sexual offences. For property abuses, the relationship with bars and night clubs is mediated by population (shown in Figure 6). In low population areas (below a population of about 2500) the relationship is

negative and statistically significant, but the relationship is positive and statistically significant in high population areas (above a population of about 5000). The mediated relationship between bars and night clubs and property damage is similar (shown in Figure 7). In low population areas (below a population of about 3500) the relationship is negative and statistically significant, but in higher population areas the relationship is statistically insignificant. These results are consistent with bars and night clubs in more urban areas being related to higher incidence of property crime, but bars and night clubs in more rural areas being related to lower incidence of property crime.

Other on-licence outlets (restaurants and cafés, etc.) have significant and negative un-mediated relationships with dishonesty offences and property damage events. For motor vehicle accidents, the relationship with other on-licence outlets is mediated by social deprivation (shown in Figure 8). A statistically significant and positive relationship is observed between other on-licence outlets and motor vehicle accidents only for high-deprivation areas (below a social deprivation score of about 1025), while in lower deprivation areas the relationship is statistically insignificant.

Finally, off-licence outlets have significant and positive un-mediated relationships with antisocial behaviour and sexual offences, where an additional off-licence outlet in an area is associated with a 1.3 percent higher incidence of antisocial behaviour and a 1.9 percent higher incidence of sexual offences. For drug and alcohol offences, the relationship with off-licence outlets is mediated by population (shown in Figure 9). In low population areas (below a population of about 7500) the relationship is positive and statistically significant, but the relationship is statistically insignificant in higher population areas. The relationship is similar for property damage events (shown in Figure 10), with the relationship being positive and statistically significant in low population areas (below a population of about 7000), but statistically insignificant in higher population areas. The relationship is also similar for motor vehicle accidents (shown in Figure 11), with the relationship being positive and statistically significant in low population areas (below a population of about 5000), but statistically insignificant in higher population areas. This is consistent with off-licence outlets in more rural areas being associated with these outcomes, but not outlets in more urban areas.

Table 5: Results – Other outcome variables (Model V)

Dependent variable	Antisocial behaviour	Dishonesty offences	Drug and alcohol offences	Property abuses	Property damage	Sexual offences	Motor vehicle accidents
First stage:							
Licensed clubs	0.995 (0.008)	1.400*** (0.132)	0.982 (0.302)	0.996 (0.015)	0.995 (0.009)	1.757** (0.245)	1.0005 (0.017)
Bars and night clubs	1.004*** (0.002)	0.999 (0.003)	0.977** (0.011)	0.992*** (0.003)	0.991*** (0.002)	0.987*** (0.004)	0.993 (0.008)
Other on-licence	0.997 (0.002)	0.997* (0.002)	1.005 (0.005)	0.999 (0.001)	0.997** (0.001)	1.002 (0.003)	0.918** (0.041)
All off-licence	1.013*** (0.003)	1.009 (0.007)	1.064*** (0.016)	1.006 (0.005)	1.015* (0.008)	1.019** (0.008)	1.026** (0.009)
Population (000s)	1.221*** (0.045)	1.158*** (0.036)	1.199** (0.087)	1.077 (0.051)	1.074 (0.044)	1.097 (0.129)	1.281*** (0.075)
Population squared	0.991*** (0.002)	0.992*** (0.002)	0.997 (0.007)	0.991*** (0.002)	0.999 (0.003)	0.994 (0.007)	0.992* (0.004)
Temporal lag of dependent variable	1.003*** (<0.001)	1.003*** (<0.001)	1.007*** (0.002)	1.007*** (0.002)	1.011*** (0.001)	1.002 (0.004)	0.999 (0.002)
Social deprivation * Licensed clubs	-	0.9997** (<0.001)	-	-	-	0.999** (<0.001)	-
Social deprivation * Other on-licence	-	-	-	-	-	-	1.0001** (<0.001)
Population * Bars & night clubs	-	-	-	1.002*** (0.001)	1.001** (0.001)	-	-
Population * All off-licence	-	-	0.995** (0.003)	-	0.998** (0.001)	-	0.997** (0.001)
Temporal lag of all police events	1.001*** (<0.001)	1.0002 (<0.001)	1.001 (<0.001)	1.001*** (<0.001)	1.001*** (<0.001)	1.001** (<0.001)	1.0002 (<0.001)
Spatial lag of licensed clubs	0.908** (0.096)	1.08** (0.046)	0.798* (0.115)	-	-	0.787* (0.124)	-
Spatial lag of bars and night clubs	-	-	0.941*** (0.023)	0.970** (0.014)	-	0.899*** (0.039)	-
Spatial lag of other on-licence	-	0.963*** (0.013)	-	-	-	-	-
Spatial lag of off-licence	-	1.084* (0.045)	-	-	-	1.118** (0.049)	-
Spatial lag of population	0.670*** (0.118)	1.420** (0.162)	-	-	-	1.755** (0.277)	-
Spatial lag of population-squared	-	0.971** (0.146)	-	-	-	0.950* (0.028)	-
Second stage:							
Area (sq. km)	-0.001*** (<0.001)	-0.0002*** (<0.001)	-0.0001** (<0.001)	-0.0001 (<0.001)	-0.0003*** (<0.001)	-0.0003*** (<0.001)	0.001*** (<0.001)
Social deprivation	0.008*** (<0.001)	0.004*** (<0.001)	0.005*** (<0.001)	0.006*** (<0.001)	0.005*** (<0.001)	0.004*** (<0.001)	0.0003 (<0.001)
Proportion young (15-24) males	0.083*** (0.021)	0.070*** (0.016)	0.038** (0.015)	0.042*** (0.013)	0.045*** (0.013)	0.013 (0.015)	0.066*** (0.010)

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; direct effects that are mediated by interactions are in shaded cells.

Figure 4: Relationship between licensed clubs and dishonesty offences, by social deprivation

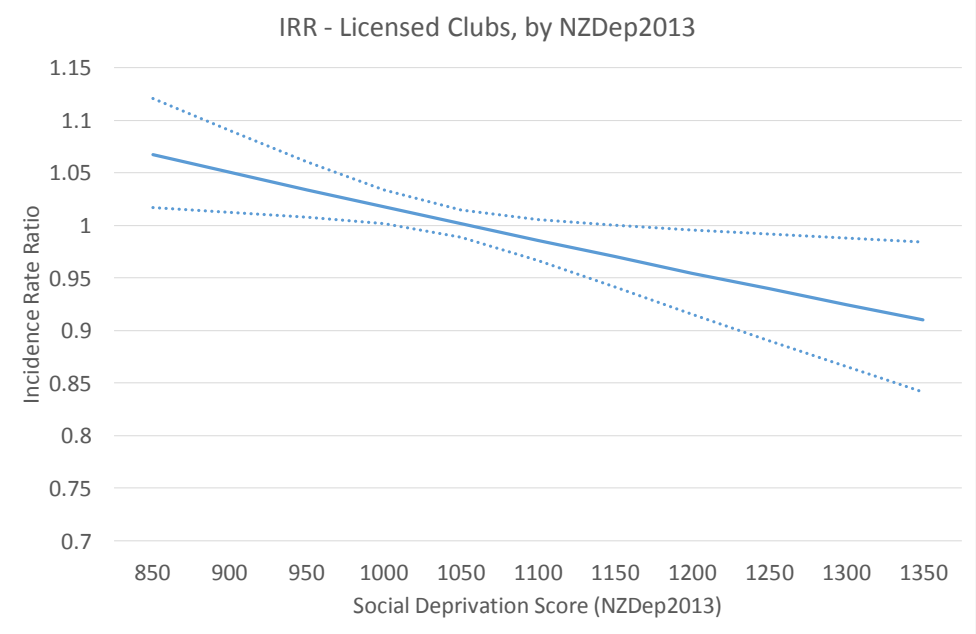


Figure 5: Relationship between licensed clubs and sexual offences, by social deprivation

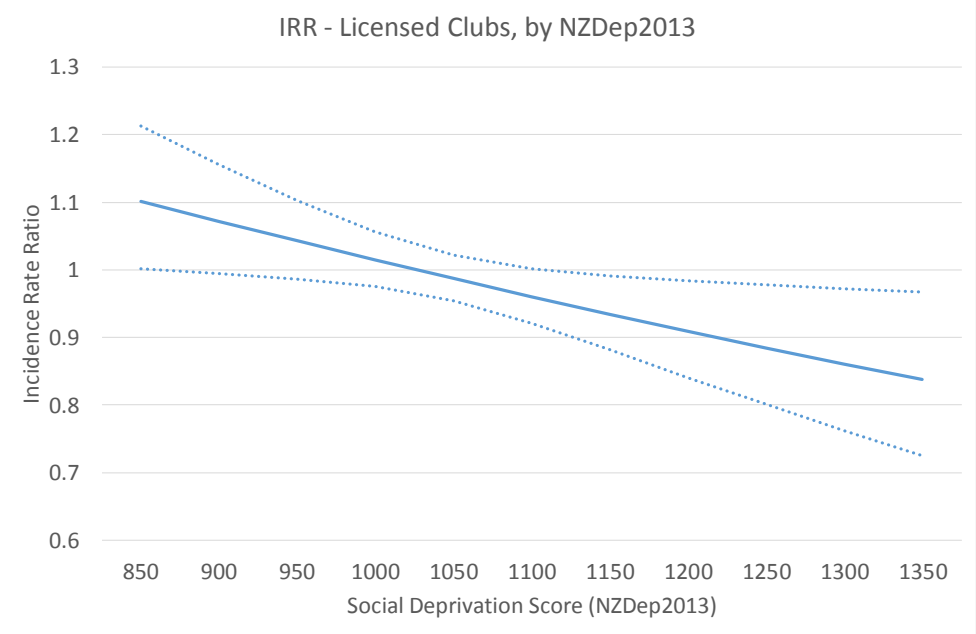


Figure 6: Relationship between bars and night clubs and property abuses, by population

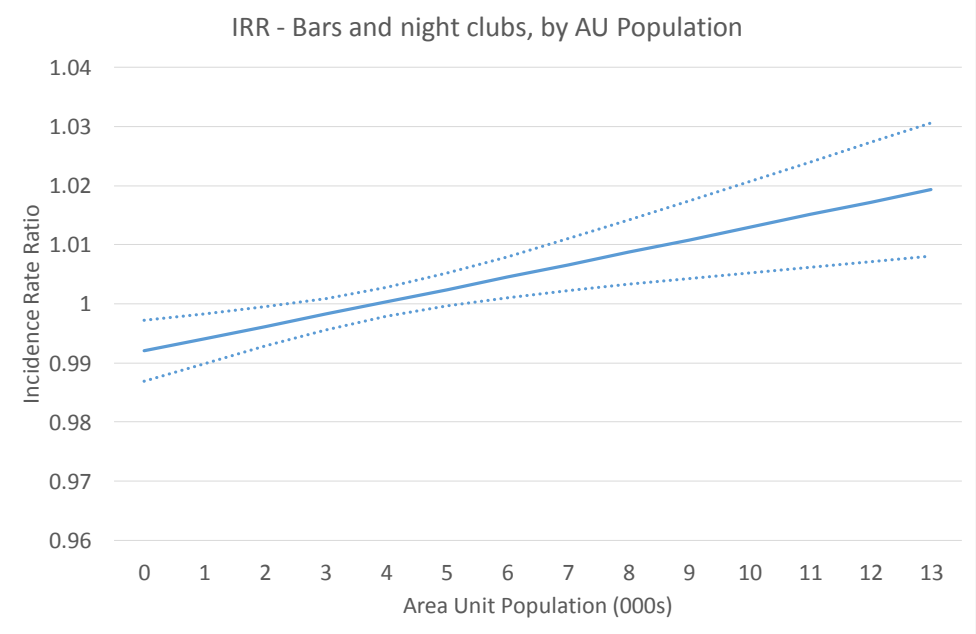


Figure 7: Relationship between bars and night clubs and property damage, by population

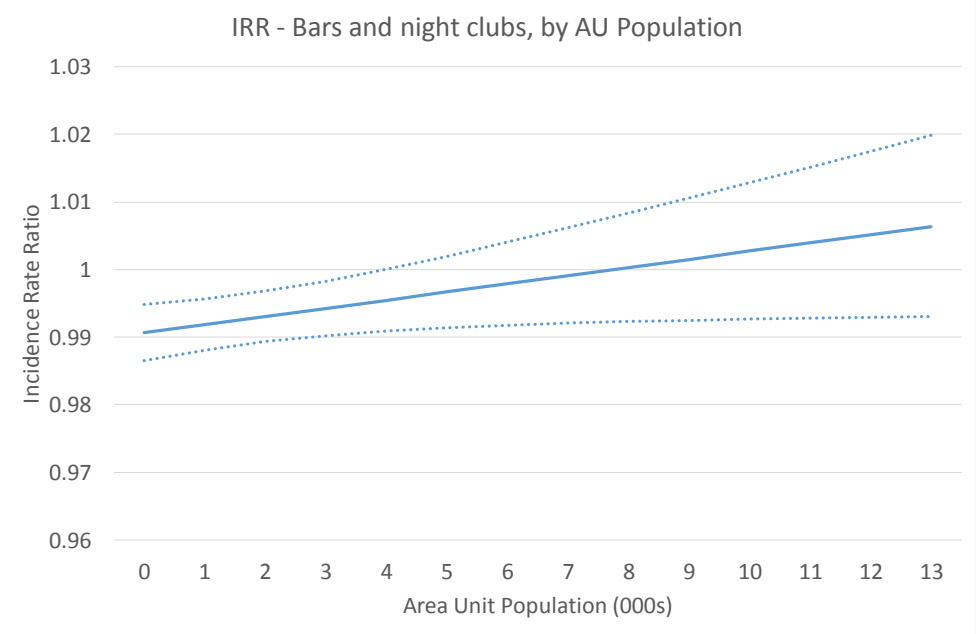


Figure 8: Relationship between other on-licence outlets and motor vehicle accidents, by social deprivation

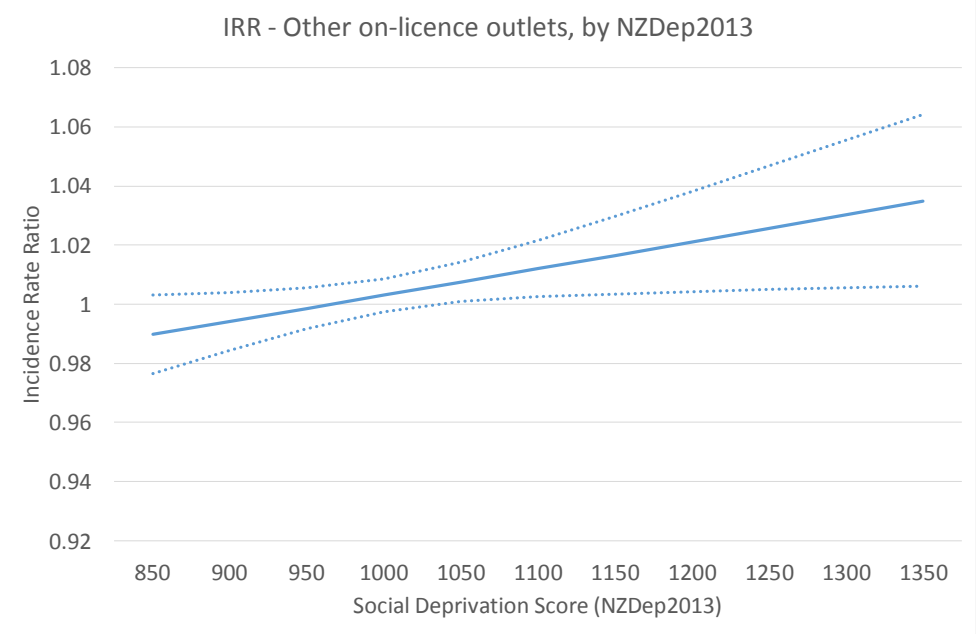


Figure 9: Relationship between off-licence outlets and drug and alcohol offences, by population

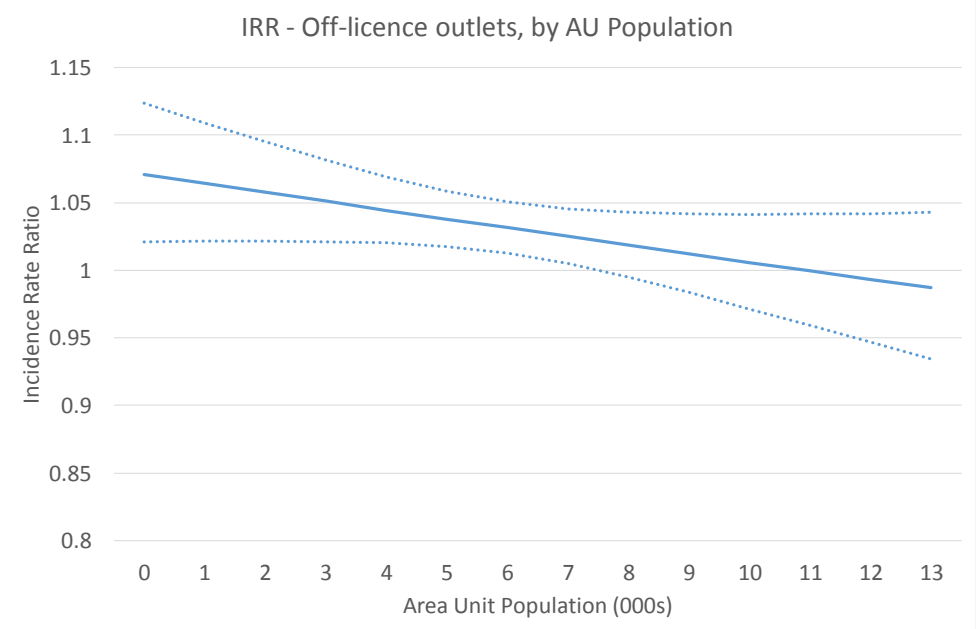


Figure 10: Relationship between off-licence outlets and property damage, by population

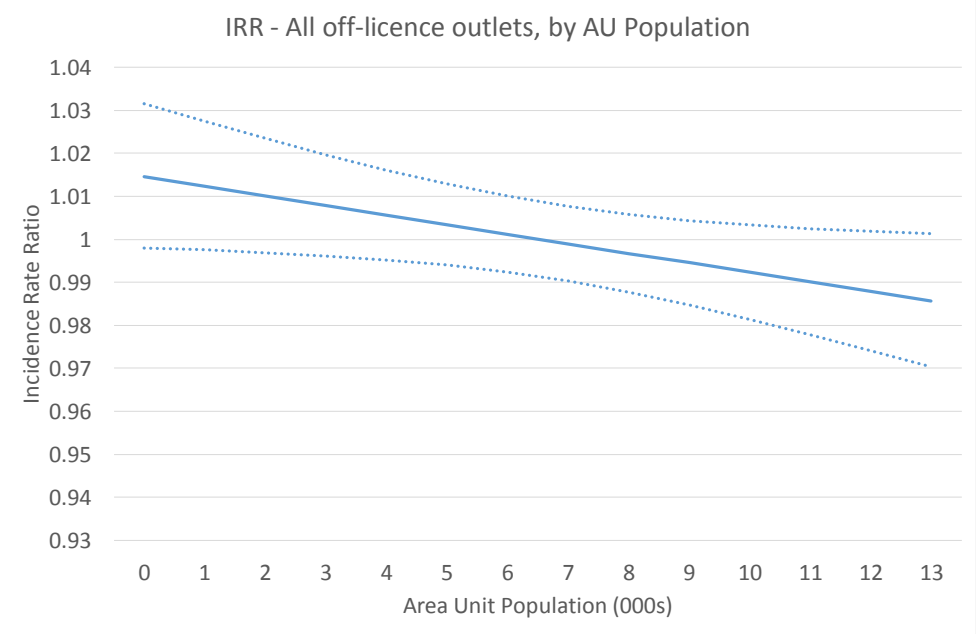


Figure 11: Relationship between off-licence outlets and motor vehicle accidents, by population

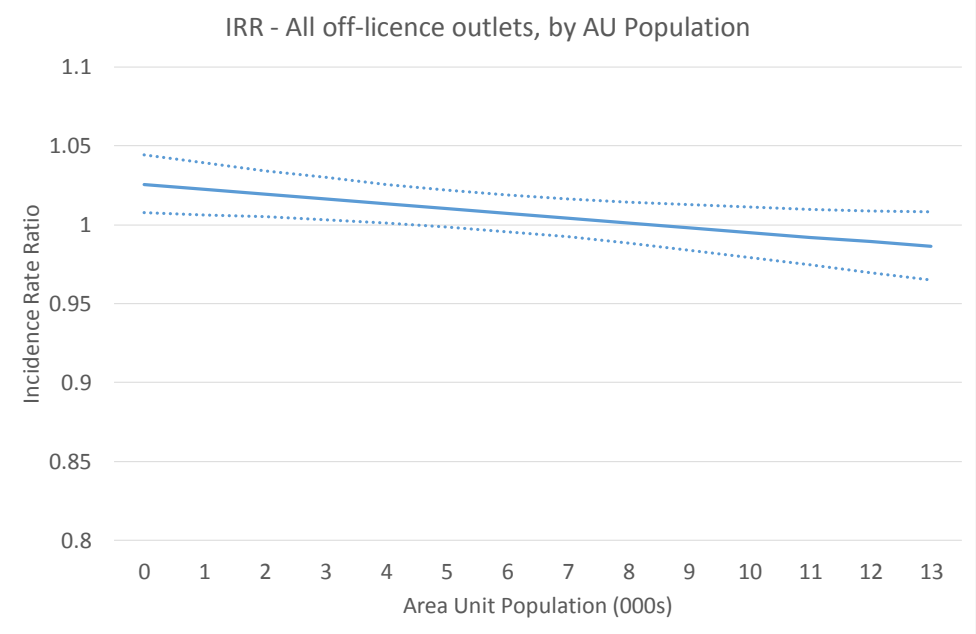


Table 6 summarises all of the relationships between the number of alcohol outlets (by type) and the number of police events or motor vehicle accidents (using the Model V results from Tables 4 and 5). To incorporate all of the mediated effects, we show the relationships for combinations of 'low' and 'high' population and 'low' and 'high' social deprivation. Where the relationship is positive and statistically significant, this is denoted "Positive"; where the relationship is negative and statistically significant, this is denoted "Negative"; and where the relationship is statistically insignificant, this is denoted "NS". We don't note the exact numerical relationships in this table – for those details, refer to Tables 4 and 5. In general, off-licence outlets have the most consistently positive relationships with police events and motor vehicle accidents, while the relationships for other outlet types are more mixed.

Table 6: Summary of results for alcohol outlets (by type) – Model V

Dependent variable	Population	Social deprivation	Licensed clubs	Bars and night clubs	Other on-licence	All off-licence
Violence events	Low	Low	**Positive**	NS	**Negative**	**Positive**
	Low	High	**Positive**	NS	**NS/Positive**	**Positive**
	High	Low	NS	NS	**Negative**	**Positive**
	High	High	NS	NS	**NS/Positive**	**Positive**
Antisocial behaviour	Low	Low	NS	**Positive**	NS	**Positive**
	Low	High	NS	**Positive**	NS	**Positive**
	High	Low	NS	**Positive**	NS	**Positive**
	High	High	NS	**Positive**	NS	**Positive**
Dishonesty offences	Low	Low	**Positive**	NS	**Negative**	NS
	Low	High	**Negative**	NS	**Negative**	NS
	High	Low	**Positive**	NS	**Negative**	NS
	High	High	**Negative**	NS	**Negative**	NS
Drug and alcohol offences	Low	Low	NS	**Negative**	NS	**Positive**
	Low	High	NS	**Negative**	NS	**Positive**
	High	Low	NS	**Negative**	NS	NS
	High	High	NS	**Negative**	NS	NS
Property abuses	Low	Low	NS	**Negative**	NS	NS
	Low	High	NS	**Negative**	NS	NS
	High	Low	NS	**Positive**	NS	NS
	High	High	NS	**Positive**	NS	NS
Property damage	Low	Low	NS	**Negative**	**Negative**	NS
	Low	High	NS	**Negative**	**Negative**	NS
	High	Low	NS	NS	**Negative**	NS
	High	High	NS	NS	**Negative**	NS
Sexual offences	Low	Low	NS	**Negative**	NS	**Positive**
	Low	High	NS	**Negative**	NS	**Positive**
	High	Low	**Negative**	**Negative**	NS	**Positive**
	High	High	**Negative**	**Negative**	NS	**Positive**
Motor vehicle accidents	Low	Low	NS	NS	NS	**Positive**
	Low	High	NS	NS	**Positive**	**Positive**
	High	Low	NS	NS	NS	NS
	High	High	NS	NS	**Positive**	NS

4.3 The Sale and Supply of Alcohol Act

In this section we present the results for models including interactions with the period of time following the passing of the Sale and Supply of Alcohol Act in December 2012. Additional models, showing interactions with the period of time following the implementation of the Act in December 2013 are included in Appendix IV.

The estimated regression equations (each corresponding to Model IV, plus statistically significant interactions) are presented in Table 7. The SSAA variable is a dummy variable set equal to one for the period from 2013Q1 onwards.[16] Models that included no statistically significant interactions with the SSAA variable are excluded from Table 7.

There are significant interactions for five of the eight outcome variables (dishonesty offences, drug and alcohol offences, property abuses, property damage, and motor vehicle accidents). In all five cases, there is a significant positive interaction between the SSAA dummy variable and the number of off-licence outlets in an area. This suggests that the relationship between the number of off-licence outlets and the outcome variables has become more positive since the passing of the SSAA. That is, off-licence outlets are now associated with *more* harm than they were in the period before the SSAA was passed. For instance, while an additional off-licence outlet in an area is associated with 0.6 percent higher incidence of dishonesty offences before the passing of the SSAA, after the passing of the SSAA an additional off-licence outlet is associated with 2.7 percent higher incidence of dishonesty offences (and this difference is statistically significant).[17]

In contrast, the other significant interactions are all negative, suggesting relationships between outlets and outcome variables that become less positive (or more negative) after the passing of the SSAA. This is the case for the relationship between dishonesty offences and other on-licence outlets; the relationship between drug and alcohol offences and bars and night clubs; and the relationship between property damage and licensed clubs.

[16] For simplicity, we present only first-stage estimates rather than the full model. Second stage estimates are very similar to those reported in Sections 4.1 and 4.2.

[17] The incidence rate ratio for the period after the passing of the SSAA can be approximated by adding the IRR for off-licence outlets with the IRR for the interaction term. This is not perfect, but is a useful approximation. However, care should be taken in interpreting the interactions where there are also significant interactions with other variables.

Table 7: Results – Sale and Supply of Alcohol Act (Model IV plus SSAA interactions)

Dependent variable	Dishonesty offences	Drug and alcohol offences	Property abuses	Property damage	Motor vehicle accidents
Licensed clubs	1.479*** (0.131)	0.980 (0.023)	0.999 (0.016)	0.996 (0.009)	1.003 (0.017)
Bars and night clubs	0.996* (0.002)	0.958*** (0.008)	0.993** (0.003)	0.991*** (0.002)	0.993 (0.008)
Other on-licence	0.999 (0.002)	1.012*** (0.003)	0.999 (0.002)	0.998 (0.002)	0.898*** (0.038)
All off-licence	1.006** (0.003)	1.070*** (0.026)	1.004 (0.009)	1.017** (0.008)	1.032*** (0.010)
Population (000s)	1.225*** (0.033)	1.045 (0.070)	1.072 (0.053)	1.071 (0.043)	1.284*** (0.081)
Population squared	0.984*** (0.001)	0.997 (0.007)	0.991*** (0.002)	0.9998 (0.003)	0.992 (0.005)
Temporal lag of dependent variable	1.003*** (<0.001)	1.006*** (0.002)	1.007*** (0.002)	1.011*** (0.001)	0.999 (0.002)
Social deprivation * Licensed clubs	0.9996** (<0.001)	-	-	-	-
Social deprivation * Other on-licence	-	-	-	-	1.0001** (<0.001)
Population * Bars & night clubs	-	1.005*** (0.001)	1.002*** (0.001)	1.001 (0.001)	-
Population * Other on-licence	-	0.999* (0.001)	-	-	-
Population * All off-licence	-	0.995** (0.003)	-	0.997*** (0.001)	0.997** (0.001)
Temporal lag of all police events	1.0002** (<0.001)	1.001* (0.001)	1.001*** (<0.001)	1.001*** (<0.001)	1.0002 (<0.001)
SSAA * Licensed clubs	-	-	-	0.986** (0.005)	-
SSAA * Bars & night clubs	-	0.994* (0.004)	-	-	-
SSAA * Other on-licence	0.998*** (0.001)	-	-	-	-
SSAA * All off-licence	1.021*** (0.003)	1.039*** (0.012)	1.007*** (0.002)	1.014*** (0.004)	1.010*** (0.003)

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; direct effects that are mediated by interactions are in shaded cells.

The additional results (using the implementation date rather than the date of passing of the SSAA) provide similar evidence in terms of the changing relationships for off-licence outlets. However, they also provide suggestive evidence that the effect of bars and night clubs has become less positive (or more negative) after the implementation of the SSAA. However,

these results must be treated with some caution, as there are only two quarters of observations in the dataset occurring after the implementation of the SSAA.

4.4 Other models

As noted earlier, we ran a number of other models to test whether there were: (1) discontinuities in the relationship between outlets and each dependent variable for the first outlet, i.e. whether the first outlet in a particular area has an outsized effect on the dependent variable; and (2) non-linear (in this case, quadratic) effects of alcohol outlets. There were no generalised results, although there is suggestive evidence that the effects of other on-licence outlets (restaurants, cafés, etc.) may be non-linear. We report the results in Appendix V. We do not include these results in the main report because we are concerned about the risk of overfitting in these models due to the inclusion of many (and potentially closely related) explanatory variables.

The third objective of this project was to evaluate the direct and mediating effects of local alcohol policies on the relationships between alcohol outlet density and police activity. Unfortunately, due to a lack of data from the period after the first LAPs became operative (in 2014), we could not complete this evaluation.

5. Conclusions

This report investigated the relationships between alcohol outlets and social harms, using panel data for New Zealand for the period 2007-2014. Our approach in this report involves a number of advances over previous methods used to estimate these relationships. First, we make use of longitudinal panel data, which goes some way towards mitigating issues of spurious correlation. Second, we estimate models of counts rather than densities (per unit population, area, or road miles), which overcomes a theoretical issue that potentially undermines the robustness of earlier research. Third, we evaluate the mediating effects of population and social deprivation on the relationships. This provides a more defendable analysis of how the relationships between alcohol outlets and social harms vary spatially, since if the relationships vary by population and/or social deprivation, then their spatial variations can be more readily explained.

Our results are broadly similar to those from the earlier literature. However, the effects are generally much smaller in magnitude than those estimated in earlier research. For instance, Cameron et al. (2012d) estimated that an additional bar or night club was associated with 2.1 additional violence events in 2008/09 in Manukau City. This represented an increase of about 6 percent. Cameron et al. (2016a) found that an additional bar or night club was associated with an additional 5.3 violence events per year, using data from 2006-2011 for the entire North Island. However, in this report we find that an additional bar or night club is associated with a statistically insignificant 0.5 percent higher incidence of violence events. The smaller magnitude of effects arises because the panel data allows us to control for unobserved characteristics of the areas that are associated with both additional crime, and the location of alcohol outlets.

However, despite the generally smaller coefficients than earlier research, there are a number of commonalities. In particular, off-licence outlets appear to have a number of relationships with alcohol-related social harms. These relationships have generally been smaller in earlier New Zealand research, but in this work the coefficients are demonstrably larger for off-licence outlets than the for other outlet types. This may have arisen because of the shift from cross-sectional to longitudinal panel data (allowing the unobserved characteristics of areas to be controlled for in the model), or because of the inclusion of police activity within the model. In the case of the latter, the smaller coefficients on bars and night clubs may arise because police activity may concentrate in those areas, particularly at night and on weekends.

Moreover, the relationship between outlets and social harm are mediated by population and social deprivation in a number of cases. In other words, the relationship between outlets and social harm depends on the local context, and may differ between urban and rural areas, or between more-deprived and less-deprived areas. To generalise, social deprivation appears to be more of a mediating influence on the relationships for licensed clubs and other on-licence outlets (primarily restaurants and cafés), while population (a proxy for rural or urban location) appears to be more of a mediating influence on the relationships for bars and night clubs, and off-licence outlets. Further qualitative research may be necessary to understand why these mediating relationships exist.

This research project set out to evaluate whether the relationships changed between the period before the implementation of the SSAA, and after. Our results show some suggestive evidence that the relationships between off-licence outlets and social harms have become

larger (more positive) since the passing of the SSAA. However, the short period of data available after the implementation of the SSAA meant that the statistical tests were under-powered to identify substantial and robust changes in these relationships. Future research should extend the panel dataset used in this report to evaluate this question, now that additional periods of data are available.

It is worth noting some limitations of this research. While this report adds to the growing weight of literature in New Zealand showing significant relationships between alcohol outlets and measures of alcohol-related harm, and is among the first to apply panel data in this context, we are unable to definitively establish causality. Thus, we cannot say for certain that outlet density is the cause of the higher (or lower) numbers of police events or motor vehicle accidents in each CAU. Notwithstanding this concern, our results are broadly consistent with the past literature in that there are a number of statistically significant and positive relationships between alcohol outlets (of various types) and social harms. Our results are also consistent with a causal story that derives from availability theory, i.e. that greater availability of alcohol leads to increased consumption, which in turn leads to more social harms.

Despite the limitations, this research adds to the weight of evidence that links alcohol outlets and social harms. The evidence demonstrates that, almost regardless of the method and measures employed, that alcohol outlets are correlated with harm. The continuing finding of significant positive relationships between alcohol outlets and social harms, but with variations in the strength of the correlations and without being able to definitively attribute the findings as cause-and-effect, recalls the early findings in the literature on smoking and cancer. A. Bradford Hill (1965) defined a number of criteria that he argued suggested that cause-and-effect could be inferred from a large number of correlational studies. The most important of the criteria suggestive of causal relationships were the strength of the relationship (or effect size) and the consistency of findings across different studies in different populations (or samples). While none of the extant research on alcohol outlets and social harms definitively demonstrates a causal link, the increasing consistency of these findings is becoming more and more suggestive that the location of alcohol outlets are causing social harms.

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Appendix I – Police Event Categories

Antisocial behaviour offences – includes Disorder; and Gaming offences

Dishonesty offences – includes Burglary; Car conversion; Computer crime; Fraud; General Theft; Interference with cars; Receiving; Theft ex car; and Theft ex shop

Drug and alcohol offences – includes Breach of local council liquor ban; Drugs (cannabis only); Drugs (not cannabis); and Liquor offences

Property abuses – includes Animal cruelty; Firearms offences; Injures police dog; Littering; Postal/rail/fire service abuses; Telephone offenses; and Trespass

Property damage – includes Arson; Endangering/interfering; and Wilful damage

Sexual offences – includes Indecent videos; Rape; Sexual affronts; Sexual attacks; and Unlawful sex

Violent offences (including family violence) – includes Child abuse; Crimes against personal privacy; Domestic violence; Grievous assaults; Harassment; Homicide; Intimidation/threats; Kidnapping and abduction; Minor assaults; Robbery; Serious assaults; and Unlawful assembly

Note: The subcategories listed above are those that are used in the Police Communications and Resource Deployment (CARD) database.

