

Consumer alcohol exposure in supermarkets: legislatively adherent, but a societal problem

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Alcohol misuse is a well-known public health problem. Supermarkets provide relatively easy access to alcohol for consumers; this is linked to an increase in alcohol misuse.¹ In New Zealand (NZ), supermarket and grocery store market share is approximately 30% and 60% of all off-licence beer and wine sales, respectively.² Supermarket market dominance of off-licence alcohol sales is increasing, in part due to their application of loss-leading strategies.³ This, coupled with a low price elasticity of demand in high- or moderate-intensity drinkers,^{4,5} the popularity of beer and wine,⁶ the increasing affordability of alcohol,⁷ and cross-promotional incentives,⁸ mean that supermarkets can effectively target consumers in a manner inaccessible to other off-licensed premises.

Research has been conducted on the alcohol-related exposure and purchase rates of those aged 15 years and older. Findings from a recent survey indicate that supermarkets were the most popular place for respondents to purchase alcohol in New Zealand over the four weeks preceding the survey, compared with bottle stores, restaurants or cafés.^{9,10} Exposure to alcohol advertisement and targeted product placement, activities prevalent in supermarkets, increase consumer purchase of, and familiarity with, this product.^{11,12} Similarly, United Kingdom research suggests that end-of-aisle displays increase consumer exposure to alcoholic products and this, in turn, is a stimulus for a 23.2% to 46.1% increase in alcohol sales volume.¹²

Childhood alcohol marketing exposure results from various sources, including

Abstract

Objective: The Sale and Supply of Alcohol Act 2012 came into force to promote the safe and responsible sale, supply, and consumption of alcohol in New Zealand. The Act was intended to minimise harm caused by excessive consumption of alcohol and reduce exposure to alcohol promotion. This study assessed supermarket adherence to sections 112–114 of the Act related to the display and advertisement of alcohol. It also assessed consumer exposure to alcohol marketing in these businesses.

Methods: This paper reports on an audit of nine supermarkets in a major New Zealand city.

Results: Supermarkets exhibited high average adherence with the Act (86% adherence across audit fields); despite this, exposure to alcohol displays, promotions and advertisements remained an issue regardless of supermarket geographic location, size or chain affiliation.

Conclusions: Supermarkets are an increasingly popular source of off-licence alcohol sales. Exposure to alcohol marketing in these businesses will likely influence consumer purchasing behaviour.

Implications for public health: As an important public health challenge, based on this study, it would appear that supermarkets mostly meet the provisions of the Sale and Supply of Alcohol Act 2012, but not the intent. Additional work is required to strengthen their response to the Act.

Key words: alcohol, exposure, alcohol marketing, legislation, supermarkets, primary prevention, alcoholic beverage supply and distribution

the purchase of alcohol by parents and other adults, and as with adults, through advertisements in off-licensed premises. Among 15–19-year-olds in New Zealand, approximately 64% are current drinkers of alcohol,¹³ and approximately one-third of adults with hazardous drinking behaviour became hazardous drinkers as adolescents or young adults.¹⁴ When considering the adult population 15 years and older, New Zealand Health Survey 2017/18 results indicate that 20% of this population are hazardous drinkers and that hazardous drinking is 1.3 times more common in the most deprived areas than in the least deprived areas.¹⁵ Chambers et al. investigated children's exposure to alcohol

marketing in supermarkets.¹¹ They found that 91% of children participating in their study were exposed to alcohol marketing and that this exposure occurred during 87% of supermarket visits. Similarly, one of their later studies found a link between alcohol marketing exposure and accessibility of off-licensed premises.¹⁶ With possible links between alcohol advertisements and consumption,^{17–19} as well as between exposure and positive attitudes towards consequences of alcohol consumption,²⁰ in addition to changing attitudes towards alcohol consumption as children age,²¹ the exposure to alcohol marketing found in supermarkets can have a significant impact

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on children. A critical point of intervention in preventing life-long alcohol-related harm is in childhood.

