

Advancing the retail endgame: public perceptions of retail policy interventions

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ABSTRACT

Background Evidence that exposure to tobacco 'powerwalls' increases young people's susceptibility to smoking has led many countries to require the removal of these displays. Despite this important step, tobacco remains widely available and policy action appears to have stalled.

Methods We conducted an online survey of 364 smokers and 402 non-smokers aged 18 years and above, who were sampled from a commercial internet panel in January 2013.

Results Six months after the removal of all tobacco products from open display in New Zealand retail outlets, strong support for the new law exists. Although daily smokers were less supportive than other groups, smokers intending to quit within the next 6 months were more likely than not to believe the law would facilitate quitting. Irrespective of their smoking status, respondents supported not selling tobacco products within 500 m of a school, and requiring tobacco retailers to sell nicotine replacement therapy products.

Conclusions Public support for more progressive 'endgame' retail measures could catalyse policy action which, in turn, could offer greater protection to young people and accelerate declines in smoking prevalence. Mandatory tobacco-free retail zones around schools, and requiring stores selling tobacco to stock cessation products received strong support, even among daily smokers; both measures would reduce youth exposure to tobacco while providing smokers with better access to cessation aids.

INTRODUCTION

Many countries have attempted to reduce smoking prevalence by restricting mass media advertising and sponsorship which attract young people to smoking and reassure existing smokers, who may subsequently defer quitting. Tobacco companies have responded to these measures by developing more extensive and sophisticated retail marketing strategies, including purchase of highly visible display locations within stores.¹⁻² Often called 'powerwalls', these displays showcase tobacco brands and, by locating them alongside everyday items, imply tobacco is a normal product and smoking a commonplace behaviour. Furthermore, exposure to tobacco retail displays promotes smoking initiation and deters or impedes cessation. Children more frequently exposed to tobacco retail displays are more susceptible to smoking and have a greater risk of smoking initiation.³⁻⁵ Among adults over the legal purchase age of 18 years, exposure to tobacco retail displays stimulates impulse purchase,⁶⁻⁷ creates cravings⁸ and promotes lapsing among quitters.⁸⁻⁹ This evidence has

led many countries to require tobacco products to be stored under cover, on the grounds that overt point-of-sale (POS) displays openly market tobacco brands.¹⁰

Tobacco companies and their front groups have strongly opposed any restrictions on retail marketing, which they claim will confuse smokers, increase transaction times and impose unfair costs on retailers, who, they argue, will also be at greater risk of theft and assault.¹¹⁻¹² Contrary to these claims, smokers in jurisdictions where tobacco is no longer on open display have shown little sign of confusion.¹⁰ Since smokers are typically highly brand loyal, with only a small proportion ever using POS displays to decide which brand to purchase,¹³ these findings are unsurprising. Nor does the available evidence support other assertions: transaction times have not lengthened,¹⁴ tobacco companies have routinely met product display costs¹⁵ and there is no evidence that retail crime has increased. Overall, tobacco companies' claims lack empirical support and appear instead to reflect their interest in using POS displays to maintain smoking among existing smokers and appeal to young people, who will be the future generation of smokers.¹¹

After discounting arguments presented by tobacco companies, and following the successful removal of POS tobacco displays in other countries, New Zealand passed the Smoke-free Environments (Control and Enforcement) Amendment Act 2011.¹⁶ This statute came into effect on 23 July 2012 and required all retailers to remove tobacco products from open display. Prior to this measure, New Zealand had allowed the display of tobacco products, subject to restrictions on the size, composition and placement of displays, but had not permitted POS tobacco advertising or merchandising.¹⁶

This legislation reflected national public opinion¹⁷ which, in turn, echoed international studies reporting strong support for POS display removal, particularly among non-smokers¹⁰⁻¹⁸⁻¹⁹ and smokers who had made an unplanned tobacco purchase.²⁰ Earlier studies reported that participants believed removing tobacco from open display would deliver important benefits. For example, a majority of Norwegian non-smokers from presurveys and postsurveys thought the policy would make it easier for smokers to quit, although fewer occasional smokers held this view postimplementation.¹⁰ An evaluation of Irish smokers also reported perceptions that the policy would facilitate cessation declined initially,¹⁹ though later increased. Only the Norwegian survey explored the policy's likely effects on smoking initiation; a majority of smokers and non-smokers alike believed the policy would inhibit smoking initiation.¹⁰

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Although these studies reveal overall support for the removal of tobacco POS displays, few have examined perceived benefits beyond cessation support. Nor have any explored support for more progressive retail policies, an important omission given that retail environments remain lightly regulated relative to other elements of the marketing mix.^{21 22} For example, in New Zealand, tobacco is widely available through an estimated 5000–10 000 outlets, none of which is required to be licensed.¹⁶ As a result, tobacco remains less tightly controlled than the distribution and sale of nicotine replacement therapies (NRT). Since product availability helps determine uptake, tobacco's continued wide accessibility may undermine tobacco control strategies. Policies could further reduce youth exposure and access to tobacco by reducing outlet density and prohibiting sales of tobacco from stores within close proximity of schools.^{23–26} Complementary measures could extend support to quitters by increasing the availability of cessation products and eliminating pairings with products known to trigger relapse, such as alcohol.²⁷