Appendix II – Results of Tests of Equality of Coefficients between Alcohol Outlet Types (*p*-values)

Table A1: Results of tests of equality of coefficients between alcohol outlet types (p-values)

Test	Violence	Antisocial behaviour	Dishonesty offences	Drug and alcohol offences	Property abuses	Property damage	Sexual offences	Motor vehicle accidents
Dual-licensed taverns vs. Bars and night clubs	0.016**	0.001***	0.118	0.098*	0.258	0.221	0.750	0.987
Restaurants and cafés vs. Accommodation and function centres	0.420	0.353	0.026**	0.005***	0.364	0.169	0.404	0.391
Dual-licensed hotels vs. Accommodation and function centres	0.055*	0.269	0.002***	0.074*	0.007***	0.232	0.162	0.010**
Dual-licensed restaurants vs. Restaurants and cafés	0.025**	0.010**	0.125	0.109	0.843	0.122	0.415	0.077*
Bottle stores vs. supermarkets	0.138	0.230	0.223	0.009***	0.334	0.131	0.054	0.468

*** $p<0.01$; ** $p<0.05$; * $p<0.1$.

Appendix III – Full Model Results

Table A2: Results – Antisocial behaviour events

	Model I	Model II	Model III	Model IV	Model V
First stage:					
Licensed clubs	0.999 (0.024)	0.997 (0.011)	0.998 (0.010)	0.995 (0.009)	0.995 (0.008)
Bars and night clubs	1.004 (0.005)	1.001 (0.002)	0.995* (0.003)	0.997 (0.002)	1.004*** (0.002)
Other on-licence	1.004 (0.003)	0.9998 (0.001)	0.999 (0.001)	0.998 (0.001)	0.997 (0.002)
All off-licence	1.016 (0.011)	1.006 (0.004)	1.018*** (0.006)	1.012* (0.006)	1.013*** (0.003)
Population (000s)	1.076 (0.063)	1.109*** (0.028)	1.084*** (0.029)	1.081*** (0.027)	1.221*** (0.045)
Population squared	0.994 (0.005)	0.993*** (0.002)	0.991** (0.005)	0.990** (0.004)	0.991*** (0.002)
Temporal lag of antisocial behaviour events	-	1.005*** (0.001)	1.005*** (0.001)	1.004*** (0.001)	1.003*** (<0.001)
Population * Bars & night clubs	-	-	1.002** (0.001)	1.002** (0.001)	-
Population * All off-licence	-	-	0.998* (0.001)	0.999 (0.001)	-
Temporal lag of all police events	-	-	-	1.0005*** (<0.001)	1.001*** (<0.001)
Spatial lag of licensed clubs	-	-	-	-	0.908** (0.046)
Spatial lag of population	-	-	-	-	0.670*** (0.118)
Second stage:					
Area (sq. km)	-	-	-	-	-0.001*** (<0.001)
Social deprivation	-	-	-	-	0.007*** (0.001)
Proportion young (15-24) males	-	-	-	-	0.090*** (0.020)

*** p<0.01; ** p<0.05; * p<0.1; direct effects that are mediated by interactions are in shaded cells.

Table A3: Results – Dishonesty offence events

	Model I	Model II	Model III	Model IV	Model V
First stage:					
Licensed clubs	1.009 (0.019)	1.004 (0.008)	1.514*** (0.136)	1.482*** (0.135)	1.400** (0.132)
Bars and night clubs	0.996 (0.006)	0.996 (0.002)	0.996** (0.002)	0.996** (0.002)	0.999 (0.003)
Other on-licence	1.002 (0.002)	0.998 (0.001)	0.998 (0.002)	0.997 (0.002)	0.997* (0.002)
All off-licence	1.011 (0.013)	1.014*** (0.004)	1.013*** (0.004)	1.012*** (0.004)	1.009 (0.007)
Population (000s)	1.239*** (0.062)	1.184*** (0.040)	1.197*** (0.037)	1.198*** (0.035)	1.158*** (0.036)
Population squared	0.990*** (0.003)	0.989*** (0.002)	0.988*** (0.002)	0.988*** (0.002)	0.992*** (0.002)
Temporal lag of antisocial behaviour events	-	1.004*** (<0.001)	1.004*** (<0.001)	1.003*** (<0.001)	1.003*** (<0.001)
Social deprivation * Licensed clubs	-	-	0.9996*** (<0.001)	0.9996*** (<0.001)	0.9997** (<0.001)
Temporal lag of all police events	-	-	-	1.0002*** (<0.001)	1.0002 (<0.001)
Spatial lag of licensed clubs	-	-	-	-	1.082* (0.046)
Spatial lag of other on-licence	-	-	-	-	0.963*** (0.013)
Spatial lag of all off-licence					1.084* (0.045)
Spatial lag of population	-	-	-	-	1.419** (0.163)
Spatial lag of population squared	-	-	-	-	0.971** (0.015)
Second stage:					
Area (sq. km)	-	-	-	-	-0.0002*** (<0.001)
Social deprivation	-	-	-	-	0.004*** (0.001)
Proportion young (15-24) males	-	-	-	-	0.071*** (0.015)

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; direct effects that are mediated by interactions are in shaded cells.

Table A4: Results – Drug and alcohol offence events

	Model I	Model II	Model III	Model IV	Model V
First stage:					
Licensed clubs	1.059 (0.091)	1.006 (0.040)	0.984 (0.031)	0.974 (0.024)	0.982 (0.030)
Bars and night clubs	0.958* (0.025)	0.976** (0.011)	0.954*** (0.010)	0.949*** (0.007)	0.977** (0.011)
Other on-licence	1.031 (0.013)	1.008* (0.005)	1.011* (0.006)	1.016*** (0.004)	1.005 (0.006)
All off-licence	0.999 (0.017)	1.039* (0.022)	1.104*** (0.017)	1.063** (0.025)	1.064*** (0.017)
Population (000s)	1.588*** (0.124)	1.286*** (0.072)	1.012 (0.075)	1.038 (0.066)	1.199** (0.087)
Population squared	0.980*** (0.007)	0.984*** (0.006)	1.007 (0.007)	1.001 (0.006)	0.997 (0.007)
Temporal lag of antisocial behaviour events	-	1.009*** (0.001)	1.009*** (<0.001)	1.007*** (0.002)	1.007*** (0.002)
Population * Bars & night clubs	-	-	1.006*** (0.001)	1.007*** (0.001)	-
Population * Other on-licence	-	-	0.999* (0.001)	0.998*** (0.001)	-
Population * All off-licence	-	-	0.987*** (0.002)	0.992** (0.004)	0.995 (0.003)
Temporal lag of all police events	-	-	-	1.001* (0.001)	1.001 (0.001)
Spatial lag of Licensed clubs					0.798** (0.115)
Spatial lag of Bars & night clubs	-	-	-	-	0.941*** (0.023)
Second stage:					
Area (sq. km)	-	-	-	-	-0.0001** (<0.001)
Social deprivation	-	-	-	-	0.005*** (0.001)
Proportion young (15-24) males	-	-	-	-	0.033* (0.017)

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; direct effects that are mediated by interactions are in shaded cells.

Table A5: Results – Property abuse events

	Model I	Model II	Model III	Model IV	Model V
First stage:					
Licensed clubs	1.006 (0.021)	0.997 (0.017)	0.998 (0.016)	0.997 (0.015)	0.996 (0.015)
Bars and night clubs	0.998 (0.003)	0.998 (0.003)	0.990*** (0.004)	0.992*** (0.003)	0.992*** (0.003)
Other on-licence	1.002 (0.002)	1.002 (0.003)	1.002 (0.002)	0.999 (0.001)	0.999 (0.001)
All off-licence	1.007 (0.007)	1.003 (0.005)	1.016** (0.008)	1.002 (0.009)	1.006 (0.005)
Population (000s)	1.071 (0.075)	1.055 (0.064)	1.048 (0.074)	1.075 (0.050)	1.077 (0.051)
Population squared	0.998 (0.004)	0.999 (0.003)	0.996 (0.004)	0.991*** (0.002)	0.991*** (0.002)
Temporal lag of antisocial behaviour events	-	1.010*** (0.002)	1.010*** (0.002)	1.007*** (0.002)	1.007*** (0.002)
Population * Bars & night clubs	-	-	1.002*** (0.001)	1.002*** (0.001)	1.002*** (0.001)
Population * All off-licence	-	-	0.998** (0.001)	1.0003 (0.001)	-
Temporal lag of all police events	-	-	-	1.001*** (<0.001)	1.001*** (<0.001)
Spatial lag of Bars & night clubs	-	-	-	-	0.970** (0.015)
Second stage:					
Area (sq. km)	-	-	-	-	-0.00004 (<0.001)
Social deprivation	-	-	-	-	0.006*** (0.001)
Proportion young (15-24) males	-	-	-	-	0.050*** (0.012)

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; direct effects that are mediated by interactions are in shaded cells.

Table A6: Results – Property damage events

	Model I	Model II	Model III	Model IV	Model V
First stage:					
Licensed clubs	1.019 (0.015)	0.993 (0.009)	0.992 (0.008)	0.995 (0.009)	0.995 (0.009)
Bars and night clubs	0.994 (0.005)	0.996 (0.004)	0.991** (0.004)	0.991*** (0.002)	0.991*** (0.002)
Other on-licence	1.003 (0.002)	1.001 (0.001)	0.9998 (0.002)	0.997** (0.002)	0.997** (0.002)
All off-licence	1.019 (0.011)	1.005 (0.007)	1.025*** (0.009)	1.015* (0.008)	1.015* (0.008)
Population (000s)	1.163 (0.062)	1.089 (0.052)	1.048 (0.054)	1.074 (0.044)	1.074 (0.044)
Population squared	0.995 (0.004)	0.999 (0.003)	1.003 (0.004)	0.999 (0.003)	0.999 (0.003)
Temporal lag of antisocial behaviour events	-	1.014 (0.001)	1.014*** (0.001)	1.011*** (0.001)	1.011*** (0.001)
Population * Bars & night clubs	-	-	1.001*** (0.001)	1.001** (0.001)	1.001** (0.001)
Population * All off-licence	-	-	0.996*** (0.001)	0.998** (0.001)	0.998** (0.001)
Temporal lag of all police events	-	-	-	1.001*** (<0.001)	1.001*** (<0.001)
Second stage:					
Area (sq. km)	-	-	-	-	-0.0003*** (<0.001)
Social deprivation	-	-	-	-	0.005*** (0.001)
Proportion young (15-24) males	-	-	-	-	0.047*** (0.012)

*** p<0.01; ** p<0.05; * p<0.1; direct effects that are mediated by interactions are in shaded cells.

Table A7: Results – Sexual offence events

	Model I	Model II	Model III	Model IV	Model V
First stage:					
Licensed clubs	0.994 (0.019)	0.985 (0.019)	1.876*** (0.237)	1.593* (0.262)	1.757** (0.246)
Bars and night clubs	0.987*** (0.004)	0.987*** (0.004)	0.987*** (0.004)	0.988*** (0.003)	0.987*** (0.004)
Other on-licence	1.005 (0.004)	1.005 (0.004)	1.004 (0.004)	1.001 (0.004)	1.002 (0.003)
All off-licence	1.020 (0.013)	1.019 (0.013)	1.016 (0.012)	1.017* (0.009)	1.019** (0.008)
Population (000s)	1.133 (0.162)	1.137 (0.161)	1.145 (0.153)	1.127 (0.139)	1.097 (0.129)
Population squared	0.991 (0.009)	0.991 (0.009)	0.990 (0.008)	0.991 (0.007)	0.994 (0.007)
Temporal lag of antisocial behaviour events	-	1.008* (0.005)	1.008* (0.005)	1.002 (0.004)	1.002 (0.004)
Social deprivation * Licensed clubs	-	-	0.999*** (<0.001)	0.9995* (<0.001)	0.999** (<0.001)
Temporal lag of all police events	-	-	-	1.001** (<0.001)	1.001** (<0.001)
Spatial lag of Licensed clubs	-	-	-	-	0.787* (0.124)
Spatial lag of Bars & night clubs	-	-	-	-	0.899*** (0.039)
Spatial lag of All off-licence	-	-	-	-	1.118** (0.049)
Spatial lag of population	-	-	-	-	1.755** (0.277)
Spatial lag of population squared	-	-	-	-	0.950* (0.028)
Second stage:					
Area (sq. km)	-	-	-	-	-0.0002*** (<0.001)
Social deprivation	-	-	-	-	0.004*** (<0.001)
Proportion young (15-24) males	-	-	-	-	0.016 (0.017)

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; direct effects that are mediated by interactions are in shaded cells.

Table A8: Results – Motor vehicle accidents

	Model I	Model II	Model III	Model IV	Model V
First stage:					
Licensed clubs	1.003 (0.018)	1.004 (0.018)	1.003 (0.019)	1.001 (0.017)	1.001 (0.017)
Bars and night clubs	0.992 (0.007)	0.992 (0.007)	0.992 (0.008)	0.993 (0.008)	0.993 (0.008)
Other on-licence	1.006*** (0.002)	1.006*** (0.002)	0.916** (0.039)	0.918** (0.041)	0.918** (0.041)
All off-licence	1.014** (0.006)	1.014** (0.006)	1.028*** (0.009)	1.026*** (0.009)	1.026*** (0.009)
Population (000s)	1.312*** (0.071)	1.313*** (0.072)	1.287*** (0.087)	1.281*** (0.075)	1.281*** (0.075)
Population squared	0.988*** (0.003)	0.988*** (0.003)	0.993 (0.005)	0.992* (0.004)	0.992* (0.004)
Temporal lag of antisocial behaviour events	-	0.999 (0.002)	0.999 (0.002)	0.999 (0.002)	0.999 (0.002)
Social deprivation * Other on-licence	-	-	1.0001** (<0.001)	1.0001** (<0.001)	1.0001** (<0.001)
Population * All off-licence	-	-	0.997*** (0.001)	0.997** (0.001)	0.997** (0.001)
Temporal lag of all police events	-	-	-	1.0002 (<0.001)	1.0002 (<0.001)
Second stage:					
Area (sq. km)	-	-	-	-	0.001*** (<0.001)
Social deprivation	-	-	-	-	-0.0003 (<0.001)
Proportion young (15-24) males	-	-	-	-	0.062*** (0.010)

*** p<0.01; ** p<0.05; * p<0.1; direct effects that are mediated by interactions are in shaded cells.

Appendix IV – Additional Model Results

Table A9: Results – Sale and Supply of Alcohol Act implementation (Model IV plus SSAA interactions)

Dependent variable	Dishonesty offences	Drug and alcohol offences	Property damage	Motor vehicle accidents
Licensed clubs	1.433*** (0.133)	0.964 (0.025)	0.992 (0.009)	0.999 (0.016)
Bars and night clubs	0.997* (0.002)	0.949*** (0.009)	0.989*** (0.002)	0.993 (0.008)
Other on-licence	0.998 (0.002)	1.016*** (0.004)	0.997** (0.001)	0.926* (0.044)
All off-licence	1.010* (0.005)	1.069*** (0.023)	1.015* (0.008)	1.022** (0.009)
Population (000s)	1.192*** (0.035)	1.066 (0.070)	1.074 (0.044)	1.273*** (0.072)
Population squared	0.989*** (0.001)	0.995 (0.007)	0.999 (0.003)	0.993 (0.004)
Temporal lag of dependent variable	1.003*** (<0.001)	1.007*** (0.002)	1.010*** (0.001)	0.999 (0.002)
Social deprivation * Licensed clubs	0.9997** (<0.001)	-	-	-
Social deprivation * Other on-licence	-	-	-	1.0001* (<0.001)
Population * Bars & night clubs	-	1.007*** (0.001)	1.002*** (0.001)	-
Population * Other on-licence	-	0.998*** (0.001)	-	-
Population * All off-licence	-	0.990** (0.004)	0.997** (0.001)	0.998* (0.001)
Temporal lag of all police events	1.0003** (<0.001)	1.001* (0.001)	1.001*** (<0.001)	1.0002 (<0.001)
SSAA13 * Licensed clubs	-	-	-	-
SSAA13 * Bars & night clubs	0.994*** (0.001)	0.990* (0.005)	0.994** (0.003)	0.996*** (0.001)
SSAA13 * Other on-licence	-	-	-	-
SSAA13 * All off-licence	1.011*** (0.003)	1.041*** (0.016)	1.017** (0.007)	-

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; 'SSAA13' is a dummy variable equal to one for quarters starting after 18 December 2013; direct effects that are mediated by interactions are in shaded cells.

Appendix V – Additional Model Results

Table A10: Results – Models including discontinuities for the first outlet of a given type (Model IV plus interactions)

Dependent variable	Dishonesty offences	Drug and alcohol offences	Property abuses	Sexual offences
Licensed clubs	1.473*** (0.136)	0.974 (0.024)	0.997 (0.015)	1.613* (0.267)
Bars and night clubs	0.996** (0.002)	0.949*** (0.007)	0.993*** (0.003)	0.989*** (0.003)
Other on-licence	0.997 (0.002)	1.017*** (0.004)	0.999 (0.001)	1.001 (0.004)
All off-licence	1.013*** (0.005)	1.062** (0.025)	0.998 (0.008)	1.017* (0.009)
Population (000s)	1.202*** (0.035)	1.042 (0.066)	1.077 (0.050)	1.136 (0.137)
Population squared	0.988*** (0.002)	1.001 (0.006)	0.990*** (0.002)	0.990 (0.007)
Temporal lag of dependent variable	1.003*** (<0.001)	1.007*** (0.002)	1.007*** (0.002)	1.002 (0.004)
Social deprivation * Licensed clubs	0.9996*** (<0.001)	-	-	0.9995** (<0.001)
Population * Bars & night clubs	-	1.007*** (0.001)	1.002*** (<0.001)	-
Population * Other on-licence	-	0.997*** (0.001)	-	-
Population * All off-licence	-	0.992** (0.004)	1.001 (0.001)	-
Temporal lag of all police events	1.0002** (<0.001)	1.001* (0.001)	1.001*** (<0.001)	1.001** (<0.001)
Zero * Bars & night clubs	-	-	-	1.091* (0.051)
Zero * Other on-licence	-	1.114** (0.044)	1.048** (0.022)	-
Zero * All off-licence	1.030* (0.017)	-	0.951** (0.020)	-

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; 'Zero' is a dummy variable equal to one if there are no outlets of a given type in the CAU; direct effects that are mediated by interactions are in shaded cells.

Table A11: Results – Models including non-linearities for outlet variables (Model IV plus quadratic terms)

Dependent variable	Violent offences	Dishonesty offences	Property damage	Sexual offences	Motor vehicle accidents
Licensed clubs	1.237 (0.130)	1.509*** (0.130)	0.998 (0.010)	1.595* (0.270)	1.0001 (0.016)
Bars and night clubs	1.005* (0.002)	0.997** (0.001)	0.990*** (0.003)	0.989*** (0.003)	1.014 (0.013)
Bars and night clubs squared	-	-	-	-	0.9998** (<0.001)
Other on-licence	0.946*** (0.016)	1.003 (0.003)	1.008*** (0.003)	1.008 (0.006)	0.917** (0.040)
Other on-licence squared	0.99998* (<0.001)	0.99997** (<0.001)	0.9999*** (<0.001)	0.99996* (<0.001)	-
All off-licence	1.007* (0.004)	1.013** (0.005)	1.022** (0.009)	1.017* (0.009)	1.033*** (0.009)
Population (000s)	1.285*** (0.054)	1.198*** (0.034)	1.071 (0.045)	1.123 (0.134)	1.237*** (0.067)
Population squared	0.984*** (0.003)	0.988*** (0.002)	0.999 (0.003)	0.991 (0.007)	0.995 (0.004)
Temporal lag of dependent variable	1.005*** (0.001)	1.003*** (<0.001)	1.010*** (0.001)	1.002 (0.004)	0.999 (0.002)
Social deprivation * Licensed clubs	-	0.9996*** (<0.001)	-	0.9995* (<0.001)	0.999** (<0.001)
Social deprivation * Other on-licence	-	-	-	-	1.0001** (<0.001)
Population * Licensed clubs	0.993* (0.004)	-	-	-	-
Population * Bars & night clubs	-	-	1.002** (0.001)	-	-
Population * All off-licence	-	0.995** (0.003)	0.997*** (0.001)	-	0.996*** (0.001)
Temporal lag of all police events	1.001*** (<0.001)	1.0003** (<0.001)	1.001*** (<0.001)	1.001** (<0.001)	1.0002 (<0.001)

*** $p<0.01$; ** $p<0.05$; * $p<0.1$; 'Zero' is a dummy variable equal to one if there are no outlets of a given type in the CAU; direct effects that are mediated by interactions are in shaded cells.

Further Information on LAP - Toi Te Ora - 3 of 3

ADDICTION
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Changes in the incidence of assault after restrictions on late-night alcohol sales in New Zealand: evaluation of a natural experiment using hospitalization and police data

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ABSTRACT

Aims To estimate the effect of national restrictions on late-night availability of alcohol on alcohol-related assault at a population level as indicated by (1) change in hospitalizations for weekend assaults and (2) change in the proportion of assaults documented by police that occur at night. **Design** Evaluation of a natural experiment, involving: (1) pre–post comparisons of age-specific incidence rates, adjusted for seasonality and background trend using Poisson regression; and (2) interrupted time–series analyses, using seasonal autoregressive integrated moving average (SARIMA) models of national data with no control site. **Setting** New Zealand. **Participants** (1) Inpatients discharged from NZ hospitals following assault during the weekend (Friday–Sunday) from 2004 to 2016 (n = 14996) and (2) cases of assault recorded by NZ Police from 2012 to 2018. Intervention: introduction of national maximum trading hours for all on-licence (8 a.m.–4 a.m.) and off-licence premises (7 a.m.–11 p.m.), abolishing existing 24-hour licences, on 18 December 2013. **Measurements** (1) Age-specific incidence of hospitalization for assault on Friday, Saturday or Sunday from the national hospital discharge data set, excluding short-stay emergency department admissions and (2) proportion of weekly police-documented assaults occurring between 9 p.m. and 5.59 a.m., from NZ Police Demand and Activity data set. **Findings** Following the restrictions, weekend hospitalized assaults declined by 11% [incidence rate ratio (IRR) = 0.89; 95% confidence interval (CI) = 0.84, 0.94], with the greatest reduction among 15–29-year-olds (IRR = 0.82; 95% CI = 0.76, 0.89). There was an absolute reduction (step change) of 1.8% (95% CI = 0.2, 3.5%) in the proportion of police-documented assaults occurring at night, equivalent to 9.70 (95% CI = 0.10, 19.30) fewer night-time assaults per week, out of 207.4. **Conclusions** The 2013 implementation of national maximum trading hours for alcohol in NZ was followed by reductions in two complementary indicators of alcohol-related assault, consistent with beneficial effects of modest nation-wide restrictions on the late-night availability of alcohol.

Keywords Alcohol, assault, availability, legislation, natural experiment, restriction, trading hours.

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INTRODUCTION

Alcohol consumption is a leading contributor to the global burden of disease, killing 3 million people per year [1], despite the fact that only a third of people drink [2]. If transnational corporations continue developing alcohol markets in low- and-middle income countries, global health losses will balloon this century. Evidence on the effects of major policy changes may guide decision-makers in countries with long-standing alcohol problems, and in countries whose prevalence of drinking is currently low [3]. Here we study a 'natural experiment' of alcohol policy changes in New Zealand [4].

New Zealand's per capita alcohol consumption is approximately 10.7 litres [5]. The prevalence of hazardous drinking (AUDIT score > 8) is highest in 18–24-year-old men (45%) and 25–34-year-old men (34%) [6, 7], and the burden of alcohol-related disease is greatest for

Māori (New Zealand's indigenous people) and lower socio-economic groups [6–8].

As in many high-income countries, New Zealand deregulated alcohol markets in the 1980s and 1990s, resulting in a proliferation of outlets, greater competition, more discounting and promotion [9] and significant harm to the population [10–12]. In response to public concern, particularly about violence [13], the government commissioned an independent review, and in 2010 the Law Commission recommended major reforms [14]. On 18 December 2013, the Sale and Supply of Alcohol Act 2012 (SSAA) introduced: (1) a process for local governments to develop local alcohol policies (LAPs); (2) maximum trading hours for all on-licence (8 a.m.–4 a.m.) and off-licence premises (7 a.m.–11 p.m.), abolishing 24-hour licences; (3) new offences of irresponsible alcohol advertising or promotion, and of supplying alcohol to a person aged under 18 years without parental consent. Phasing-out licences for small grocery stores and restricting alcohol displays in supermarkets occurred on the issuing or renewal of a licence during the following 3 years [15].

Few LAPs were implemented during the first 3 years due to appeals by supermarkets and other large off-licence retailers [16]. A study of the SSAA's impact on the alcohol environment from 2013 to 2015 found: 'No impact on number of premises, supply to minors or marketing was identified' [17]. Therefore, the main changes to alcohol availability implemented on 18 December 2013 were reductions in trading hours of on-licence premises beyond 4 a.m. and off-licence premises that had operated after 11 p.m. or before 7 a.m. [17]. Outlets already operating with shorter hours remained bound by their existing licence. A survey estimated that 1% of alcohol shops, 9% of supermarkets and 6% of bars and nightclubs would close earlier [18].

A recent systematic review of 22 studies employing controlled designs to examine the effects of changes in alcohol trading hours concluded that: 'harm typically increases after extensions in on-license alcohol trading hours… and… decreases when on- and off-license trading hours are restricted' [19]. Only seven studies examined restrictions and none were of changes in national policies, making this New Zealand policy change a potentially valuable natural experiment, albeit one without a contemporaneously unexposed control area.

As part of a wider evaluation of the law changes [20], we developed hypotheses about how the changes in the new maximum trading hours would affect measurable outcomes (Fig. 1), as indicated by (1) age-specific changes in weekend hospitalizations for assault and (2) change in night-time assaults documented by police.

METHODS

Registration

We presented an evaluation plan at the outset of this research project [20] but did not pre-specify the analyses. Accordingly, as per this journal's guidelines, we advise readers to view the results as exploratory.

Design

We designed this study to estimate the association between the 18 December 2013 law change and two temporal surrogates for alcohol-related assault: (1) hospitalized weekend assaults and (2) police-documented night-time assaults. We used Poisson regression to calculate incidence rate ratios (IRRs) pre- and post-intervention for the first outcome. For the second, we employed an interrupted time–series design and the seasonal autoregressive integrated moving average (SARIMA) model [21]. To test the robustness of the results, we performed sensitivity analyses.

Ascertaining whether alcohol contributes to specific assaults is impossible in New Zealand's routine data, as hospital records [22] and police reports [23] lack reliable indicators of alcohol involvement, and the person identified may not have been the perpetrator. We therefore restricted the outcomes to those occurring at times when they are likely to involve alcohol [24]. NZ police audits estimate that 75% of assaults after 9 p.m. are alcohol-related [25]. Any

Figure 1 Potential effect of maximum trading hours provisions on police-documented assaults and hospitalized weekend assaults

lack of specificity in these indicators (i.e. from including assaults that are not alcohol-related) would bias estimates towards the null because assaults unrelated to alcohol would be unaffected by changes in alcohol availability, thereby underestimating the true association.

As the legislation was national, there was no contemporaneously unexposed area. Using the proportion of assaults occurring at night as the primary measure from police reports, rather than the incidence of night-time assaults, provides some control for potential confounders that affect all assaults (e.g. changes in police numbers). To increase confidence in our pre–post comparisons, we performed temporal falsification tests [26] for the interrupted time–series analysis of police data, and modelled a substitute outcome for hospitalizations [4].

Data

For the first outcome, we used New Zealand's National Minimum Data Set (NMDS) of hospital discharges from mid-2004 to mid-2016 (9.5 years pre- and 2.5 years post-intervention). NMDS inclusion is mandatory for publicly funded inpatient treatment in New Zealand hospitals [27]. As recommended by the Ministry of Health classification, we excluded short-stay emergency department discharges, whose counts can vary according to coding practices [28], and we excluded re-admissions for the same injury event to avoid double counting [29].

For the second outcome we used weekly counts from the New Zealand police demand and activity data set for 2012–18 (76 weeks pre- and 216 weeks post-intervention) of events involving assault recorded by police nationally [24]. Our primary analysis focused on night-time assaults (9 p.m.–5.59 a.m.) as a proportion of all assaults.

Measures

Criterion variables

For hospitalized weekend assaults, we defined cases as discharges with first-listed external cause of injury codes X85–Y09 or Y871, hospitalized within 2 weeks of the injury regardless of length of stay [30]. The NMDS does not specify the time of injury, so we included all hospital discharges for 'weekend' assaults (occurring on Friday, Saturday or Sunday) and calculated incidence rates per 100000 person-years.

For the police data, we used the 'all assaults' category, comprising common assault, serious assault, other acts intended to cause violence and male assaults female. We calculated the proportion of all assaults that occurred at night (9 p.m.–5.59 a.m.) by week for the primary outcome and the ratio of night-time to daytime assaults as sensitivity analysis.

Intervention

The intervention date was 18 December 2013. For hospitalized weekend assaults, we coded a dummy variable as '0' for 19 June 2004 to 18 December 2013 or '1' for 19 December 2013 to 18 June 2016. For police assaults, we coded a dummy variable as '0' for 1 July 2012 to 18 December 2013 and '1' for 19 December 2013 to 31 January 2018.

Age groups

We categorized hospital patients as 0–14, 15–29, 30–49, 50–69 or 70 + years of age. The police data set contained no age data.

Statistical methods

Hospitalized weekend assaults

We calculated incidence rates per 100000 person-years for pre- and post-change periods, using mid-year estimates of 'usually resident' populations as denominators [31]. Where Territorial Authorities (TAs) had a LAP in place before 18 June 2016 we removed cases from the numerator and corresponding populations from the denominator. To adjust for season, we computed 3-monthly rates, using linear interpolation to derive quarterly denominators from annual population estimates.

Using Poisson regression we calculated incidence rate ratios (IRRs) with 95% confidence intervals (CI) for each age group and overall. We adjusted IRRs for seasonality and secular trend by including categorical variables designating quarters (1–4) and a continuous variable counting the quarters from 1 (19 June 2004 to 18 December 2004) to 48 (19 March 2016 to 18 June 2016).

On examining all 67 TAs, we identified three with no LAP in place (Hamilton, Nelson, Christchurch), that bordered TAs with LAPs and were likely to have some residents drinking in the bordering TA admitted to their city hospital. To test the sensitivity of our comparison to such misclassification, we replicated the analysis excluding those three TAs.

Proportion of assaults occurring at night

We first calculated the prevalence ratio, before and after the restrictions. To adjust for seasonality and background trend in the data, we used SARIMA models to estimate the association between the implementation of the restrictions on 18 December 2013 and the proportion of assaults occurring at night. Given that this was a permanent/continuous intervention, the intervention models tested for abrupt permanent change, where the overall mean of the time series is shifted after the intervention (a 'step change') and gradual permanent association, where the change after the intervention is gradual, and

the final permanent impact occurs after a lag (a 'slope change'). We fitted the following model:

$$Y_t = v(B)I_t + \frac{1}{(1 - B)(1 - B^s)}\frac{\theta(B)}{\phi(B)}a_t,$$

where Y_t is the weekly proportion of night-time assaults at time t, B is the backshift operator, I_t is the dummy variable taking the value '1' during the intervention period and '0' otherwise, s is the order of the seasonal part, $\theta(B)$ is the moving-average operator, $\phi(B)$ is the autoregressive operator and a_t the random error. The term $v(B)$ corresponds to the transfer function which is given by ω_0 or $\frac{\omega_0}{1 - \delta_1}$ which incorporates an abrupt permanent change or a gradual permanent association in the model. The gradual permanent association model encompasses the abrupt one (the latter is a particular case of the former when denominator factor is $\delta_1 = 0$). First, we fitted the gradual one, and if the denominator factor was not significant we fitted the model containing only the post-period effect $\omega 0$.

We observed a seasonal pattern (every 52 weeks) and downward trend in the data. Seasonality, autocorrelation, lags and correct specification of the model residuals were assessed using autocorrelation (ACF), partial autocorrelation functions (PACF) and Ljung–Box tests for 'white noise'. We designated the input variable in the post-change period as a continuing intervention. We implemented SARIMA models using *proc arima* in SAS version 9.4.

To address the possibility that the results were sensitive to the measure of occurrence that we used, we repeated the main analysis using ratios of night-time to daytime assaults, i.e. the odds that an assault occurred at night, in place of proportions of assaults that occurred at night.

Falsification tests

To increase confidence in our uncontrolled time–series analysis, we performed temporal falsification tests. Following De Vocht *et al.* [26], we used dummy intervention dates 6 months earlier (18 June 2013) and 6 months later (18 June 2014), on the premise that changes in outcome should not be associated with those dates. For the Poisson regression analysis, temporal falsification was not a coherent strategy, so we tested for association with an injury outcome expected to be unaffected by the intervention; namely, 'overexertion or strenuous movements or postures' (external cause code X50).

RESULTS

Change in hospitalized weekend assaults

Figure 2 shows the annual incidence of hospitalized assault by age group from 2004 to 2016. In the 15–29-year-olds there was an obvious reduction in hospitalization between 2013 and 2014, and fewer marked reductions in most other age groups.

Table 1 presents age-specific incidence rates for hospitalized weekend assaults, before and after the restrictions. The primary analysis estimated an adjusted IRR of 0.89 (95% CI = 0.84, 0.94) for the post-change period compared to the pre-change period including all age groups in the 53 eligible TAs. Reductions were largest among 15–29-year-olds (IRR = 0.82; 95% CI = 0.76, 0.89) and there was a large relative reduction in the oldest age group in the adjusted model. The sensitivity analysis excluding TAs with potential for cross-boundary effects produced similar results.

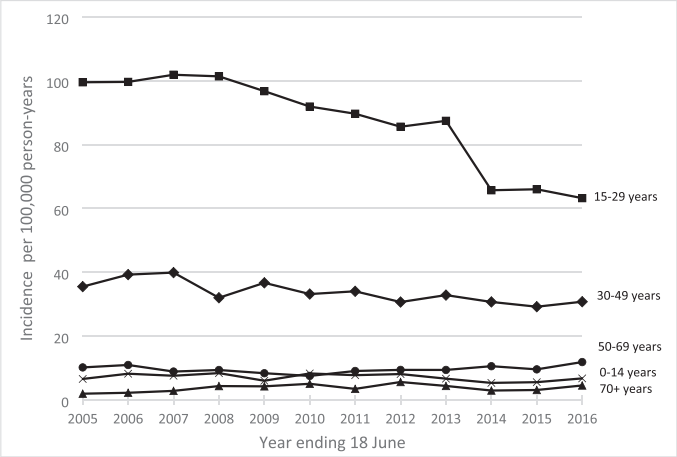

Figure 2 Annual incidence of hospitalization due to assault occuring between midnight Thursday and midnight Sunday in areas with no local alcohol policy, New Zealand, 19 June 2004–18 June 2016. Rates per 100000 by age group

Table 1 Hospitalizations for weekend assaults,[a] by age group and time-period, in NZ Territorial Authority areas without a Local Alcohol Policy, July 2004–June 2016.