The increasing availability of alcohol through on- and off-licensed premises has contributed to the cultural 'normalisation' of alcohol.⁶ New Zealand has taken steps to control the safe and responsible sale, supply, promotion, and use of alcohol through the *Sale and Supply of Alcohol Act 2012* (SSAA 2012). Sections [ss] 112 to 115 of the Act set out conditions related to the display, promotion and advertising of alcohol.²² These sections specify that alcohol display and promotion should occur in a single non-prominent area of supermarkets and grocery stores with the aim as laid out in s112(1) of reducing consumer exposure to alcohol marketing. The location and layout of these single alcohol areas (SAAs), or their divided sub-areas, are regulated, and conditional upon approval by licensing authorities and committees (s113). Restricting alcohol display to one area could reduce the 'normalising' effects of alcohol exposure, while still allowing supermarkets to display and sell alcohol.⁶

At the time of its introduction, the SSAA 2012 was seen by some as an insufficient response to New Zealand's alcohol problem.^{23,24} More recently, the efficacy of the SSAA 2012 has been called into question due to 'middling' compliance from supermarkets and continued consumer exposure to alcohol outside of SAAs.^{11,25} Similarly, several cases illustrate issues with managing and defining SAAs, see for example the Queenstown Lakes District Licensing Committee 2016 decision on a supermarket operating an "alcohol gauntlet" (para. 55, page 12) to increase consumer exposure to alcohol.²⁶ Amid calls from across the health sector to strengthen alcohol regulations,²⁷ the current study investigates supermarket adherence to ss112–114 of the SSAA 2012, relating to SAAs. This paper provides results from an audit of supermarket adherence with these sections of the SSAA 2012 and then presents results of consumer exposure to alcohol marketing in these same businesses.

Method

Supermarket selection process

Using the New Zealand Ministry of Justice's most recent list of supermarkets that were licensed to sell alcohol between 2015 and August 2018, the researchers identified 38 supermarkets located in one large, purposively selected New Zealand city.

After removal of duplicate licences, thirty supermarkets met the study's eligibility criteria; small supermarkets with floor areas of less than 1000m² (n=1) or that had either ceased operation or were about to (n=2) were excluded from this study.

Building plans, provided by local councils, were used when analysing SAA locations in audited supermarkets and in characterising supermarkets as medium-sized (1000–1800m²) or large (more than 1800m²). Floor area was assessed using local council publicly reported property size estimates and categorised as medium or large.

Earlier research has indicated that alcohol exposure and consumption patterns differ based on geographic socioeconomic deprivation.^{28–31} This study chose to examine whether differences in geographic deprivation influenced supermarket adherence with SAA legislation and consumer exposure to alcohol. Supermarkets were grouped into three strata based on University of Otago (2013) deprivation indices and Statistics New Zealand census mesh blocks.^{32,33} These deprivation strata were: deciles one to three (low), four to six (medium), and seven to ten (high). Following stratification, three supermarkets in each stratum were randomly selected for participation in this study (n=9).

Audit tool

An audit checklist was created to assess supermarket adherence to parts of ss112–114 of the SSAA 2012. This tool tested adherence related to the display and promotion of alcohol in supermarkets but excluded local council policy variations. The following sections of the SSAA 2012 related to SAAs were not explicitly tested: s113(2) and (4), and s115. Sections 113(2) and (4) were analysed when considering the floorplan of each audited supermarket, but could not be directly tested; similarly, within the study's constraints, it was not possible to analyse supermarket licence renewal processes for SAAs (s115).

The tool allowed objective evaluation of consumer exposure to alcohol marketing and liquor displays throughout the store and through end-of-aisle displays. Additional subjective evaluation of consumer alcohol exposure in supermarkets occurred using a 5-point Likert scale (1 = lowest exposure, 5 = highest exposure). These measures provided an understanding of where alcohol exposure

occurred and consumer perception of this exposure in supermarkets.

With the exception of the Likert scale, the tool followed a yes/no (non-adherent/adherent, exposed to alcohol marketing/not exposed) checklist format. The checklist measured the following 12 areas; the first three fields tested legislative adherence and the fourth field tested alcohol marketing exposure:

- two audit fields related to SAA location in relation to supermarket entry, exit, and store body (ss112 and 113);
- two audit fields related to alcohol display or promotion outside the SAA (s114);
- three audit fields related to alcohol display and marketing that promotes excessive or inappropriate alcohol consumption (an objective of the SSAA 2012), and the sale of non-alcohol products inside the SAA (s114); and
- five audit fields, one of which used a Likert scale, to evaluate consumer alcohol exposure outside the SAA (s112 of the SSAA 2012 emphasises the need to limit, as far as reasonably practicable, consumer exposure to alcohol display, promotion, and advertising);
- additional fields on alcohol display, promotion, and advertisement in SAA sub-areas.