To test perceptions of these measures and guide further policy development, we examined support for recent legislation requiring the removal of tobacco products from open display and for more progressive measures. More specifically, we explored the following questions:

- ▶ How effective do New Zealanders believe the removal of tobacco POS displays will be in reducing tobacco initiation and supporting cessation, and to what extent do they support or oppose the legislation?
- ▶ Is support for the new law related to smoking status (non-smoker; former smoker; occasional smoker; daily smoker) and demographic characteristics?
- ▶ For smokers, is there an association between measures of consumption and intention to quit smoking, and belief that removal of POS displays has made it easier to quit smoking?
- ▶ To what extent do New Zealanders support other potential retail tobacco control interventions, and is support related to smoking status and demographic characteristics?

METHODS

Sample

We conducted an online survey of 364 smokers and 402 non-smokers sampled from a commercial internet panel (ResearchNow) in January 2013. This panel was comprised of more than 100 000 New Zealanders, recruited via email and

through online and offline marketing, who agreed to participate in online research studies in return for 'points' that can be exchanged for products or other rewards. We applied quotas to ensure the age–sex distribution of our sample was representative of the New Zealand population, but oversampled smokers to enhance comparisons between smokers and non-smokers. The characteristics of the achieved sample by smoking prevalence are shown in table 1.

Instrument and procedure

We used screening questions to identify respondents' smoking status; respondents then used an 11-point scale ranging from –5='Strongly oppose' to +5='Strongly support', with a mid-point of 0='Neither oppose nor support', to indicate whether they supported or opposed the removal of tobacco displays in stores. They next used a 3-point scale (easier/less likely/more difficult, harder/more likely/less difficult, no difference) to indicate their perceptions of the new law's effect on smoking cessation and initiation for different smoker groups. Participants used the same 11-point scale as noted earlier to indicate their support for five potential interventions that would further regulate tobacco retailing: reducing the number of stores selling tobacco products, not selling tobacco products where alcohol is sold, not selling tobacco products within 500 m of a school, and requiring all tobacco retailers to be licensed and to sell NRT products. Finally, we collected details of respondents' demographic characteristics and smoking behaviours. A copy of the questionnaire is available as a supplementary file. A delegated authority from the University of Otago's human ethics committee reviewed and approved the research. Prior to participating in the study, respondents saw a detailed information sheet that outlined the study aims and summarised their rights as research participants.

Analysis

First, we used simple univariate statistics to estimate overall support for the removal of retail tobacco retail displays and beliefs about its likely effect on smokers and young people. We then used logistic regression to analyse the effects of smoking status, cigarette consumption and intention to quit smoking on smokers' assessment of whether the removal of POS displays had made it easier for them to quit. We next estimated support for, or opposition to, the interventions tested by calculating the weighted mean values for each intervention for all smoker

Table 1 Sample smoking prevalence by gender, ethnicity and age

	Daily smokers % (n=289)	Occasional smokers % (n=75)	Former smokers % (n=62)	Non-smokers % (n=340)
Gender				
Male (n=359)	34.3	12.8	7.0	46.0
Female (n=407)	40.8	7.1	9.1	43.0
Ethnicity				
NZ European/other (n=658)	38.1	9.0	8.4	44.5
Māori and Pacific (n=51)	54.9	13.7	11.8	19.6
Asian (n=57)	17.5	15.8	1.8	64.9
Age group				
15–24 (n=79)	22.8	21.5	2.5	53.2
25–44 (n=287)	36.6	13.9	8.7	40.8
45–64 (n=268)	44.4	4.9	9.7	41.0
65+ (n=132)	35.6	3.8	6.8	53.8
Total (n=766)	37.7	9.8	8.1	44.4

groups (self-defined daily, occasional and former smokers), and non-smokers. Finally, we analysed the effects of age, gender, ethnicity and smoking status using logistic regression, with policy support as the dependent variable and the independent variables entered as a series of dummy variables. Analyses were conducted with SPSS V.19.

RESULTS

Because our sample contained approximately equal numbers of smokers and non-smokers, when calculating population estimates we weighted the data so the sample smoking prevalence matched that of the New Zealand population according to the latest Ministry of Health estimates (17%).²⁸ In other words, we applied a weighting factor to reduce the number of smokers in our sample to 17% of the total sample size. This procedure reduced the total sample size from 766 to 484. In the analyses reported below, weighted data were used for estimates of population proportions and means, but unweighted data were used for logistic regression analyses and analyses of individual smoker and non-smoker groups.