	Age	*Numerator*		*Denominator*		*Incidence*		*Post-change: pre-change*			
				(person-years)		*Per 100000 person-years*		*Unadjusted 95% CI*		*Adjusted*[b]	
	(years)	Pre	Post	Pre	Post	Pre	Post	IRR	95% CI	Adj IRR	95% CI
Primary analysis											
	All ages	12355	2641	36953184	10309056	33.4	25.6	0.77	(0.74, 0.80)	0.89	(0.84,0.94)
All Territorial Authority areas without a local alcohol policy	70+	122	34	3156273	965333	3.9	3.5	0.91	(0.62, 1.33)	0.56	(0.33, 0.93)
in place at 18 June 2016	50–69	722	255	7749547	2380963	9.3	10.7	1.15	(1.00, 1.33)	1.17	(0.95, 1.44)
Pre-change period 19 June 2004–18 December 2013	30–49	3659	802	10513056	2695216	34.8	29.8	0.86	(0.79, 0.92)	0.96	(0.86, 1.06)
Post-change period 19 December 2013–18 June 2016	15–29	7279	1426	7809993	2205852	93.2	64.6	0.69	(0.66, 0.73)	0.82	(0.76, 0.89)
	0–14	573	124	7724315	2061693	7.4	6.0	0.81	(0.67, 0.98)	0.83	(0.64, 1.08)
Sensitivity analysis											
	All ages	10751	2301	31731857	8881322	33.9	25.9	0.77	(0.73, 0.80)	0.91	(0.86, 0.97)
All Territorial Authority areas without a local	70+	102	30	2669540	827976	3.8	3.6	0.95	(0.63, 1.43)	0.65	(0.37, 1.14)
alcohol policy in place at 18 June 2016	50–69	639	227	6674446	2060904	9.6	11.0	1.15	(0.99, 1.34)	1.22	(0.97, 1.52)
Except Nelson, Christchurch and Hamilton	30–49	3211	699	9048696	2319370	35.5	30.1	0.85	(0.78, 0.92)	0.98	(0.87, 1.10)
Pre-change period 19 June 2004–18 December 2013	15–29	6331	1247	6625227	1875653	95.6	66.5	0.70	(0.66, 0.74)	0.84	(0.78, 0.92)
Post-change period 19 December 2013–18 June 2016	0–14	468	98	6713948	1797419	7.0	5.5	0.78	(0.63, 0.97)	0.88	(0.66, 1.19)
Falsification test: hospitalization for over-exertion											
	All ages	1153	343	36953184	10309056	3.1	3.3	1.07	(0.95, 1.20)	1.22	(1.02, 1.45)
All Territorial Authority areas without a local alcohol policy	70+	256	74	3156273	965333	8.1	7.7	0.95	(0.73, 1.22)	1.06	(0.73, 1.53)
in place at 18 June 2016	50–69	289	93	7749547	2380963	3.7	3.9	1.05	(0.83, 1.32)	1.19	(0.84, 1.67)
Pre-change period 19 June 2004–18 December 2013	30–49	334	89	10513056	2695216	3.2	3.3	1.04	(0.82, 1.31)	1.34	(0.96, 1.89)
Post-change period 19 December 2013–18 June 2016	15–29	226	70	7809993	2205852	2.9	3.2	1.10	(0.84, 1.43)	1.25	(0.84, 1.85)
	0–14	48	17	7724315	2061693	0.6	0.8	1.33	(0.76, 2.31)	1.29	(0.57, 2.94)

[a]First listed E-codes X85-Y09, Y871 for injury between midnight Thursday and midnight Sunday; [b]adjusted for seasonality and secular trend. CI = confidence interval; IRR = incidence rate ratio.

The falsification test using hospitalizations for overexertion as a substitute outcome showed an increase in incidence (adjusted IRR = 1.22; 95% CI = 1.02, 1.45) with no evidence of a differential effect by age group.

Change in police-documented night-time assaults

Figure 3 shows the time–series of proportions of police-documented assaults that occurred at night, by week, during the study period, with individual estimates ranging from 26 to 50%. The vertical reference line indicates the date of the intervention.

We obtained a stationary series after twice differentiating the series at lags 52 and 1. We detected significant lags of order 1, 15 and 52 ACF and PACF, and could not reject the white noise assumption for the residuals.

Table 2 presents the unadjusted effect estimates and the SARIMA models estimating change in the proportion of assaults occurring at night with implementation of the restrictions. The unadjusted prevalence ratio suggests a 13% reduction in the proportion of all assaults occurring at night (OR = 0.87; 95% CI = 0.78, 0.98). The SARIMA modelling, which adjusts for seasonality and secular trend, shows that the intervention was associated with an abrupt reduction in the proportion of assaults occurring at night of 1.8% (95% CI = 0.2%, 3.5%). This is rounded to −0.02 in the table, where it is labelled 'post-period'. The gradual permanent change in the intervention model was estimated as −0.29 (95% CI = −2.39, 1.80), thus we concluded that there was no evidence of an ongoing effect. The 1.8% reduction in the proportion of assaults occurring at night is equivalent to a 4.7% reduction in night-time assaults, i.e. 9.70 (95% CI = 0. 10, 19.30) out of 207.4 fewer night-time assaults per week. Temporal falsification tests did not find a reduction in the post-period of the models with dummy intervention dates.

Our sensitivity analysis using the ratio of night-time to daytime assaults produced similar results. This SARIMA model demonstrated that the restrictions were followed by a gradual permanent reduction commencing a season later (shift 1) in the night/daytime ratio of assaults of 1.9%.

DISCUSSION

We found a reduction in assaults occurring at times of usually high alcohol involvement following the implementation of the Sale and Supply of Alcohol Act, in two complementary analyses of national data. The first estimated a reduction of 11% in the incidence of hospitalized assaults; the second a 4.7% reduction in police-documented night-time assaults.

Having excluded local government areas with a LAP in place, which may have experienced other changes in availability, we were principally evaluating restrictions on trading hours that were nation-wide but affected a small proportion of alcohol outlets. Even if few in number, these outlets may be disproportionately important contributors to alcohol-related assault, as they were on-licence premises

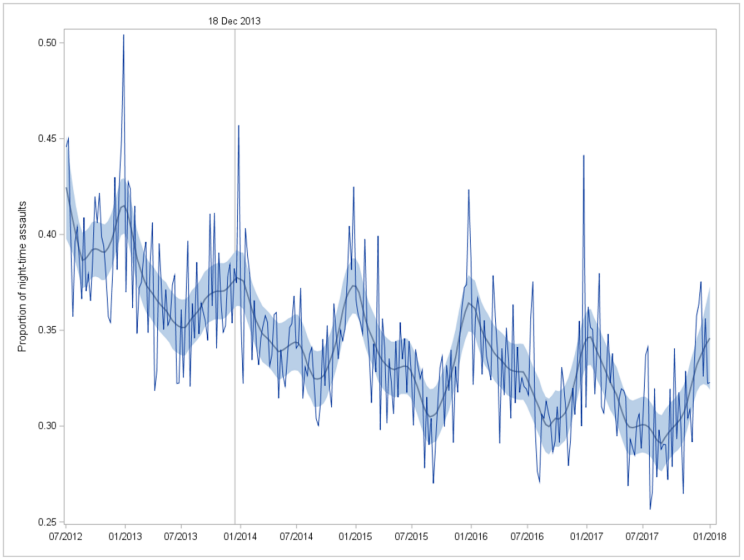

Figure 3 Proportion of assaults documented by police that occurred between 9:00 p.m. and 5:59 a.m., in New Zealand Territorial Authority areas with no local alcohol policy, July 2012–January 2018. The blue continuous line represents fitted values from a locally estimated scatterplot smoothing (LOESS) function, including 95% confidence intervals. [Colour figure can be viewed at wileyonlinelibrary.com]

Table 2 Association of police-documented night-time assaults with implementation of SSAA 2012 in New Zealand Territorial Authority areas with no local alcohol policy, July 2012–January 2018.

	Proportion of assaults occurring at night						*Proportion of assaults occurring at night: SARIMA[a] model*					
	Pre-change		*Post-change*		*Post: pre-change*							
	Mean	*95% CI*	*Mean*	*95% CI*	*Prev. ratio*	*95% CI*	*Parameter*	*Estimate*	*SE*	*P-value*	*Lag*	*Shift*
Primary analysis												
	0.38	(0.37, 0.39)	0.33	(0.33, 0.34)	0.87	(0.78, 0.98)	MA1,1	0.88	0.04	< 0.0001	1	
Pre-change period:							MA2,1	0.18	0.06	00.003	15	
1 July 2012–18 December 2013							MA3,1	0.7	0.1	< 0.0001	52	
Post-change period:							AR1,1	−0.14	0.07	00.034	1	
19 December 2013–31 January 2018							Post-period	−0.02	0.01	00.048	0	
Proportion of assaults occurring at night: SARIMA model[a]												
							MA1,1	0.88	0.03	< 0.0001	1	0
							MA2,1	0.2	0.06	00.001	15	0
							MA3,1	0.7	0.11	< 0.0001	52	0
							AR1,1	−0.18	0.07	00.007	1	0
							Post-period	−0.02	0.02	00.249	0	0
							Denom. factor[b]	−0.29	1.07	00.784	1	0
Temporal falsification test: intervention date 6 months earlier												
	0.39	(0.38, 0.40)	0.33	(0.33, 0.34)	0.86	(0.76, 0.97)	MA1,1	0.87	0.04	< 0.0001	1	
Pre-change period:							MA2,1	0.2	0.06	00.001	15	
1 July 2012–18 June 2013							MA3,1	0.68	0.1	< 0.0001	52	
Post-change period:							AR1,1	−0.14	0.07	00.037	1	
19 June 2013–31 January 2018							Post-period 6 months earlier	−0.01	0.01	00.239	0	
Temporal falsification test: intervention date 6 months later												
	0.37	(0.37, 0.38)	0.33	(0.32, 0.33)	0.88	(0.78, 0.99)	MA1,1	0.87	0.04	< 0.0001	1	
Pre-change period:							MA2,1	0.19	0.06	00.002	15	
1 July 2012–18 June 2014							MA3,1	0.67	0.1	< 0.0001	52	
							AR1,1	−0.14	0.07	00.033	1	
Post-change period:							Post-period 6 months later	0.01	0.01	00.187	0	
19 June 2014–31 January 2018												
Sensitivity analysis: ratio of night to daytime assaults							Ratio of night to daytime assaults: SARIMA model					
					Odds ratio							
	0.62	(0.59, 0.64)	0.5	(0.49, 0.51)	0.81	(0.79, 0.83)	MA1,1	0.9	0.03	< 0.0001	1	0

(***Continues***)

Table 2. (Continued)

	Proportion of assaults occurring at night						*Proportion of assaults occurring at night: SARIMA[a] model*					
	Pre-change		*Post-change*		*Post: pre-change*							
	Mean	*95% CI*	*Mean*	*95% CI*	*Prev. ratio*	*95% CI*	*Parameter*	*Estimate*	*SE*	*P-value*	*Lag*	*Shift*
Pre-change period:							MA2,1	0.26	0.06	< 0.0001	15	0
1 July 2012–18 December 2013							MA3,1	0.62	0.09	< 0.0001	52	0
							AR1,1	−0.18	0.07	00.009	1	0
Post-change period:							Post-period	−0.06	0.03	00.049	0	1
19 December 2013–31 January 2018							Denom. factor[b]	−0.87	0.2	< 0.0001	1	1
							Asymptotic change[c]	−0.03				
							Change in proportion	−0.02				

[a]SARIMA model for assessing gradual permanent change; [b]denominator factor is the parameter related to the 'gradual' permanent decrease on the time-series after the intervention; [c]asymptotic change is the impact of the gradual permanent effect on the level of the time-series. SSAA = Sale and Supply of Alcohol Act 2012; SARIMA = seasonal autoregressive integrated moving average; SE = standard error; CI = confidence interval.

previously trading after 4 a.m., and off-licences trading after 11 p.m., that were closed earlier by the new maximum closing times. Before the law change many outlets had operated under 24-hour licences but did not actually trade 24 hours a day, so the magnitude of the change in the population's exposure to the availability of alcohol is unknown. A recent review identified the lack of data on trading hours before restrictions as a common limitation [19].

We found the incidence of hospitalized weekend assault to be much higher in 15–29-year-olds than in other age groups throughout the study period, followed by the 30–49-year-olds, as expected. In an uncontrolled pre–post comparison of hospital discharges, we estimated a reduction in incidence of 11% overall with the maximal reduction of 18% in 15–29-year-olds. We adjusted for seasonal variability and background trend in incidence, and the estimates were robust to restrictive TA inclusion criteria and a falsification test with substitute outcome.

The age-group findings for hospitalizations are consistent with changes in assault being due to the new restrictions on late-night availability, as proposed in Fig. 1. The largest absolute changes were in the 15–29-year-olds, where the prevalence of hazardous drinking is highest, the incidence of assault is highest [32] and where exposure to the change in trading hours would be most frequent. New Zealand research on alcohol purchasing in 2015 reported that 77% of drinkers purchasing from on-license premises between midnight and 4 a.m. were 18–24-year-olds, and 66% were 'at-risk' drinkers [33]. Purchasers from off-licences from 8 to 11 p.m. were also predominantly from this age group (67%), and 61% were 'at-risk' drinkers [33]. Fewer hospitalizations involving children is also plausibly related to reduced drinking in 15–29-year-olds, particularly for infants. The reduction seen in > 70-year-olds, while small in absolute numbers, was the largest relative change.

We also saw a reduction in police reports of assaults occurring at night. A sensitivity analysis using the ratio of night-time to daytime assaults found a reduction of similar magnitude but gradual, and falsification tests were also supportive of the findings.

Limitations

The study's primary limitation is the lack of an unexposed control group, due to the intervention being nation-wide and affecting all age groups. It is therefore difficult to rule out competing explanations for the observed changes. Important potential sources of confounding are other elements of the legislation that were implemented contemporaneously, and any change in police activity when the law came into effect. The three contemporaneous policy changes were introduction of LAPs and new offences relating to excessive promotion of alcohol and supplying alcohol

to a minor without express parental consent. We dealt with the first of these by excluding areas with a LAP in place any time within the study period and a sensitivity analysis for cross-boundary effects. We consider it unlikely that that the two new offences would have had much influence on our main findings, but cannot rule that out. There are no data in the public domain on prosecutions under these provisions in the past 6 years, but they would be of public interest and likely to have been reported in the media.

An examination of the early impact of the SSAA on social supply to under 18-year-olds found that parents were supplying more alcohol, but social supply to underage friends had decreased by 8%. Levels of supply remained generally high [34]. Research on the impact of the SSAA on the alcohol environment [17] concluded that: 'Maximum trading hours were the only element of the SSAA found to create a swift change in the alcohol environment, by slightly reducing availability in main cities' (p. 14). Key informants perceived social supply regulations to have relatively poor compliance and to be almost unenforceable before and after the law change [17].

Data on night-time assaults recorded by police provide a broader indicator of the occurrence of assault than hospitalizations alone, but they have a weaker relationship with injury from alcohol-related assault than do hospital admissions and are more susceptible to service delivery artefacts [35], which could confound our results. It is plausible that police activity and reporting of assaults by staff and bystanders around late-night venues could have been affected by change in closing times independently of assault frequency. For example, if police activity increased due to the law change, documentation of assaults may have increased (a service delivery artefact) or it may have acted as a deterrent to assault, which would inflate any effect of earlier closing. Reduced reporting by licensed premises was explored in relation to late-night trading in Newcastle, Australia, which found fewer than 10% of assault reports originated with premises [36]. Service delivery effects are unlikely to confound the association of the intervention with hospitalizations, as admissions are less discretionary, and no changes in admission practices during the study period were identified except in short-stay emergency department discharges, which we excluded. The use of proportions of assaults occurring at night as the primary measure, rather than incidence of night-time assaults, provides some control for potential confounders that affect all assaults.

A second design weakness is that neither outcome is alcohol-specific. We rely on restriction to periods of high alcohol involvement for inference about change in alcohol-related assaults, resulting in the inclusion of some assaults that did not involve alcohol, underestimating the magnitude of change.

The sensitivity of our two indicators is likely to differ. Hospitalization will be a more sensitive indicator of injury due to assault, as the severity of injury has met a threshold and admission becomes less discretionary as severity increases [37]. However, it may not be a sensitive indicator of overall assault incidence. The sensitivity of police data for identifying night-time assaults is not known and many assaults may not come to attention, as both perpetrators and victims may be wary of police involvement. However, unless the sensitivity changed at the time of the restrictions this should not bias estimates. The assessment of the alcohol environment from 2013 to 2015 [17] did not find any change in perceived enforcement, but this does not rule out transient changes. The use of so-called 'high alcohol hours' for assessing changes in assault incidence was examined in a recent study of Queensland police data, which concluded that a time–series based on the time-of-day of assaults would be less prone to bias than reliance on police attributions of alcohol involvement [38].

Greater reduction in hospitalizations than police-documented assaults would be consistent with both reduced incidence and reduced severity of assaults, due to lower levels of intoxication in risky environments [39]. The number of assaults coming to the attention of police may be less affected by reduction in severity of injuries.

There were other limitations of using routinely collected data. In this study we were able to estimate hospitalizations by age group but not socio-economic status, which would also be relevant to policy. The police data did not provide us with any demographics of perpetrators or victims of violence at high alcohol hours. Availability of data also constrained statistical power. For example, we had a short post-intervention period in the hospitalization analysis which limited the precision of the IRR estimates, and the lack of a detectable gradual effect in the time-series analysis may have reflected inadequate power.

This study contributes to a small but growing body of research examining the effects of restrictions in trading hours on the incidence of alcohol-related assault. Consistent findings in two independent analyses, the plausible age-specificity of the reduction in hospitalized assaults, the sensitivity analyses and failed falsification tests increase confidence in the conclusions. The extent to which total trading hours were reduced is unclear, but only the small proportion of on- and off-licence premises that had been trading very late at night were directly affected. Concerns about displacement of late-night purchasing to other locations did not arise, as they do in many settings, because the changes were population-wide, but without robust controls the findings must be interpreted with caution.

Acknowledgements

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Declaration of interests

None.

Author contributions

Jennie Connor: Conceptualization; funding acquisition; investigation; methodology; project administration; supervision; visualization. **Brett MacLennan:** Conceptualization; funding acquisition; investigation; methodology; project administration. **Taisia Huckle:** Data curation; investigation; methodology. **Jose Romeo:** Data curation; formal analysis; methodology; validation; visualization. **Gabrielle Davie:** Data curation; formal analysis; methodology; validation; visualization. **Kypros Kypri:** Conceptualization; funding acquisition; investigation; methodology; project administration; supervision; visualization.

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Further Information LAP - NZ Police - 1 of 10

From: ROSER, Daniel (Dan)
Sent: Thursday, 17 March 2022 12:52 pm
To: Jane Barnett <Jane.Barnett@tauranga.govt.nz>; Rebecca Gallagher <rebecca.gallagher@tauranga.govt.nz>
Cc: ROSER, Daniel (Dan)
Subject: FW: Licensed premises prior to the LAP (2015)

CAUTION:External Email.

Morning Jane and Rebecca

Commissioner TOLLY asked for some statistics that went back prior to the LAP coming into effect in 2015.

Please pass on this email and information as requested.

I have contacted PNHQ and obtained stats from the data set that were not available to me on line (due to server storage capacity)

I have updated the VICTIMISATION data cbd 2014-2022 document attached.

Please note the following as this is vital for the Commissioner to be aware of.

The TCC LAP took effect in 2015

Premises in the Tauranga CBD had closing times of 03:00am prior to that and post the LAP taking effect.

The nightclub known as 'Harringtons' situated at 10 Harington Street previously had a closing time of 05:00am however this changed well prior to the Lap back in 2009 when the 5am closing was opposed by Police and the matter eventually was dealt with by the licensee consenting to the closing time of 0300.

The attached Liquor Licensing Authority documents are attached.

The matter was dealt with under the old 'Sale of Liquor Act 1989'

LAP's only came into existence under the current Sale and Supply of Alcohol Act 2012 in an effort to devolve decision making to communities.

The bar known as PLAY and then eventually Bahama Hutt took over the premises at 10 Harrington Street always had a closing time of 0300. This goes back as far as 2010.

The bars at the Mount have been 0100 closing prior and post LAP.

So essentially the only change that I can see the LAP instigated is the one way door policy. And formalising a few other positions. The LAP is attached.

Also attached is Inspector Karl Wright ST Clair's (ret) letter from the 2015 consultation. Police asked for a 2am closing in the TG CBD back then.

I submit that there has been little change in the situation as the LAP did not go far enough to address the problems, rather than saying that the LAP is ineffective and should therefore be scrapped.

The one way door policy introduced was a half measure. The effectiveness has not been fully realised as the licence closing time remained at 03:00am. They need to be coupled together and moved back to 2:00am to realise the potential.

The Council is entitled to take a precautionary approach and 'test' a situation.

I include an excerpt from a High Court decision regarding an ARLA / DLC case. The philosophy can be applied here for the LAP.

In the face of such evidence the Act does not countenance the continuation of high levels of alcohol-related harm. The Act requires minimisation of the alcohol related harm. The task of the DLC was to respond to the risk and it did so. It is not necessary to establish, as the Authority required, that the proposed operation "would be likely to lead to" alcohol-related harm.64 To require demonstration of a link to this degree of specificity is not much different from requiring proof. Requiring proof of "a causative link is not only unrealistic but is contrary to the correct legal position".
Lion Liquor Retail Ltd v Medical Officer of Health [2018] NZHC 1123

Regardless of how the Licensees operate their premises, in this statutory setting the professionalism of the operator becomes subordinate to the extreme alcohol-related harm which is evidenced.

Regulating the availability of alcohol through restrictions on trading hours was one of the policy levers the Law Commission recognised as being available to reduce alcohol-related harm especially in relation to off-licence premises.

There are matters that appropriately sit at the DLC level and there are those that sit higher at the LAP level.
Blanket licenced hours are an LAP issue.
Premises specific customised hours are a DLC issue.

The Alcohol Regulatory Licensing Authority has also held that OFF licence proliferation is a LAP issue rather than solely a DLC issue.

Many thanks

Sergeant Dan ROSER

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Tauranga Police Station, 11 Monmouth Street, Tauranga, PO Box 144, Tauranga, www.police.govt.nz

Safer Communities Together

MINISTRY OF JUSTICE
Tāhū o te Ture

26 March 2009 021/REN/214/2009

Night Owl Limited
PO Box 13052
TAURANGA

Attention: David Bamford

Dear Sir

APPLICATION FOR RENEWAL OF ON-LICENCE

I refer to your application for renewal of an on-licence for premises at 10 Harington Street, Tauranga, known as "Harringtons Night Club".

You will be aware that the application is opposed by the Police and District Licensing Agency Inspector. They have recommended that the closing time for your trading hours be amended to 3.00 am, and they have indicated that they would not oppose renewal on those terms.

Accordingly you are invited to indicate whether the recommended reduction in hours is acceptable to you. If you wish to pursue the application as it currently stands the matter will be referred to the Authority for determination at a public hearing. In that event you will be notified of a date and venue for the proceedings in due course.

I would be grateful for your advice and comments as soon as possible.

Yours faithfully

Alan Bird
Legal & Research Officer
Liquor Licensing Authority
Telephone: DDI (04) 462 6677
Facsimile: (04) 462 6686
E-mail: Alan.Bird@justice.govt.nz

cc: Secretary Attention: Norm Gilbert
Tauranga DLA

Tribunals Unit
Level 1, AMP Building, 86 Customhouse Quay,
Private Bag 32001, Wellington, New Zealand
Telephone: +64-4-462 6660 Fax: +64-4-462 6686
Email: tribunals@justice.govt.nz
Website: www.justice.govt.nz

cc: Officer in Charge
NZ Police
PO Box 144
TAURANGA

Attention: Nigel McGlone

Further Information on LAP - NZ Police - 3 of 10

MINISTRY OF JUSTICE
Tāhū o te Ture

021/REN/214/2009

24th April 2009

Night Owl Limited
P O Box 13052
TAURANGA

Dear Sir/Madam

APPLICATION FOR RENEWAL AND VARIATION TO THE ON-LICENCE: "HARRINGTONS NIGHT CLUB"

I refer to the application for renewal and variation to the on-licence in respect of the above premises.

The Liquor Licensing Authority, by decision no. 455/2009 dated 24th April 2009. , has granted the application.

The notice of renewal together with the replacement licence are enclosed.

The on-licence will expire on the date specified on the notice of renewal unless again renewed.

Yours faithfully

pp.

B H Williams
for Secretary
Liquor Licensing Authority

cc Secretary
District Licensing Agency
C/- Tauranga City Council
Private Bag 12022
TAURANGA

cc Liquor Licensing Section
New Zealand Police
Box 144
TAURANGA

Tribunals Unit
Level 1, AMP Building, 86 Customhouse Quay,
Private Bag 32001, Wellington, New Zealand
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Further Information on LAP - NZ Police - 4 of 10

Tauranga City

Tauranga District Licensing Agency

SALE OF LIQUOR ACT 1989

021/ON/13775/2010

ON-LICENCE

(for premises)
Sections 7 and 114, Sale of Liquor Act 1989

PURSUANT to the Sale of Liquor Act 1989, **SPECIAL VENUE COMPANY LIMITED** (the licensee) is authorised to sell and supply liquor on the premises situated at **10 HARINGTON STREET, TAURANGA** and known as **"PLAY"**, for consumption on the premises to **any person who is present on the premises** and to allow the consumption of liquor on the premises by any such person.

The authority conferred by this licence must be exercised through a manager or managers appointed by the licensee in accordance with Part 6 of the Act.

CONDITIONS

This licence is subject to the following conditions:

(a) The licensee must have available for consumption on the premises, at all times when the premises are open for the sale of liquor, a reasonable range of non-alcoholic refreshments and low-alcohol beverages.
(b) No liquor is to be sold or supplied on Good Friday, Easter Sunday, Christmas Day or before 1.00 pm on Anzac Day to any person other than any person who is present on the premises for the purpose of dining.
(c) Liquor may be sold only on the following days and during the following hours:

Monday to Sunday 07:00am to 03:00am the following day
(EXCEPT THAT on the Thursday before Good Friday; and on Easter Saturday; and on Christmas Eve; and on the day before Anzac Day, liquor may only be sold between 07:00am and 12:00 midnight)

(d) A range of food choices must be readily available at all times that the premises are open. Menus must be visible and food should be actively promoted. A minimum of three types of food should be available. The range or style of food will be as shown on any menu submitted. Alternatively, the range of food should include items such as paninis, pizzas, lasagne, toasted or fresh sandwiches, wedges, pies, filled rolls, and/or salads.
(e) **Each of the following parts of the premises is designated as a Supervised area: The entire premise.**
(f) The licensee must ensure that signs are prominently displayed within the licensed premises detailing information regarding alternative forms of transport from the premises.
(g) The licensee must implement and maintain the steps proposed in the application for the licence aimed at promoting the responsible consumption of liquor.
(h) The licensee must ensure that the provisions of the Act relating to the sale and supply of liquor to prohibited persons are observed and must display appropriate signs adjacent to every point of sale detailing the statutory restrictions on the supply of liquor to minors and the complete prohibition on sales to intoxicated persons.

THE LICENSED PREMISES

In terms of Regulation 7 of the Sale of Liquor Regulations 1990, the sale, supply or consumption of liquor is authorised in the interior of the premises and the supply of liquor is authorised for consumption in the gated outside area. The premises situated at 10 HARINGTON STREET, TAURANGA is more precisely identified as outlined in a plan date stamped as received by the Tauranga District Licensing Agency on 16 September 2010.

DISPLAY OF LICENCE AND PRINCIPAL ENTRANCE/S

A copy of this licence must be displayed at the principal entrance to the premises. The entrance from Harington Street is designated as the principal entrance.

DURATION

Subject to the requirements of the Act relating to the payment of fees, and to the provisions of the Act relating to the suspension and cancellation of licences, this licence continues in force -

(a) Until the close of the period of 1 year commencing with the date of its issue; or
(b) If an application for the renewal of the licence is duly made, until the application is determined; or
(c) If the licence is renewed, until the close of the period for which it is renewed.

DATED at Tauranga, 7 October 2010.

The Common Seal of THE TAURANGA DISTRICT LICENSING AGENCY

.....
John Payne
for SECRETARY
TAURANGA DISTRICT LICENSING AGENCY

Tauranga City Council

Further Information on LAP - NZ Police - 5 of 10

Decision No. **021/ON/13775/2010**

IN THE MATTER of the Sale of Liquor Act 1989

AND

IN THE MATTER of an application by **SPECIAL VENUE COMPANY LIMITED** for an on-licence pursuant to s.9 of the Act in respect of premises situated at **10 HARINGTON STREET, TAURANGA**, and known as "**PLAY**"

BEFORE THE TAURANGA DISTRICT LICENSING AGENCY

DECISION

This is an application by **SPECIAL VENUE COMPANY LIMITED** for an on licence in respect of premises situated at **10 HARINGTON STREET, TAURANGA**, and known as "**PLAY**".

The general nature of the business to be undertaken is that of a **TAVERN**.

The application was duly advertised and no objection or notice of desire to be heard has been received. Accordingly, we deal with the matter on the papers.

We are satisfied as to the matters to which we must have regard as set out in s.13 of the Act, and we grant the applicant an on-licence authorising the sale and supply of liquor, for consumption on the premises, to any person who is present on the premises.

The licence may issue immediately.

The applicant's attention is drawn to ss.25 and 115(3) of the Act obliging the holder of an on-licence to display:-

1. A sign attached to the exterior of the premises, so as to be easily read by persons outside each principal entrance, stating the ordinary hours of business during which the premises will be open for the sale of liquor; AND

2. A copy of the licence, and of the conditions of the licence, attached to the interior of the premises so as to be easily read by persons entering through each principal entrance; AND

3. A sign prominently displayed inside the premises, which identifies by name the manager for the time being on duty.

DATED at Tauranga, 07 October 2010

TAURANGA DISTRICT LICENSING AGENCY The Common Seal of

John Payne
FOR SECRETARY
TAURANGA DISTRICT LICENSING AGENCY

Further Information on LAP - NZ Police - 6 of 10

Decision No. 455/2009

IN THE MATTER of the Sale of Liquor Act 1989

AND

IN THE MATTER of an application by **NIGHT OWL LIMITED** pursuant to s.18 of the Act for renewal of an on-licence in respect of premises situated at 10 Harington Street, Tauranga, known as "Harringtons Night Club"

BEFORE THE LIQUOR LICENSING AUTHORITY

Chairman: District Court Judge E W Unwin
Member: Dr J Horn

DECISION

This is an application by Night Owl Limited for renewal of an on-licence in respect of premises situated at 10 Harington Street, Tauranga, known as "Harringtons Night Club". The business trades as a nightclub and entertainment venue with hours authorised for the sale of liquor between 9.00 am and 5.00 am.

Advertising did not attract any public objection and the Medical Officer of Health raised no matters in opposition.

Renewal is not opposed but the Police and Agency Inspector recommended that the closing hour be amended to 3.00 am. The licensee initially resisted any change to the trading hours and the matter was referred to the Authority for determination.

The applicant has now consented to a reduction in hours as recommended by the Police and Inspector and opposition has been withdrawn. Accordingly we deal with the matter on the papers.

We are satisfied as to the matters to which we must have regard as set out in s.22 of the Act. We renew the licence until 17 February 2011, that being the anniversary date of the licence and three years from the most recent date of expiry, and we authorise the issue of a replacement licence and a notice of renewal.

DATED at WELLINGTON this 24th day of April 2009

B M Holmes
Deputy Secretary

NEW ZEALAND LIQUOR LICENSING AUTHORITY

Harringtons Nightclub.doc(ab)

Further Information on LAP - NZ Police - 7 of 10

COPY

Sale of Liquor Regulations 1990

Form 16

NOTICE OF RENEWAL OF ON-LICENCE
Section 23, Sale of Liquor Act 1989

To: **NIGHT OWL LIMITED**

The on-licence in respect of the premises situated at 10 Harington Street, Tauranga, and known as "Harringtons night Club" is renewed on the terms and conditions set out in replacement licence number 021/RENON/11677/2009.

Subject to the requirements of the Act relating to the payment of fees and the provisions of the Act relating to the suspension and cancellation of licences, this licence expires on the 17th day of February 2011, unless again renewed.

DATED at WELLINGTON this 24th day of April 2009

NEW ZEALAND LIQUOR LICENSING AUTHORITY

B M Holmes
Deputy Secretary
Liquor Licensing Authority

Harringtons night Club.ren(ab)

021/RENON/11677/2009

ON-LICENCE
(for premises)
Sections 7 and 114, Sale of Liquor Act 1989

PURSUANT to the Sale of Liquor Act 1989, **NIGHT OWL LIMITED** is authorised to sell and supply liquor, on the premises situated at 10 Harington Street, Tauranga, and known as "Harringtons Night Club", for consumption on the premises **to any person who is present on the premises** and to allow the consumption of liquor on the premises by any such person.

The authority conferred by this licence must be exercised through a manager or managers appointed by the licensee in accordance with Part 6 of the Act.

CONDITIONS

This licence is subject to the following conditions:

(a) The licensee must have available for consumption on the premises, at all times when the premises are open for the sale of liquor, a reasonable range of non-alcoholic refreshments and low-alcohol beverages.

(b) Liquor may be sold only on the following days and during the following hours:
On such days and during such hours as the premises are being operated as a nightclub/entertainment venue but not other than on the following days and hours:
Monday to Sunday 9.00 am to 3.00 am the following day

(c) Food must be available for consumption on the premises as follows:
At all times when the premises are authorised to be open for the sale of liquor, food of a range and style similar to that shown on any menu submitted or a range of snack foods in the nature of pies, sandwiches, filled rolls, pizzas and the like, must be conveniently available for all patrons and the availability of those foodstuffs must be notified to them by appropriate notices throughout the premises.

(d) (i) When the premises are being operated as a nightclub or entertainment venue the whole of the premises is designated as a **supervised** area.

(ii) During such time that the premises are being operated as a venue for private social functions:
promoted by any person or association of persons other than the holder of the licence
OR
at which liquor is not being sold or supplied
the whole of the premises is undesignated.

(e) The licensee must ensure that the provisions of the Act relating to the sale and supply of liquor to prohibited persons are observed and must:

(i) Display appropriate signs adjacent to every point of sale detailing the statutory restrictions on the supply of liquor to minors and the complete prohibition on sales to intoxicated persons; and

(ii) When the premises are operating as a nightclub or entertainment venue the licensee must display a prominent sign at the principal entrance to the premises as follows:
"Warning: Admission to these licensed premises of persons under the age of 18 years is subject to restrictions."

(iii) When the premises are operating as a venue for private social functions the licensee must display a prominent sign at the principal entrance to the premises informing the public that the premises are closed for a private function.

(f) The licensee must ensure that signs are prominently displayed within the licensed premises detailing information regarding alternative forms of transport from the premises.

(g) The licensee must implement and maintain the steps proposed in the application for the licence aimed at promoting the responsible consumption of liquor.

THE LICENSED PREMISES

In terms of Regulation 7 of the Sale of Liquor Regulations 1990 the sale, supply or consumption of liquor is authorised in the whole of the premises. The premises, situated at 10 harington Street, Tauranga, are more precisely identified as outlined in a plan date stamped as received by the Liquor Licensing Authority on 26 May 2003.

DISPLAY OF LICENCE AND PRINCIPAL ENTRANCE/S

A copy of this licence must be displayed at the principal entrance to the premises. The entrance from Harington Street is designated as the principal entrance.

DURATION

Subject to the requirements of the Act relating to the payment of fees, and to the provisions of the Act relating to the suspension and cancellation of licences, this licence continues in force -

(a) Until the close of the period of 1 year commencing with the date of its issue; or
(b) If an application for the renewal of the licence is duly made, until the application is determined; or
(c) If the licence is renewed, until the close of the period for which it is renewed.

ORIGINALLY DATED at WELLINGTON this 17th day of February 1999

NEW ZEALAND LIQUOR LICENSING AUTHORITY

B M Holmes
Deputy Secretary
Liquor Licensing Authority

NOTE: This licence replaces licence number 021/ON/4230/2003
This licence expires on the same expiry date (or anniversary) as that of the licence it replaces or, if renewed, of the most recent notice of renewal.

Harringtons Night Club.lic(ab)

1 February 2013

Jeremy BOASE
Strategic Planner
Tauranga City Council
Private Bag 12022
Tauranga Mail Centre
Tauranga 3143

Dear Sir

RE: LOCAL ALCOHOL POLICY

I am in receipt of your letter dated 11 December 2012 regarding the 'opinion gathering' process that is underway in respect of the content of a Local Alcohol Policy.

Thank you for the opportunity for the Western Bay of Plenty Police to provide feedback to this process. The matters raised below have been considered on a very general perspective and Police would welcome the opportunity to put forward a more in-depth submission when the time comes for that to happen.