Prior to study commencement, four auditors piloted this tool on three supermarkets excluded from this research; amendments to the tool were made following trial feedback. Following this, two auditors trialled the revised and final tool in the same supermarket to test agreement and result alignment. An English-language version of the tool is available from the authors upon request.

Ethics approval

The New Zealand Health and Disability Ethics Committee reviewed and judged this audit as beyond their scope on 11/12/2018.

Data collection

Supermarkets were inspected over three days in early 2019. Two auditors inspected all supermarkets; results presented here are from one of these auditors. The auditors took a systematic route around supermarket premises from the entrance, down all aisles, towards checkouts and then to the exit. External facades were checked for alcohol-related advertising on entry and exit.

Data analysis

Audit findings were analysed using Microsoft Excel. Supermarket adherence with legislation was calculated as the simple proportion of responses that complied with ss112–114 of the SSAA 2012 across legislative adherence audit fields. Consumer exposure to alcohol marketing was measured as the per cent of 'exposed' responses for each exposure field across supermarkets, and subjectively using the Likert scale.

Given the growing market share of supermarket alcohol sales, and the purchasing power of New Zealand's two main supermarket chains (Law Commission, 2010), this study chose to evaluate the impact of chain status on legislative adherence. Audited supermarkets belonged to one of two supermarket chains (labelled A and B), these chains operated under different business models. Four of the audited supermarkets belonged to supermarket chain A and five belonged to B.

Descriptive statistics were used to analyse data emerging from the audit. Samples were separated and grouped based on geographic deprivation, supermarket chain status and supermarket size. From this, the proportion of supermarket adherence to the SSAA 2012 and consumer exposure to alcohol was measured in each of these subgroups.

Results

Table 1 shows the characteristics of the audited supermarkets. All supermarkets were medium or large-sized and none had SAA sub-areas. Sampled supermarkets represented approximately 31% of all chain A and 29% of chain B supermarkets meeting the selection criteria. Supermarkets belonging to chain B had greater variability of store layout. None of the audited supermarkets had had their licence applications contested, indicating that there were no pre-existing concerns regarding the appropriateness of alcohol sales in these premises. Medium-sized supermarkets took an average of ten minutes to audit; for large supermarkets, the average was twelve minutes.

Legislative adherence

On average, audited supermarkets displayed 86% adherence with the SSAA 2012 across all legislative adherence audit fields. For three audit fields, all supermarkets showed complete adherence. These fields were the

location of the SAA in respect to the entry and body of the supermarket and the body and checkout; and lack of alcohol promotion, or advertisement outside the SAA.

Supermarkets demonstrated variable adherence to the remaining four audit fields; these fields were the display of alcohol products outside of the SAA and non-alcohol products inside the SAA, promotion and advertisements encouraging excessive alcohol consumption, and advertisement of non-alcohol products in SAA. Legislative adherence in these audit fields varied, with four supermarkets advertising non-alcohol products, including chocolate and nuts, in SAAs, one supermarket displaying alcohol outside SAAs, and one promoting excessive drinking (i.e. promoting long-term drinking of more than two standard drinks daily for women, and more than three for men). For example, one audited supermarket placed their SAA between bakery and bread sections; this was the most direct pedestrian route from the bakery aisle to the checkout. Although not the most direct route from entry to checkout (a situation that would contravene the SSAA 2012), this placement of the SAA nevertheless represents a very high foot-traffic area and one that traditionally creates companion sales (wine and pastries/ bread). This same supermarket placed 'temporary' alcohol displays outside their SAA. In two supermarkets, sales advertisements were available that highlighted bulk alcohol sales. While the SSAA 2012 does not specifically prohibit bulk sales, such practices could be seen as skirting the s4 objectives of the Act to minimise the harm caused by excessive and inappropriate alcohol consumption and encourage the safe and responsible supply of alcohol.²² Both these supermarkets had fluid SAA boundaries resulting in the creep of either end-of-aisle alcohol displays into the main sales area or

the display of non-alcohol products in the SAA. In turn, this meant alcohol and non-alcohol products were situated close together and that it was not clear what constituted an aisle. Another supermarket installed a television screen in their SAA that advertised non-alcohol products, which is in breach of s114(2) of the SSAA 2012. In the case of advertising, legislative adherence did not preclude supermarkets from encouraging bulk purchasing of alcohol, or the sale of beer cartons, at a lower price than individual bottled products, even if they were not encouraging inappropriate consumption.