Support for removal of POS displays and perceived benefits

Three quarters of those surveyed supported the removal of cigarette and tobacco packs from view in shops, 15% opposed it and 10% had no opinion. Predictably, support was highest among non-smokers (87%), followed by former smokers (66%), occasional smokers (52%) and daily smokers (31%), who were the only group not to show majority support for the policy. Two-thirds of those surveyed (69%) believed the new law will make it easier for those who have quit smoking to remain smoke-free; a similar proportion (63%) thought it would reduce the likelihood that children under 18 will start smoking. Over half (56%) thought the law will make it harder for young people to buy tobacco, while just under 40% believed smokers will now find it easier to quit. Few respondents thought the new law would have any adverse effects (ie, make it more difficult to quit); those who did not agree that the benefits listed would ensue felt the new law would make no difference to smokers. Full details of respondents' perceptions are provided in an online supplementary table.

To examine how these views varied by smoking status, we first examined smokers' (unweighted) responses. Six per cent of daily and occasional smokers believed the removal of point-of-sale tobacco displays would make it easier for them to give up smoking, but the overwhelming majority (90%) thought it would make no difference. Occasional smokers were three times as likely as daily smokers to believe that removal of POS displays had made it easier for them personally to quit (OR 3.10, CI 0.85 to 11.26, $p < 0.10$). As expected, the more respondents smoked, the less likely they were to feel this way. However, those intending to try and quit smoking in the next 6 months were almost 13 times more likely to believe that removal of POS displays would make doing so easier (OR 12.97, CI 2.87 to 58.66, $p < 0.05$).

Support for additional retail regulation

To address the first and final research questions, we examined support for the new law by smoking status. Table 2 contains the four self-defined smoker groups' mean levels of support for (or opposition to) each of the potential interventions tested. As noted earlier, we used unweighted data to estimate means for individual smoker and non-smoker groups, and weighted data to estimate population means.

Table 2 Support for retail tobacco control interventions

Intervention	Mean support or opposition*† (95% CI)					Total‡ (n=484)
	Daily smokers (n=269)	Occasional smokers (n=75)	Former smokers (n=62)	Non-smokers (n=340)		
Policy introduced in July 2012						
Removing tobacco products from view in shops	-0.89 (-1.27 to -0.51)	0.97 ^a (0.23 to 1.72)	1.89 ^a (0.98 to 2.79)	3.50 (3.24 to 3.76)	2.61 (2.34 to 2.90)	
Potential retail interventions						
No tobacco products sold within 500 m of a school	0.46 (0.09 to 0.83)	1.69 ^a (0.87 to 2.52)	2.32 ^a (1.45 to 3.19)	4.03 (3.82 to 3.44)	3.25 (3.00 to 3.50)	
Shops selling tobacco products required to sell products that help smokers quit	0.72 ^a (0.39 to 1.06)	1.29 ^{a,b} (0.62 to 1.97)	2.60 ^{a,c} (1.87 to 3.32)	3.40 ^c (3.17 to 3.64)	2.86 (2.63 to 3.10)	
Shops selling tobacco products required to be licensed	-0.86 (-1.24 to -0.48)	1.41 ^a (0.64 to 2.18)	1.85 ^a (0.98 to 2.73)	3.38 (3.11 to 3.65)	2.54 (2.27 to 2.83)	
Reducing the number of stores selling tobacco products	-2.28 (-2.60 to -1.95)	1.20 ^a (0.45 to 1.95)	2.05 ^a (1.24 to 2.86)	3.52 (3.27 to 3.77)	2.47 (2.18 to 2.76)	
No tobacco products sold where alcohol is sold	-1.78 (-2.10 to -1.45)	0.20 (0.00 to 0.98)	1.77 (0.92 to 2.62)	3.18 (2.92 to 3.44)	2.23 (1.95 to 2.51)	

*On a scale from -5='Strongly oppose' to +5='Strongly support', with a midpoint of 0='Neither oppose nor support'.

†Differences between means tested using Tamahane's T2 posthoc test, which does not assume equal group variances. All differences between means are significant at $p < 0.05$ except those denoted by the same superscript.

‡Overall mean calculated using data weighted so that proportion of smokers matches the population smoking prevalence.

Overall, respondents strongly supported each of the potential interventions examined, with the exception of decoupling alcohol and tobacco sales which received moderate support. Predictably, support varied by smoking status, as the mean scores in each row illustrate. As expected, daily smokers showed weakest support for the measures, followed by occasional smokers, former smokers and, finally, non-smokers. These patterns mirrored beliefs about the efficacy of removing POS displays. Not all differences between means in table 3 are statistically significant; however, the pattern of support is consistent across smoker groups, and the lack of statistical significance (where it occurs) largely reflects the small sample of occasional smokers.