With respect to the matters you sought opinion on, I am able to comment on behalf of the WBOP Police management as follows:

1. **The location of licensed premises by reference to broad areas:**

   Police are satisfied with the current location of licensed premises in areas zoned commercial, residential and in the recognised Central Business District (CBD) of both Tauranga and Mount Maunganui.

   However, Police do not agree with the locating of licensed premises in areas zoned as 'industrial'. These areas historically have a lack of natural capable guardians. They are often away from any form of public transport and can attract an element who have a heavy drinking culture.

   Licensed premises in Residential Areas can cause considerable harm to neighbourhoods and we would like the LAP to reflect this by placing strict limitations on type of premises and hours of Operation.

2. **The location of licensed premises by reference to proximity to premises of a particular kind or kinds:**

Police are of the opinion that there should be a limit to the number of areas that would be considered 'entertainment precincts' in the WBOP. These have traditionally been identified as the Tauranga and Mount Maunganui CBD areas, where there is a high concentration of licensed premises of all types (taverns, pubs, restaurants and bars) in a relatively small geographical area.

Police would not want to see numbers of such precincts established in other areas that are currently identified as commercial or retail shopping areas (such as Fraser Cove and Papamoa Plaza). This would severely reduce the ability of Police to monitor these premises and deal with the alcohol related issues that arise from these entertainment precincts.

3. **Location of licensed premises by reference to proximity to facilities of a particular kind or kinds:**

Police would like to see rules in place in relation to where new premises that sell alcohol are located in relation to other facilities.

'Facilities' are considered to be (but are not limited to) places of the following types:

- Early childhood centres and kindergartens
- Primary and secondary schools
- Churches and other places of worship
- Public sporting and recreational facilities
- Community centres and/or halls
- Health centres and medical facilities
- Facilities providing social services (e.g. CYFS, WINZ, Citizen's Advice Bureau)

Rather than propose a certain distance that could be considered, Police are of the opinion that new licensed premises (particularly taverns and bottle stores) should not be located 'in the vicinity' of the above facilities.

4. **Whether further licences (or licences of a particular kind or kinds) should be issued for premises in the district concerned, or any stated part of the district:**

Police are of the opinion that there should be a limit or maximum on the number and type of licensed premises in the WBOP area. Police believe that 'off licensed' premises and 'on licensed' premises should be looked at individually but also take into account any synergy that exists between the two in a certain location that could result in alcohol related harm.

The number and location of each type of premises will ultimately be decided by elected members following consultation but Police suggest that consideration should be given to:

- Geographic location
- Demographic of the particular area/suburb
- Type of licensed premise and intended business
- Social and crime index of the particular area/suburb
- Alcohol related issues already identified in the particular area/suburb (e.g.: road trauma, drink driving, family and domestic violence, public disorder, etc)

The establishment of licensed premises in areas where there are already recognised alcohol related issues would be ill-advised.

Police would also be opposed to any entertainment style licences being issued in WBOP. These licences often permit the sale of alcohol beyond an areas normal trading hours on the basis that they are providing 'entertainment'. Our experience here in WBOP is that these licences usually relate to the sex industry and are an attractor for people to migrate to 'after hours' expressly for the purpose of drinking as opposed to viewing the 'entertainment' provided.

5. **Maximum trading hours:**

Police are aware of the default trading hours that the Sale and Supply of Alcohol Act 2012 imposes and proposes that trading hours for the WBOP area look similar to the following:

- Tauranga (CBD on-licences): 8am - 2am
- Tauranga (all other on-licences): 8am - 11pm
- Mt Maunganui (CBD on-licences): 8am - 1am
- All other WBOP on-licences: 8am - 11pm
- All WBOP off-licences (bottle stores): 10am - 9pm
- All WBOP off-licences (other - grocery/supermarket): 8am - 9pm
- All WBOP club licences: 9am - 1am

These timings are the maximum hours that WBOP Police would like to see implemented. Police have no doubt that a further reduction to these hours would reduce the alcohol related harm in our community and would support council on further reducing the hours.

We are seeking the reduced hours in the CDB based on our the fact that much of the alcohol related violence presently happens at or around closing time due to the higher levels of intoxication at that time.

A reduction to 2am would place Police in a better position to deal with issues that arise and in our view by removing that last hour of drinking time this will have an overall effect of reducing the intoxication levels. and make the CBD a safer place as a result.

The reduction to 2am in the Tauranga CBD would also reduce significantly the migration from the Mt CBD to the Tauranga CBD which occurs now under the current closing hours. Currently Police are forced to target the harbour bridge between 1.00am and 3.00am for drink drivers migrating from the Mt to Tauranga and consistently apprehend those who are tempted to risk driving under the influence knowing they can continue to drink for a further 2 hours in the Tauranga CBD.

6. **The issue of licences or licences of a particular kind or kinds, being subject to discretionary conditions:**

Police would like to see a 'menu of conditions' that should be considered when issuing special licences. The type of conditions that are currently considered include maximum serves per sale, minimum pricing of drinks, the size and type and alcohol percentage of drinks sold, etc.

From the combined experience of Police, Council licensing inspectors and other partners, a comprehensive list of possible 'licence conditions' could be developed to encourage the responsible use of alcohol and a reduction in alcohol related harm at special licensed events. It could also be a consideration for the inclusion of extra conditions on other licence types.

Police are also interested in gaining opinion and direction from elected members and the community about the 'type of activity' that is deemed appropriate under certain types of licences.

A current situation in Tauranga exists where some premises trading on a 'tavern style' licence (where the main activity and purpose is the sale and consumption of alcohol) have continuous 'entertainment' in the form of dancers and strippers who perform in the public area of the premise and the provision for 'private dances' to take place in other areas.

This is not the type of activity that Police consider appropriate under that style of licence - but neither do Police wish to see 'entertainment style' licences that go beyond the recommended trading hours, whatever they might end up being.

Police also recommend that some clarity on the use of Licence to Occupy (LTO) areas be considered as part of the LAP. Some premises generally use the LTO as an extra stand up area for patrons to consume alcohol - when it is understood that those areas were intended more for 'alfresco dining'. At the very least, patrons using these areas should be seated. If they are not, the area merely becomes a 'garden bar' and dance floor in the early hours of the morning.

7. **One Way Door (OWD) Restrictions:**

Police are of the opinion that an OWD policy for tavern style licences (e.g.: pubs, taverns and bars) would greatly assist in the reduction of alcohol related harm.

In considering the implementation of a OWD policy for the WBOP, Police believe it should consist of:

- Tauranga CBD (entertainment precinct): 2 hours before closing
- Mount Maunganui and rest of WBOP: 1 hour before closing

These timings recognise that the Tauranga CBD is open later and is generally busier than other areas and should therefore have a longer period between the OWD being imposed and the actual closing time.

Police also recognise that there are a number of licensed premises (primarily in the Tauranga CBD) that utilise the LTO area outside the front of their premise proper. For a OWD to be effective, Police consider that the LTO area needs to be vacated of patrons, as their continued use of that area within view of the public is merely an attractor for those outside, even though they cannot gain access.

Police would suggest that where there is an LTO in effect and being used (or where an outside area is being used under Street Use by-laws), that the OWD policy start 2 hours before closing and with an expectation that all patrons will be removed from the LTO 1 hour before closing.

Patrons using the outside area would either have to move inside (or leave the premise if there is not enough space to accommodate them inside) and this also gives management 1 hour to have the LTO cleared and a OWD in place.

Conclusion:

Police are appreciative of the consultation process that is being embarked upon and wish to be a positive part of any consultation with the community and Councils.

The matters raised in this document are not exhaustive and are subject to review as the process continues. Police encourage both councils to adopt a fair and robust LAP for the WBOP with an emphasis on reducing alcohol related harm in our community which we know impacts on a broad spectrum of Crime and Crash. Our preference would be to have one robust LAP to cover the Tauranga and Western Bay District.

Yours faithfully

Karl Wright-St Clair
Area Prevention Manager
Western Bay of Plenty Police

Further Information on LAP - NZ Police - 9 of 10

Western Bay of Plenty District Council

Tauranga City

Adopted Tauranga and Western Bay of Plenty District

POLICY TITLE: LOCAL ALCOHOL POLICY

1. POLICY GOALS

- To minimise alcohol-related harm in the western Bay of Plenty sub-region.
- To contribute to the western Bay of Plenty being a safe and healthy sub-region.
- To reflect local communities' character, amenity, values, preferences and needs.
- To encourage licensed premises to foster positive, responsible drinking behaviour.

2. POLICY OBJECTIVES

To provide guidance to the licensing committee and licensing authority regarding:

- The trading hours of licensed premises.
- The further issuing of licences.
- One-way door restrictions.
- Discretionary conditions

3. DEFINITIONS

The **Act** means the Sale and Supply of Alcohol Act 2012.

Bottle store means an off-licensed premises being a retail premises where (in the opinion of the licensing authority or licensing committee concerned) at least 85% of the annual sales revenue is expected to be earned from the sale of alcohol for consumption somewhere else. (Refer section 32(1)(b) of the Act.)

City Plan means the Tauranga City Council's operative City Plan.

Club means a body that:

(a) is a body corporate having as its object (or as one of its objects) participating in or promoting a sport or other recreational activity, otherwise than for gain; or

(b) is a body corporate whose object is not (or none of whose objects is) gain; or

(c) holds permanent club charter. (Refer section 5 of the Act.)

District Plan means the Western Bay of Plenty District Council's operative District Plan.

Hotel means premises used or intended to be used in the course of business principally for providing to the public:

(a) lodging; and

(b) alcohol, meals, and refreshments for consumption on the premises. (Refer section 5 of the Act.)

Licensing authority means the Alcohol Regulatory and Licensing Authority continued in existence under section 169(1) of the Act.

Licensing committee means the District Licensing Committee established under section 186 of the Act, either by Tauranga City Council or by Western Bay of Plenty District Council, relevant to the licence or matter under consideration.

Off-licence is a licence for premises where the licensee can sell alcohol for consumption somewhere else.

On-licence is a licence for premises where the licensee can sell alcohol for consumption on the premises or can let people consume alcohol on the premises. For the avoidance of doubt, on-licences includes club licences per section 21 of the Act.

One-way door restriction means, in relation to a licence, a requirement that, during the hours stated in the restriction:

(a) no person is to be admitted (or re-admitted) into the premises unless he or she is an exempt person; and

(b) no person who has been admitted (or re-admitted) into the premises while the restriction applies to the licence is to be sold or supplied with alcohol. (Refer section 5 of the Act.)

Sub-region means the combined area of the Tauranga City Council and Western Bay of Plenty District Council.

Tauranga City Centre means, for the purposes of this policy, the area indicated in Attachment 1 to this policy.

Tavern (a) means premises used or intended to be used in the course of business principally for providing alcohol and other refreshments to the public; but (b) does not include an airport bar. (Refer section 5 of the Act.)

4. BACKGROUND

The Act has the following objects:

(a) that the sale, supply, and consumption of alcohol should be undertaken safely and responsibly; and

(b) that the harm caused by the excessive or inappropriate consumption of alcohol should be minimised.

Under the Act, councils and their communities have the opportunity to develop a local alcohol policy. Section 77 of the Act allows that a local alcohol policy may include policies on the following matters (and no others):

- the location of licensed premises by reference to broad areas
- the proximity of licensed premises to other facilities or licensed premises

- whether further licences should be issued in the district or parts of the district
- maximum trading hours
- the issue of licences subject to discretionary conditions, and
- one-way door restrictions.

In making decisions on licence applications, the licensing committee or licensing authority must have regard to the local alcohol policy. Except for persons with a greater interest in a licence application than the public generally, the local alcohol policy is the principal method by which communities can influence licensing decision-making.

Under the Act, a local alcohol policy must be reviewed no later than six years after adoption.

5. POLICY STATEMENT

5.1 Off-licenses

5.1.1 Maximum licensed hours

- Maximum licensed hours for off-licences shall be 7am to 10pm.

5.2 On-licences

5.2.1 Maximum licensed hours – western bay of plenty sub-region (excluding the Tauranga city centre)

- Maximum licensed hours for all on-licences in the western bay of plenty sub-region (excluding the Tauranga city centre) shall be 9am to 1am the following day.

5.2.2 Maximum licensed hours – Tauranga city centre

- Maximum licensed hours for all on-licensed premises in the Tauranga city centre shall be 9am to 3am the following day.

5.2.3 One-way door restrictions

- Any on-licensed premises licensed until after 2am shall have a one-way door restriction in place from 2am.

5.2.4 Discretionary conditions

The following discretionary conditions have been identified for consideration by the District Licensing Committee when issuing and renewing on-licences, including on-licences issued to clubs:

- Patron number to security ratio;
- Patron number to bar manager ratio;
- Provision of additional security (staff) after 11pm;
- The installation and operation of CCTV cameras on the exterior of, and within premises;
- Provision of effective exterior lighting;
- Restrictions on the size (e.g. ‘doubles’) and time of ‘last orders’;
- Management of patrons queuing to enter the licenced premise;
- Restriction on the use of outdoor areas after 10pm;

- Provision of seating i.e. no vertical drinking zones within the licence-to-occupy area (i.e.: all LTO areas are seated only at all times);
- No serving in glass containers at specified times;
- No shots or particular types of drinks to be served after specified times;
- A restriction on the number of drinks per customer;
- Restrictions on permitted drinking vessels;
- No alcohol service for a specified time before the closing the licensed premises;
- Provision of transport for patrons;
- Acoustic design certificate required if an existing tavern is the subject of complaints;
- Acoustic design certificate required for all new on-licenced and club premises with a residential boundary within 500 metres and an outside area operating after 11pm.
- The above conditions would apply to all types of on-licence premises.

5.3 Special Licences

5.3.1 Discretionary conditions

The following discretionary conditions have been identified for consideration by the District Licensing Committee when issuing special licences, including special licences issued to clubs:

- Number of 'responsible persons' or certified Duty Managers to be present;
- Specify locations Managers to be present at. (e.g.: at point of sale, anywhere else on site that their presence would be beneficial);
- Free water to be available;
- Limit on number of drinks to be sold in one transaction;
- Drink containers to be opened at point of sale;
- No high alcohol doubles or shots to be sold;
- Specify security staff number required and their location.(Guard to patron ratio);
- Specify event staff to wear high viz clothing;
- Specify containers alcohol may be sold in;
- Condition to ensure Police reserve rights to require earlier cessation of licence hours by request to the licencee and reduce number of sales and slowing of service;
- Limits on promotion of alcohol;
- Require one way door procedure;
- Limits as to noise from event;
- Lighting requirements;
- Consideration of having specific 'licenced area' within an overall 'event area' - this will help restrict movement of patrons with alcohol inside the

event and be easier to monitor for event staff and Police/Licensing Inspectors;

- The above conditions apply to both on-site and off-site special licences.

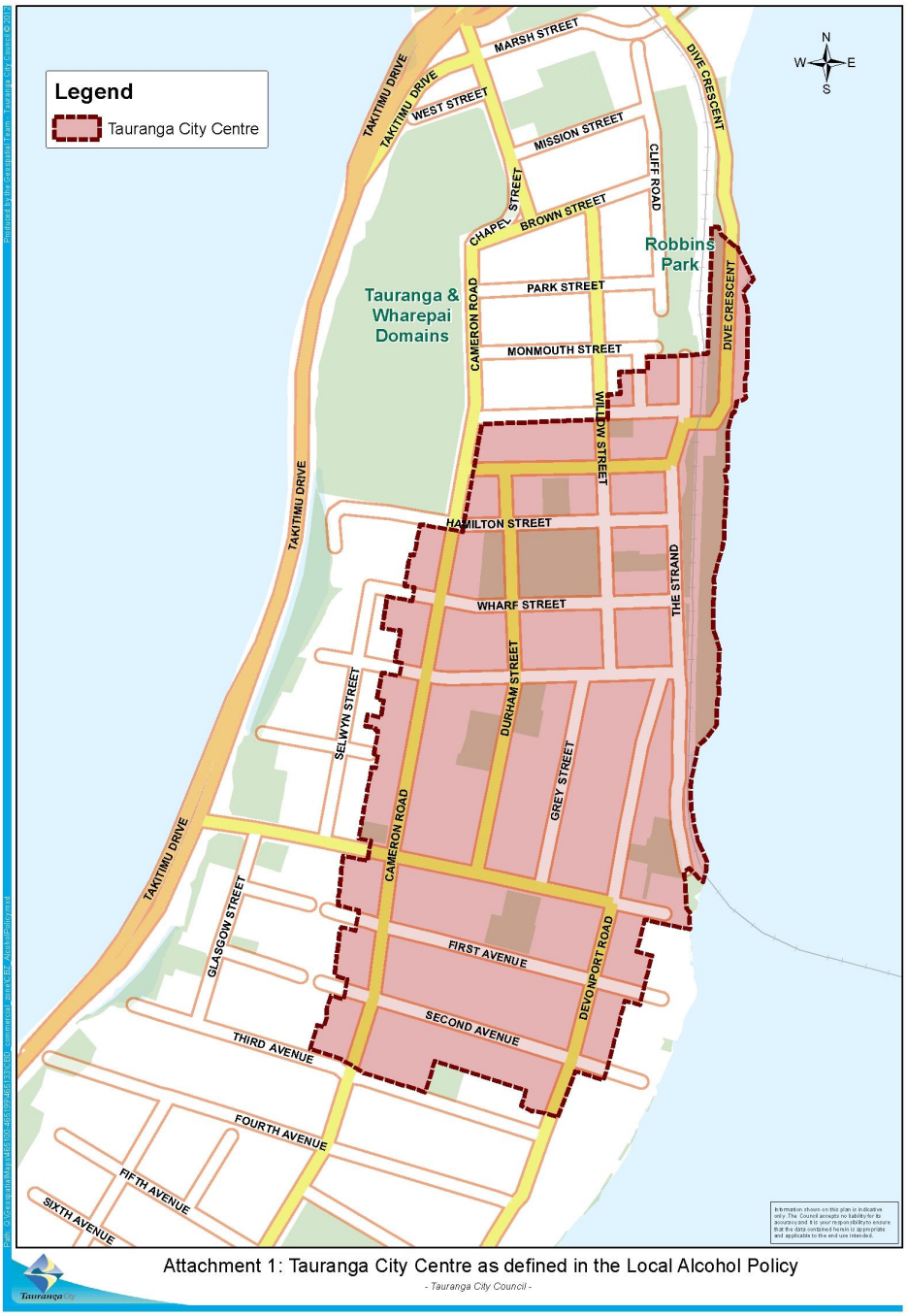
6. RELEVANT DELEGATIONS

This policy is delegated to the licensing committees and licensing authority to implement as appropriate.

7. REFERENCES AND RELEVANT LEGISLATION

Sale and Supply of Alcohol Act 2012

Attachment 1



Attachment 1: Tauranga City Centre as defined in the Local Alcohol Policy

- Tauranga City Council -

Further Information on LAP - NZ Police - 10 of 10

VICTIMISATION (Time and Place)

https://www.police.govt.nz/about-us/publications-statistics/data-and-statistics/policedatanz/victimisation-time-and-place

Tauranga central (Statistical Area 2) as per below map.

Covid-19 restrictions

	Jul-Dec 2014	2015	2016	2017	2018	2019	2020	2021	Jan 2022
All Crime	322	685	723	768	814	899	791	885	95
Acts intending to cause injury	72	145	129	144	187	174	149	153	15
As a %age of all crime	22%	21%	18%	19%	23%	19%	19%	17%	16%


Sulphur Point
SH 2
Ngatai Road
Bureta
Otumoetai
Otumoetai Road
Chapel Street
Pillans Point
Chapel Street
Tauranga Central
Tauranga
Brookfield
Elizabeth Street
Eleventh Avenue
Judea
Waihi Road
Tamatea Arikinui Drive
Tauranga South

Selection of 4 mesh-blocks in Tauranga Central (around entertainment area)

As per below map

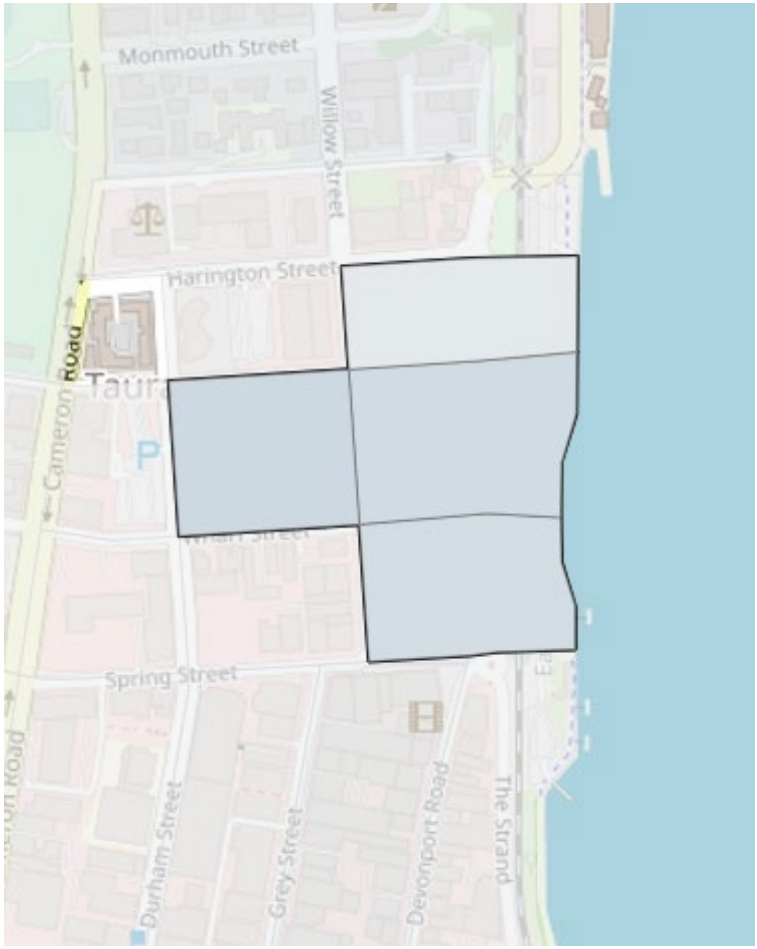
Bahama Hutt

Closed for the year

Covid-19

restrictions

	Jul-Dec 2014	2015	2016	2017	2018	2019	2020	2021	Jan 2022
All Crime (4 mesh-blocks)	60	153	150	173	169	161	115 Decrease by 29%	125	16
% of total Tauranga central All crime	19%	20%	21%	23%	21%	18%	14.5%	14%	17%
Acts intending to cause injury (AICI)	28	56	68	77	88	71 Decrease by 20%	49 Decrease by 31%	55	3
(AICI) as a %age of Tauranga Central (AICI)	39%	39%	52%	53%	47%	41%	33%	36%	20%


Monmouth Street
Willow Street
Harington Street
Cameron Road
Spring Street
Durham Street
Grey Street
Devonport Road
The Strand

Further Information LAP - Health Promotion Agency - 1 of 2

From: Cathy Bruce
Sent: Friday, 18 March 2022 1:51 pm
To: Jane Barnett <Jane.Barnett@tauranga.govt.nz>
Cc: Sarah Drummond <Sarah.Drummond@tauranga.govt.nz>
Subject: Tauranga LAP [HPA-HPA.FID65186]

CAUTION:External Email.

Kia ora
I submitted to the Commissioners earlier in the week and they asked me to send some further information on a couple of things. I wasn't sure who to send my response to but both of your emails came up in the corresponsdance.

The first request was examples of restrictions for off-licences. Although a bit out of date now, https://www.ahw.org.nz/Portals/5/Resources/Documents-other/2017/LAPReport_2017_WEB_amended%2020_3_18.pdf gives the best summary of LAP contents. As Nicky Jackson mentioned in her oral submission, many LAPs have been watered down as they have gone through the process so don't provide a suite of the best buys in terms of measures to reduce alcohol-related harm to the greatest extent. This means that areas tend to cherry pick one or two things but few have implemented the whole suite. Below I have listed a few councils who have reviewed or developed LAPs since the publishing of the above report. All the below LAPs are available on the Council's website. The only LAP in my view that has taken a truly harm reduction approach is Wairoa.

In our view as per our submission we suggest reducing off-licence trading hours to 9pm (this would also align with Western Bay of Plenty), considering restrictions on the number/location of premises (Wairoa, Horowhenua, Hutt City, Waimakariri, Whanganui), considering location of off-licences near sensitive sites (Wairoa, Gisborne, Gore, Horowhenua, Invercargill, Southland, Whanganui),

community impact reports (Gore, Invercargill) and ensuring your DLC is up to date on the sorts of discretionary conditions that ARLA have supported through case law for off-licences (list contained in our submission)

You are probably aware that the second question isn't easy to answer – the question was around examples of LAPs that have made a difference, especially from other Metros. Unfortunately, the only comparable metros with a LAP in place are Invercargill, Hutt City and Dunedin. None of them in my view have a package of measures that will reduce alcohol-related harm to the greatest extent. Therefore, even if they had been evaluated with reliable, up to date data (which is unlikely because of the quality of alcohol data, especially at a local area) I wouldn't expect they were going to show measurable differences when we are looking at small areas and small numbers.

As mentioned in my oral, added to this, reducing alcohol related harm is a long game and requires everyone to do their bit. Good policy nationally, good policy locally as well as community action - they all play a part. I would be concerned if the Commissioners dismissed putting in an evidence based LAP because they couldn't easily monitor it (your own background report showed the need, and there is plenty of national and international evidence to support the measures that work – Tauranga won't be different).

I was also disappointed to hear the comments about the impact reducing on-licence hours might have on the night-time economy and the hospitality sector (was mentioned a couple of times) given the requirements of the Act which are clear that economic impacts can't be considered in a LAP. One of them also made the comment that they "were not compelled to change hours" even though the evidence is very clear in this space, and instead comments were made around the need for collaboration. Obviously, I am not from Tauranga so may not have the background, but I was really surprised to hear a lot of blame from the hospitality sector toward the Police and the Council, suggesting that that they should take some responsibility for the issues (eg, no police patrolling and no accord in place). From my experience, accords are often driven by the licensees, and there is no reason why this couldn't have happened years ago with or without the Council and/or Police. It seems odd that only now when there are proposed trading hour changes being discussed that it is being promoted as an option for fixing their issues. What's probably more important is that accords have limited evidence of actually being effective at addressing alcohol-related harm issues. There is way more evidence for the things we advocated for in our submission.

I don't envy your role going forward, but I encourage you to put the harm caused by alcohol in your community at the forefront of your advice to the Commissioners.

Ngā mihi

Cathy Bruce | *Prinipal Advisor Alcohol*

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Further Information LAP - Health Promotion Agency - 2 of 2

Alcohol Healthwatch

Whakatūpato Waipiro

A Review of Territorial Authority Progress Towards Local Alcohol Policy Development

December 2017

Prepared for Alcohol Healthwatch by:
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Alcohol Healthwatch
PO Box 99407
Newmarket
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Table of Contents

Tables

Figures

Abbreviations

ARLA	Alcohol Regulatory and Licensing Authority
DLC	District Licensing Committee
LAP	Local Alcohol Policy
PLAP	Provisional Local Alcohol Policy
SD	Standard deviation

Executive Summary

Communities in New Zealand shoulder the major burden of harm resulting from the excessive or inappropriate consumption of alcohol; yet often have little control over its availability in their local areas. In part due to growing community sentiment regarding this lack of control, a new set of policy objectives enacted through the Sale and Supply of Alcohol Act 2012 (the 'Act') heralded increased community input into local licensing decisions through the devolution of policy-making from a central body to local government. The adoption of a harm minimisation approach in the Act together with a broadening of its object (to minimise a wide array of health and social harms directly or indirectly resulting from excessive and inappropriate alcohol use) provided key legislative levers to reduce the harms from previously liberalised alcohol policies.

The Act provides for each Territorial Authority to develop a Local Alcohol Policy (LAP). Within a LAP, measures to control the temporal and physical availability of alcohol can be locally implemented. For example, LAPs can address the trading hours of licensed premises and their location in relation to broad areas and/or proximity to other licensed premises or sensitive facilities (e.g. schools). As such, they offer significant potential to utilise evidence-based measures to address local concerns and target inequities in alcohol-related harm.

However, the Act specifies that the development of a LAP is not a mandatory requirement for any Territorial Authority. Furthermore, even if a LAP is adopted, it is but one of eleven criteria that must be considered in local licensing decisions. They are also limited in their ability to address the saturation of alcohol availability in a district, given they can do little to restrict existing licences (except impose conditions on their licence).

For those Territorial Authorities seeking to develop a policy, they are required to first produce a Draft LAP that is informed by a wide array of local data and developed in consultation with the Police, inspectors, and Medical Officer(s) of Health. Once approved by the Territorial Authority, the Draft LAP is publicly notified as required under special consultative procedure. Following submission feedback (and possible changes to the Draft LAP), a Provisional LAP is approved, publicly notified, and opened for appeal. The Act requires that any appeal can only made in relation to an element(s) of the Provisional LAP that is perceived to be unreasonable in the light of the object of the Act and must be dealt with in public. This is in the form of a public hearing, conducted by the Alcohol Regulatory and Licensing Authority (ARLA), to determine the unreasonableness of the appealed element(s). Alternatively, Territorial Authorities can avoid a substantive hearing and opt to negotiate with appellants through a consent order process.

In December 2013, regulations pertaining to the LAP processes were implemented. Thirty months later (July 2016), a review was conducted to examine the progress of LAP development across each of the Territorial Authorities. Details regarding LAP development were sourced from Territorial Authority meeting minutes, public documents and contact with Territorial Authority staff where required. Policies were analysed to determine if they became more or less restrictive following public consultation and appeal processes. Findings from the report demonstrated that in the 30 months following LAP regulations, 12 LAPs (representing 19 (28%) of the 67 Territorial Authorities) had been adopted.

This report provides a further update regarding the status of LAP development and mirrors the methods used previously. Findings revealed that, as at August 1, 2017, 16 (23.9%) Territorial Authorities had not proceeded to develop and notify a Draft LAP, 7 (10.4%) had not progressed beyond a Draft LAP, 13 (19.4%) had notified Provisional policies and were awaiting a hearing and/or were in negotiation, 2 (3.0%) had revised/amended their Provisional LAPs and were awaiting a hearing or adoption, and 29 (43.3%) had adopted their Local Alcohol Policies. Eighteen Territorial Authorities opted to undertake a joint policy across two or more neighbouring districts. To date, almost 19,000 submissions have been made to the 40 Draft LAPs developed. The average duration from notification of the Draft LAP to notification of the Provisional LAP was found to be 292 days (standard deviation (SD) 211, range 65-936).

Of the 33 Provisional policies notified, 32 were appealed. In almost all (94%) of the 32 appealed policies, the supermarket companies of Progressive Enterprises and Foodstuffs registered as appellants (note: some appeals were later withdrawn). The bottle store sector (as a whole) registered as an appellant in 81% of all appealed policies. In contrast, over one-quarter (28%) of all policies received appeals from the Police, health agencies and/or community members. Two judicial reviews were lodged to Provisional policies - in both cases they related to the geographic zoning provisions in the LAPs that determine on-licence trading hours.

Following appeals, 21 LAPs, representing 29 authorities, were adopted. The average duration from notification of the Provisional LAP to its adoption was 790 days (SD 312). In total, almost one in every four (24%) New Zealand residents resided in a Territorial Authority with an adopted LAP. Whilst Māori were more likely to live in an area with an adopted LAP, they were also more likely to live in an area that had not proceeded to develop a Draft LAP.

Across all of the policies developed to date, 201 substantive changes have been made (71% less restrictive, 29% more restrictive). Almost half (46%) of all changes related to the trading hours for on-licences and off-licences, with the latter comprising 26% of all changes made in policies. All changes following appeals resulted in less restrictive policies and all changes providing tighter restrictions occurred following public submissions. None of the 21 adopted policies contained provisions that restricted the location of premises in relation to broad areas, beyond that permitted in the relevant District Plan. Only six adopted polices addressed issues regarding the clustering of similar premises, requiring the District Licensing Committee to have regard to the proximity of licensed premises to each other within licensing decisions. Concerning the location of new premises in close proximity to sensitive sites, fourteen policies contained restrictions, although only two explicitly prohibited licences where close proximity (50-100m) was demonstrated. Otherwise, policies required the applicant (particularly for off-licences) to demonstrate no significant adverse effects before a licence was granted. Only one of the adopted policies contained provisions that sought to control the further issuing of licences (by capping bottle store density at its status quo of seven premises in the District).

Trading hours received significant attention across the policy development process. The on-licence closing hour for residential areas in the adopted policies ranged from 1am to 3am, whilst 2am and 3am were typical closing hours for premises in urban or Central Business District (CBD) areas. Three adopted policies contained mandatory one-way door policies, whilst fourteen included the measure as a discretionary condition. Maximum trading hours for off-licences in the adopted policies mostly commenced at 7am and ceased at 9pm or 9:30pm (32%), 10pm (45%), or 11pm (19%). The average duration of maximum trading hours (14.9 hours) was found to

increase for both supermarkets and bottle stores following appeals, and resulted in an average length of trading that was one hour less than the default national maximum length of trading (i.e. 16 hours). Many discretionary licence conditions were removed throughout the policy-making process, particularly in relation to the strength of beverages sold within on-licences and the prohibition of single sales from off-licences.

Overall, the findings of the review highlighted the inherently complex politics of alcohol policy formulation within local government. The focus of the appeals process on individual elements of the policy resulted in a reductionist approach to policy development, rather than a conceptualisation of the policy as a package of evidence-based measures to reduce harm. The trend (to date) for less restrictive measures included in policies as they progressed through the stages of development (particularly following appeals) signals the increasing gap between community expectations for greater control and the reality of the LAP process as it is prescribed in legislation. The consequential watering down of the policy measures to date is likely to result in a significant onus on District Licensing Committees within each of the Territorial Authorities to make sound licensing decisions that reflect the needs of the community. The current lack of strong provisions in policies is likely to result in a continuing burden for communities to be engaged in individual licensing applications (particularly as a LAP is but only 1 of 11 criteria used in decision-making). It also has the potential to reduce levels of trust, and future participation, in decision-making processes.

Introduction

Over the past decade alcohol use has been the subject of significant policy debate in New Zealand, as groups increasingly voice their concern over the disproportionate harm resulting from society's most widely used recreational drug. The focus of the debate has centred heavily on the acute harms caused by hazardous drinking or heavy episodic drinking, such as violence and injury, rather than the long-term health risks (e.g. cancers) which are driven by the total volume of alcohol consumed [1]. This is concerning given that the majority of alcohol-related deaths in New Zealand are due to chronic conditions, and not acute injuries [2].

A significant increase in alcohol consumption and related-harm in New Zealand was particularly evident following the enactment of the Sale of Liquor Act in 1989, which greatly liberalised the sale and supply of alcohol. By the end of 1999 (following some amendments to the Act), the legal purchase age of alcohol had reduced from 20 to 18 years, Sunday trading was permitted, and beer, wine, and mead were available to purchase from supermarkets and grocery stores [3]. A decade prior to these amendments, per capita consumption in New Zealand had been on a steep downward trajectory [4]. Following the changes in 1999 and subsequent proliferation of alcohol outlets, a reversal in the decline was evident, with the typical quantity of alcohol consumed in a drinking occasion increasing markedly [5]. This was especially evident among young adolescents of both sexes and women aged 20-24 and 40-65 years. The liberalisation of alcohol policy was also associated with an increase in alcohol-related problems, such as prosecutions for disorder and driving with excess blood alcohol [3]. Overall, hazardous alcohol use characterised the national drinking pattern well into the first decade of the new millennium.