Supermarket size

In this study, large supermarkets showed generally greater legislative adherence. Medium-sized supermarkets showed particularly low adherence in the promotion and advertisement of non-alcohol products inside the main alcohol sales area; only two of the five supermarkets were adherent in this regard.

Regional deprivation

Although supermarkets operating in low and high deprivation areas had the same overall level of adherence (81%), there was increased variability in high deprivation index areas. While in most audit fields supermarkets operating in areas of high deprivation were fully adherent, in two categories, Supermarkets 7 and 8 were not adherent. These categories related to the display and marketing of non-alcohol companion sale products in the SAA. In the case of Supermarket 8, this display would be difficult to change owing to the permanent positioning of alcohol shelving.

Chain status

Regardless of the supermarket chain, SAAs were often located near supermarket entrances, checkouts, bakeries or cold-produce sections. Supermarkets belonging to chain A exhibited slightly greater adherence to the audited fields that tested legislative adherence to the SSAA 2012 (89%, compared with 83%). The main contributor to this difference was that supermarkets belonging to chain B were more likely to advertise non-alcohol products in their SAAs.

Consumer alcohol marketing exposure

Consumer exposure to alcohol marketing in the audited supermarkets was high (Figure

Table 1: Regional geographic deprivation, chain status, and size of audited supermarkets.

	Geographic deprivation index	Chain (A or B)	Supermarket size
Supermarket 1	1	B	Medium
Supermarket 2	1	A	Medium
Supermarket 3	1	B	Medium
Supermarket 4	5	A	Large
Supermarket 5	5	B	Medium
Supermarket 6	5	B	Large
Supermarket 7	8	A	Large
Supermarket 8	8	B	Medium
Supermarket 9	10	A	Large

1); in most audited supermarkets, alcohol was visible. This exposure occurred in three areas from the supermarket entrance to the shop body, from shop body to checkout, and through the presence of end-of-aisle alcohol displays. Each of these areas was tested as separate fields using the audit tool. All supermarkets contributed to consumer exposure, leading to an average exposure across supermarkets of 59% in these three audit fields. Overall consumer exposure to alcohol marketing can largely be attributed to the visibility of alcohol marketing between the body of the supermarket and the checkout; only two of the audited supermarkets did not expose consumers to alcohol in this area. End-of-aisle alcohol displays in the SAAs often included low-alcohol and alcohol-like products, such as liquor company-branded

sparkling grape juice specifically targeted at an adult audience; at the time this study was conducted, such practices went against the SSAA 2012; of late, amendments to the Act have meant that these products can be placed in SAAs.³⁴ To some extent, this form of product placement could facilitate entry into more high-alcohol content products in the main part of SAAs.

Audited supermarkets were assessed as having middling-to-high consumer alcohol marketing exposure (Likert scale rating of 2–4). Most supermarkets (5/9) were ranked as having high consumer alcohol exposure. This exposure did not appear to differ based on the supermarket’s adherence with legislation (Figure 2); audited supermarkets with high overall legislative adherence could have either high or low consumer alcohol exposure.

Supermarket size

Consumer exposure to alcohol marketing in supermarkets did not appear to vary greatly based on supermarket size. SAAs were often oriented so that alcohol faced outwards into the main body of the store; only two of the nine supermarkets screened one or more sides of their SAAs. Where variation existed, larger supermarkets showed higher exposure in having alcohol visible near the entry of a supermarket. Medium-sized supermarkets appeared to have a greater range of perceived alcohol marketing exposure, having Likert scale ranks of either 2 (for those supermarkets with SAAs surrounded by screens), or 4 (for supermarkets where advertisements were visible, including for sale items).

