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Tobacco pack display at hospitality venues after the introduction of standardised tobacco packaging in New Zealand: a field observation study

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ABSTRACT

Objectives In March 2018, New Zealand (NZ) introduced standardised tobacco packaging that also featured new pictorial warnings, with implementation completed by early June 2018. We evaluated how the new packaging affected tobacco pack displays in outdoor areas of hospitality venues.

Design Before-and-after descriptive field observation study.

Setting Central city area of the capital city of NZ (Wellington).

Participants Observations of people smoking and tobacco packs were made at 56 hospitality venues with outdoor tables (2422 separate venue observations), after the introduction of standardised tobacco packaging. Comparisons were made with a prior study in the same setting, from a time when tobacco packaging still featured brand imagery.

Results A total of 8191 patrons, 1113 active smokers and 889 packs and pouches (522 of known orientation) were observed over 2422 venue observations. There were 0.80 visible packs per active smoker in 2018, compared with 1.26 in 2014 (risk ratio (RR)=0.64, 95% CI 0.60 to 0.67, p<0.0001). The new packs in 2018 were also less likely to be displayed face-up, compared with packs in 2014, which had brand imagery on the front face (RR=0.77, 95% CI 0.72 to 0.83, p<0.0001). Pack and pouch display (RR=3.09 in 2014 and 3.10 in 2018) and active smoking (RR=3.16 in 2014 compared with 3.32 in 2018) were higher at venues without children present, compared with venues with children present (this finding was consistent over time).

Conclusions The reduction in the number of visible packs per active smoker, along with the reduction in face-up positioning of packs, suggests that smokers found the new standardised packs less attractive. Countries introducing standardised packaging should consider evaluating social display of tobacco packaging.

Strengths and limitations of this study

- This appears to be the first study outside Australia to report on objective changes to pack display after the introduction of standardised tobacco packaging.
- In contrast to other studies, observations were carried out during the end of the phase-in period for new packs, when the likely novel effect of the standardised packaging on pack display was potentially greatest.
- This study was comparable to a 2014 study conducted in the same area prior to the implementation of standardised packaging, when tobacco packaging was still highly branded.
- The study was conducted in only one city and did not collect data in contrasting areas of socioeconomic status, thus while the findings enable comparisons with the 2014 study, there may be limits with generalisability.
- The 4-year period 2014–2018 was not directly comparable to the Australian before and after study periods; the later data collection in 2018 (May, not March as in 2014) meant different weather conditions were experienced, and our study only covered one postimplementation time period.

INTRODUCTION

Tobacco marketing continues to foster smoking uptake among young people, even in countries with progressive policy environments. There is strong evidence that exposure to tobacco marketing promotes smoking experimentation among non-smokers, reinforces regular smoking and predisposes relapse.[1 2] Governments have responded by restricting advertising and promotion, and introducing purchase age restrictions. However, tobacco marketing has continued through various media, including the brand imagery shown on tobacco packets.[3–5]

Brand imagery on tobacco products creates alluring connotations that increase the appeal of tobacco brands to youth and young

adults, and reduce the effectiveness of health warnings on tobacco packages.[2 6] In response to this evidence, countries such as Australia, France, Hungary, Ireland, New Zealand (NZ), Norway and the UK have introduced standardised tobacco packaging policies that replaced tobacco branding with less attractive colours and at the same time, large pictorial health warnings. These policies limit residual tobacco marketing and reduce the appeal of tobacco products, while increasing the salience and impact of pictorial health warnings, and reducing misperceptions about the harms caused by tobacco use.[4 5] The policy is endorsed by the WHO as an effective tool in smoking prevention.[7] Research from Australia suggests that standardised packaging has reduced smoking prevalence, including among indigenous populations and people experiencing relatively greater deprivation.[8] A 2017 Cochrane review concluded 'The available evidence suggests that standardised packaging may reduce smoking prevalence' but also noted that '[c]onfidence in this finding is limited, due to the nature of the evidence available'.[5]

The Australian regulations changed the warning size from 30% of the front of the pack and 90% of the back of the pack, to 75% of the front and 90% of the back. Evidence from Australia showed that, prior to the implementation of standardised tobacco packaging, 11% of patrons outside cafés and bars had a pack displayed; the majority of these were face-up, revealing the branding.[9] A postimplementation measure found a 15% reduction in observed packs per patron. Furthermore, there was a 12% reduction in the proportion of packs displayed face-up; previously, the most prominent pictorial health warnings were on the back of packs.[10] However, later studies in Australia reported that rate of packs displayed per active smoker had not significantly decreased immediately or 1-year and 2-year postimplementation.[11 12] All three Australian studies reported a greater reduction in smoking and pack display when children were present compared with when they were not.

Similar research was conducted in NZ in March 2014 by Martin *et al*, prior to the implementation of standardised packaging. This study found that 8.9% of café/bar patrons had a visible tobacco pack, there were 1.3 packs visible per active smoker, and that 80% of these packs were orientated face-up, with 8% face-down.[13] The levels of smoking and pack visibility per adult patron were higher when there were no children at venues, compared with when at least one child was present ($p<0.0001$). This NZ study found marked differences in active smoking, pack display and children's presence across three sites within one city.