The persistent inequalities in hazardous drinking and related harm strongly signal the lack of progress of alcohol harm reduction in relation to achieving health equity. Māori and Pacific populations, and those living in socio-economic disadvantage, continue to be significantly more likely to be classified as hazardous drinkers [6]. This contributes to Māori having an age-standardised death rate (attributable to alcohol use) which is two-and-a-half times greater than the rate for non-Māori [7]. The harm to others from drinking is also significant, with one in four New Zealanders reporting a heavy drinker in their life in the previous 12 months [8, 9], which is associated with experiencing a wide range of social, emotional and physical harms [10]. More New Zealanders experience harm from the drinking of others, than from their own drinking [9].

Heightened attention to the significant burden of alcohol-related harm in New Zealand was catalysed by a number of events. The tragic death of Navtej Singh, a liquor store owner, cast a spotlight on the issue, when, on a Saturday evening in June 2008, he tragically lost his life for a few dozen ready-to-drink beverages and the day's takings. His death also occurred at a time when community action groups throughout the country were becoming increasingly mobilised to take action on where alcohol is sold in their community, but also frustrated by their inability to influence these important decisions [10]. Frontline workers confronted with alcohol harm, including police and Emergency Department staff, were also expressing growing concern at the level of alcohol-related violence and injury [4].

In August 2008, the Law Commission was tasked to determine if the pendulum had swung too far: whether the right balance had been achieved between the liberalised alcohol policies and the harms associated with alcohol abuse. The Commission's three-year review into the regulatory framework for the sale and supply of alcohol gathered enormous attention, receiving 2939 submissions; more than any other project in its 24-year history [11]. Drawing on an accumulating body of national and international evidence and submissions received, the Commission recommended 153 regulatory measures to curb the harm from alcohol use.

The Government responded to these recommendations by drafting the Alcohol Reform Bill, cited by some as tinkering at the margins of alcohol control rather than providing a once-in-a-generation opportunity for significant law reform [12, 13]. Despite strong public support for an array of evidence-based measures [14], the Alcohol Reform Bill excluded any significant increases in tax on alcohol products or restrictions on alcohol advertising and sponsorship. Default national maximum trading hours for licensed premises were proposed, and a line was drawn in the sand prohibiting shops "commonly thought of as a dairy" or as "a convenience store" from holding an off-licence. Licensing decisions (including contested applications) were to be devolved to District Licensing Committees (DLC). In addition, the Bill provided for each Territorial Authority to develop their own Local Alcohol Policy. Although many had their own local policies or strategies in place, these policies had lacked any legislative mandate in previous legislation (i.e. the Sale of Liquor Act 1989). Following the Bill's final reading, the Government enacted the Sale and Supply of Alcohol Act (the 'Act') on December 18, 2012. In comparison to previous legislation, a broader object of the Act was provided, requiring that:

a. the sale, supply, and consumption of alcohol should be undertaken safely and responsibly; and
b. the harm caused by the excessive or inappropriate consumption of alcohol should be minimised.

The harm caused by alcohol use was further defined, and included:

a. any crime, damage, death, disease, disorderly behaviour, illness, or injury, directly or indirectly caused, or directly or indirectly contributed to, by the excessive or inappropriate consumption of alcohol; and
b. any harm to society generally or the community, directly or indirectly caused, or directly or indirectly contributed to, by any crime, damage, death, disease, disorderly behaviour, illness, or injury of a kind described in paragraph (a).

In addition, the criteria for the issue of licences were extended to allow for other matters to be considered when determining whether or not a licence should be granted. Most importantly, the new Act explicitly included the Object of the Act as a matter of consideration in the issuing of a licence, compared to previous legislation where it was omitted from the listed criteria. Other additional criteria introduced in the Act included:

- the presence of any relevant local alcohol policy:
- the design and layout of any proposed premises:
- whether (in its opinion) the amenity and good order of the locality would be likely to be reduced, to more than a minor extent, by the effects of the issue of the licence:
- whether (in its opinion) the amenity and good order of the locality are already so badly affected by the effects of the issue of existing licences that—
    - they would be unlikely to be reduced further (or would be likely to be reduced further to only a minor extent) by the effects of the issue of the licence; but
    - it is nevertheless desirable not to issue any further licences:
- whether the applicant has appropriate systems, staff, and training to comply with the law.

In relation to amenity and good order effects on the locality, the licensing authority or committee can have regard to current and possible future levels of noise, nuisance and vandalism. In addition, they can consider the number of premises for which licences of the kind concerned are already held, the compatibility of the purposes of the nearby land to the premises, and the purposes of the proposed premises. The wider Object of the Act, together with the extended criteria for decision-making (in particular the amenity and good order provisions), are considerable advances beyond that provided for in previous legislation.

Local alcohol policies

A major focus of the Act was to enable communities to have more say in relation to the availability of alcohol in their local areas. This occurred through the devolution of decision-making to District Licensing Committees, including the hearing of contested applications. The Act also provided for Territorial Authorities to develop Local Alcohol Policies (Section 77 of the Act) in order to control the physical (i.e. location) and temporal (i.e. hours) availability of alcohol. Local Alcohol Policies are not a mandatory requirement in the Act, and two or more territorial authorities can choose to adopt a single local alcohol policy for their wider district. It is important to note the weight of local alcohol policies in licensing decisions: LAPs are but one of 11 criteria that must have regard to in decision-making (s.105 of the Act). As such, they are not a law or policy that will ultimately determine the decision whether or not to issue a liquor licence.

Section 77 prescribes the contents of the policies which can be included:

a. location of licensed premises by reference to broad areas
b. location of licensed premises by reference to proximity to premises of a particular kind or kinds
c. location of licensed premises by reference to proximity to facilities of a particular kind or kinds
d. whether further licences (or licences of a particular kind or kinds) should be issued for premises in the district concerned, or any stated part of the district
e. maximum trading hours
f. the issue of licences, or licences of a particular kind or kinds, subject to discretionary conditions
g. one-way door restrictions.

The LAP is not permitted to include policies on any matter not relating to licensing. Section 77(c) closely resembles or reintroduces the provisions in Sections 92, 115, and 157 of the Sale of Liquor Act 1962 [15], whereby grounds for objections to licensed premises included the site of the premises being in the immediate vicinity of a place of public worship, hospital, or school. It is important to note that LAPs can only address issues such as location and density for NEW licences and not renewals: s133 of the Act only provides for LAPs to place conditions on licence renewals. As such, LAPs (unless they apply a freeze or sinking lid to address density) will have marginal impact in any district already saturated with licensed premises.

Section 78 of the Act states that the Territorial Authority must first produce a draft policy, in consultation with the Police, inspectors, and Medical Officer(s) of Health. The draft LAP is then notified and required to undergo Special Consultative Procedure as laid out in the Local Government Act 2002. Following public submissions, a Provisional LAP may be adopted and notified. A period of 30 days is provided for submitters on the Draft LAP to lodge an appeal. The only ground on which an element of the provisional policy can be appealed is that it is unreasonable in the light of the object of the Act. The onus is thus placed on the appellant to demonstrate this to the Authority.

Appeals must be dealt with by way of public hearing, held by the Alcohol Regulatory and Licensing Authority (ARLA). This process changed following the issue of a Practice Note by ARLA (see Results Section). It remains, however, that only ARLA can determine whether any element is unreasonable in light of the object of the Act. If an element is deemed unreasonable, ARLA will ask the Territorial Authority to reconsider the element of the Provisional LAP. A revised Provisional LAP, with the amended element(s), is then circulated to all who submitted on the particular element in the Draft LAP. Submitters who are not satisfied with the amended element have a period of 30 days to lodge an appeal.

If no appeals are lodged, the Provisional LAP can be adopted 30 days after public notification. If there are appeals, but they have been dismissed by ARLA, then the policy can be adopted 30 days after appeal dismissal. If the revised and resubmitted Provisional LAP is no longer deemed to be unreasonable in light of the object of the Act, then the policy can be adopted when ARLA makes its decision. Once a LAP is adopted it is to be reviewed every six years (unless specified earlier in the policy).

Although the Act was implemented in December 2012, Territorial Authorities could only progress through to developing Draft and Provisional LAPs, whilst they awaited the development of regulations pertaining to the appeals process and public notification requirements. These regulations came into force 18 December 2013, resulting in the earliest a LAP could be adopted being 17 January 2014 (30 days after public notification of Provisional LAP, assuming no appeals).

In July 2016, a review was conducted to examine the progress of LAP development across each of the Territorial Authorities [16]. At this stage, 30 months had passed since the appeal regulations came into force. The review found significant delays between each of the policy stages, with few Territorial Authorities reaching the adoption stage. Of these, few contained strong measures to restrict or reduce current levels of alcohol availability. The present review aimed to provide an updated picture of policy progress across Aotearoa New Zealand, five years since the implementation of the Act and almost four years since appeal regulations were implemented. The objectives of this review were to examine:

- The progress in the development of LAPs, including public submissions and appeals; and
- Whether policy elements became more or less restrictive following public consultation and appeals.

Methods

There are 67 Territorial authorities in New Zealand, ranging in population size from 610 to 1,569,900 residents (median 32,400). Information pertaining to the progress of LAP development across each authority was sourced between July 1 and August 1, 2017, via online searching of public documents, including Territorial Authority minutes, websites, and submission reports. Documents were also retrieved from files held by Alcohol Healthwatch; an independent charitable trust working to reduce alcohol-related harm that submitted on the majority of the Draft LAPs to date. Where information could not be located, the Territory Authority was contacted by email or phone for further information.

The following data were extracted and recorded for each Territorial Authority:

i. Date of public notification of Draft LAP.
ii. Number of submissions received on Draft LAP.
iii. Provisions of Draft LAP in relation to Section 77 of the Act:
iv. Date of public notification of Provisional LAP.
v. Changes in provisions (Section 77) from Draft LAP to Provisional LAP.
vi. Appellants to Provisional LAP.
vii. Date of ARLA public hearing.
viii. Date of revised Provisional LAP.
ix. Changes in provisions (Section 77) from Provisional LAP to revised Provisional LAP.
x. Date of adopted LAP.
xi. Date of Draft and/or Provisional Amended LAP (i.e. adopted policies which have been amended).

All data was collected up to August 1, 2017. However, many Councils remained in contact and provided an updated status following this date. For this reason, the report provides notes on an updated status where possible. As an example, submissions on the Palmerston North City Draft LAP closed after August 1, but the number of submissions is included in the analysis. Where joint policies had different notification dates for each Council, the earliest date was used in the calculation of time duration between policy stages. All details of appellants for the Provisional policies were obtained from ARLA or from official Council documents. It is important to note that the analysis of appellants includes all those who registered as appellants within the 30-day period, even if they subsequently withdrew from the appeal. ARLA decisions relating to substantive LAP hearings were accessed to describe the key emerging themes.

The chronology of progress across the stages of LAP development was compared and contrasted across the Territorial Authorities. The reach of the LAPs adopted by Territorial Authorities, as of August 1 2017, was determined by population size, ethnicity, and low personal income. All three socio-demographic factors were derived from Territorial Authority estimates provided in the Census 2013. Ethnicity was categorised into five broad ethnic groups according to Level 1 of the Ethnicity New Zealand Standard Classification 2005 [17], allowing individuals to belong to more than one ethnic group. Low personal income was defined as personal income ≤$30,000, which is the lowest Census income band which includes the New Zealand median income of $28,500. For each of the five stages of LAP development, the total proportion of residents on low income across all Territorial Authorities was calculated.

ARCMap was utilised to map the variation across Territorial Authorities in relation to the status of policy development. For this review, the opening and closing hour refers to the maximum licence hours in the policy – acknowledging that the hours for any premises may be shorter (as determined by the local District Plan or by licence condition) and/or not all premises remain open until their required cease of sales. The focus of this review relates to policy provisions for on-licences, club licences, and off-licences and excludes the many provisions relating to special licences. Descriptive statistics were used to summarise the changes to the provisions of the LAPs as they progressed through the submission and appeal processes.

Results

Information pertaining to the development of a LAP was found for all 67 Territorial Authorities. This section details the current status of policy development, the reach of policies by population characteristics, as well as the changes made to each element as policy development progressed. Provisions relating to one-way door policies are included in the section pertaining to trading hours of on-licences, given that these provisions generally relate to these types of premises (but may also apply to clubs and special licences).

(a) Status of Policy Development

i. Development of Draft LAP

As of August 1, 2017, 51(76%) of the 67 Territorial Authorities had developed and notified a Draft LAP. Eighteen of these opted to undertake and complete a joint policy, resulting in 40 Draft LAPs throughout the country. Although the majority of Territorial Authorities chose to undertake development of their own policy, many collaborated with neighbouring Territorial Authorities to collect the local data (e.g. resident surveys) required to inform their draft policies. Of the 40 draft LAPs, 24 (60%) were notified in 2013, 12 (30.0%) in 2014, 1(2.5%) in 2015, and 3 (7.5%) in 2017 (Table 1). Seven (17.5%) of the 40 original Draft policies were found to have not progressed beyond the draft stage (although two of these were only notified in 2017, with one moving to the Provisional stage after August 1, 2017 (Horowhenua District Council)). Sixteen (24%) of the 67 Territorial Authorities had not yet progressed to development and notification of a Draft LAP.

The 40 policies received 18,952 submissions, with a median of 96 per policy. The number of submissions was skewed, with large urban authorities (i.e. Auckland, Christchurch, Dunedin, Tauranga/Western Bay of Plenty, Wellington) receiving the majority of the total submissions. On further examination, minutes of the Hastings District Council Local Alcohol Policy Joint Committee showed that only one-third of the 260 submissions presented by Hospitality New Zealand on the Napier City and Hastings Draft LAP could be considered “genuine”. For example, one submitter claimed that the submission had been pre-completed, and by signing it received a free jug of beer [18].

Table 1 details the number of submissions on each Draft LAP as well as the status of LAP development, as at August 1, 2017. Dates of the revised /amended Provisional LAP were not always available, but have been presented where known. The adopted date represents the date when the policy came into force; for many Councils, the elements relating to trading hours were implemented 3 months later.

Table 1. Number of submissions on the Draft LAP and current status of policy development

Territorial Authority	Submissions	Draft LAP	Provisional LAP	Revised Provisional LAP	Adopted	Status
(name of Council / District Council)	#	notified	notified	notified	(date in force)	August 1, 2017
Ashburton	207	Oct 2013	Mar 2015	Nov 2015	Aug 2017	Adopted – see note a
Auckland	2688	May 2014	May 2015	Sept 2017		Provisional – see note b
Buller	320	Dec 2013				Draft
Central Hawke's Bay	41	Sept 2013	Aug 2015	June 2016		Revised Provisional
Central Otago	20	Dec 2013				Draft
Chatham Islands	N/A					No Draft
Christchurch City	4060	May 2013	May 2015	Sept 2016		Revised Provisional – see note c
Clutha	N/A					No Draft
Dunedin City	4262	Sept 2014	June 2015			Provisional
Far North	99	July 2014	Sept 2015			Provisional
Gisborne	142	April 2014	Sept 2014	Jan 2016	Mar 2018	Adopted – see note a
Grey	N/A					No Draft
Hamilton City	93	Jan 2014	Nov 2015			Provisional
Hauraki	24	July 2013	Dec 2013	April 15	Aug 2016	Adopted
Horowhenua	N/A	Feb 2017				Draft – see note d
Hurunui	52	June 2013	Mar 2014	Jan 2016	Dec 2017	Adopted – see note a
Hutt City (Lower Hutt)	262	May 2013	Jan 2014	Nov 2015	Sept 2016	Adopted (Now Provisional Amended – see below)
Invercargill/ Gore / Southland*	585	Feb 2014	Dec 2014		Aug 2016	Adopted
Kaikoura	26	Aug 2013				Draft
Kaipara	N/A					No Draft
Kapiti Coast	N/A					No Draft
Manawatu	N/A					No Draft
Marlborough	188	Mar 2014				Draft
Masterton/South Wairarapa/ Carterton*	78	Sept 2014	June 2015	Nov 2017		Provisional – see note e
Matamata-Piako	153	Oct 2013	Feb 2014		April 2017	Adopted
Napier City and Hastings*	325	Oct 2013	April 2016			Provisional
Nelson City	631	Aug 2013				Draft
New Plymouth/ Stratford*	103	Mar 2014	Oct 2014	Mar 2016	Feb 2017	Adopted
Otorohanga	37	Aug 2013	Feb 2014	Aug 2015	May 2016	Adopted
Palmerston North City		July 2017				Draft
Porirua City	228	June 2014	Dec 2014	April 2016	Oct 2017	Adopted – see note a
Queenstown Lakes	N/A					No Draft
Rangitikei	N/A					No Draft
Rotorua Lakes	105	Jan 2014	Nov 2015			Provisional

Territorial Authority	Submissions	Draft LAP	Provisional LAP	Revised Provisional LAP	Adopted	Status
(name of Council / District Council)	#	notified	notified	notified	(date in force)	August 1, 2017
Ruapehu	23	Aug 2013	April 2014	N/A	Aug 2014	Adopted (Now Amended Draft LAP – see below)
Selwyn	67	June 2013	Jan 2014	Oct 2015	April 2017	Adopted
South Taranaki	N/A					No Draft
South Waikato	N/A					No Draft
Tararua	N/A					No Draft
Tasman	445	July 2013	Dec 2013		Mar 2015	Adopted
Taupo	N/A					No Draft
Tauranga City/Western Bay of Plenty*	1044	Aug 2013	Jan 2014		Nov 2015	Adopted
Thames-Coromandel	56	Oct 2013	Dec 2013		Jan 2016	Adopted
Timaru/Mackenzie/ Waimate*	39	Oct 2013	Jan 2014		Mar 2016	Adopted
Upper Hutt City	N/A					No Draft
Waikato	36	Oct 2014	April 2015	June 2016	Jan 2017	Adopted
Waimakariri	65	May 2013	Oct 2013		Feb 2015	Adopted
Waipa	45	July 2013	Jan 2014		July 2016	Adopted
Wairoa	N/A					No Draft
Waitaki	N/A					No Draft
Waitomo	21	Aug 2013	Dec 2013	Feb 2014	June 2016	Adopted
Wellington City	1883	July 2013	Jan 2014			Provisional
Westland	N/A					No Draft
Whakatane/ Kawerau/ Opotiki (Eastern Bay of Plenty)*	40	July 2013	Feb 2014		Mar 2016	Adopted
Whanganui	86	Mar 2017	July 2017			Provisional
Whangarei	283	June 2015	Oct 2015			Provisional

**Joint LAP; a Date in force post 1 Aug 2017; Post August 1, 2017 updates = b Revised Provisional LAP Notified 12 October 2017; c Policy aborted Nov 2017; d Provisional LAP notified Sept 2017; e Revised Provisional LAP notified Nov 2017*

Amendments to policies following adoption

Two adopted policies have since been amended (Table 2): one proposing amendments to effect greater restrictions on alcohol availability and one proposing to both extend and restrict availability (below).

1) Hutt City Council

At the time of LAP adoption (May 2016), many community concerns were raised about the lack of controls to the density of off-licences premises in certain parts of Hutt City. In response to these concerns, the Council considered limiting the number of off-licences and proposed amendments to the adopted LAP.

In March 2017, the Council approved the Draft LAP amendment. The policy proposed to cap the number of off-licences permitted in Naenae, Stokes Valley, Taita, Avalon, Hutt Central, and Wainuiomata. Cinema hours from 7am to 3am were also introduced. These changes were approved by Council and notification of its Provisional Amended LAP took place in August 2017. The 30-day appeal period has since closed.

2) Ruapehu District Council

Ruapehu District Council also amended its adopted policy and has heard oral submissions. Overall, the amended policy proposes to:

- reduce Waimarino-Waiouru Ward and National Park Ward's on-licence trading hours from 3am to 2am;
- increase Taumarunui-Ohura Ward's on-licence trading hours from 1am to 2am;
- increase the district wide trading hours for those who hold club licences from 1am to 2am;
- restrict the number of off-licences in the Ohura Ward to three; and
- restrict the number of off-licences in the Taumarunui Ward to nine, National Park Ward to three, and Waimarino-Waiouru Ward to seven.

Table 2. Policies amended following adoption

Name of Council / District Council	Date of first adoption	# submissions on Draft Amended LAP	Draft Amended LAP notified	Provisional Amended LAP notified	Revised Provisional Amended LAP notified	Adopted Amended LAP (date in force)
Hutt City (Lower Hutt)	May 2016	185	Mar 2017	Aug 2017	N/A	N/A
Ruapehu	May 2014	43	Aug 2017	N/A	N/A	N/A

ii. Progression to Provisional LAP

In total, 33 (83%) of the 40 Draft LAPs progressed to a Provisional LAP (Table 1). On average, it took 292 days (SD 211, range 65-936) from notification of the Draft LAP to notification of the Provisional LAP. Five (15.2%) Provisional LAPs were notified in 2013, 15 (45.5%) in 2014, 11 (33.3%) in 2015, 1 (3.0%) in 2016 and 1 (3.0%) in 2017.

A communication issued by ARLA provides an important context in the consideration of length of time between the stages of policy development. A minute was issued on August 1 2014, citing that the Tasman District Council and Wellington City Council hearings would be considered test cases and that no decisions would be issued until the Wellington case was heard in October and November 2014. This is likely to have resulted in many Territorial Authorities placing their draft policies on hold as they awaited the ARLA decisions.

In addition, it is likely that many councils awaited the ARLA decision from the four-week appeal hearing relating to Auckland Council's Provisional LAP, which took place in the months of February and March 2017. This substantive public hearing related to a wider range of policy elements than previous appeals – including location of licences to broad areas, restrictions on the issue of further licences in geographic areas, off-licence and on-licence trading hours, discretionary conditions, and Local Impact Reports.

iii. Progression to adoption of LAP

Of the 33 notified Provisional LAPs, 32 (97%) were appealed. The only Territorial Authority not to receive appeals to its policy was Ruapehu District Council. Half (51.5%) of all Provisional LAPs had 3 or fewer appellants, with a range of 1 to 19. In total, of the 32 Provisional policies that received appeals, 30 were appealed by one or both of the supermarket retailers (i.e. Progressive Enterprises, Foodstuffs). Other key industry appellants were Super Liquor Holdings, Hospitality New Zealand, The Mill and Independent Liquor. The Mill and Independent Liquor registered as joint appellants for many of the Provisional LAPs appeals. Of the non-industry groups, the Police, Health

agencies and/or community members appealed over one-quarter (28%) of all appealed policies. More often, they registered as s205 Interested Parties.

Twelve of the 33 Provisional policies have not yet progressed through to adoption. Two policies have progressed through to the Revised Provisional LAP stage: 1) Central Hawke's Bay is awaiting adoption of its revised policy by ARLA, and 2) Christchurch City Council was awaiting a hearing in relation to its Revised Provisional LAP but has since decided to abort the process altogether. As at the time of writing this report, the remaining 10 Provisional policies were either in the appeals process or ARLA hearings had been completed and a decision had been issued (Auckland Council Provisional LAP ARLA decision issued July 2017, Council reconsidered elements and notified its Revised Provisional LAP in September 2017, Dunedin City Council ARLA decision released December 2016, Council is reconsidering elements). Although the Wellington City Council Provisional LAP hearing took place in 2014, the Council is yet to progress any policy development or redraft a new policy for consultation.

Twenty-one (64%) of the 33 Provisional LAPs, representing 29 Territorial Authorities, were subsequently adopted (Table 1). The mean duration from notification of Provisional LAP to its adoption was 790 days (SD 312). Note that four adopted policies (Ashburton, Hurunui, Porirua, Gisborne) will come into force after the August 1, 2017 deadline for this report.

A change in practice following notification of the Provisional LAP was evident in the review. After the first ARLA hearing took place for the Tasman District Council Provisional LAP, Territorial Authorities opted to seek agreement with appellants regarding (un)reasonableness of a policy element through consent order processes. However, the Act maintains that only ARLA can determine whether any element is unreasonable. The consent order pathway had the effect of expediting the policy process for a Territorial Authority and avoided a more-lengthy (and costly) legal hearing. However, it also had the effect of preventing public debate on policy elements and the subsequent establishment of relevant case law. ARLA then issued a practice note on March 19, 2015, pertaining to the need for further hearings once amendments or revisions to the Provisional LAP had been made. It stated that if elements had been agreed to by all parties, a further public hearing may not be required. An example of the consent order process is demonstrated in the progress of policy development for the joint Tauranga and Western Bay of Plenty LAP. Appellants and the Territorial Authorities reached agreement regarding the removal of the density restriction in the Provisional LAP, which was approved by ARLA via consent order on September 23, 2014. The remaining appealed elements were dealt with by way of a shorter public hearing on February 16, 2015, where the Councils also agreed that the appealed elements were unreasonable. ARLA asked the Territorial Authorities to reconsider the elements on March 18, 2015, which were then resubmitted to ARLA and approved on May 12, 2015. As at the time of writing, the only consent order which appears to have been rejected is that relating to Auckland Council's Provisional LAP (which addressed a limited number of elements).

iv. Reach of LAPs across New Zealand, by Territorial Authority

As of 1 August 2017, 16 (23.9%) Territorial Authorities had not proceeded to develop and notify a Draft LAP, 7 (10.4%) had not progressed beyond a Draft LAP, 13 (19.4%) had notified Provisional policies and were awaiting a hearing and/or were in negotiation, 2 (3.0%) had revised/amended their Provisional LAPs and were awaiting a hearing or adoption, and 29 (43.3%) had adopted their Local Alcohol Policies. The geographic distribution of policy development is shown in Figure 1.

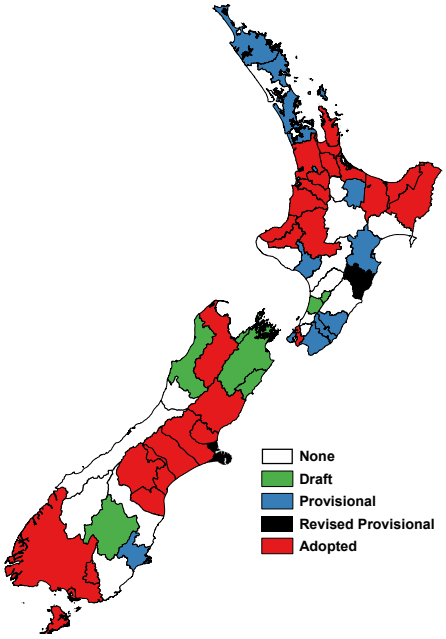

Figure 1. Geographic distribution of the status of Local Alcohol Policies across Territorial Authorities (as at 1 August 2017).

Approximately one in four (24%) New Zealanders resided in a Territorial Authority with an adopted LAP (Table 3). One in every thirteen resided in a Territorial Authority that had not progressed to develop and/or notify a Draft LAP. The majority (54%) of New Zealand residents lived in areas for which the LAP was Provisional, of which Auckland, Hamilton and Dunedin comprised almost three-quarters (74%).

Table 3. Reach of Local Alcohol Policies, by population size

Status of policy	Number of residents (as at 2013)
None	359,060 (8%)
Draft	240,890 (5%)
Provisional	2,399,290 (54%)
Revised Provisional	369,950 (8%)
Adopted	1,072,990 (24%)
All New Zealand	**4,442,180**

In relation to ethnicity, almost one in every three (29%) Māori resided in a Territorial Authority with an adopted LAP, with the greatest number residing in Gisborne, Tauranga, and Lower Hutt (Table 4). In total 10% of Māori lived in an area that had not yet progressed to developing a Draft LAP, with the greatest number in Taupo, South Waikato and Kapiti Coast.

Table 4. Reach of Local Alcohol Policies, by ethnicity

Status of policy	Māori	Pacific	Asian	MELAA	European
None	10%	3%	2%	4%	9%
Draft	5%	2%	3%	3%	6%
Provisional	51%	77%	79%	74%	48%
Revised Provisional	5%	3%	7%	7%	9%
Adopted	29%	13%	9%	11%	27%

MELAA: Middle Eastern / Latin American / African

Analysis of reach by socio-economic characteristics showed that higher proportions of low-income residents lived in Territorial Authorities that had not proceeded to develop a LAP (Table 5). For example, 52.9% of residents in areas that had not proceeded to develop a LAP were of low-income, compared to the total proportion of low-

income residents in New Zealand of 51.9%. However, more low-income residents also appeared to live in areas with adopted LAPs.

Table 5. Reach of Local Alcohol Policies among persons of low personal income (row percentage)

Status of policy	Proportion earning ≤$30,000 (%)
None	52.9
Draft	55.3
Provisional	51.4
Revised Provisional	50.4
Adopted	53.8
All New Zealand	**51.9**

(b) Elements of the Draft, Provisional, and Adopted Local Alcohol Policies

i. Location of licensed premises by reference to broad areas

Draft LAPs

Of the 40 Draft LAPs, 12 (30%) made no reference to this element in the Act. A further 24 (60%) policies explicitly referred to the District Plan provisions which prescribe the broad location of alcohol outlets for their Territorial Authority. For example, the adopted Ruapehu Local Alcohol Policy states [19]:

> *This policy does not restrict the location of licensed premises by reference to broad areas in the district. The rules in the District Plan determine zones where the sale and supply of alcohol is a permitted activity, where resource consent is required and where sale and supply is prohibited.*

Section 93 of the Act permits the development of LAPs to "be more restrictive than the relevant district plan, but it cannot authorise anything forbidden by the relevant plan". Four Territorial Authorities proposed restrictions that extended beyond the relevant District Plans, by describing broad areas for which elements of the Draft LAP applied.

- Auckland Council: Three broad areas: City Centre, outside city centre, and 21 priority overlay areas (POAs);
- Christchurch City Council: Prohibited new bottle store licences and new on-licence taverns on residential-zoned land;
- Rotorua Lakes Council: areas with a Deprivation Index of 8 and greater would be subject to increased restrictions, especially in relation to the granting of licences for new bottle stores; and
- Selwyn District Council: prohibited the granting of new bottle stores in Neighbourhood or Local Centres.

Christchurch City Council also identified three broad areas (Christchurch Central Area A, Christchurch Central Area B and suburban areas) which would restrict trading hours of on-licence and club licences. However, they are not described in more detail here as the areas were not used to restrict the location of licensed premises.

Changes between Draft and Provisional LAP

Three substantive changes in the broad area restrictions were found following the public consultation / submission process. Changes in this review were categorised according to whether the change resulted in the provision being more or less restrictive in relation to alcohol availability. The changes are detailed below:

More Restrictive:
Auckland – increased the number of priority overlay areas from 21 to 23. Extended the boundaries of POAs from 250m from the Priority Streets to a 200m radius from the Business Centre Zones (see Figure 2).
Less Restrictive:
Rotorua Lakes – removal of moratorium on bottle stores in areas of Deprivation level 8 or greater. Rather, consideration was to be given to the granting of bottle stores in these areas.
Auckland – adopted the Proposed Auckland Unitary Plan's definition of the City Centre - removed Ponsonby and Newton from the Draft LAP (see Figure 3)

Clarified:

Central Hawke's Bay – introduced a clause to prohibit the establishment of licensed premises within residential zones, as per the District Plan.

Figures 2 and 3 below show the changes in definitions of the broad area provisions in Auckland Council's Draft and Provisional LAP. The definition of the City Centre in the Auckland Council Provisional LAP is now the subject of a Judicial Review (lodged in 2017).

Figure 2. Changes in a Priority Overlay Area from Draft LAP (left) to Provisional LAP (right)

Figure 3. Changes in the Central Auckland area from Draft LAP (left) to Provisional LAP (right)

In 2017, Hospitality New Zealand lodged a Judicial Review with the High Court claiming that the Christchurch City Council Revised Provisional LAP should be revisited by the Council, this time correctly having regard to the development of a new District Plan for Christchurch, and in particular a decision made in the course of that development which addressed Victoria Street licensed premises. The Interim Judgment confirmed that the Council did not have such regard to the new District Plan. In November 2017, the Council decided to abort the LAP altogether.

Changes following Provisional LAP appeals

Three changes occurred following Provisional LAP appeals:

1. Selwyn District Council's restriction of the granting of bottle store licences in neighbourhoods or local centres was appealed by Super Liquor Holdings Ltd, the Mill Retail Holdings Ltd, and Independent Liquor. The Council subsequently removed the clause, allowing stand-alone bottle stores to be permitted in Neighbourhood and Local Centres as identified in the District Plan.

2. Hauraki District removed the provision to prohibit further off-licences in 'Town Centres' or 'Townships', and instead rely on District Plan requirements.
3. Central Hawke's Bay District Council's provision (that prohibited all licensed premises in residential areas) was appealed by Foodstuffs. The Council subsequently chose to delete the provision, citing that "Council determined that while clause 2.44 reflected the community and Council's desire to prohibit the establishment of licensed premises within a residential zone, the establishment of licensed premises is currently permitted within the rules of Council's Operative District Plan" [20].

Note: Christchurch changed the zoning of its broad areas in relation to trading hours (but not regarding the permitted location of outlets – see the on-licence trading hours' section for more information).

Adopted policies

None of the 21 adopted LAPs were found to include any restrictions to licensing within broad areas that extended beyond the requirements of the relevant District or Unitary Plan (Table 5). Both the Waikato and Matamata adopted LAPs require that new club licences should be located at, or in close proximity to the sports grounds or other facilities used by the club (if relevant). Table 6 shows the changes that were made to policies that have, to date, progressed through the appeals process to either a Revised Provisional LAP or adopted LAP.

Table 6. Changes over LAP development stages: Broad area provisions

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or Adopted LAP (bold)	Change following appeals
Ashburton	Where District Plan permits	Where District Plan permits	**Where District Plan permits**	
Central Hawke's Bay	District Plan provisions	District Plan provisions, but prohibiting new premises within residential zones	District Plan provisions only	Less restrictive
Christchurch	Bottle stores and on-licences taverns only to be located on land zoned 'Business' or 'Town Centre', or, in the case of a green-fields growth area, located on land zoned 'Living G' (Business area).	Bottle stores and on-licence taverns only to be located on land zoned 'Business' or 'Town Centre', or, in the case of a green-fields growth area, located on land zoned 'Living G' (Business area).	No new bottle stores and on-licence taverns on residential zoned land (which is the same as previously, just reworded to specify where they are not permitted).	
Eastern Bay of Plenty	Where District Plan permits	No new bottle stores and on-licence taverns on residential zoned land (which is the same as previously, just reworded to specify where they are not permitted).	**Where District Plan permits**	
Gisborne	No restrictions	No restrictions	**No restrictions**	
Hauraki	No further bottle stores in 'Town Centres' or 'Townships' (as in District Plan).	No further bottle stores in 'Town Centres' or 'Townships' (as in District Plan).	**Relies on District Plan to control effects**	Less restrictive
Hurunui	No restrictions	No restrictions	**No restrictions**	
Hutt City	Case by case basis	Not specified	**No restrictions**	
Invercargill/ Gore /Southland	No restrictions	No restrictions	**No restrictions**	

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or Adopted LAP (bold)	Change following appeals
Matamata-Piako District	No requirements for on-licences. Off-licences in Business zone as per District Plan (unless resource consent)	No requirements for on-licences. Off-licences in Business zone as per District Plan (unless resource consent).	**No requirements for on-licences. Off-licences in Business zone as per District Plan (unless resource consent)**	
New Plymouth / Stratford	Has District Plan	Has District Plan provisions	**Has District Plan provisions**	
Otorohanga	Where District Plan permits	Where District Plan permits	**In District Plan licensing precinct**	
Porirua City	No restrictions	No restrictions	**Not specified**	
Ruapehu	No restrictions	No restrictions	**No restrictions**	
Selwyn	Off-licences will not be granted for a Neighbourhood or Local Centre	Off-licences for bottle stores will not be granted for a Neighbourhood or Local Centre	**New bottle stores only in Business zones or Neighbourhood and Local Centres as per District Plan**	Less restrictive
Tasman	Where District Plan permits	Where District Plan permits	**Where District Plan permits**	
Tauranga City / Western BOP	Where District Plan permits	Not mentioned	**Not mentioned**	
Thames-Coromandel	No restrictions	No restrictions	**No restrictions**	
Timaru/ Mackenzie/ Waimate	Where District Plan permits	Where District Plan permits	**Where District Plan permits**	
Waikato	Where District Plan permits	Where District Plan permits	**Where District Plan permits**	
Waimakariri	No restrictions	Bottle stores in Business 1 or 2 Zones (as per District Plan)	**Bottle stores in Business 1 or 2 Zones (per District Plan)**	
Waipa	Where District Plan permits	Where District Plan permits	**Where District Plan permits**	
Waitomo	Where District Plan permits	Where District Plan permits	**Where District Plan permits**	

ii. Location of licensed premises by reference to proximity to premises of a particular kind or kinds

Draft LAPs

This element particularly addresses the spatial clustering of particular types of premises, which has been shown to be associated with increased alcohol-related harm [21]. Similar to the provision previously described, the majority (25, 63%) of Draft LAPs did not specify any restrictions in relation to the location of new premises in close proximity to other licensed premises. Many of the policies stated that the Act was sufficient in this regard. Of the remaining 15 Draft LAPs, seven proposed that the DLC would consider, or have regards to, proximity issues during decision-making processes. One Territorial Authority sought to use impact reports to examine such issues, whilst another required an impact report only upon opposition to a licensed premises application outside of the City Centre. Another Territorial Authority opted to deal with any high-risk premises by way of a public hearing.