Irrespective of smoking status, respondents supported not allowing sales of tobacco products within 500 m of a school, and believed that stores selling tobacco products should also sell cessation products. However, daily smokers opposed the remaining interventions, and occasional smokers showed only marginal support for removing tobacco products from view in shops, or not selling tobacco products where alcohol is sold.

To test whether participants' perceptions of the new and potential policies varied by demographics characteristics, we developed a further set of logistic regression models (using unweighted data). We created dichotomous variables from the 11-point oppose–support variables. Scale values from –5 to –1 were coded as 'oppose' and values from +1 to +5 coded as support; zero values were discarded. These variables were the dependent variables in logistic regression analyses, with age, gender, ethnicity and smoking status as the independent variables.

As table 3 illustrates, smoking status was the over-riding determinant of support for the potential retail interventions. The relevant ORs are almost all large and highly significant. Relative to daily smokers, support is highest among non-smokers for all six interventions, followed by former smokers, and then occasional smokers.

Among the other demographic characteristics examined, only Asian ethnicity (rather than European/other) is consistently and significantly related to support for the five potential interventions (though not for removal of POS displays). Gender and Māori ethnicity had mixed effects on support for the proposed retail measures, but these were mostly non-significant. While those aged 45 years and over were significantly less likely than those under 45 years to support the POS display removal law and the licensing of stores selling tobacco products, support for the other measures examined varied by age. The relatively small numbers of Māori, Asian peoples and respondents aged under 25 years (exacerbated in some cases by the reduction in sample sizes after removal of neutral ratings) mean the results for ethnicity and age need to be treated with caution.

DISCUSSION AND CONCLUSIONS

Conducted 6 months after the removal of all tobacco products from open display in New Zealand retail outlets, this study found strong overall support for the new law. Predictably, support depended critically on smoking status—age, gender and ethnicity had weak independent effects on attitudes to the new law or other retail interventions tested, except among Asian participants, who strongly supported regulation. (While these demographic variables are reflected in smoking status, the small sample sizes reduce the likelihood of identifying independent effects of ethnicity.) Daily smokers showed less support for the new law than other groups; however, smokers intending to quit within the next 6 months were more likely to believe the law

would facilitate their own quitting. This finding underscores evidence from qualitative studies that found exposure to tobacco imagery could induce lapsing among intending quitters.^{6–8} Our results are also consistent with earlier work concluding that those most sensitive to the influence of POS displays had lower quit success rates than less sensitive smokers.⁹

Our study estimated attitudes to the new law and its potential benefits, not behavioural responses; nevertheless, the strong postimplementation support we detected could assist countries still to develop policies on tobacco POS displays. Earlier studies report that young people infrequently exposed to open display of tobacco products have a reduced risk of smoking experimentation.³ Although tobacco remains as available under the new legislation as it was under the previous law, perceptions that young people would find it more difficult to access highlight an unexpected potential benefit of the new statute. Young people who believe tobacco is easy to obtain and widely consumed are at higher risk of smoking experimentation and addiction^{29–30}; perceptions that tobacco has become more difficult to access could thus afford greater protection to these susceptible non-smokers. However, longitudinal data or analyses of repeat cross-sectional data are required to assess whether these perceptions translate into modified behaviour among young adults.

Removing tobacco products from open display in stores represents a key plank in retail regulation that could reduce smoking initiation and support cessation attempts.^{3–7–11} However, the rapid reductions in smoking prevalence required to achieve 'endgame goals' set by New Zealand and other countries, behove consideration of additional measures, particularly, given retail outlets remain permissive tobacco marketing environments.^{21–24} Although trenchant opposition from tobacco companies and retail groups has made policy makers wary of further retail regulation,¹² we found strong public support for additional measures.

In particular, smokers and non-smokers alike supported prohibiting tobacco sales from outlets within 500 m of a school. This measure could further reduce young people's access and potential exposure to tobacco, and so diminish the risk that they will experiment with smoking. Extending the protection afforded to young people is particularly important, given those who begin smoking at a young age face more serious health risks and may find quitting more difficult.³¹

All groups also supported requiring tobacco retailers to offer cessation products for sale. Not only would such a measure greatly increase the accessibility of NRT, it would also recognise that the vast majority of smokers wish to become smoke-free,³² and create an environment more likely to stimulate cessation. Retailer licensing, which all groups, except daily smokers supported, would enable regulation requiring tobacco retailers to meet specific standards and bring tobacco in line with other hazardous products. For example, retailers could be required to provide cessation information to all tobacco purchasers, and in countries that allow the sale of smokeless products, license terms could mandate provision of information about the risks these products pose. Further, licensing could ensure that those selling tobacco products underwent training in cessation advice, a measure that would complement calls for greater availability of NRT.