Subsequent to this study, the NZ government passed standardised packaging legislation,[14] with the law providing a transition period from 14 March to 6 June 2018, after which date all tobacco products sold had to be in standardised packets. The regulations prohibited the use of tobacco company brand imagery and required the packets to have large pictorial images and prominent health warning messages. The required transition was from 30% to 75% of the front of the pack, and from 90% to 100% of the back of the pack. The NZ regulations permit the brand name and manufacturer information to appear in the mandated colours and type fonts.[15]

Given this background, we aimed to examine the impact of standardised packaging on pack display in NZ using the benchmarks documented by the previous NZ work. More specifically, we hypothesised that there would be: (1) a decrease in tobacco pack display per active smoker and (2) a decrease in the prevalence of face-up display of the new tobacco packs. We considered that 'packs per active smoker' was more likely to be a constant unaffected by the weather, but likely to be influenced by smokers' aversion to displaying the new packs.

Pack display per active smoker may indicate smokers' use of packs as a token of status, identity or group membership. Tobacco pack display per active smoker is important because it is likely to indicate smokers' aversion to standardised packs and may provide insights into how this measure has disrupted the social affiliations fostered by tobacco branding. Wakefield *et al* have brought together much of the evidence linking pack design regulation with reducing tobacco uptake and use.[16]

Between March 2014 and May 2018, NZ had four tobacco tax rises (which did not necessarily translate to effective price rises),[17] and very little tobacco control mass media activity.[18] The prevalence of current smoking in adults declined from 17.4% in 2013–2014% to 15.7% in 2016–2017.[19]

METHODS

The methods for this study were closely based on the previous NZ study in 2014,[13] in order to allow comparisons of the results.

Site and venue selection

We observed patrons outside hospitality venues that allowed smoking in central Wellington City (capital city of NZ). Observations were made of all the eligible venues in the same street areas sampled in 2014 and included the same three main boulevards: Cuba Street, Courtenay Place and the Waterfront. These areas are within a 1.5 km area, and are <300 m apart. All have venues with high patronage and outdoor seating arrangements, although with variations in the number of children present.

Since 2014, some of the 55 originally studied venues had closed (n=15); others no longer had outdoor seating visible from a public walkway (n=3), or were not suitable for other reasons (n=2). These 20 inappropriate venues were excluded from the repeat study. There were 21 new venues that also met the inclusion criteria of visible outdoor seating, allowing smoking and being in the same areas. In total, we conducted observations at 56 venues: 19 in Cuba St, 21 in Courtenay Place and 16 in the Waterfront.

Data collection methods

Data collection was conducted during 16–27 May 2018 (late autumn in NZ). This was the only period during which the observer team were available for conducting this research. Data were collected by 17 medical students between 12:00 and 21:00 on weekdays and 24:00 and 21:00 on weekends (and generally in all weather conditions). The slightly longer hours for data collection than in the 2014 study (which were 12:00 to 20:00 on weekdays and 24:00 to 20:00 on weekends) enabled maximum data collection within the limited time available. We recorded the number of patrons, active smokers, child patrons, and cigarette packs and tobacco pouches displayed. The same definition of 'active smokers' was used as in the 2014 study and in the Australian studies, those holding/rolling/lighting/smoking a cigarette.

Four or five rounds of venue observations were made per day, starting at a minimum of 1.25-hour intervals between rounds, and taking a predefined circuit of all 56 venues. Field workers were given the option to work alone or in pairs, though the latter was recommended after 18:15, during times predicted to have a higher volume of patrons, so that observers could cross-check their observations. We did not assess inter-observer reliability, as Martin *et al* had already established high inter-observer agreement using this method (as had Australian researchers).[9]

Data processing and analysis

Recorded observations in the field were entered directly into an Excel spreadsheet using Google Forms. Data manipulation and analysis was performed using pivot tables in Excel. Risk ratios (RRs) were calculated using two by two tables in Open Epi (https://www.openepi.com/TwobyTwo/TwobyTwo.htm). For all calculations of CIs and two-tailed p values (using the Mantel-Haenszel χ^2 test) we used Open Source Epidemiologic Statistics for Public Health online (http://www.openepi.com/Menu/OE_Menu.htm).

Patient and public involvement

No patients were involved. The study did not collect data with any possible identifying features relating to individuals.

Ethics approval

The approval was subsequently amended on 17 May to allow for data collection to occur beyond daylight hours. No data were gathered that would identify individuals.

RESULTS

We have focused here on the two measures included in our hypotheses, tobacco pack display per active smoker and the prevalence of face-up display of the new tobacco packs. We report active smoking (point prevalence) to provide a symmetrical report to that of the 2014 study, and as a baseline report on outdoor smoking in poor weather conditions, not because of the direct relevance to standardised packaging.