The remaining five Draft LAPs proposed distance thresholds for which no further off-licences would be granted; within 50m (1), 100m (1), 500m (1), and 1000m (2) of another off-licence. In addition, one policy proposed no new tavern applications would be granted within 5km of an existing tavern or hotel.

Changes between Draft and Provisional LAP

Very few changes in the restrictions were made following the submission process (below):

Less Restrictive:

Porirua City – the requirement in the Draft LAP for a cumulative impact report to be conducted where there was opposition to the granting of a liquor licence outside of the City Centre was deleted, leaving no restrictions in relation to this element in the Provisional LAP.

Tauranga / Western Bay of Plenty – the Draft LAP element that specified that no new licensed premises would be granted within 500m of a bottle store or an off-licence issued to a hotel or tavern was deleted in the Provisional LAP, requiring the DLC to have regard to the issue of proximity in relation to other licensed premises.

Changes following Provisional LAP appeals

Following appeals, three further changes were noted:

Less Restrictive:

Matamata-Piako – the requirement to have regard to issues of proximity for off-licence premises was amended to only apply to those premises within a 50m radius of other off-licence premises.

Tauranga / Western Bay of Plenty – the requirement to have regard to issues of proximity was deleted, leaving no provision in the adopted policy.

Waikato – The Provisional LAP, which provided for a 1km proximity restriction for new bottle stores, licensed supermarkets or grocery stores, was amended. The revised Provisional LAP maintained the 1km restriction, with the exception of premises within business zones of Te Kauwhata, Tuakau and Pokeno that can demonstrate that close proximity would not result in significant adverse effects.

Adopted policies

Table 7 shows the changes made to policies that have, to date, progressed through the appeals process to either a Revised Provisional LAP or adopted LAP. Of the 21 adopted LAPs, only six policies contained any provision relevant to this element. Three policies required the DLC to have regard to the proximity to other licensed premises where it considers it relevant and the remaining three stated distance thresholds, ranging from 50m to 5km.

Table 7. Changes over LAP development stages: Proximity to other licensed premises provisions

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or Adopted LAP (bold)	Change following appeals
Ashburton	No restrictions	No restrictions	**No restrictions**	
Central Hawke's Bay	No restrictions	No restrictions	No restrictions	
Christchurch	No restrictions	No restrictions	No restrictions	
Eastern Bay of Plenty	No restrictions	No restrictions	**No restrictions**	
Gisborne	No restrictions	No restrictions	**No restrictions**	
Hauraki	No new off-licences within 50m of existing off-licence (supermarkets exempt)	No new off-licences with 50m of existing off-licence (supermarkets exempt)	**No new off-licences within 50m of existing off-licence (supermarkets exempt)**	

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or Adopted LAP (bold)	Change following appeals
Hurunui	No restrictions	No restrictions	**No restrictions**	
Hutt City	No restrictions	No restrictions	**No restrictions**	
Invercargill / Gore / Southland	Community Impact Statement required for off-licences	No restrictions	**No restrictions**	
Matamata-Piako	DLC to consider proximity for both new off and on licence premises	DLC to consider proximity for both new off and on licence premises	**DLC to have regard for new on-licence, and consider off-licence proximity to other off-licensed premises within a 50m radius**	Less restrictive
New Plymouth / Stratford	No restrictions	No restrictions	**No restrictions**	
Otorohanga	DLC to consider proximity	DLC to consider proximity	**DLC to consider proximity**	
Porirua City	Proximity assessed in opposed applications outside City Centre	No restrictions	**No restrictions**	
Ruapehu	No restrictions	No restrictions	**No restrictions**	
Selwyn	No restrictions	No restrictions	**No restrictions**	
Tasman	No restrictions	No restrictions	**No restrictions**	
Tauranga City / Western BOP	No new licensed premises within 500m of bottle store, hotel off-licence, tavern, club (CBD exempt).	DLC to have regard to proximity when issuing new off-licences	**No restrictions**	Less restrictive
Thames-Coromandel	No restrictions	No restrictions	**No restrictions**	
Timaru / Mackenzie / Waimate	No restrictions	No restrictions	**No restrictions**	
Waikato	No new taverns (outside commercial areas) within 5km of existing tavern/hotel. No new bottle stores within 1km of any existing bottle store, licensed supermarket or grocery store.	No new taverns (outside commercial areas) within 5km of existing tavern/ hotel. No new bottle stores within 1km of any existing bottle store, licensed supermarket or grocery store.	**No new tavern (outside commercial areas) within 5km of existing tavern/hotel. No new bottle store within 1km of any bottle store, supermarket/ grocery store, unless in business zone of Te Kauwhata, Tuakau, Pokeno, and no amenity/good order effects**	Less restrictive
Waimakariri	No restrictions	No restrictions	**No restriction**	
Waipa	DLC to have regard to proximity	DLC to have regard to proximity	**DLC to have regard to proximity**	
Waitomo	DLC to have regard to proximity	DLC to have regard to proximity	**DLC to have regard to proximity**	

iii. Location of licensed premises by reference to proximity to facilities of a particular kind or kinds

Draft LAPs

Of the three LAP elements that provide for Councils to restrict the location of licensed premises (Section 77(1) a-d of the Act), proximity to facilities of a particular kind was most commonly included in the Draft LAPs. It was also the location-related element that changed most substantially over the course of LAP development for many Territorial Authorities.

Fifteen (38%) of 40 draft LAPs contained no restrictions with regards to proximity to particular facilities. Three of these draft policies noted that it was considerably difficult to establish a definition of 'proximity' that was robust and workable, particularly for small townships [22-24].

Of the remaining 25 policies, the 'facilities of a particular kind' were commonly referred to as 'sensitive sites'. Draft LAPs were found to contain the following proposals for sensitive sites (number of policies in parentheses):

- Requiring impact reports (or a review) to be conducted (one policy only required this upon opposition) (3);
- Requiring the DLC to consider the issue in decision-making (3);
- Including proximity restrictions as a Discretionary Condition (3);
- Requiring the owners of the neighbouring property to a new on-licence or club licence to be consulted upon application (1); and
- Prohibiting new licences (mostly off-licence bottle stores) in close proximity (range 40m to 500m) to sensitive sites (15). In five of these policies, the restriction would be waived if it could be demonstrated that there was no significant impact on the good order and amenity of the sensitive sites as a result of the granting of the licence.

A range of sensitive sites were defined within the Draft policies:

- school or educational facilities (23);
- early childhood centres, specifically (18);
- playgrounds (8);
- places of worship (9);
- recreational activities (5);
- health facilities (5);
- alcohol treatment centres (4);
- Marae (5);
- community facilities (3);
- high crime areas (2);
- high deprivation areas (2);
- residential areas (1); and
- parks (2).

Changes between Draft and Provisional LAP

The changes made to the Draft policies are indicated below:

More Restrictive:
Auckland – included Marae in the list of sensitive sites
Whanganui – included alcohol treatment centres and children's parks and playgrounds in the list of sensitive sites
Whangarei – extended the provision in the Draft LAP for the DLC to have discretion around the issuing of on- and off-licences (some exceptions) within 100m of sensitive sites, to 300m in the Provisional LAP.
Porirua City – extended the impact assessment to all new applications in close proximity to sensitive sites, not just those that had been opposed. There was also clarification with regards to impact reports, which were to relate to whether the users of the sensitive sites would be likely to be exposed to alcohol promotion, users of alcohol, and any other adverse effects. No new licences would be granted if the exposure could not be mitigated.
Gore / Invercargill / Southland – extended the requirement for evidence of consultation with owners for any proposed off-licence (in addition to requiring consultation in relation to new on-licence and club licence premises).
Less Restrictive:
Tauranga / Western Bay of Plenty – deleted the prohibition of licences within 500m of sensitive sites, and replaced it with the ability of the DLC to have regard to proximity issues.
New Plymouth / Stratford – amended the prohibition of new licensed premises within 100m of a sensitive site to only applying outside business areas (supermarkets and grocery stores were made exempt).

Waitomo – amended the Draft provision that prohibited all new on-licence and off-licence premises in close proximity to sensitive sites, to allow off-licences to be granted where it can be demonstrated that the hours, signage, and operation of the premises will not have material impact on the sensitive sites.

Whangarei – sensitive site restrictions were no longer applicable to new restaurants, cafés, supermarkets, grocery stores and special licences

Clarified:

Gisborne – defined "close proximity" in the Provisional LAP to be within 300m.

Whanganui – defined 'proximity' in the Provisional LAP to be within 100m for off-licences.

Auckland – changed Environmental Cumulative Impact Assessments to Local Impact Reports.

Changes following Provisional LAP appeals

Seven policies were revised following appeals (below). As demonstrated below, the majority of the changes had the effect of reducing the restrictions for off-licence premises, in particular.

Less Restrictive:

Eastern Bay of Plenty – amended the provision that prohibited all on-, off- and club licences within a 100m radius of sensitive sites, to permitting the DLC to have discretion regarding the granting of any licence in a sensitive location where no significant adverse effects would arise.

Gisborne – reduced the distance to sensitive site threshold relating to the prohibition of new licences from 300m to 150m, and provided off-licences to be exempt from this clause if the applicant could demonstrate that the hours, signage and operation of premises would have no impact on the site or persons using sensitive sites.

Matamata-Piako – Proximity restrictions for off-licences to public parks and car parks were amended so that the restriction can be mitigated if the DLC is reasonably satisfied that the hours, signage or operation of the premises as they relate to alcohol sales will not have a material impact.

Otorohanga – Amended the Provisional LAP that required that the new off-licence applicant had to demonstrate "no impact" on the sensitive site, to require "no significant impact" (further defined in relation to hours, signage, or operation of premises).

Porirua City – Supermarkets (but not grocery stores) were made exempt from the sensitive sites provision, which required an impact report.

Tauranga / Western Bay of Plenty – the requirement for the DLC to have regard to issues of proximity was deleted, leaving no provision in relation to this element.

Waikato – The prohibition of new bottle stores across the district if they were within 100m of the boundary of a sensitive site (unless no significant impact demonstrated) was relaxed to only relate to those premises outside Business zones. Within this zone, the premises needed to directly border the sensitive site. In addition, 'no significant impact' was further defined to only relate to advertising and ID policies in business zones, yet outside business zones impact related to hours, advertising, and operation of premises.

Adopted policies

Of the 21 adopted LAPs, eight contained no restrictions or noted that the Sale and Supply of Alcohol Act 2012 was sufficient in this regard. Of the remaining thirteen:

- two policies explicitly prohibited licences which directly border a sensitive site. Of these, New Plymouth/ Stratford applied this to on- and off-licences, for Hauraki it applied to off-licences only;
- six policies prohibited new licences in close proximity to sensitive sites unless no impact could be demonstrated (Gisborne, Matamata-Piako, Otorohanga, Waikato, Waipa, Waitomo);
- three policies included sensitive site provisions as a discretionary condition (Eastern Bay of Plenty, Thames-Coromandel, Timaru / Waimate / Mackenzie);
- one policy required evidence of consultation with owners and occupiers of nearby (within 50m) sensitive premises (Gore /Invercargill/Southland policy); and
- one policy required an impact report, with no new licences to be granted in close proximity to a sensitive site, unless exposure is mitigated (Porirua City).

Table 8 shows the changes that were made to policies that have, to date, progressed through the appeals process to either a Revised Provisional LAP or adopted LAP.

Table 8. Changes over LAP development stages: Sensitive site provisions

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or adopted LAP (bold)	Change following appeals
Ashburton	No restrictions	No restrictions	**No restrictions**	
Central Hawke's Bay	No restrictions	No restrictions	No restrictions	
Christchurch	No restrictions	No restrictions	No restrictions	
Eastern Bay of Plenty	No new on, off or club licences within close proximity to sensitive sites	No new on, off or club licences within close proximity to sensitive sites	**DLC has discretion to grant a licence in close proximity to sensitive site, where no significant adverse effects can be demonstrated**	Less restrictive
Gisborne	No new licence of any type (restaurants, cafes exempt), in close proximity to sensitive sites	No new licence of any type (restaurants, cafes, and Special Licences exempt) within 300m of sensitive sites	**No new licence of any type (same exceptions) within 150m of sensitive sites. Off-licences exempt if the hours, alcohol-related signage, and/ or operation of the premises have no significant impact on sensitive sites**	Less restrictive
Hauraki	No further off-licences within 50m of sensitive sites (supermarkets exempt)	No further off-licences within 50m of sensitive sites (supermarkets exempt)	**No further off-licences within 50m of sensitive sites (supermarkets and grocery stores exempt)**	
Hurunui	No restrictions	No restrictions	**No restrictions**	
Hutt City	No restrictions	No restrictions	**No restrictions**	
Invercargill / Gore / Southland	To require evidence of consultation with nearby owners for a new on-licence and club licence	To require evidence of consultation with nearby owners for a new on-licence, off-licence and club licence	**To require evidence of consultation with nearby owners for a new on-, off-licence and club licence**	
Matamata-Piako	No on-licence restrictions. Off-licence premises should be 50m from boundary of sensitive site outside Business Zone (unless no impact demonstrated). Regard to proximity to carparks and parks.	No on-licence restrictions. Off-licence premises should be 50m from boundary of sensitive site outside Business Zone (unless no impact demonstrated). Regard to proximity to carparks and parks.	**No on-licence restrictions. Off-licence premises should be 50m from boundary of sensitive site outside Business Zone (unless no impact demonstrated). Regard to parks, etc. that are only within a 50m radius and no material impact demonstrated**	Less restrictive
New Plymouth / Stratford	No new on-licence or off-licence premises (excluding supermarket and grocery store) outside the CBD or business zones shall be allowed within 100m of a sensitive site	No new on-licence or off-licence premises (excluding supermarket and grocery store) outside the CBD or business zones shall be allowed within 100m of a sensitive site	**No new on-licence or off-licence premises (excluding supermarket and grocery store) outside the CBD or business zones shall be allowed within 100m of a sensitive site**	

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or adopted LAP (bold)	Change following appeals
Otorohanga	An on-licence or off-licence will not be issued where it directly borders (or minimum 40m) a sensitive site, unless no impact demonstrated	An on-licence or off-licence will not be issued where it directly borders (or minimum 40m) a sensitive site, unless no impact demonstrated	**An on-licence or off-licence will not be issued where it directly borders (or minimum 40m) a sensitive site, unless no *significant* impact demonstrated. Off-licence impact further defined.**	Less restrictive
Porirua City	Impact assessment required for objections and oppositions	No new licences may be granted in close proximity to a sensitive site, unless exposure mitigated. Impact report required.	**No new licences in close proximity to a sensitive site, unless exposure mitigated. Impact report required (supermarkets exempt)**	Less restrictive
Ruapehu	No restrictions	No restrictions	**No restrictions**	
Selwyn	No restrictions	No restrictions	**No restrictions**	
Tauranga City / Western BOP	No new licensed premises within 500m of sensitive sites (Tauranga CBD exempt)	DLC to have regard to proximity to sensitive sites when issuing or renewing off-licences	**No restrictions**	Less restrictive
Thames-Coromandel	Discretionary condition: more restrictive trading hours relative to proximity to sensitive sites	Discretionary condition: more restrictive trading hours relative to proximity to sensitive sites	**Discretionary conditions: More restrictive trading hours where off-licence is within 50m of a sensitive facility. More restrictive trading hours for on-licences relative to proximity to sensitive sites**	
Timaru / Mackenzie / Waimate	Discretionary condition: No new on or off licensed premise to be within 100m of sensitive site	Discretionary condition: No new licensed premise to be within 100m of sensitive site (exceptions in business/ commercial zones).	**Discretionary condition: No new licensed premise to be within 100m of sensitive site (exceptions in business/ commercial zones)**	
Waikato	No new on-licence (tavern, class 1 restaurant, hotel) which directly borders sensitive site, unless no impact demonstrated. No new bottle stores within 100m of sensitive site, unless no significant impact demonstrated.	No new on-licence (tavern, class 1 restaurant, hotel) which directly borders sensitive site, unless no impact demonstrated. No new bottle stores within 100m of sensitive site, unless no significant impact demonstrated.	**No new on-licence (tavern, class 1 restaurant, hotel) which directly borders sensitive site, unless no impact demonstrated. No new bottle stores within 100m of sensitive site, unless no impact demonstrated**	Less restrictive
Waimakariri	No restrictions	No restrictions	**No restrictions**	
Waipa	No new on- or off-licences which directly border (or within 40m of) a sensitive site, unless no impact demonstrated	No new on- or off-licences which directly border (or within 40m of) a sensitive site, unless no impact demonstrated	**No new on- or off-licences which directly border (or within 40m of) a sensitive site, unless no impact demonstrated**	
Waitomo	No new premises which directly border (or within 40m of) sensitive sites	No new premises which directly border (or within 40m of) sensitive sites. Off-licences are exempt if hours, signage, and operation have no impact on sites.	**No new premises which directly border (or within 40m of) sensitive sites. Off-licences exempt if hours, signage, and operation have no impact on sites**	

iv. Whether further licences (or licences of a particular kind or kinds) should be issued

Draft LAPs

Almost two-thirds of the Draft LAPs (24, 60%) contained no specifications that sought to control the overall density of licensed premises, or types of premises. Most of these policies referred to the amenity and good order provisions in the Sale and Supply of Alcohol Act 2012 to address this issue. Of the remaining 16 Draft LAPs, the following provisions were proposed (number of policies in parentheses):

- Requiring a public hearing for high-risk premises (1);
- Requiring the DLC to consider density in decision-making (1);
- Requiring impact reports to be conducted (2);
- Implementing a freeze on the issuing of new off-licence applications for 24 months in priority overlay areas and City Centre, and a rebuttable presumption against the issuing of new off-licences within other specified areas and following the 24-month freeze (1);
- Implementing a cap on the number of bottle stores within a given area (7); and
- Implementing a cap on the number of off-licences within a given area (4 (in one policy supermarkets were exempt but not grocery stores)).

Changes between Draft and Provisional LAP

Ten policies were amended following the submission period, outlined below:

More Restrictive:
Auckland – Number of Priority Overlay Areas increased from 21 to 23. Geographic size of Priority Overlay also increased (see Section i. Broad Area provisions).
Dunedin – introduced a moratorium for new off-licence outlets in priority areas of the city, rather than relying on the DLC to consider amenity and good order.
Napier City / Hastings – added an additional suburb/area where no new bottle stores were to be granted.
Less Restrictive:
Gore / Invercargill / Southland – deleted the requirement for an impact statement to accompany any off-licence application, leaving no restrictions in the Provisional LAP.
Hutt City – deleted the cap on the number of licences, stating that the District Plan and Sale and Supply of Alcohol Act 2012 were sufficient in this regard.
Matamata-Piako – the cap on off-licences (excluding supermarkets) was amended to only cap the number of bottle stores (i.e. no longer a cap on grocery store off-licences)
Rotorua Lakes – as detailed previously (broad area provisions), the moratorium on bottle stores in areas of Deprivation level 8 or greater was amended, requiring only DLC consideration to be given to the granting of bottle stores in these areas.
Clarified:
Rotorua Lakes – social impact reports were described in greater detail, requiring the applicant to demonstrate how the proposed outlet would reduce harm in the community, add amenity value, and meet the object of the Act.
Waikato – Specified the number of bottle stores permitted in the district.
Whanganui – specified the number of off-licences permitted in the district.
Whangarei – clarified that the prohibition of the further granting of bottle store licences was limited to the period of six years from the implementation of the Policy (i.e. until Policy review).

Changes following Provisional LAP appeals

Following appeals, four further amendments were made to Provisional policies (below).

Less Restrictive:
Gisborne – removed the provision to prohibit no new stand-alone bottle stores in the Gisborne district. Instead, specified that "applicants should be aware that the DLC will consider whether an area is a high crime area when making decisions on licensing applications".
Hauraki – two changes were made to the Revised PLAP by 1) amending the cap on the number of off-licences to specify that there was a presumption that no new off-licences would be granted unless the applicant could demonstrate that they could deliver significant social and other (e.g. economic) benefits to the community, 2) amending the Revised PLAP (following an ARLA note) to provide for the DLC to consider the impact on amenity and good order (rather than the onus being on the applicant to establish social and other benefits).
Matamata-Piako – removed the cap on bottle stores in defined areas. The DLC is to now consider whether the amenity and good order of the locality will be reduced to more than a minor extent by the issuing of a new licence.
Tauranga / Western Bay of Plenty – deletion of the cap on the number of licences within each ward, leaving no provision in relation to this element.
Clarified:
Waikato – amended the PLAP to indicate that there were 2 bottle stores permitted in Raglan (not 1). This is clarifying the likely number at the date of policy adoption.

Adopted policies

Table 9 shows the changes that were made to policies that have, to date, progressed through the appeals process to either a Revised Provisional LAP or adopted LAP. None of the 21 adopted LAPs contained provisions that restricted the issuing of further licences, beyond the restrictions contained within the relevant District Plan.

Both Hutt City Council and Ruapehu District Council amended their adopted policies to introduce controls on the issue of further licences. Hutt City Council proposed capping the number of off-licences in six high-risk suburbs. Following public consultation, this amendment was approved by Council, resulting in notification of the Provisional Amended LAP and commencement of the appeals process.

Ruapehu District Council, in their Draft Amended LAP, have proposed to cap the number of off-licences in the district. At the time of writing, oral submissions on the amended LAP have been heard.

Table 9. Changes over LAP development stages: Provisions relating to the issuing of further licences

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or adopted LAP (bold)	Change following appeals
Ashburton	No restrictions	No restrictions	**No restrictions**	
Central Hawke's Bay	No restrictions	No restrictions	No restrictions	
Christchurch	Bottle stores and on-licences taverns only to be located on land zoned 'Business' or 'Town Centre', or, in the case of a green-fields growth area, located on land zoned 'Living G' (Business area).	Bottle stores and on-licence taverns only to be located on land zoned 'Business' or 'Town Centre', or, in the case of a green-fields growth area, located on land zoned 'Living G' (Business area).	No new bottle stores and on-licence taverns on residential zoned land.	
Eastern Bay of Plenty	No restrictions	No restrictions	**No restrictions**	
Gisborne	No new bottle stores within the Gisborne District	No new bottle stores within the Gisborne District	**DLC to consider issuing of licenses in high crime areas**	Less restrictive

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or adopted LAP (bold)	Change following appeals
Hauraki	Cap in Paeroa, Ngatea, Waihi (supermarkets exempt)	Cap in Paeroa, Ngatea, Waihi (supermarkets exempt)	**Presumption of no new off-licences in Paeroa, Ngatea, Waihi unless it can be demonstrated to deliver significant social and other benefits (including economic) Amended again to require DLC to consider amenity effects**	Less restrictive
Hurunui	No restrictions	No restrictions	**No restrictions**	
Hutt City	Off-licences: Eastbourne Ward cap=2 max, Central Ward no more; Eastern Ward only off-licences selling beer and wine	No restrictions	**No restrictions**	
Invercargill / Gore / Southland	A community impact statement for off-licence applications	No restrictions	**No restrictions**	
Matamata-Piako	Cap on off-licences in the Matamata and Morrinsville Wards and Te Aroha (does not apply to supermarkets)	Cap on off-licences in the Matamata and Morrinsville Wards and Te Aroha (does not apply to supermarkets)	**No new off licences in the Matamata-Piako District, unless it can be demonstrated that the amenity and good order of the locality would be reduced**	Less restrictive
New Plymouth / Stratford	Cap on bottle stores, with discretion regarding low risk premises	Cap on bottle stores, with discretion for premises taking active steps to minimise harm	**Cap on bottle stores, with discretion for premises taking active steps to minimise harm**	
Otorohanga	No restrictions	No restrictions	**No restrictions**	
Porirua City	No restrictions	No restrictions	**No restrictions**	
Ruapehu	No restrictions	No restrictions	**No restrictions**	
Selwyn	No restrictions	No restrictions	**No restrictions**	
Tasman	No restrictions	No restrictions	**No restrictions**	
Tauranga City / Western BOP	The number of off-licences (<1:2,868 people)	Off: No more licences in each ward	**No restrictions**	Less restrictive
Thames-Coromandel	No restrictions	No restrictions	**No restrictions**	
Timaru / Mackenzie / Waimate	No restrictions	No restrictions	**No restrictions**	
Waikato	No restriction: on-licences. Bottle store (standalone) cap in Ngaruawahia, Huntly and Raglan.	No restriction: on-licences. Bottle store (standalone) cap in Ngaruawahia, Huntly and Raglan.	**No restriction: on-licences. Bottle store (standalone) cap in Ngaruawahia, Huntly and Raglan**	
Waimakariri	No restrictions	No restrictions	**No restrictions**	
Waipa	No restrictions	No restrictions	**No restrictions**	
Waitomo	No restrictions	No restrictions	**No restrictions**	

v. Maximum trading hours: on-licences

The default national maximum trading hours for on-licences, as prescribed in Section 43 of the Act, are 8am to 4am. Of the Territorial Authorities that developed a Draft LAP, variation in on-licence trading hours was evident within, and across, local boundaries. Many Territorial Authorities with large urban centres proposed differential trading hours between city centres and residential areas, whilst others implemented variation across larger regional areas within a Territorial Authority. Many of the joint LAPs contained specific provisions relating to hours for each of the Territorial Authorities included in the policy. Due to this variation within joint policies, the **analysis in this review of trading hours is by Territorial Authority, rather than by policy**. Policies which defined specific hours for CBD areas are analysed and presented separately. Where hours were further defined in the policy by the day of the week, only the maximum trading hours are reported (usually pertaining to Fridays and Saturdays).

Opening hour:

Draft LAPs

Of the 51 Territorial Authorities with a draft LAP, commencement of permitted trading ranged from 7am to 10am (Figure 4, number of policies in parentheses).

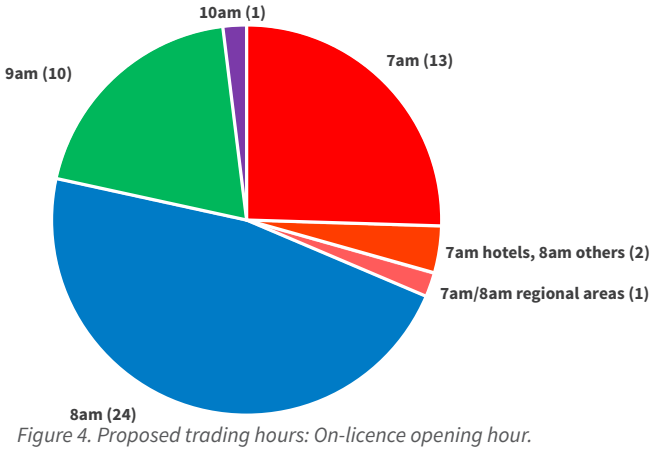

Figure 4. Proposed trading hours: On-licence opening hour.

Changes between Draft and Provisional LAP

Of the 44 Territorial Authorities that proceeded to developing a Provisional LAP, the opening hour within nine Territorial Authorities (8 policies in total) were amended:

- 5 introduced an earlier opening hour (3 by 1 hour, 2 by 2 hours)
- 4 introduced a later opening hour (2 by 1 hour, 2 by 1-2 hours (hotels vs other).

Changes following Provisional LAP appeals

No changes were made to the *opening hour* of on-licences following notification of the Provisional LAP.

Adopted policies

As shown in Table 10, of the 29 Territorial Authorities with adopted LAPs, the trading hour commenced at 7am for eleven authorities, 8am for ten authorities, 9am for seven authorities, and one authority adopted a 10am opening trading hour.

Closing hour:

Draft LAPs

The proposed maximum closing hour is detailed below, noting the CBD-specific hours included in policies are presented separately. Figure 5 refers to policies that either contained one set of trading hours for all areas or policies that only applied to residential areas. Figure 5 shows that the majority of draft LAPs proposed a 1am maximum closing time.

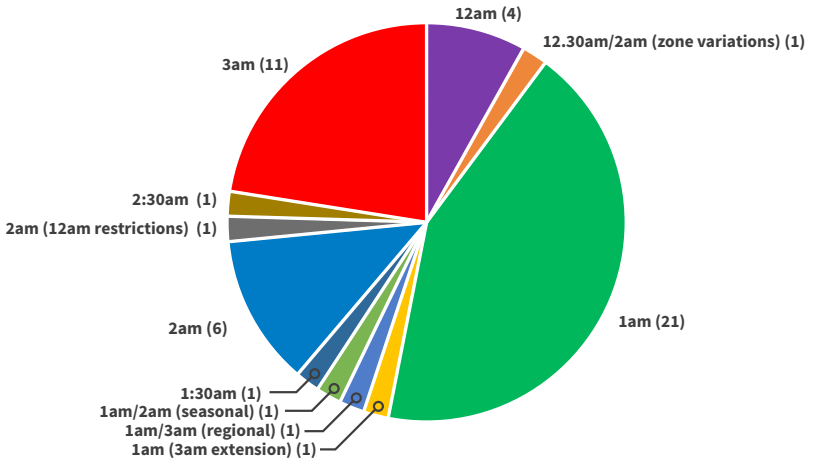

Figure 5. Proposed trading hours: On-licence closing hour.

One joint policy (Napier/Hastings) provided two options regarding their proposed on-licence closing hour: 1) a 3am closing with a one-way door policy, or 2) a 2am closing. This is not included in Figure 5.

Changes between Draft and Provisional LAP

Following submissions, twelve changes were made to the policies that affected 13 Territorial Authorities. Hamilton also extended their Monday to Thursday hours, from 11pm to 1am (below).

More Restrictive:
Ashburton – 3am to 2am (-1 hour)
New Plymouth / Stratford – 3am to 2am (3am CBD) (-1 hour)
Tauranga / Western Bay of Plenty – 3am to 1am (-2 hours)
Thames-Coromandel – seasonal hours ranging from 1-2am reduced to 1am year-round (-1 hour)

Less Restrictive:
Napier / Hastings – From initial options of either '3am (with 1 way-door)' or '2am' to 3am with one way door from 2am (2am entertainment venues) (+1hr for most premises)
Hutt City – 1am to 1am plus 2 hour extension to 3am for those currently trading to 3am (as long as they comply with legislation) (+2 hours)
Porirua – 1am to 2am (+1 hour)
Tasman – 1:30am to 2am (+0.5 hour)
Wellington – 12am to 1am (+1 hour)
Less Restrictive on Some Days:
Hamilton – From 11pm Monday-Thursday to 1am for Monday-Sunday

Changes following Provisional LAP appeals

Two changes were noted to Provisional LAPs (Table 10).

Less Restrictive (i.e. later closing):
Selwyn District Council – received an appeal from Hospitality New Zealand in relation to its on-licence closing hour of 1am. Although Council minutes demonstrated that a 1am closing was recommended by the Police and Medical Officer of Health, and was aligned with what neighbouring Territorial Authorities were proposing, the Council felt it had insufficient evidence to maintain the 1am closing [25]. As such, the hours for taverns and hotels were extended to 2am.
Christchurch City Council – in the Revised Provisional LAP, boundaries were amended resulting in some areas that were previously defined as residential becoming included in the Central Area definition. This extended their maximum closing hour from 1am to 3am in the first three years of the LAP, and 1am thereafter (Figure 6).

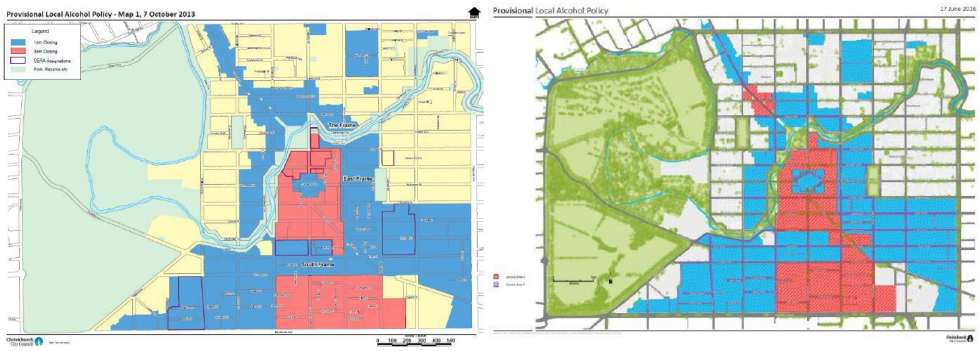

Figure 6. Changes from the Christchurch City Council Provisional LAP (left) to the Revised Provisional LAP (right) in the geographic boundaries that define on-licence and club licence closing hours of 3am (pink) and 1am (blue).

Adopted policies

Of the 29 Territorial Authorities with adopted policies, the closing hours are detailed in Table 10 and summarised below:

- 12am (2, 6.9%)
- 1am (11, 37.9%) with one allowing those to currently trade until 3am to do so
- 1am / 3am regional differences (1, 3.4%)
- 2am (10, 34.5%) with one requiring those near order 3 roads to close at 12am
- 3am (5, 17.2%)

Both Ruapehu District Council and Hutt City Council have proposed amendments to their adopted LAPs in relation to on-licence trading hours. Hutt City introduced trading hours of 7am to 3am for cinemas that was approved by Council to be included in the Provisional Amended LAP. Ruapehu District Council, in their Draft Amended LAP sought to reduce Waimarino-Waiouru Ward and National Park Ward's on-licence trading hours from 3am to 2am and increase Taumarunui-Ohura Ward's on-licence trading hours from 1am to 2am.

Trading hours in Central Business Districts or specified urban areas:

Draft LAPs

Among the Draft LAPs, specific trading hours for CBDs and urban areas were proposed for 16 Territorial Authorities. *Opening hours* were mostly the same as those for on-licences outside of CBD areas, with the exception of Dunedin City Council, which permitted on-licences in the CBD to open one hour earlier at 8am rather than 9am for those premises located outside of the CBD.

The majority of CBD-specific provisions permitted a later *closing hour* when compared to residential area restrictions, with 12 of the 16 draft policies proposing a 3am closure. Two Territorial Authorities (Auckland, Wellington) proposed a 3am closing in addition to allowing best-practice premises to apply for a 2-hour extension (i.e. to 5am). Four Draft LAPs proposed a 2am closing in urban areas.

Changes between Draft and Provisional LAP

Fourteen Territorial Authorities with CBD-specific hours progressed to a Provisional LAP. Five policies were changed following submissions:

More Restrictive:
Auckland – 5am extensions were deleted
Waikato – from 2am to 1am for main urban areas
Less Restrictive:
Auckland – from 3am (with ability to extend to 5am) to 4am (and no extensions)
Dunedin – from 3am to 4am (nightclubs only)
Christchurch – from 3am to 4am (for nightclubs only). Extended the boundaries of Central Area A, permitting more premises to close at 3am rather than 1am.
Wellington – from 3am (CBD, 5am for best practice)/2am (central area, 3am for best practice) to 5am for all
Other:
Hutt City – introduced a probationary one-way door from 1am for premises trading until 3am.