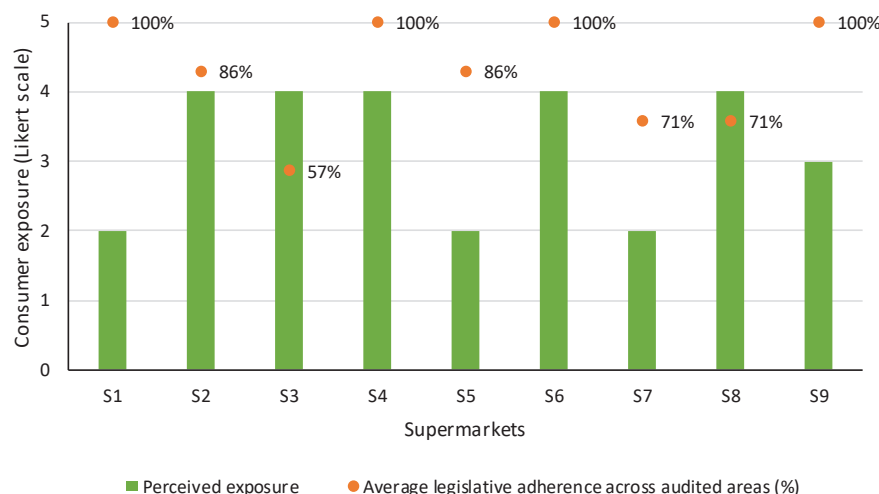
Chain status and regional deprivation

Of the four supermarkets rated as having middling perceived exposure (Likert scale 2–3), half were from chain A. When considering exposure occurring between the shop body and the checkout, all supermarkets belonging to chain B created consumer alcohol exposure. This was also the case for all supermarkets operating in high deprivation areas. In contrast, exposure occurring between shop entrance and body was more prevalent in chain A and for supermarkets running in low deprivation areas. Despite this, perceived consumer alcohol exposure did not differ greatly between low and high deprivation index areas (average of 3–3.3).

Figure 1: Exposure to alcohol displays, advertisements, and promotion in audited supermarkets.



Figure 2: Supermarket legislative adherence and perceived consumer exposure.



Discussion

This study assessed supermarket adherence with the SSAA 2012 along with consumer exposure to alcohol marketing in these businesses. Overall, supermarkets demonstrated 86% legislative adherence with audited sections of the SSAA 2012. Lack of adherence was observed in displaying alcohol products outside SAAs and non-alcohol products inside SAAs, promoting and advertising alcohol in a form encouraging excessive alcohol consumption, and advertising non-alcohol products in SAAs. These results were generally consistent with, or more positive than, Randerson et al.’s findings of ‘middling’ adherence to the SSAA 2012 and prevalent alcohol advertising inside off-licensed premises;²⁵ this is not surprising, given the increased length of time SSAA 2012 legislation has been active compared with

the earlier study. This study illustrated high overall visibility of alcohol products across audited supermarkets. Despite this, alcohol marketing exposure was high, particularly when considering the visibility of alcohol in main sales areas. Similarly, Chambers et al. found that 91% of their participants who were children were exposed to alcohol marketing on their supermarket visits.¹¹

In the present study, regardless of supermarket size, visibility of alcohol products and marketing was high across the entire supermarket trade area. Supermarkets with lower perceived exposure had often attempted to screen SAAs physically. Other supermarkets showed blurring of boundaries with the introduction of companion sale items into SAAs and the spread of alcohol products into general sale areas. Exposure occurred when consumers walked from the main body of the supermarket to checkouts, and through supermarket use of end-of-aisle alcohol displays, outward-facing shelves, and promotions or advertisements of alcohol. This finding underscores an interesting dichotomy between facilitating a better overall shopping experience and the increased ability this space creates for consumers to see products and suppliers to market their products.

Supermarkets displayed only slight differences in their legislative adherence depending on the geographic area of deprivation in which they operated. Supermarkets in high deprivation areas demonstrated the greatest variability in legislative adherence. However, geographic deprivation did not appear to greatly affect consumer alcohol exposure; overall exposure was between 56% and 67% and exposure measured using the Likert scale averaged between 3 and 3.3 based on level of geographic deprivation. These results appear to be reflective of similar findings discussed by Chambers and colleagues in their 2018 study,¹⁶ yet other studies have noted differences in alcohol accessibility based on geographic deprivation.²⁸⁻³¹

Strengths and limitations

The strength of the current study lies in its identification of alcohol advertising exposure in supermarkets using a legislatively driven audit tool. In highlighting this exposure, the authors note that while the word of the SSAA 2012 may generally be followed, its intent is not. That is, while supermarkets showed general adherence to the audited aspects of the SSAA 2012, consumers remained

exposed to alcohol promotions in off-licensed premises; the sale and marketing of alcohol in supermarkets can normalise its consumption. In turn, this suggests that the Act has failed to protect consumers, including those most at risk – in this case, children – from alcohol promotion and marketing.