All smoker groups, except daily smokers, supported reducing the number of retail outlets and decoupling tobacco and alcohol sales, although occasional smokers were ambivalent about the latter measure. Reducing the number of tobacco retail outlets would make tobacco less accessible and ubiquitous, and provide policy makers with an opportunity to reduce the density of

Table 3 Logistic regression analyses of support for tobacco control interventions

Independent variables	Removal of tobacco products from view (n=669) [†] OR (Sig and CI)	No tobacco sales within 500 m of a school (n=628) OR (Sig and CI)	Stores selling tobacco required to sell quit products (n=584) OR (Sig and CI)	Stores selling tobacco should be licensed (n=623) OR (Sig and CI)	Fewer stores selling tobacco products (n=648) OR (Sig and CI)	No sales of tobacco products where alcohol is sold (n=581) OR (Sig and CI)
Smoker status						
Daily smoker (n=289)	1.00	1.00	1.00	1.00	1.00	1.00
Social smoker (n=75)	2.91** (1.51 to 5.59)	1.68 (0.84 to 3.33)	1.72 (0.78 to 3.81)	2.69** (1.36 to 5.34)	9.31*** (4.69 to 18.49)	4.70*** (2.36 to 9.38)
Former smoker (n=62)	5.08*** (2.60 to 9.91)	2.32** (1.08 to 4.63)	3.41** (1.37 to 8.48)	4.78*** (2.34 to 9.76)	24.57*** (11.07 to 54.55)	15.09*** (7.08 to 32.15)
Non-smoker (n=340)	17.08*** (10.55 to 27.66)	16.00*** (8.13 to 31.49)	8.46*** (4.51 to 15.88)	13.60*** (8.21 to 22.54)	77.07*** (42.31 to 140.39)	63.17*** (33.90 to 117.69)
Gender						
Female (n=359)	1.00	1.00	1.00	1.00	1.00	1.00
Male (n=407)	1.30 (0.87 to 1.93)	0.95 (0.60 to 1.50)	1.15 (0.70 to 1.88)	1.29 (0.85 to 1.96)	1.76** (1.08 to 2.85)	1.29 (0.79 to 2.11)
Ethnicity						
European/other (n=658)	1.00	1.00	1.00	1.00	1.00	1.00
Māori/Pacific (n=51)	0.73 (0.34 to 1.55)	1.33 (0.56 to 3.13)	1.28 (0.49 to 3.33)	1.07 (0.49 to 2.36)	1.41 (0.57 to 3.48)	0.99 (0.40 to 2.43)
Asian (n=57)	0.86 (0.33 to 2.22)	6.41* (0.83 to 49.45)	No opposition [‡]	6.29** (1.41 to 28.19)	3.89** (1.15 to 13.13)	14.51** (2.93 to 71.87)
Age group						
Under 25 (n=79)	1.00	1.00	1.00	1.00	1.00	1.00
25–44 (n=287)	0.68 (0.31 to 1.50)	1.53 (0.66 to 3.54)	0.94 (0.37 to 2.38)	1.11 (0.49 to 2.52)	0.92 (0.40 to 2.15)	1.73 (0.73 to 4.10)
45–64 (n=268)	0.42** (0.12 to 0.92)	1.21 (0.52 to 2.79)	0.92 (0.28 to 1.83)	0.49* (0.22 to 1.10)	0.62 (0.26 to 1.48)	1.16 (0.48 to 2.80)
65 and over (n=132)	0.40** (0.17 to 0.95)	1.11 (0.43 to 2.84)	0.95 (0.33 to 2.73)	0.47* (0.19 to 1.13)	0.45 (0.17 to 1.22)	1.73 (0.62 to 4.84)

*Coefficient significant at $p < 0.10$, **Coefficient significant at $p < 0.05$, ***Coefficient significant at $p < 0.001$.

[†]Sample sizes vary for each analysis because numbers of respondents who gave a rating of zero (and who were removed from the analysis) differed.

[‡]All Asian respondents either chose '0' or positive values on the support scale.

outlets in areas of high deprivation. Given arguments that outlet density is correlated with smoking uptake and prevalence,^{24–26} measures that address the resulting health inequalities should, arguably, be policy priorities.

Because alcohol consumption and smoking are highly paired behaviours, particularly for social smokers, decoupling this association could reduce the risk that occasional smokers will develop a stronger dependence on nicotine, or that non-smokers will experiment with tobacco.²⁷ Specific measures could include a health levy imposed on retailers who sell both tobacco and alcohol, with the tax hypothecated to support tobacco control interventions. If local councils had authority to review and approve retail licenses, communities could have greater community input into retail location, density and product array. Extending smoke-free bar areas to include external spaces would help reduce tobacco consumption, particularly among young people who report that drinking predisposes smoking.²⁷ At the least, more effective regulation could prevent external bar areas being transformed into quasi-internal spaces that have walls, roofs and heaters, and could reduce the appeal of going outside to smoke.