Changes following Provisional LAP appeals

Only one change was made to a Provisional LAP. Christchurch City Council in their Revised Provisional LAP extended the boundaries of their Central Areas (Figure 6). This extended the closing hours (from 1am to 3am) for some areas.

Adopted policies

Of the 29 Territorial Authorities with adopted LAPs, seven specified CBD-specific hours: four required a 3am closing (1 with a probationary one-way door), two required 2am, and one required a1am closing (Table 10).

Restaurant hours:

Draft LAPs

Twenty-seven of the 51 Territorial Authorities specified trading hours for restaurants and cafés in their Draft LAPs. In four of these authorities, the specified hours did not differ to the hours of other on-licences.

Concerning the *opening hour*, two policies had restaurant/café hours which were different to other on-licences. The Tauranga and Western Bay of Plenty joint LAP proposed an 8am opening for 'other licensed premises' whilst hotels could open at 7am. The Waikato Draft LAP proposed a 7am opening for restaurants (and 9am for outdoor areas) compared to a 9am opening for all other on-licence types.

In relation to the *closing hour*, the 23 policies which had differentiated closing hours (between restaurants/ cafés and other on-licences) were all found to be more restrictive for the former than the latter. In most cases, restaurants were required to cease selling alcohol two hours earlier than other on-licences in the district (mostly closing between 12 and 1am).

Changes between Draft and Provisional LAP

Amendments were made to the specific restaurant/café hours and in some cases, the restaurant-type hours were deleted from the policies (thereby providing for the same hours across all on-licence types (below).

Changes to specific restaurant and café trading hours More Restrictive:
Tauranga / Western Bay of Plenty – hours changed from 8am-3am to 9am-1am (outside the Tauranga CBD). Hours in Tauranga CBD changed from 8am-3am to 9am-3am.
Changes to specific restaurant and café trading hours Less Restrictive:
Napier / Hastings – Two options provided in Draft Policy: 8-3am (12am residential) and 8-2am (12am residential). This changed to 8am-2am for restaurants and cafés (thereby increasing hours in residential areas).
Waipa – changed from 9am-2am to 7am-1am for restaurants and cafés
Removal of restricted hours for restaurants and cafés Less Restrictive:
Hurunui – extended their hours from 8am-1am to 8am-2am.
Tasman – extended their hours from 8am-12am to 8am-2am.

Changes following Provisional LAP appeals

Following appeals, the differentiation of restaurant and café hours was removed from the Christchurch Provisional LAP. This increased the hours from 8am-1am to 8am-3am closing in the Central Area A, 8am-1am in Central Area B, and 8am-3am in a specified area of Central Area B.

Adopted policies

Of the 29 Territorial Authorities with adopted policies, 12 specify hours for restaurants and cafés that are different to the other off-licence hours. Seven specify 7am to 1am, three policies specify 8am to 1am, and two policies specify 9am to midnight. The seventeen policies that did not specify restaurant/café hours mostly permitted these premises to trade to 1am or 2am, and in a few CBDs could apply to trade until 3am.

Table 10. Changes over LAP development stages: On-licence hours (am. to am.)

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or adopted LAP (bold)	Change following appeals	Change following appeals
Ashburton	7 to 3 (20 hrs)	7 to 2 (19 hrs)	**7 to 2 (19 hrs)**	-1.0	
Central Hawke's Bay	7 to 1 (18 hrs)	8 to 1 (17 hrs)	8 to 1 (17 hrs)	-1.0	
Christchurch	8 to 1 (17 hrs) 8 to 1 (Central B) 8 to 3 (Central A) (19 hrs)	8 to 1 (17 hrs) 8 to 1 (Central Area B) 8 to 3 (Central Area A)	8 to 1 (17 hrs) 8 to 3 (Central A) (19 hrs), nightclubs 5am closing. 8 to 1 (Central B) Central B further defined 8 to 3 for first 3 years, 1am thereafter	+1 (night clubs) +2 hours by extending the boundaries of Central Area A.	+2 hours Central A and B areas further defined
Gisborne	10 to 2 (16 hrs)	10 to 2 (16 hrs)	**10 to 2 (16 hrs)**		
Gore	8 to 3 (19 hrs)	8 to 3 (19 hrs)	**8 to 3 (19 hrs)**		
Hauraki	9 to 1 (16 hrs)	7 to 1 (18 hrs)	**7 to 1 (18 hrs)**	+2.0	
Hurunui	8 to 2 (18 hrs)	8 to 2 (18 hrs)	**8 to 2 (18 hrs)**		
Hutt City	7 (8 East Ward) to 1 (17-18 hrs) 7 to 3 (CBD) (20 hrs)	7 to 1 (18 hrs) 7 to 3 (20 hrs)	**7 to 1 (18hrs)** **7 to 3* (20 hrs)**	+1.0 (East Ward)	
Invercargill City	8 to 1 (17 hrs) 8 to 3 CBD (19hrs)	8 to 1 (17 hrs) 8 to 3 CBD (19hrs)	**8 to 1 (17 hrs)** **8 to 3 (CBD) (19hrs)**		
Kawerau	9 to 1 (16 hrs)	9 to 1 (16 hrs)	**9 to 1 (16 hrs)**		
Mackenzie	7 to 3 (20 hrs)	7 to 3 (20 hrs)	**7 to 3 (20 hrs)**		
Matamata-Piako	7 to 1 (18 hrs)	7 to 1 (18 hrs)	**7 to 1 (18 hrs)**		
New Plymouth	8 to 3 (19 hrs)	8 to 2 (18 hrs) 8 to 3 (CBD) (19 hrs)	**8 to 2 (18 hrs)** **8 to 3 (CBD) (19 hrs)**	-1.0 (Residential)	
Opotiki	9 to 1 (16 hrs)	9 to 1 (16 hrs)	**9 to 1 (16 hrs)**		
Otorohanga	9 to 2 (17 hrs) 9 to 12 (near order 3 roads) (15 hrs)	9 to 2 (17 hrs) 9 to 12 (near order 3 roads) (15 hrs)	**9 to 2 (17 hrs)** **9 to 12 (near order 3 roads) (15 hrs)**		
Porirua City	8 to 1 (17 hrs)	8 to 2 (18 hrs)	**8 to 2 (18 hrs)**	+1.0	
Ruapehu	7 to 1/3 regional (18-20 hrs)	7 to 1/3 regional (18-20 hrs)	**7 to 1/3 regional (18-20 hrs)**		
Selwyn	8 to 1 (17 hrs)	7 to 1 (18 hrs)	**7 to 2 (19 hrs)**	+1.0	+1.0
Southland	8 to 3 (19 hrs)	8 to 3 (19 hrs)	**8 to 3 (19 hrs)**		
Stratford	8 to 3 (19 hrs)	8 to 2 (18 hrs)	**8 to 2 (18 hrs)**	-1.0	
Tasman	8 to 1:30 (17.5 hrs)	8 to 2 (18 hrs)	**8 to 2 (18 hrs)**	+0.5	
Tauranga City	Hotels 7/other 8 to 3 (19-20 hrs)	9 to 1 (16 hrs) 9 to 3 (CBD) (18 hrs)	**9 to 1 (16 hrs)** **9 to 3 (CBD) (18 hrs)**	-4.0 (Hotels) -3.0 (Others)	
Thames-Coromandel	7 to 1/2 (seasonal) (18-19 hrs)	7 to 1 (18 hrs)	**7 to 1 (18 hrs)**	-1.0 Dec-Mar	
Timaru	7 to 3 (20 hrs)	7 to 3 (20 hrs)	**7 to 3 (20 hrs)**		
Waikato	9 to 1 (residential) (16 hrs) 9 to 2 (CBD) (17 hrs)	7 to 1 (residential) (18 hrs) 9 to 1 (CBD) (16 hrs)	**7 to 1 (residential) (18 hrs)** **9 to 1 (CBD) (16 hrs)**	+2.0 (Residential) -1.0 (Urban)	
Waimakariri	8 to 1 (17 hrs)	8 to 1 (17 hrs)	**8 to 1 (17 hrs)**		
Waimate	7 to 3 (20 hrs)	7 to 3 (20 hrs)	**7 to 3 (20 hrs)**		

Waipa	9 to 12 (residential) (15 hrs) 9 to 2 (17 hrs)	9 to 12 (residential) (15 hrs) 9 to 2 (17 hrs)	**9 to 12 (residential) (15 hrs)** **9 to 2 (17 hrs)**	
Waitomo	9 to 12 (residential) (15 hrs) 9 to 2 (17 hrs)	9 to 12 (residential) (15 hrs) 9 to 2 (17 hrs)	**9 to 12 (residential) (15 hrs)** **9 to 2 (17 hrs)**	
Western Bay of Plenty	Hotels 7/other 8 to 3 (19-20 hrs)	9 to 1 (16 hrs)	**9 to 1 (16 hrs)**	-4.0 (Hotels) -3.0 (Others)
Whakatane	7 to 2 (19 hrs)	8 to 2 (18 hrs)	**8 to 2 (18 hrs)**	-1.0

** for existing licences with a 3am closing*

vi. One-way door restrictions

Draft LAPs

One-way door provisions are described in this review in relation to the policy, rather than by Territorial Authority. The use of a one-way door provision was generally found to apply those on-licence premises with a late trading hour, requiring them to implement this provision for the final one-hour of trading. Of the 40 draft LAPs, the following type of one-way door provisions were proposed:

- Mandatory one-way door policies (17 policies, 43%)
- Mandatory one-way door policies for specific areas (e.g. CBDs) and as discretionary condition for licences outside of CBD areas (2 policies, 6%)
- As a discretionary condition (12 policies, 30%)
- Allow the DLC to consider its use on a case-by-case basis (1 policy, 3%)
- Implement it on a trial basis by way of a licensing accord (1 policy, 3%)
- Providing two options to submitters; to make it mandatory or only as a discretionary condition (1 policy, 3%).

The remaining six policies (15%) did not specify one-way door restrictions, or described that it was not justified in their district, or was currently provided within Sections 110 and 111 of the Act.

Changes between Draft and Provisional LAP

Of the 33 policies proceeding to the Provisional stage, 19 were amended (below):

Less Restrictive:
From mandatory condition to discretionary condition – 9 policies
From mandatory condition for all to mandatory for some, discretionary for others – 2 policies
From by way of Licensing Accord to Discretionary condition – 1 policy
From discretionary condition to deleted – 2 policies
Further specified mandatory condition – 3 policies (only those open after 12am / only inner city that are open after midnight / only premises licensed to open until 3am and for large events (further defined as exceeding 100 people)).
Further specified the discretionary condition – 1 policy (relates to nightclubs only)

These changes affected 25 Territorial Authorities. The option of the mandatory one-way door provision was included in the Provisional LAP of Napier and Hastings District Councils.

Changes following Provisional LAP appeals

Following appeals, the Eastern Bay of Plenty joint Provisional LAP was amended so that the use of a one-way door was a discretionary condition, rather than mandatory requirement.

Adopted policies

Of the 21 adopted LAPs, three had mandatory one-way door policies, fourteen included restrictions as a discretionary condition, one had a mandatory one-way door policy only in a specified urban area and three did not specify any restrictions.

The mandatory policies are as follows:

- Gisborne – "One-way door from 1 am for taverns including nightclubs"
- Timaru / Waimate / Mackenzie – "All premises licensed to open to 3.00am shall apply a one-way door restriction at 2.00am on Friday, Saturday and Sunday morning and for any event exceeding 100 people occurring at the premises."
- Tauranga / Western Bay of Plenty – "Any on-licensed premises licensed until after 2am shall have a one-way door restriction in place from 2am."

vii. Maximum trading hours: off-licences

Opening hour:

Draft LAPs

As presented in Figure 7, over one-half of all Territorial Authorities proposed an opening hour of 7am in their Draft LAPs; the same hour as provided by the default national maximum trading hours in the Act. Five policies proposed differential opening hours for supermarkets and bottle stores.

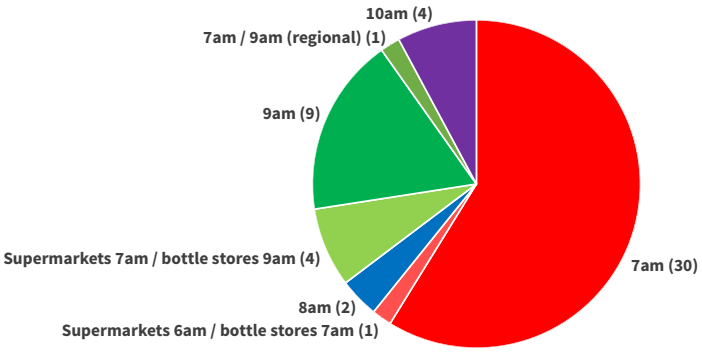

Figure 7. Proposed trading hours: Off-licence opening hour

Changes between Draft and Provisional LAP

Over one third (39%) of the 44 Territorial Authorities amended their opening hours for off-licences.

More Restrictive:
Dunedin – 7am to 9am
Waimakariri – 7am to 8am
More Restrictive for Some Types of Premises:
Central Hawke's Bay – 7am to 7am (but 9am for tavern off-licences)
Hutt City – 7am (9am Eastern Ward) to 9am (7am for large supermarkets)
Waitomo – 7am to 7am supermarkets/9am for other off-licences
Whakatane – 6am supermarkets/7am other off-licences to 7am for all off-licence types
Otorohanga / Far North / Whangarei – Supermarket 7am/other 9am to 9am for all
Less Restrictive:
Hamilton / Hauraki / Waikato – 9am to 7am
Stratford – 10am to 7am
Rotorua Lakes – 10am to 9am
Gisborne – 10am for all to 7am supermarkets, 9am others
Napier and Hastings – 9am to 9am (7am supermarkets, but not grocery stores)

Changes following Provisional LAP appeals

Following appeals, policies were revised to extend trading hours in nine Territorial Authorities (below). As shown, for many Territorial Authorities who had reduced their hours during the Draft to Provisional LAP stage, they subsequently extended their hours back to those proposed in the Draft LAP following appeals.

Less Restrictive:
Ashburton – 8am to 7am
Christchurch – 9am to 7am
Waimakariri – 8am to 7am
Gisborne – 7am supermarkets/9am others to 7am
Otorohanga – 9am to 7am
New Plymouth – 10am to 7am
Waipa – 7am supermarkets/9am others to 7am for all
Waitomo – 7am supermarkets/9am others to 7am for all
Hutt City – 9am (7am large supermarkets) to 7am for all

Adopted policies

Of the 29 Territorial Authorities with adopted LAPs, 28 policies permitted a 7am opening (Table 10). Only one Territorial Authority (Kawerau) permitted an 8am opening. Therefore, the majority of the adopted LAPs closely mirrored the default national maximum trading (opening) hour as prescribed in the Sale and Supply of Alcohol Act 2012.

Closing hour:

Draft LAPs

The default national maximum trading (closing) hour for off-licences, as prescribed in Section 43 of the Act, is 11pm. The proposed closing hours of trading in the Territorial Authorities included in the 51 draft LAPs are shown in Figure 8.

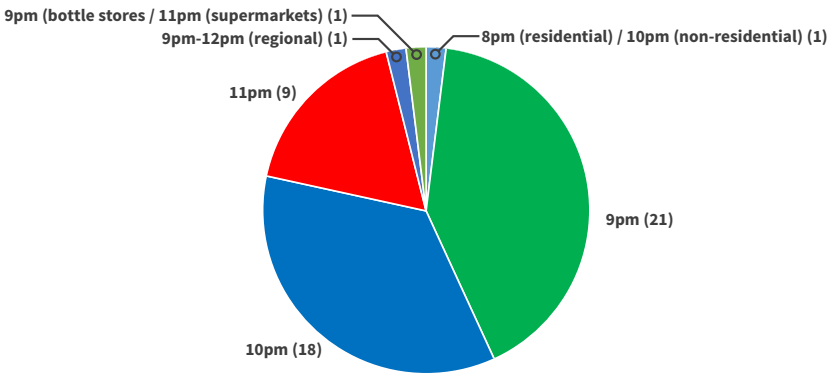

Figure 8. Proposed trading hours: Off-licence closing hour

Changes between Draft and Provisional LAP

Of the 44 territorial authorities with Provisional policies, over one-half (24, 55%) amended their closing hours as proposed in the Draft LAP (below):

More Restrictive:
Whangarei / Selwyn / Hamilton / Auckland / Dunedin – 10pm to 9pm
Hurunui – 11pm to 10pm
Mackenzie / Timaru / Waimate – 11pm to 9pm
Other:
Hutt City – 9pm-12am (regional differences) to 11pm supermarkets and 9pm other off-licences
Less Restrictive:
Tauranga / Western Bay of Plenty / Carterton / Masterton /South Wairarapa / Stratford / Tasman – 9pm to 10pm
Central Hawke's Bay / Wellington – 9pm to 11pm
Gore / Invercargill – 10pm to 11pm
Rotorua Lakes – 10pm (8pm residential) to 10pm for all
Whanganui – 9pm to 9:30pm
More and Less Restrictive by Licence Type:
Porirua – 9pm (11pm supermarkets in City Centre) to 10pm for all

Changes following Provisional LAP appeals

Following appeals, four Provisional LAPs were amended to extend the maximum closing hour (Table 10):

Less Restrictive:
Ashburton / New Plymouth – 9pm to 9:30pm
Christchurch – 9pm to 10pm
More and Less Restrictive by Licence Type:
Hutt City – 9pm (other off-licences)/ 11pm (supermarkets) to 10pm for all

Adopted policies

Of the 29 Territorial Authorities with adopted LAPs, 8 specify a maximum closing hour of 9pm, 2 at 9.30pm, 14 at 10pm, and 5 at 11pm (Table 11). The average duration of trading hours across the Territorial Authorities was found to increase for both supermarkets and bottle stores following appeals, with the average length of trading (14.9 hours) in the Revised or Adopted LAPs being approximately one hour less than the nationally-permitted total trading hours (i.e. 16 hours, 7am to 11pm).

Table 11. Changes over LAP development stages: Off-licence hours (am. to pm.)

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or adopted LAP	Draft to Provisional	After appeals
Ashburton	8 to 9 (13 hrs)	8 to 9 (13 hrs)	**7 to 9:30 (14.5 hrs)**		+1.5
Christchurch	9 to 9 (12 hrs)	9 to 9 (12 hrs)	7-10 (15 hrs)		+ 3
Central Hawke's Bay	7 to 9 (14 hrs)	7 (9 tavern) to 11 (14-16 hrs)	7 (9 tavern) to 11 (14-16 hrs)	+2.0 Non-taverns	
Gisborne	10 to 9 (11 hrs)	7 SM / 9 to 9 (12-14 hrs)	**7 to 9 (14 hrs)**	+3.0 SM / +1.0 Other	+2.0 Non-SM
Gore	7 to 10 (15 hrs)	7 to 11 (16 hrs)	**7 to 11 (16 hrs)**	+1.0	
Hauraki	9 to 9 (12 hrs)	7 to 9 (14 hrs)	**7 to 9 (14 hrs)**	+2.0	
Hurunui	7 to 11 (16 hrs)	7 to 10 (15 hrs)	**7 to 10 (15 hrs)**	-1.0	
Hutt City	Regional variation 7-9am to 9pm-12am (13-17 hrs)	9 to 9/11 SM (12-14 hrs)	**7 to 10 (15 hrs)**	variation by area and premises type	+3.0 Non-SM +2.0 SM
Invercargill City	7 to 10 (15 hrs)	7 to 11 (16 hrs)	**7 to 11 (16 hrs)**	+1.0	
Kawerau	8 to 10 (14 hrs)	8 to 10 (14 hrs)	**8 to 10 (14 hrs)**		
Mackenzie	7 to 11 (16 hrs)	7 to 9 (14 hrs)	**7 to 9 (14 hrs)**	-2.0	
Matamata-Piako	7 to 9 (14 hrs)	7 to 9 (14 hrs)	**7 to 9 (14 hrs)**		
New Plymouth	10 to 9 (11 hrs)	10 to 9 (11 hrs)	**7 to 9:30 (14.5 hrs)**		+3.5
Opotiki	7 to 10 (15 hrs)	7 to 10 (15 hrs)	**7 to 10 (15 hrs)**		
Otorohanga	SM 7/other 9 to 10 (13-15 hrs)	9 to 10 (13 hrs)	**7 to 10 (15 hrs)**	-2.0 SM	+2.0
Porirua City	7 to 9/11 SM CBD (14-16 hrs)	7 to 10 (15 hrs)	**7 to 10 (15 hrs)**	-1.0 SM / +1.0 other	
Ruapehu	7 to 11 (16 hrs)	7 to 11 (16 hrs)	**7 to 11 (16 hrs)**		
Selwyn	7 to 10 (15 hrs)	7 to 9 (14 hrs)	**7 to 9 (14 hrs)**	-1.0	
Southland	7 to 11 (16 hrs)	7 to 11 (16 hrs)	**7 to 11 (16 hrs)**		
Stratford	10 to 9 (11 hrs)	7 to 10 (15 hrs)	**7 to 10 (15 hrs)**	+4.0	
Tasman	7 to 9 (14 hrs)	7 to 10 (15 hrs)	**7 to 10 (15 hrs)**	+1.0	
Tauranga City	7 to 9 (14 hrs)	7 to 10 (15 hrs)	**7 to 10 (15 hrs)**	+1.0	
Thames-Coromandel	7 to 9 (14 hrs)	7 to 9 (14 hrs)	**7 to 9 (14 hrs)**		

Name of Council / District Council	Draft LAP	Provisional LAP	Revised Provisional LAP or adopted LAP	Draft to Provisional	After appeals
Timaru	7 to 11 (16 hrs)	7 to 9 (14 hrs)	**7 to 9 (14 hrs)**	-2.0	
Waikato	9 to 10 (13 hrs)	7 to 10 (15 hrs)	**7 to 10 (15 hrs)**	+2.0	
Waimakariri	7 to 10 (15 hrs)	8 to 10 (14 hrs)	**7 to 10 (15 hrs)**	-1.0	+1.0
Waimate	7 to 11 (16 hrs)	7 to 9 (14 hrs)	**7 to 9 (14 hrs)**	-2.0	
Waipa	SM 7/9 to 10 (13-15 hrs)	SM 7/9 to 10 (13-15 hrs)	**7 to 10 (15 hrs)**		+2.0 Non-SM
Waitomo	7 to 10 (15 hrs)	SM7/9 to 10 (13-15 hrs)	**7 to 10 (15 hrs)**	-2.0 Non SM	+2.0 Non-SM
Western Bay of Plenty	7 to 9 (14 hrs)	7 to 10 (15 hrs)	**7 to 10 (15 hrs)**	+1.0	
Whakatane	7/6 SM to 11 (16-17 hrs)	7 to 11 (16 hrs)	**7 to 11 (16 hrs)**	-1.0 SM	
Average SM	14.6 hours	14.6 hours	**14.9 hours**		
Average bottle-store	14.2 hours	14.3 hours	**14.9 hours**		

SM = Supermarket

viii. Maximum trading hours: club licences

Opening hour:

Draft LAPs

The default national maximum trading hours for club-licences, as prescribed in Section 43 of the Act, is 8am to 4am. Of the 51 Territorial Authorities with Draft LAPs, the following opening hours were proposed: 7am (5 policies, 10%), 8am (26, 51%), 9am (15, 29%), and 10am (2, 4%).

The Draft LAPs of Hutt City and Selwyn District Council made no reference to club opening hours, subsequently the default hour of 8am is allocated in the proposed opening hours above. The Carterton /Masterton/ South Wairarapa joint policy proposed an opening trading hour of 10am for sports clubs and 8am for all other clubs (not included above).

Changes between Draft and Provisional LAP

Following submissions, changes were made to seven policies, affecting ten Territorial Authorities:

More Restrictive:
Tauranga / Western Bay of Plenty – 8am to 9am
Central Hawke's Bay – 7am to 8am
Dunedin City Council – 9am to 10am
Less Restrictive:
Ashburton – 9am to 'At the discretion of the DLC, but recommends 9am'
Carterton/ South Wairarapa/ Masterton – 8am (10am sports clubs) to 8am for all (case-by-case basis)
Hauraki – 9am to 7am
Selwyn – No opening hour specified to 8am (7am for ski clubs)

Changes following Provisional LAP appeals

No further changes were made to the Provisional policies.

Adopted policies

Of the 29 Territorial Authorities with adopted LAPs, 4 policies provide for 7am trading, 10 for 8am, 12 for 9am, 2 for 10am, and 1 for 8am (with 7am for ski clubs).

Closing hour:

Draft LAPs

As shown in Figure 9, the majority of the 51 Territorial Authorities that developed Draft LAPs proposed a 1am maximum closing hour for club licences. Hutt City did not specify trading hours for clubs, giving effect to the default national maximum trading hours (8am to 4am) as prescribed in the Sale and Supply of Alcohol Act 2012.

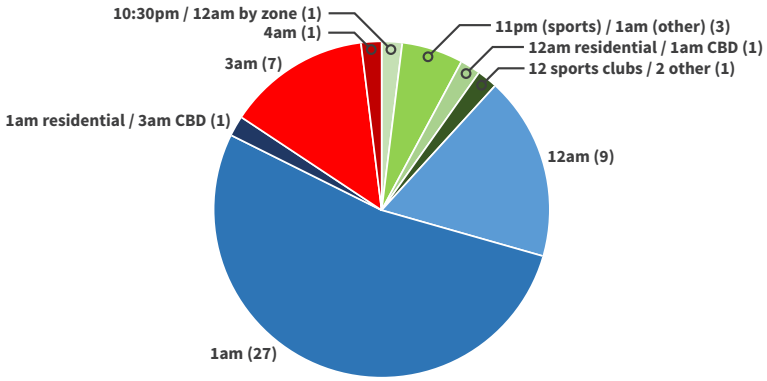

Figure 9. Proposed trading hours: Club licence closing hour

Changes between Draft and Provisional LAP

Nine Draft LAPs, affecting 11 Territorial Authorities, were amended following submissions.

More Restrictive:
Tauranga / Western Bay of Plenty – 3am to 1am
Stratford – 3am to 2am
New Plymouth – 3am to 3am (CBD) / 2am (outside CBD)
Less Restrictive:
Ashburton – 12am to 'At the discretion of the DLC, but recommends 12am'
Christchurch – extended the boundaries of Central Area A, permitting more club premises to close at 3am rather than 1am
Selwyn – 12am to 1am (for ski clubs only)
Tasman / Porirua – 1am to 2am
Wellington – 12am/ (1am CBD) to 1am for all
Other:
Hamilton – From 11pm Monday-Thursday to 1am for Monday-Sunday

Changes following Provisional LAP appeals

Following appeals, one Provisional LAP was amended to extend the closing hour:

Less Restrictive:
Christchurch – in the Revised Provisional LAP, boundaries were amended resulting in some areas that were previously defined as residential becoming included in the Central Area definition. This extended their maximum closing hour from 1am to 3am in the first three years of the LAP, and 1am thereafter.

Adopted policies

There were no further changes following notification of the Provisional LAP. Of the 29 Territorial Authorities with adopted LAPs, the following maximum trading hours (am. to am.) are permitted:

- 7am to 1am (Hauraki, Matamata-Piako, Thames-Coromandel)
- 7am to 2am (Whakatane, with sports clubs until 12am)
- 8am to 12am (Hurunui, Selwyn (with 7am to 1am for ski clubs))
- 8am to 1am (Waimakariri District)
- 8am to 2am (Porirua, Stratford, Tasman, New Plymouth with 3am in CBD)
- 8am to 3am (Gore, Invercargill, Southland District)
- 8am to 4am (Hutt City)
- 9am to 1am (Kawerau, Otorohanga District, Waikato, Waipa District, Waitomo District, Ruapehu District, Timaru, Mackenzie, Waimate District, Tauranga City, Western Bay of Plenty)
- 10am to 12am (Gisborne)
- 10am to 1am (Opotiki)
- At DLC discretion but recommended 9am to 12am (Ashburton)

Ruapehu District Council have sought to amend their adopted policy (with a 1am closing for sports clubs), by notifying a Draft Amended LAP which extends the district-wide closing hour for club licences to 2am. Oral submissions have now been heard.

ix. Discretionary conditions

Draft LAPs

There was considerable variation across the draft policies with regards to their proposed discretionary conditions. Many Territorial Authorities referred to Sections 110, 116, and 117 of the Act that provide for DLCs to issue an on-licence, club licence, or off-licence subject to conditions. Specific features as noted in the draft policies included:

- restrictions on the single sale of alcoholic beverages from off-licences (7 policies);
- requiring the cleaning of surrounding areas with regards to litter and/or vomit (6 policies);
- restricting the sale and strength of beverages in on-licences after a particular hour (9 policies);
- requiring a duty manager to be on site at all times when threshold occupancy reached (5 policies);
- requiring Alcohol Accord membership (1 policy); and
- restricting hours of sale beyond the hours prescribed in the LAP (4 policies).

Changes between Draft and Provisional LAP

Many of these specific conditions, although discretionary, were removed from the Draft LAP following the submission process:

Less Restrictive:
Removed requirement to clean up litter and/or vomit (2 policies)
Removed conditions relating to strength of beverages sold at various times (3 policies)
Removed single sales restrictions as an off-licence condition (3 policies)
Removed the requirement for a duty manager to be present (1 policy)

However, some Territorial Authorities opted to add discretionary conditions into their Provisional LAPs. For example, restrictions for off-licences were introduced relating to single sales or trading hours when students leave school (i.e. 3-4pm) as well as on-licence restrictions relating to the hour of sale associated with the strength of beverages and requirements to clean up litter in surrounding areas.

Changes following Provisional LAP appeals

Discretionary conditions were also amended or deleted following appeals. The Tauranga City and Western Bay of Plenty Councils opted to delete the discretionary conditions relating to single sales and product advertising on the shop front of an off-licence. Although it is after the deadline of this report, Auckland Council deleted the off-licence conditions relating to single sales, closing in afternoons for premises in close proximity to schools, and deleting the completion of Local Impact Reports for off-licence renewals (these changes for Auckland are not counted in Table 12).

Adopted policies

None of the 21 adopted LAPs contained provisions relating to single sales, although many included restrictions relating to the sale and strength of beverages within on-licensed premises. An online Appendix of discretionary conditions for the adopted LAPs is available at www.ahw.org.nz.

x. Total number of changes made during the policy development process

Table 12 shows the number of substantive changes made by Territorial Authorities across the LAP development process that had an effect of being more or less restrictive in relation to local alcohol availability.

More restrictive policies: Only policies amended following public consultation (from Draft to Provisional LAP stage) and not following appeals had the effect of restricting alcohol availability. The majority of these related to sensitive site provisions, on-licence hours, and off-licence hours. It must be noted that many of these restrictions are still awaiting the completion of the appeals process.

Less restrictive policies: The majority of changes had the effect of increasing the availability of alcohol when compared to the Draft LAP. The largest proportion of changes were made in relation to off-licence and on-licence trading hours, which together comprised almost half (46%) of all major changes made to date. Again, it must be noted that many appeals are still being heard. As such, these figures represent a conservation estimation.

Table 12. Number of changes (affecting any Territorial Authority) in LAP provisions to date

	More restrictive		Less restrictive		Total
	Draft to Provisional	Following appeals	Draft to Provisional	Following appeals	
Location					
Broad areas	1	0	2	3	6
Proximity to kinds of premises	0	0	3	4	7
Proximity to kinds of facilities	7	0	6	8	21
Further licences	4	0	6	5	15
Trading hours					
On-licence [a]	14	0	22	4	40
Off-licence	19	0	21	12	52
Club licence	8	0	13	1	22
One-way door policy	0	0	25	1	26
Discretionary conditions [b]	4	0	7	1	12
TOTAL	**57 (28.4%)**	**0**	**105 (52.2%)**	**39 (19.4%)**	**201**

a - includes changes made to restaurant and CBD-specific hours

b - only includes major changes made, not minor amendments to conditions

Discussion

In Aotearoa New Zealand, efforts to increase community input into licensing decisions have resulted in the responsibility for several evidence-based policy measures to reduce alcohol-related harm being devolved to local government. In particular, the Sale and Supply of Alcohol Act 2012 provided for local government to control the physical and temporal availability of alcohol, through determining the density and location of licensed premises in their district as well as their maximum trading hours. Devolvement of decision-making to strengthen the hand of local government and the community has also been found in a number of other countries, including Norway, Belgium, France, Sweden, Finland and the United Kingdom [26-30]. For some countries, this has also been prompted by the presence of free-trade agreements and harmonisation of law and regulations (e.g. European Union) which limit the scope of policies to be set at a national level [31].

The strong evidence pertaining to the harmful effects of high alcohol outlet densities [32, 33] and long trading hours [34-37] highlights the significance and potential of strong local alcohol policies as levers to achieve harm reduction [38]. The devolvement of policy making to local authorities also enables decisions to be appropriately tailored to the cultural, economic, and physical factors that give rise to regional variation in alcohol consumption and harm [39]. For example, variation in age structures, population density, geographic size and location (urban/rural), access to transportation networks, ethnicity, land use, deprivation, social organisation, amenity and good order, and drinking patterns across local government areas may play a role in the substantial variation in relationships between alcohol outlet densities and social harms demonstrated in New Zealand and across other geographic contexts [40-43]. In New Zealand, the population groups shown to experience the most harm as a result of high outlet densities in their local areas are young Māori and Pacific males, young European females, and middle-aged (55–64yrs) and older males (75yrs and above) [44]. This variability underscores the importance of locally-specific policies to be developed [40]. Furthermore, controlling the density of outlets also has the potential to address the economic availability of alcohol in a neighbourhood. High outlet densities, particularly in areas of high deprivation [45] and/or with high numbers of large chain outlets [46], have been shown to be associated with lower prices of alcohol. This presents particular concerns given the overall increasing affordability of alcohol in the New Zealand context [47] and price sensitivity of low-income groups [33].

Enabling local communities to be involved in decision-making is also ethically and morally appropriate. Alcohol problems in the community are experienced personally [48], with the community shouldering the majority of the types of harms outlined in the Sale and Supply of Alcohol Act. Moreover, creating healthy policy and engagement in democracy is a cornerstone of the Ottawa Charter for Health Promotion [49], whereby community participation and empowerment are essential components of increasing control over one's health and life [50]. As demonstrated in this review, in some local areas, community voice in the submission process was found to be overshadowed by a large number of industry submissions, some of which were later found not to be genuine.

The findings in this review demonstrate considerable variation across Territorial Authorities with regards to Local Alcohol Policy development. Almost one-quarter (24%) of Territorial Authorities, covering 359,060 residents, had not progressed to develop and notify a Draft LAP. Māori were more likely than any other ethnic group to reside in a Territorial Authority

that has not progressed to developing a LAP, having important implications for health equity. Future research could seek to explore the reasons why Territorial Authorities have not yet opted to undertake LAP development. It would be concerning if the absence of a policy led to an increase in alcohol availability, resulting from the default national maximum trading hours in the Act extending beyond the trading hours which were previously in operation across the Territorial Authority.