This single-city study, which explored legislative adherence and consumer exposure to alcohol marketing in nine supermarkets only, is not necessarily generalisable to other regions or supermarkets; however, it illustrates the benefit of using an audit tool to assess adherence of supermarkets with alcohol legislation. Aligning the tool directly with established legislation creates the possibility to measure adherence objectively. The tool was presented in a checklist format and completion was easy and efficient. When testing the tool using different auditors in a range of supermarkets, similar results were gathered, suggesting strong agreement between the auditors. The tool facilitated a systematic auditing process allowing all aisles, SAAs and shop routes to be evaluated.

Implications for future research

Understanding regional variation in SAAs is important given the ability under the SSAA 2012 to have local (region-specific) licensing policies. Future research to validate this audit tool should be undertaken across New Zealand to identify the impact these local rules have on legislative adherence. This sort of audit would benefit from evaluating the effect of supermarket characteristics (such as size, ownership status, consumer demographics, and regional socioeconomic variability) on adherence and consumer exposure.

Additionally, given concerns with childhood exposure to alcohol advertising, it would be valuable to conduct a longitudinal study examining how the perceived effect of alcohol exposure changes among children over time and between cities. Given the recognised impact that exposure to alcohol advertising has on children's brand recognition³⁵ and consumption,¹⁷ it would be worthwhile investigating the extent to which product packaging, placement and advertising in SAAs influence purchasing behaviour and child product recall across their growing years. Similarly, given the relatively limited evidence for the introduction of plain packaging and warning labels on alcohol,³⁶⁻³⁸ it would be useful to investigate the impact of these strategies

on children's product recall and alcohol exposure.

Recommendations for minimising exposure to alcohol marketing in off-licensed premises

Supermarkets possess large market shares and are the most popular location to purchase alcohol;^{6,9} therefore, minimising exposure in adults and children to alcohol marketing within supermarkets is crucial to reducing alcohol harm. This study suggests that current placement of SAAs requires tighter regulation. One aspect of this regulation involves refining restrictions on placement of SAAs adjacent to high foot-traffic areas, such as general point-of-sale areas. Similarly, given issues with consumer learnt behaviour and end-of-aisle product placement,¹² regulating SAA locations and clearly defining their boundaries in all supermarkets may help facilitate changes in purchasing behaviour and prevent the identification of alcohol as an item with companion sales (e.g. cheese or bread). As a first step, there is a need for effective monitoring and relevant and enforceable non-compliance penalties.

Currently, under s17 of the SSAA 2012, supermarkets are permitted to provide free in-store alcohol samples, these are usually offered by sales promoters. Repealing this aspect of the legislation could be one way of minimising passive exposure to alcohol. Similarly, introducing legislation that limits the ability for consumers to move around supermarkets with alcohol-containing products in their trolleys could limit this form of product advertisement (through brand recognition) outside SAAs. More pragmatic means of reducing exposure include reducing hours of alcohol purchase in supermarkets to those outside school and 'family times', a recommendation seemingly supported by the New Zealand population.³⁹

Alcohol exposure is not limited to SAAs; exposure also occurs outside the SAA perimeter, a finding that Chambers et al. (2017) echo. One means of definitively limiting exposure is through the removal of supermarket alcohol licences; this remains an unlikely solution given the prominent voice of the alcohol industry,^{1,23} although it is a solution that exists in Australia and other jurisdictions. Such actions may be particularly useful given past research indicating a link between the density of

alcohol outlets within a population and teenage alcohol consumption,^{28,29} but may also lead to increasing numbers of bottle stores congregating around supermarkets. Consequently, while beyond the primary aim of this research, other ways of limiting exposure and reducing harmful alcohol consumption may include restrictions on alcohol outlet density, opening hours of licensed premises, and alcohol and marketing sponsorship.⁴⁰

Conclusion

This study was the first to assess supermarket adherence with legislation governing single alcohol areas. SAAs tended to be located near high-traffic areas, but supermarkets adhered to conditions governing these areas overall. Despite alignment with SAA legislation, this study found high exposure to alcohol marketing within audited supermarkets.

Supporting earlier findings, this study calls for further reductions in alcohol marketing exposure for the New Zealand population. It identifies a regulatory gap that has public health implications. One means of closing this gap is through amending legislative requirements under the SSAA 2012 to specify supermarket layouts, remove provisions around free alcohol samples, and impose requirements preventing placement of SAAs near companion sale items. Future research is required to understand the true effect of supermarket exposure through SAAs on alcohol purchasing patterns, particularly in light of region-specific alcohol policies.

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