Each of the measures tested would further denormalise what remains a highly potent marketing environment for tobacco. Smokers' opposition to some of these measures is understandable, since purchasing tobacco would become less convenient; nevertheless, the overall support for all potential measures suggests regulators have a mandate to act. These findings should therefore empower politicians, who mostly wish to act in accordance with public opinion, but who have not kept pace with the public's desire to control tobacco marketing.

Our study has some limitations, particularly our collection of perceptual, rather than behavioural, data. While respondents believed the new law would reduce smoking prevalence among young people, we need evidence from longitudinal cohort studies to test this belief and allow analysis of the policy's longer-term benefits. Additionally, online panels do not provide random, representative samples. However, as smoking status, rather than a demographic attribute, was the strongest determinant of views on the new policy, we believe weighting the sample to match population smoking prevalence levels addresses this potential problem.

What this paper adds

- ▶ Evaluations of policies requiring removal of POS displays have focused on compliance; comparatively few studies have examined public responses to these measures and none have examined support for policies that would further reduce tobacco retail marketing.
- ▶ Our quantitative online study found strong support for the removal of tobacco retail displays, though this varied by respondents' smoking status. Irrespective of smoking status, respondents supported restricting tobacco availability around schools and requiring cessation products to be available wherever tobacco is sold.
- ▶ Tobacco's wide availability supports its status as a ubiquitous and normalised product, and is inconsistent with public opinion which strongly supports additional restrictions on tobacco retail marketing. Policy makers have a clear mandate to introduce new measures that would afford greater protection to young people and provide stronger support to smokers wishing to quit.

In summary, consistent with international studies, our findings show strong support for removing tobacco POS displays. We extended earlier work by estimating support for additional retail interventions designed to further reduce tobacco's pervasive retail presence and found strong support for all but one of the new measures examined. Policy makers should be reassured by these findings, which offer them immediate guidance; replication of our study in other jurisdictions could provide similar assistance to international regulators. Within New Zealand, we suggest policy makers may proceed to creating tobacco-free retail zones around schools, and requiring retailers to offer cessation products in the knowledge they have a strong mandate for these measures, even among daily smokers.

Contributors JH conceptualised the study and with PG supervised GW. PG led development of the questionnaire, to which GW and JH contributed; PG oversaw the data collection and analysis and worked with GW on these aspects of the study. GW prepared the first draft of the MS; JH extensively revised this draft; PG offered further editorial input and completed the final analyses reported. JH and PG responded to the reviewers' comments. All authors approved the final manuscript.

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Default Question Block

Welcome

Thank you for clicking through to our survey; it should take you less than ten minutes to complete.

The survey is being conducted by researchers from the University of Otago.

Statement of Confidentiality

Before we start, please be assured that this survey is confidential and completely voluntary.

If you have any questions about the research, please feel free to email Professor Janet Hoek, the lead researcher (janet.hoek@otago.ac.nz)

To go directly to the survey please click on the '>>' button at the bottom of the page

Once you click the '>>' button you cannot go back and change your answers.

If you lose your connection to the Internet or this survey at any point, please click the link provided in the email you received and it will take you back to the point where you left off. `{e://Field/subsid}`

Tobacco Retailing Study

INFORMATION SHEET FOR PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, we thank you. If you decide not to take part, there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the aim of the project?

This project examines how smokers perceive changes in tobacco policies.

Who would we like to participate?

We are seeking male and female participants aged 18 years and over.

What will you be asked to do?

If you agree to take part in this project, you will be asked to complete a short questionnaire in which you will be asked about recent policy changes affecting tobacco products. The questionnaire will take around 5 to 7 minutes to complete. We hope you will enjoy completing the questionnaire and the opportunity to contribute your views on this important topic. Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

Can you change your mind and withdraw from the survey?

You may withdraw from participation in the project at any time, for any reason, and without any disadvantage to yourself of any kind.

What data or information will be collected and what use will be made of it?

The questionnaire will explore your perceptions of different tobacco policies. We are collecting data on this topic as part of a wider research programme that examines how tobacco is marketed and sold in New Zealand. The project is funded through an internal research grant from the Department of Marketing at the University of Otago; there will be no commercial use of the data. We will use the data to gain a better understanding of tobacco control policies. Only members of the research team will have access to the data collected. No one who participates in the research will be personally identifiable in any way.

The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand). You are most welcome to request a copy of the results of the project should you wish. The data collected will be securely stored in such a way that only the researchers will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University's research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed by Professor Hoek, the lead investigator.

What if you have any questions?

If you have any questions about our project, either now or in the future, please feel free to contact:

Janet Hoek

Department of Marketing

University of Otago

Telephone Number: (03) 479 7692

Email: janet.hoek@otago.ac.nz

This study has been approved as a Category B project by the Department of Marketing Ethics Administrator. If you have

any concerns about the ethical conduct of the research you may contact the Human Ethics Committee through the Human Ethics Committee Administrator (ph 03 479 8256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.