Almost half (43%) of Territorial Authorities had adopted and implemented (or were within the process of enacting) a Local Alcohol Policy. The highest reach of adopted policies was found for Māori and European populations. The length of time taken to adopt a LAP was found to be substantial, likely due to the time taken for the first LAP appeal hearings (Tasman District Council and Wellington City Council) to be completed and decisions to be issued by ARLA. The significant workload of ARLA, which only has one judge to hear all LAP appeals (in addition to its usual enforcement-related and other hearings), is also likely to result in time delays. Communication with Territorial Authorities further revealed that the Local Government election in October 2016 closed a window of opportunity to adopt or progress policies. Such delays in LAP development also have flow-on effects, whereby individual licensing decisions were delayed [51] whilst the DLC awaited an adopted LAP to give guidance regarding maximum trading hours. Furthermore, the significant and lengthy (four-week) Auckland Council Provisional LAP hearing in early 2017 would have had implications for ARLA to conduct hearings on other LAPs around the country, in addition to many Councils likely awaiting the decision on the Auckland Council LAP to inform its own appeal processes.

The majority of Territorial Authorities were found to have developed a Provisional LAP and were awaiting a public hearing or adoption of a revised Provisional LAP by ARLA. Of the 51 Territorial Authorities that developed policies, 18 opted to complete a joint policy with neighbouring authorities. This resulted in seven joint policies, of which four progressed to being adopted and implemented. The advantages and disadvantages of joint policy-making processes are unknown and could be further investigated. It is very possible that advantages accrue in relation to lower costs when research is co-produced and especially if legal expenses are shared. It is also possible that residents of Territorial Authorities with joint policies may be advantaged by being less likely to experience any negative spill-over effects, whereby the implementation of weaker policies in one authority has effects in nearby authorities [52]. For example, New Zealand research [53] has found that surrounding areas experience greater harms, including traffic offences, dishonesty offences, anti-social behaviour, violent offences and property abuses as a result of neighbouring high levels of outlet density. Consequently, the effects of residing in a Territorial Authority that has restrictions in their LAP to limit outlet density may be diluted if a nearby authority has no policy in place, or has weaker restrictions. Alternatively, some protection may be afforded to those who live in a Territorial Authority without a LAP but who also live in close proximity to a Territorial Authority which has a strong policy. Such spatial effects need to be considered in the evaluation of local alcohol policy efforts.

However, the complexities of joint policy-making should not be underestimated. Councils undergoing such an approach would need to have a similar understanding as to how to deal with appeals to their policies. If one Council preferred to navigate the consent order process whilst the other preferred a public hearing, problems may arise. As such, the entire policy process needs to be thoroughly considered from the outset.

Many of the Territorial Authorities undertook a comprehensive assessment of alcohol-related issues in their region in order to inform the development of their Draft LAP. Section 78 of the Act requires that, in the development of their Draft LAP, each Territorial Authority must have regard to the demography of its residents and tourists/

holidaymakers, the overall health indicators of its residents, and the nature and severity of alcohol-related problems. The Territorial Authority must also consult with Police, inspectors, and the Medical Officer of Health in the drafting of the policy. As a result, the Auckland Council Draft LAP (for example) is underpinned by a 94-page research report, providing a comprehensive overview of alcohol availability, consumption, and related harm within the Auckland Council boundaries. This report is likely to have ongoing use for many organisations working to reduce alcohol-related harm in the Auckland area. Similar to many other Territorial Authorities, Auckland Council also undertook a public survey to understand community perceptions of alcohol-related harm and availability. Therefore, many of the Draft LAPs that were underpinned by a robust collection of alcohol-related data could be considered to best reflect an evidence-based local alcohol policy.

It is uncertain whether a Health Impact Assessment (HIA) was used to underpin the development of the Draft LAPs. HIAs can identify the potential impacts of the Draft LAP on the health of the population [54] and for this reason, the Health Promotion Agency developed a guide to undertaking HIA for local alcohol policies [55]. Future research could explore the barriers and facilitators to employing the HIA process in relation to local alcohol policies.

Recent research [30] suggests that the process by which Local Authorities in the United Kingdom "select, adopt and develop local alcohol policies is complex, geographically varied and not well understood" (p.2). Policy ideas were commonly transferred across authorities, as a result of:

- learning from other local authorities (implementing similar policies to other jurisdictions);
- opportunistic, informal conversations between policy contacts;
- dedicated events to learn about local alcohol policies; and
- observing difficulties with policies previously implemented (or attempted) elsewhere.

Limited funding was found to have an impact on the ability of a Local Authority to explore policy options and implement new policies. Research into local alcohol policy transfer in the New Zealand context would be valuable.

Addressing the physical availability of alcohol

Few draft policies were found to include provisions that restricted the physical availability of alcohol in relation to broad areas, beyond the requirements as prescribed within the relevant District Plan. Only four draft policies contained broad area provisions which were more restrictive than the relevant district plan; a moratorium on new bottle stores in areas of Deprivation level 8 or greater (Rotorua Lakes Council), no new off-licences in priority overlay areas and the City Centre for 24 months (Auckland Council), no new bottle stores in neighbourhoods or local centres (Selwyn District Council), and no new bottle stores and taverns on residential-zoned land (Christchurch City Council).

Justifications for the exclusion of location restrictions were provided in Council minutes and policy documents, and centred on the ability of the DLC (under the Sale and Supply of Alcohol Act) to consider the effects of a licensed outlet on the amenity and good order of the locality and the purposes for which land near the premises concerned is used. Some Territorial Authorities [23-25, 56] were concerned that:

> *"general restrictions on the location of premises may lead to unintended and undesirable consequences such as a 'cluster' of licensed premises located just outside an area where premises are not permitted."*

Relying on the provisions of the Act to control location on a case-by-case basis could result in further strain on communities (particularly those communities which contain sensitive sites and/or high numbers of outlets) to stay informed of licence applications, collect relevant evidence to object where necessary, and attend DLC hearings. In

contrast, provisions set in a LAP could greatly reduce the burden on communities to deal with each licensed premises application as they arise (should the DLC give the LAP significant weight in decision-making). Relying on the District Plan to control location also has disadvantages, given these plans are not explicitly developed to address alcohol-related harm. Furthermore, a District Plan is only required to be reviewed every 10 years, and that is only once it becomes operative (which can take many years to occur as a result of lengthy appeals). Concern has been expressed previously about the inability of the Resource Management Act and district planning processes to take the social impacts into account when making decisions on location, as a result of prioritising an 'environmental bottom line' [57], rather than addressing an inequitable distribution of alcohol outlets [58].

None of the adopted policies to date were found to contain provisions which restricted the location of outlets in broad areas. Auckland Council's Provisional LAP (which has now proceeded to the Revised Provisional LAP stage) contains specific measures to protect broad areas (the City Centre and Priority Overlays Areas as they are referred to in the policy). The freeze on the issuing of new off-licence applications in the City Centre and Priority Overlay Areas for a period of 24 months was not deemed to be unreasonable in the ARLA decision issued in July 2017. In contrast, Rotorua Lakes Council's moratorium of outlets in deprived areas in the Draft LAP was removed by Council, whilst Selwyn Council's Provisional LAP restriction of outlets in neighbourhood centres was deleted when it was revised following negotiation with appellants. The proposed Priority Overlay Areas in the Auckland Council Provisional LAP mirrors the approach used in the United Kingdom, whereby changes made to the Licensing Act 2003 permitted local authorities to implement Cumulative Impact Policies, which strengthened local powers to restrict the growth of alcohol outlet density in broad areas [28]. Many local authorities in the UK chose to adopt these areas, or zones, which provide for a rebuttable presumption that new no licences (or modifications to existing licences) would be granted unless the applicant could demonstrate that the licence would not violate the licensing objectives. As such, this presents a reversal on the "normal burden of proof" [59], and is similar to the rebuttable presumption against the issuing of new licences included in Auckland Council's Provisional (and Revised Provisional) LAP once the freeze period has ended. Legal challenges to the Cumulative Impact Policies in the UK ensued, with a magistrate court ruling to allow an appeal by a large supermarket chain against a refusal of a liquor licence. Despite this, an empirical evaluation of the Cumulative Impact Policies found that the local authorities with the strongest policies experienced greater reductions in alcohol-related admissions [27].

Territorial Authorities were found to be more restrictive in their draft policies with regards to the location of outlets relative to other licensed premises and/or sensitive sites. For example, many authorities proposed that no new licensed premises would be granted if they were in close proximity to other types of outlets, using a distance threshold to define 'close proximity'. Other Territorial Authorities proposed provisions whereby issues of proximity to other licensed premises and sensitive sites would be considered in DLC decision-making. However, in practice, this mechanism is already provided for in Section 105(1, h-i) of the Act.

Minutes of Council meetings highlighted the perceived problems in developing proximity restrictions. Statements in the policy documents of Christchurch City Council, Nelson City Council, Tasman District Council, Marlborough District Council, and Hutt City Council all pointed to difficulties in creating a workable definition of proximity. For example, the minutes of the Hutt City Council stated [60]:

> *"There are practical problems with such an approach. For example, if you said no licensed premises can establish within 500metres of a sensitive site it could effectively mean that no suitable location would be available."*

Following submissions and appeals, many of the proximity restrictions were deleted in the policies, or watered down to such an extent that only the hours of operation could be considered in relation to an application for a premises in close proximity to a sensitive site. Porirua City Council's Draft LAP requirement for a cumulative impact report to be completed when there are proximity issues was deleted, and even the requirement to "have regard to the issues of proximity" was deleted in the Tauranga/Western Bay of Plenty Provisional LAP following appeals. Of the adopted LAPs to date, the only provision pertaining to the proximity of licensed premises to other premises permitted the DLC to have regard to proximity where it considers it relevant. As stated previously, this is already provided for in the Sale and Supply of Alcohol Act.

A cap on the number of licensed premises (mostly off-licences) was proposed in more than one-quarter of the Draft LAPs. Personal contact with Councils revealed that many smaller towns were acutely worried that supermarkets would not come to their region (and drive competition) if caps were placed on the total number of off-licences. Of the draft policies which placed caps, six progressed to a revised Provisional LAP or were adopted, of which two caps were deleted, leaving no restriction. Gisborne's revised Provisional LAP removed the cap and replaced it with a provision for the DLC to consider whether an area is a high crime area when making licensing decisions. Hauraki District Council amended the cap and replaced it with a rebuttable presumption that no new off-licences would be granted in the major towns in the region unless the applicant could demonstrate that they would deliver significant social and other benefits (including economic) to the community. This was later changed again, requiring the DLC to consider amenity effects. Only Waikato's adopted LAP maintained a cap on the number of standalone bottle stores in the urban areas of Ngaruawahia, Huntly, and Raglan. In total, there will be seven bottle stores across these towns for the period of the local alcohol policy.

Overall, many of the strong measures proposed to control the physical availability of alcohol did not survive the appeals process. Any proximity restrictions adopted to date were found to be generally small and only applied in relation to very close proximity (bordering, 40-100m) to sensitive sites. Even in these instances, in many cases the applicant is able to mitigate the restriction by being able to demonstrate no significant impact on the facilities or persons using these facilities. The implementation of this type of element is worthy of future examination. Furthermore, as the policies only apply to new licence applications and not to existing premises (only the conditions of renewals can be considered in LAPs), the overall impact on outlet density would likely be low.

The lack of density provisions in the adopted policies has significant implications for health equity and obligations to protect Māori health under the Treaty of Waitangi. Māori, Pacific peoples, and those of lower socio-economic position experience disproportionate harm from their drinking, and suffer the greatest negative impact from a high density of alcohol outlets [45]. In order to improve Māori health and achieve equity it is recommended that policy makers prioritise Māori rights [61]. Completion of the Health Equity Assessment Tool [62] during the Draft LAP development process could greatly assist in understanding the impact of a policy on health inequalities. It may also signpost the importance of protecting the Marae and urupā as sensitive sites in relation to proximity to licensed premises.

Addressing the temporal availability of alcohol

Significant changes to trading hours were made during the policy-making process. In total, 92 changes were made to the proposed on-licence and off-licence hours, representing almost one-half of all changes made to the alcohol policies. Over one-half (52%) of the total changes to hours were in relation to off-licence trading hours, although changes to off-licence hours comprised 75% of all changes to on- and off-licence trading hours following appeals.

The adopted closing hour for on-licences was commonly found to be 1am in residential areas and 3am in city centres. Of the 22 adopted or Revised Provisional policies with on-licence closing hours of 2am or later, three had mandatory one-way door policies. When compared to research which detailed permitted on-licence trading hours in seven Territorial Authorities prior to the Sale and Supply of Alcohol Act [63], the adopted LAP hours are found to be the same for some authorities or an increase beyond the former trading hours. Many policy documents referred to previous policies or the usual hour that premises closed (which may be well-before the permitted closing hour) to justify their policy positions. Alternatively, in the Tasman decision [64], the rationale for the proposed on-licence hours were "as a result of a "gentleman's agreement" between the Police and the Motueka licensees, whereby on-licence premises in the Motueka area closed at 2am." This agreement played a role in the Judge deciding that any extension in hours currently permitted would overturn the voluntary accord, and likely lead to an increase in alcohol-related harm.

When local authorities amended their alcohol policies in Norway, changes to the on-licence trading hours received the most of attention in the media and were found to generally result in an extension of hours that mirrored the maximum trading hours permitted in legislation [26]. This supports the suggestion that the process of local government alcohol policy making is centred on compromise [26], which prioritises the appeasement of all stakeholders involved in the process [63]. In the New Zealand LAP context, a compromise approach in the appeals process may be shown in the finding that many Territorial Authorities amended their trading hour policies by a limited extent (e.g. 30 minutes).

Many Territorial Authorities considered the impact of the LAP on the local economy, and linked the LAP with District Plan objectives (as required in the Act). For example, many District Plans include objectives that relate to the development of a vibrant and attractive city centre environment. Wellington City Council's LAP referred to their "Wellington Towards 2040: Smart Capital vision" strategy whereby one goal is for the CBD to continue to drive the regional economy. In the Wellington Provisional LAP decision, Judge Hole referred to the use of economic-driven goals in the development of a LAP:

> *[67] (d) …PLAP had its genesis not only in an attempt to further the object of the Act but also to promote a "dynamic central city" and a "people centred city". This emphasis on the "dynamic central city" and "people centred cities" is evident, also, from Mr Dyhberg's evidence. Section 77 makes it clear that a PLAP is a very limited document. The contents of s.77 are all related in general terms to the safe and responsible consumption of alcohol and the minimisation of alcohol-related harm. They have nothing to do with the wider concerns expressed in the PLAP of creating a "dynamic central city" and a "people centred city".*

In the policy documents of Nelson City Council, Christchurch City Council, Marlborough District Council, and Tasman District Council [24-24, 56] the "negative economic consequences" were considered in local alcohol policy decisions. Marlborough District Council, in their justification for not further restricting off-licence hours (beyond a 9pm closing), stated that it would be an "unreasonable restriction on shopping opportunities, lifestyle and commercial activity"

[24]. Commercial reasons have been cited internationally in relation to licensing policies, with decision-makers in the United States concerned about the importance of alcohol sales to the local economy and the problems with interfering in the market [39]. Rossow et al. [26] also found that the media concentrated on the potential impacts of local alcohol policies on the economic and competition conditions within the hospitality industry.

The adopted LAP off-licence hours generally commenced at 7am, with eight Territorial Authorities closing at 9pm, fourteen at 10pm, and five at 11pm (mirroring the default national maximum trading hours). As described earlier, the majority of changes made in policies related to off-licence premises and generally resulted in an extension of trading hours.

Interestingly, club licences were often granted the same maximum trading hour as on-licence premises, despite clubs being afforded fewer restrictions in the Act (e.g. duty manager not required at all times, etc.). Given licensed clubs in the North Island have been shown to be associated with significant alcohol-related harm [40], their fewer licensing restrictions under law should highlight the need for more restrictive measures to reduce harm. Yet club licences were rarely restricted in relation to density or trading hours.

Many Territorial Authorities chose not to use the LAP elements relating to discretionary conditions (s. 77(1f)) or a one-way door (s. 77(1g)) given they are already provided for in other parts of the Sale and Supply of Alcohol Act (see s.110(1d) and s.111 for one-way door restrictions and s.110(1) and s.116 relating to discretionary conditions of on- and off-licences). The duplication of these elements was used by many Councils not to include these provisions, despite their presence in LAPs potentially signalling the importance of them to be considered in licensing decisions within the district.

Even when Councils opted to include discretionary conditions in their LAPs, they were nevertheless appealed. In the Tauranga/Western Bay of Plenty joint LAP, the discretionary conditions for off-licences relating to single sales and advertising were deleted in the adopted policy. Interestingly, some Territorial Authorities were able to maintain their policy provisions relating to the cleaning of surrounding areas, whilst other authorities removed the provisions following appeals.

Appeals and hearings

The review found five key appellants to the Provisional LAPs, representing the various stakeholders in the alcohol industry. Supermarkets were represented by Progressive Enterprises and Foodstuffs, whereas The Mill Holdings, Super Liquor, and Independent Liquor were the major appellants to provisions relating to bottle stores. Many provisions were also appealed by the Medical Officer of Health in the relevant district. Similar to the experience in Norway [26], Facebook groups were also established whilst policies were being developed in order to rally support, emphasising the right to individual liberty (e.g. Save Dunedin Nightlife, Dance Till Dawn).

Of the Provisional LAPs notified to date, only one was not appealed. This policy, developed by Ruapehu District Council, excluded any restrictions pertaining to the number and location of licensed outlets and proposed to implement the default national maximum off-licence trading hours (i.e. 7am to 11pm). On-licence hours were also close to the default national maximum trading hours, with 7am to 3am in the Waimarino, Waiouru, and National Park areas, and with no one-way door restrictions.

Media highlighted the problems faced by Councils in the LAP legal processes (particularly the role of the supermarkets in appeals):

> *"Hauraki Mayor John Tregidga says the supermarket chain made it clear from the start that legal action would result if the off-licence hours were not what it wanted. This was despite the fact that Hauraki's two stores closed at 9pm anyway. The council had proposed 9am to 9pm based on the feedback from extensive community consultation." [64]*

In many regards, the devolution of alcohol policy making to local government may have had the important effect of highlighting, to many local Councillors, the influence of key alcohol industry players in policy-making processes. In addition, minutes of Tasman Council [23] noted that the appeals process was considered, among many other factors, in justifying whether or not to place more restrictive hours for on-licence and off-licenced premises in their policy. It was stated that more restrictive hours were not justified because of:

> *"The cost and time that may be associated with defending an appeal against the LAP, which is more likely if the LAP sets conditions that are considered unreasonably restrictive by any community or industry group."*

The cost of legal challenges is significant for local government in New Zealand, whose resources do not match that of central government or their agencies. Almost half (45%) of the 67 Territorial Authorities have fewer than 30,000 residents; two-thirds (66%) have fewer than 50,000 residents. This means that the budgets of many authorities is likely to be extremely small, in addition to the challenges of allocating skilled policy personnel to a lengthy policy development process. It is perhaps not surprising that it is the often the larger councils which have sought to challenge the appeals in a public hearing.

The appeals process raised many issues, especially in relation to the eligibility to lodge an appeal, the reductionist approach of the appeals process, and the types of evidence required to prove a policy element was unreasonable in the light of the object of the Act. In relation to the former, only those who submitted on the Draft LAP were eligible to lodge an appeal. If an element (e.g. one-way door policy) was removed following submissions or appeals, there were no grounds for appeal. Those wishing to lodge an appeal were required to pay a fee of $517.50, which may, or may not, have provided a financial barrier to community members or groups wishing to take part in the appeals process.

Secondly, appeals were required to be lodged in relation to a specific element of the LAP. This approach is likely to result in a LAP being perceived as a series of elements, rather than a package of evidence-based measures to reduce harm. It is likely that LAP elements work synergistically, resulting in a policy that is greater than the sum of its parts. Reducing appeals to individual elements may give an effect of "not seeing the forest for the trees".

Thirdly, evidence to claim a policy element was unreasonable in light of object of the Act was fiercely debated. Conflicting views pertaining to evidence were expressed throughout the local alcohol policy process, with health agencies traditionally using scientific evidence to support their claims [67]. However, the Tasman District Council decision [64] pointed to the importance of 'local' evidence:

> *[53] A LAP is just that. It is not a national policy and evidence of national characteristics will seldom be of value except to provide a background for evidence of local issues. It is a local policy prepared by local people who know and understand the local problems in their locality. The criteria in s.78(2) reinforce this view.*

Further, in the Wellington City Council decision national evidence was stated to have "minimal value", adding that [68]:

> *[45] The Authority is not dealing here with national trends (which is the province of the legislation) but with the specific alcohol-related problems associated with Wellington City.*
>
> *[66] … Authority has indicated in this decision that the academic research and evidence based upon it was only relevant to international or national issues and had little or no relevance to whether or not a PLAP was unreasonable in the light of the object of the Act given its application to local circumstances and conditions.*

In the absence of local evidence, the precautionary principle has been supported. In the Tasman District Council decision it was noted [64]:

> *[54] The territorial authority does not need to be sure that a particular element of its PLAP will minimise alcohol-related harm. This can be deduced from the judgment of the Court of Appeal in My Noodle Ltd v Queenstown-Lakes District Council [2009] NZCA 564; (2010 NZAR 152 at paragraph [74]). A precautionary approach can be used to see if it will achieve the statutory object.*
>
> *[56] The playing field is not an even one. It is weighted against an appellant in favour of the territorial authority. This is not because of any presumption that a PLAP is reasonable in the light of the object of the Act. Rather, it arises from the onus on an appellant, if it is to succeed, to satisfy the Authority on what is a negative proposition. That is more difficult than establishing a positive one. Further, the proportionality approach is weighted against an appellant because the PLAP does not have to achieve the statutory object: rather it must constitute an attempt to do so and can employ the precautionary principle described in My Noodle (supra) at paragraph [74].*

The precautionary principle has been reaffirmed in both of the ARLA decisions relating to the Dunedin City Council and Auckland Council Provisional LAP appeal hearings.

Evidential debates in licensing decisions are not unique to New Zealand. In the UK, authorities can only consider evidence that relates directly to a premises in question. The linking of problems relating to a particular premises or cumulative impact zone are perceived to be issues generating heated discussion, with different types of evidential claims being submitted [28]. Evidence relating to a particular premises is given greater legal weight, making it less vulnerable to appeal. In both the UK and New Zealand contexts, this presents significant challenges for the use of routine health data as it can rarely be linked to a licensed premises. As such, it is more likely to be considered irrelevant within licensing decisions [59, 69-71].

In contrast, the experience in both New Zealand and the United Kingdom shows that the alcohol industry seeks to play a role in providing the necessary local 'evidence', through demonstrating that their operators act responsibly or that areas in which licensed premises operate (or wish to operate) experience low levels of harm [28, 64]. Case studies, despite being at the bottom of the hierarchy of quality evidence, have been successfully used by the alcohol industry in Australia [71]. When Cumulative Impact Policies were challenged in the UK, the industry made claims that they were "creating jobs" and "investing in the community", or that on-licences were important "food-led" establishments, where community members could come together to "simply have a glass of wine with food" [28]. In the New Zealand LAP appeal hearings, Hospitality New Zealand made the following claim in their appeal of the Tasman District Council Provisional LAP [64]:

> *[59] The appellant called evidence from three on-licensees. One of those has licensed premises in Collingwood. The next has licensed premises in Murchison and the third has licensed premises in Richmond.*

> *In each case, the evidence was that the premises are well conducted and on occasion each of the premises closes at 3.00 am.*

The evidentiary requirements for local data has significant implications for local alcohol policy development. Nicholls suggests that the epistemology of alcohol licensing decisions is more likely to place value on evidence that tends to "see like a city (or town)" rather than "see like a state" [72]. This presents many challenges in relation to bringing to the table national and international academic evidence as well as survey data, given that District Health Board-level data (n=21) in New Zealand does not always overlap with Territorial Authority (n=67) boundaries. It is suggested that the necessity for local data requires a fundamental shift in the traditional gathering of local health data [59], so that non-health sectors can develop effective policies that improve health. The Cardiff Model has been recommended as a pioneer in the production of detailed local health data [59], whereby anonymised data on alcohol-related injuries is linked to the precise location of where the injury occurred [73]. The recent advancements in Geographic Information System methodologies are believed to offer great promise to the development of spatially-informed alcohol policies [74]. For example, the new web-based tool developed by Massey University, "healthspace" is beginning to provide alcohol-related harm data at the Territorial Authority level (see http://cphronline.massey.ac.nz/maps/maps_Alcohol.html).

The demonstrated shift in the strength of policies over the course of policy development may reflect how power (i.e. influence on the policy process) is distributed in the policy making process [65]. Prior research in New Zealand has shown that even when local policies to control the sale and supply of alcohol had no legislative power or mandate, the alcohol industry still had a significant presence in the debate [63]. This concurs with evidence from the United States [39], whereby the decision-makers who were able to adopt stronger controls on high-strength beer in their cities were reported to be strongly supported by a public mandate, and more resistant to industry opposition and potential threat of legal challenge. In contrast, those that did not implement policies were found to be more likely to favour industry arguments. In England and Wales, many authorities have abandoned their policies due to the threat of legal challenge [69].

The adoption of the Consent Order process following ARLA's Practice Note appeared to set forth a different path of policy development for many Territorial Authorities. Since the first use of the Consent Order process in late 2014, there have been few appeal hearings. The Thames-Coromandel and Tasman cases, which both dealt with one element being appealed, took two and three days of public hearing, respectively. The hearing for Wellington's Provisional LAP, which had many more elements appealed, took eight days, whilst the Auckland Council appeal hearing took four weeks. A consent order hearing preceded the substantive hearing, with the consent order process being challenged by legal counsel of the Medical Officer of Health for the Auckland Regional Public Health Service (and supported by the New Zealand Police). One of the reasons was that:

> *"The Medical Officer of Health submits that appeals under the Act have a clear public dimension that requires more than the agreement of the parties for consent orders to be made. Given the object of the Act and the clear public interest considerations involved in decisions under it, it is submitted that the Authority should take the view that if an appellant or s205 party's position is that the Authority should hear full evidence and submissions before an appeal is allowed, then such a request should be acceded to save in exceptional circumstances."*

As described earlier, the consent order process excludes open debate regarding policy elements in a formal setting and does not permit relevant case law to be established. Although Consent Orders are not 'rubber stamping' processes, they

have appeared to be popular in local alcohol policy making. In most cases, appeals taken through the consent order process have translated to Councils amending their policies to be less restrictive.

This type of mediation or negotiation process is not unique to Local Alcohol Policy processes. For example, the settlement of disputes is encouraged within Section 268(1) of the Resource Management Act 1991 (Section 268(1). In relation to Environment Court pre-hearings and mediation, the advantages and disadvantages have been fully described. Zeinemann [75] summarises some of the relevant advantages, including a promotion of understanding of other peoples' perspectives, reduced court caseloads and expenses, and restoring the influence of community values. In contrast, the disadvantages are seen to stem from resource and power imbalances which are commonplace in mediation [75, 76]. Powerful parties are suggested to impose their will on weaker parties, in a setting which is more informal and providing fewer safeguards than more formal hearings [75]. In addition, it is suggested that the focus of mediation on individual disputes hides the issues from public view and scrutiny, many of which have significant societal implications [75, 76]. Finally, a pre-hearing process which subsequently fails can be financially, practically, and emotionally costly to the parties [77]. For these reasons, scepticism remains whether one can protect the public interest in a process that occurs outside the limelight of a public hearing [76]. The private nature of mediation is also likely to have significant implications for the prioritising of indigenous rights in New Zealand, particularly the enhancement of tino rangatiratanga (Māori self-determination) and oritetanga (protecting Māori health and achieving health equity), if Māori are not adequately represented in the mediation process. Previous attention has been drawn to the importance of effective mediation processes in New Zealand to enable genuine iwi participation [78]. This has important implications in light of the ARLA decision on Auckland Council's Provisional LAP which stated that the Treaty of Waitangi had no authority in relation to Local Alcohol Policy decisions.

The negotiation process also had significant implications with regards to the shifting of the burden of proof, especially once a Provisional LAP had been revised. For example, many industry appellants negotiated with Territorial Authorities to amend (i.e. increase) the Provisional LAPs trading hours, outside of the formal hearing process and presentation of expert evidence. The revised Provisional LAP was then notified and the 30-day process commenced for those wishing to lodge an appeal. The burden of proof now lay with those seeking reduced hours in the LAP to prove the unreasonableness of the amended element. For many organisations working in harm reduction, the limited local evidence available to show the difference in harm when hours are extended by 30mins or an hour precluded the lodging of an appeal.

Judicial review process

Interestingly, policies which sought to differentiate on-licence trading hours by geographical location were most at risk of Judicial Review. Hospitality New Zealand filed a successful Judicial Review in relation to the Christchurch City Council Provisional LAP, arguing that the Council should have considered the new District Plan in their decision-making. This review gave rise to a delay in the Christchurch Provisional LAP being progressed (and later aborted). In Auckland, an on-licence appellant has filed a Judicial Review in relation to City Centre boundaries that determine on-licence trading hours. It is currently uncertain as to whether this lodgement will delay the adoption of the Auckland Revised Provisional LAP.

Prior to the implementation of the Act, concern was expressed as to whether the provision for the development of Local Alcohol Policies would empower communities or rather be subverted by commercial interests [79]. This review has shown that in many cases the provisions in evidence-based Draft LAPs were watered down, or removed

altogether. This is similar to licensing experiences in Australia, whereby 77% of licensing judicial decisions were in favour of the alcohol industry [71]. In New Zealand LAPs, where provisions were in place within adopted policies, many of them closely aligned with national legislation. This end result begets the question as to why there is the need to devolve decision-making to local authorities. The lack of provisions in local policies results in licensing decisions that need to be made on a case-by-case basis, placing substantial burden on communities to be involved in the DLC licensing process. Following the first year of the new Act, significant variation across DLC practices was found [67], including interpretations of the Act and evidential requirements. Furthermore, it is unknown whether communities have perceived the LAP process to be a positive or negative experience. If the latter is shown to be true, this may lead to lower levels of participation in future decision-making processes [80], including licensing decisions. This is of concern, given the recent findings that New Zealanders already have low levels of trust in local government [81], especially in relation to displaying sound and effective leadership [82].

Strengths and limitations

This review provides a thorough, descriptive analysis of the local alcohol policy process almost four years after the earliest date a LAP could be adopted. As shown, only 24% of the population are currently covered by a local alcohol policy, leaving 76% of the population subject to the default provisions in the Sale and Supply of Alcohol Act until a LAP is adopted.

Information for the review was collected from Council minutes and websites. The accuracy and veracity of this data could not be determined. Furthermore, it is not possible to adequately determine the extent to which community concerns were upheld in the policy making process given that individual submissions on each policy were not reviewed. However, in many policy documents and minutes it was clearly evident that Territorial Authorities wished to uphold their community concerns which called for tight restrictions on the availability of alcohol. The number of submissions to the Law Commission advocating for more restrictive measures also signals the direction the community wanted to take in terms of alcohol availability. Importantly, research has been funded in New Zealand [83] that will greatly assist to quantify the level of involvement of the community, including iwi, in the local alcohol policy process. This research will also identify how the previous alcohol policies and strategies operational in some Territorial Authorities prior to the new Act compare to the LAPs recently developed. It would be of concern if the LAP provisions in the Act simply result in many Councils developing polices which reflect the status quo, rather than attempt to reduce availability to minimise harm. An analysis of the impact of LAPs on indicators of alcohol-related harm should signpost the future direction of local involvement in alcohol policy-making.

Conclusion

This review has demonstrated the inherently complex politics of alcohol policy formulation in Territorial Authorities across New Zealand. The new Act brought promises of increased community input into decision making, but for many New Zealanders this is yet to be realised. In reality, the new Act devolved responsibility, but not power and resources. As a result, the majority of LAPs developed to date have been appealed by key alcohol industry groups and, in most cases, have resulted in adopted LAPs which closely align with national legislation. The devolution of policy-making to local governments with limited financial and personnel resources to fight appeals appears to have been, in the most part, an impossible ask. For many authorities in New Zealand, there are few restrictions in place that would provide a real test of the effectiveness of local measures. The lack of provisions within many of the adopted LAPs (and the requirement to only have *regard* to the LAP in decision-making) reinstates a significant burden on communities to be involved in individual licensing decisions. This places an increased onus on each District Licensing Committee to make sound licensing decisions that reflect the needs and aspirations of the community, so that any positive benefits of bringing alcohol control back to the community can be realised.

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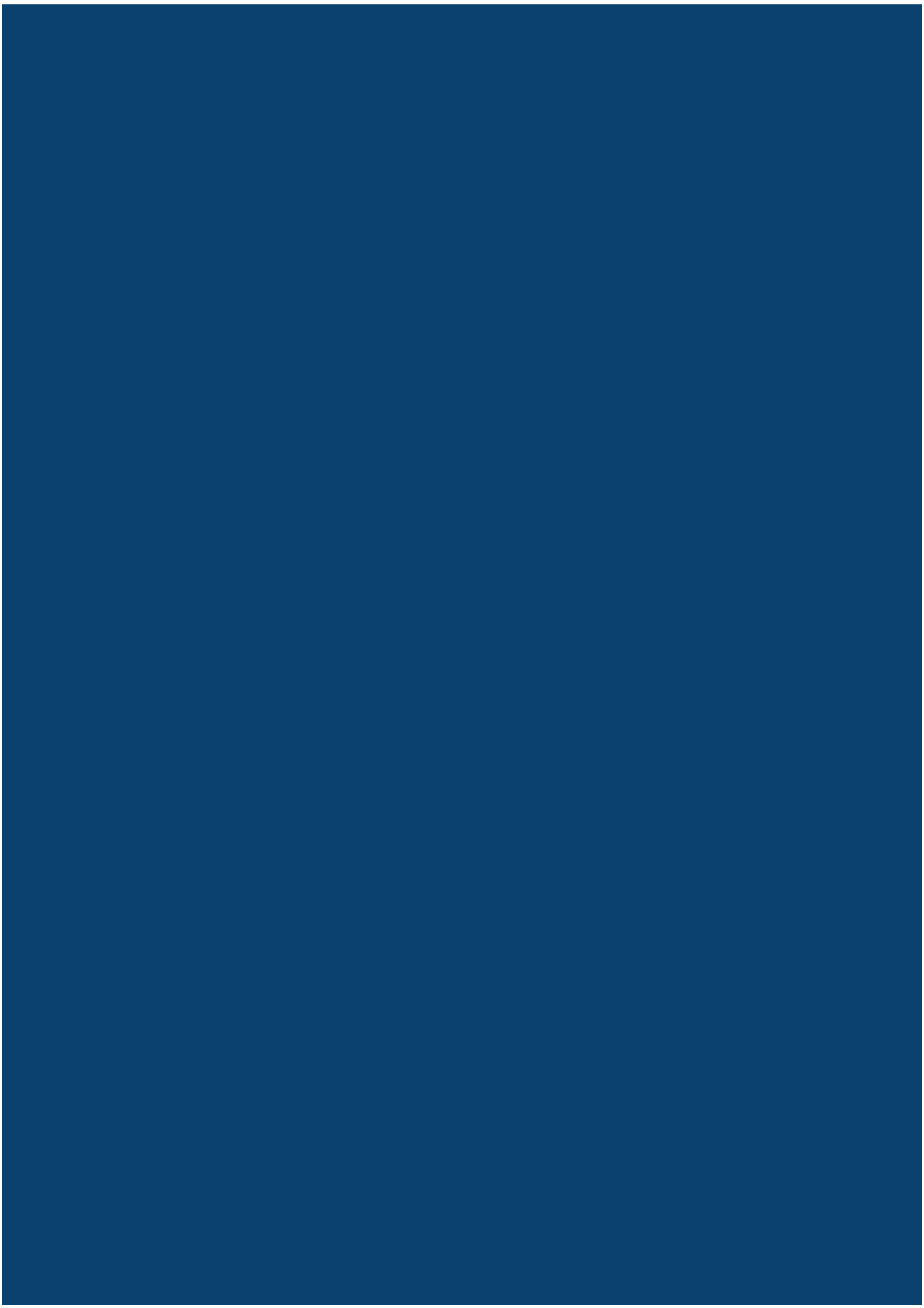


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