Block 1

First, just a few questions to see if you qualify for our survey.

Are you ...

- Male
- Female

Which of these age groups are you in?

- 35 and under
- 36 to 55
- Over 55

Which of these best describes you?

- A daily smoker
- A social or occasional smoker
- A former smoker who doesn't smoke now
- A non-smoker

Block 2

Tobacco Retail Displays

Up until July 2012, cigarettes and tobacco products were displayed in shelves behind shop counters. After July 2012, all cigarette and tobacco products were removed from open display in New Zealand shops.

By 'shops' we mean dairies, service stations, supermarkets and convenience stores.

Tobacco products now have to be stored in drawers under the counter, behind curtains, or in a cupboard so they cannot be seen by shoppers.

We'd like to ask you some questions about this change in tobacco retail displays.

Do you support or oppose the removal of cigarette and tobacco packs from view in shops?

- Support removal of tobacco products from view
- Oppose removal of tobacco products from view
- Don't know or no opinion

How strongly do you support or oppose the removal of tobacco products from view in shops?

	Strongly oppose -5	-4	-3	-2	-1	Neither oppose nor support 0	+1	+2	+3	+4	Strongly support +5
Removal of tobacco products from view	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 3

Do you think removing tobacco and cigarettes from view in shops will make it harder or easier for smokers to quit smoking, or will it made no difference?

- Make it **harder** for smokers to quit smoking
- Make it **easier** for smokers to quit smoking
- Make no difference

Has removing tobacco and cigarettes from view in shops made it harder or easier for you personally to quit smoking, or has it made no difference?

- Made it **harder** for you to quit smoking
- Made it **easier** for you to quit smoking
- Made no difference

Do you think removing tobacco and cigarettes from view in shops will make it harder or easier for people who have quit smoking to stay smokefree, or will it make no difference?

- Make it **harder** for people to stay smokefree
- Make it **easier** for people to stay smokefree
- Make no difference

Do you think removing tobacco and cigarettes from view in shops will make it more likely or less likely that young people (those under 18) will start smoking, or will it make no difference?

- Make it **more likely** that young people will start smoking
- Make it **less likely** that young people will start smoking
- Make no difference

Do you think removing tobacco and cigarettes from view in shops will make it less difficult or more difficult for young people (those under 18) to buy cigarettes or tobacco, or will it make no difference?

- Make it **less difficult** for young people to buy tobacco products
- Make it **more difficult** for young people to buy tobacco products
- Make no difference

Block 4

Do you think removing tobacco and cigarettes from view in shops will make it easier or harder for smokers to quit smoking, or will it make no difference?

- Make it **easier** for smokers to quit smoking
- Make it **harder** for smokers to quit smoking
- Make no difference

Has removing tobacco and cigarettes from view in shops has made it easier or harder for you personally to quit smoking, or has it made no difference?

- Made it **easier** for you to quit smoking
- Made it **harder** for you to quit smoking
- Made no difference

Do you think removing tobacco and cigarettes from view in shops will make it easier or harder for people who have quit smoking to stay smokefree, or will it make no difference?

- Make it **easier** for people to stay smokefree
- Make it **harder** for people to stay smokefree
- Make no difference

Do you think removing tobacco and cigarettes from view in shops will make it less likely or more likely that young people (those under 18) will start smoking, or will it make no difference?

- Make it **less likely** that young people will start smoking
- Make it **more likely** that young people will start smoking
- Make no difference

Do you think removing tobacco and cigarettes from view in shops will make it more difficult or less difficult for young people (those under 18) to buy cigarettes or tobacco, or will it make no difference?

- Make it **more difficult** for young people to buy tobacco products
- Make it **less difficult** for young people to buy tobacco products
- Make no difference

Block 5

Smokefree New/Zealand/Aotearoa by 2025

The NZ government has adopted the goal of achieving a smoke free New Zealand by 2025. One of the ways which has been suggested to help achieve that goal is to strengthen controls over how and where tobacco products are sold.

Please indicate how much you support or oppose each of the following possible measures.

In New Zealand there are between 8,000 and 10,000 places selling cigarettes and tobacco.

Some people have suggested there should be fewer places where cigarettes and tobacco can be sold.

How strongly would you support or oppose a reduction in the number of places selling cigarettes and tobacco?

	Strongly oppose -5	-4	-3	-2	-1	Neither oppose nor support 0	+1	+2	+3	+4	Strongly support +5
Fewer places selling cigarettes and tobacco	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How strongly would you support or oppose the idea of cigarettes and tobacco not being sold where alcohol is sold?

	Strongly oppose -5	-4	-3	-2	-1	Neither oppose nor support 0	+1	+2	+3	+4	Strongly support +5
No sales of cigarettes and tobacco where alcohol is sold	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How strongly would you support or oppose the idea of cigarettes and tobacco not being sold within 500 metres of a school?

	Strongly oppose -5	-4	-3	-2	-1	Neither oppose nor support 0	+1	+2	+3	+4	Strongly support +5
No sales of cigarettes and tobacco within 500 metres of a school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How strongly would you support or oppose the idea of stores selling cigarettes and tobacco being required to have a licence?

	Strongly oppose -5	-4	-3	-2	-1	Neither oppose nor support 0	+1	+2	+3	+4	Strongly support +5
Stores selling cigarettes and tobacco required to have a licence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How strongly would you support or oppose the idea that stores selling cigarettes and tobacco would also have to sell products that helped smokers to quit?

	Strongly oppose -5	-4	-3	-2	-1	Neither oppose nor support 0	+1	+2	+3	+4	Strongly support +5
Stores selling cigarettes and tobacco required to sell quitting products as well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Some people have suggested that cigarettes and tobacco should not be sold at all in New Zealand by 2025.

How strongly would you support or oppose the idea of ending sales of cigarettes and tobacco in New Zealand by 2025?

	Strongly oppose -5	-4	-3	-2	-1	Neither oppose nor support 0	+1	+2	+3	+4	Strongly support +5
Ending sales of cigarettes and tobacco in New Zealand by 2025	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How strongly do you support or oppose the government's goal of a smoke free New Zealand by 2025?

	Strongly oppose -5	-4	-3	-2	-1	Neither oppose nor support 0	+1	+2	+3	+4	Strongly support +5
Smokefree New Zealand by 2025	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 6

Now, just to make sure our sample is varied, we'd like to ask a few questions about you.

In what year were you born?

Which one of the following best describes your highest formal qualification?

- No formal qualification
- School qualifications (School C, NCEA, UE, Bursary)
- Certificate or diploma below Bachelor's level
- Bachelor's degree
- Post-graduate or higher qualification

Which one of the following ethnic groups do you most identify with?

- New Zealander/Kiwi/New Zealander of European descent
- Maori/New Zealander of Maori descent
- European
- Pacific
- Chinese
- Indian
- Other Asian
- Other

Are you a parent or caregiver with one or more children under 18?

- Yes
- No

On how many days a week do you normally smoke?

On days when you smoke, what is the highest number of cigarettes you would smoke ?

How soon after you wake up do you smoke your first cigarette?

- Within 5 minutes
- 6 to 30 minutes
- 31 to 60 minutes
- After 60 minutes
- Don't usually smoke in the morning
- Don't know/Unsure

In the last six months, have you made an attempt to quit smoking that lasted more than 24 hours?

- Yes
- No

Are you planning to quit smoking within the next six months?

- No, I have no intention of quitting
- Yes, I am thinking of quitting
- Don't know/Unsure

Finally, if you have any comments about the sale of cigarettes and tobacco, please write them here.



Supplementary Table 1 Perceived effects of removing point of sale displays

Will removal of POS displays make it ...	Smoking Status				
	Daily Smoker % (n=289)	Occasional Smoker % (n=75)	Former Smoker % (n=62)	Non Smoker % (n=340)	Total ⁶ % (n=484)
Harder or easier for smokers to give up¹					
Harder	3.1	4.0	3.2	3.8	3.7
Easier	8.0	30.7	40.3	44.7	38.7
No difference	88.9	65.3	56.5	51.5	57.6
Harder or easier for people to remain smokefree²					
Harder	2.1	0.0	0.0	2.9	2.3
Easier	35.3	56.0	62.9	76.8	68.7
No difference	62.6	44.0	37.1	20.3	29.0
More or less likely young people will start smoking³					
More likely	5.3	2.7	1.6	2.6	2.9
Less likely	36.3	53.3	58.1	69.7	63.2
No difference	58.5	44.0	40.3	27.7	34.0
Less difficult or more difficult for young people to buy tobacco⁴					
Less difficult	3.1	0.0	0.0	1.8	1.7
More difficult	33.6	42.7	51.6	61.2	55.6
No difference	63.3	57.3	48.4	37.1	42.7
Harder or easier for you personally to give up⁵					
Harder	3.5	0.0	-	-	2.7
Easier	2.4	21.3	-	-	6.3
No difference	94.1	78.7	-	-	90.9

1. Chi-square = 109.7, 6 df, p = 0.000

2. Chi-square = 121.2, 6 df, p = 0.000

3. Chi-square = 71.4, 6 df, p = 0.000

4. Chi-square = 52.6, 6 df, p = 0.000

5. Smokers only: Chi-square = 13.3, 2 df, p = 0.000

6. Sample weighted so that proportion of smokers matches the population smoking prevalence.