Observed conditions, populations, venues and smoking

There was rain on 5 of the 10 observation days, compared with 0 days in 2014. The average daytime temperature was 14°C (4°C cooler than in March 2014) and the average wind speed was 18 kmph (9 kmph faster than in March 2014). For a similar number of venue observations in 2014 and 2018, in 2018 a total of 7977 adult patrons and 214 child patrons were observed (table 1), less than half the patrons in 2014. Children comprised 2.6% of all observed patrons (compared with 3% in 2014). Of all patrons, 13.6% (n=1113) were observed actively smoking (cigarettes in their hands or mouths), 6.5 percentage points (absolute value) higher than in 2014 (table 2). Consistent with the pattern of findings in the 2014 study, the point prevalence of active smoking was highest on Courtenay Place (18.2%), followed by Cuba Street (13.9%) and the Waterfront area (9.4%).

Table 1 Descriptive statistics for observed tobacco packs and pouches, smokers, patrons and children at hospitality venues with outdoor tables for the three study areas in central Wellington City in May 2018, compared with March 2014

	Courtenay Place		Cuba Street		Study areas Waterfront		Total		Difference in totals between studies (%)
Characteristic	2014	2018	2014	2018	2014	2018	2014	2018	2018 compared with 2014
No of venues	22	21	21	19	12	16	55	56	+1.8
Average observations per venue	47	43	59	45	59	42	54	43	−20.4
Total venue observations	1024	901	1239	847	708	674	2971	2422	−18.5
Packs and pouches observed	636	381	597	321	474	187	1707	889	−47.9
Active smokers	508	435	504	416	345	262	1357	1113	−18.0
Adult patrons	3893	2384	4359	2970	10476	2623	18728	7977	−57.4
Child patrons (within 10 m of the venue)	26	8	38	29	397	177	461	214	−53.6

Table 2 Active smoking (point prevalence) and visible tobacco packs and pouches at hospitality venues by area in central Wellington City in May 2018, compared with March 2014

No of patrons/area	N*		Active smokers/all patrons % (95% CI)		Difference %	N†		Packs and pouches visible/all patrons % (95% CI)		Absolute difference %	Packs visible/active smoker (absolute)		Difference (absolute)
	2014	2018	2014	2018		2014	2018	2014	2018		2014	2018	
Total 2018 n=8191 2014 n=19189	1357	1113	7.1 (6.7 to 7.4)	13.6 (12.9–14.3)	+6.5	1707	889	8.9 (8.5 to 9.3)	10.9 (10.2–11.5)	+2.0	1.26	0.80	−0.46
By area:													
Cuba Street 2018 n=2999 2014 n=4397	504	416	11.5 (10.6 to 12.4)	13.9 (12.7–15.1)	+2.4	597	321	13.6 (8.3 to 19.4)	10.7 (9.6–11.9)	−2.9	1.18	0.77	−0.41
Waterfront 2018 n=2800 2014 n=10873	345	262	3.2 (2.9 to 3.5)	9.4 (8.3–10.5)	+6.2	474	187	4.4 (2.8 to 6.0)	6.7 (5.8–7.6)	+2.3	1.37	0.71	−0.66
Courtenay Place 2018 n=2392 2014 n=3919	508	435	13.0 (11.9 to 14.0)	18.2 (16.7–19.8)	+5.2	636	381	16.2 (12.0 to 20.7)	15.9 (14.5–17.4)	−0.3	1.25	0.88	−0.38

Calculations of active smokers and visible packs/pouches may be more relevant per adult patron, rather than per patron as children <12 very rarely smoke. However, to facilitate comparability with the Australian study, we used 'per total patrons' in this table (vs 'per adult patrons').
CIs for the 2014 values for people smoking/all patrons % have been recalculated using the same methodology as used in this study to facilitate comparability.
*No of active smokers.
†No of visible tobacco packs and pouches.

Tobacco pack display and positioning

As this study was conducted shortly after the introduction of standardised packaging, both standardised and non-standardised packs were in circulation (the legal end date for the sale of non-standardised packets was 6 June, 2 weeks after data collection concluded). A total of 889 packs and pouches (both standardised and non-standardised) were visible on tables, with the level per patron in 2018 being 2% percentage points higher than in 2014 (10.9% vs 8.9% respectively; RR=1.22, 95% CI 1.13 to 1.32, p<0.0001). However, the mean number of packs or pouches visible on tables per *active smoker* was lower in 2018 (0.80 in 2018 compared with 1.26 in 2014, RR=0.64, 95% CI 0.60 to 0.67, p<0.0001).

For the measure of pack orientation (face-up or down), a total of 475 standardised cigarette packs (as opposed to tobacco pouches) were observed, compared with 47 non-standardised packs. We removed the 196 pouches observed from this measure, due to the difficulty of accurate observation of their orientation, along with 171 packs of unknown type or orientation. When comparing new (standardised) packs in 2018 to old (non-standardised) packs in 2014 (table 3), we found that visible packs in 2018 were less likely to be displayed face-up compared with visible packs in 2014 (RR=0.85, 95% CI 0.80 to 0.91). Also, a greater proportion of packs observed were of unknown type or orientation (2.5% in 2014 compared with 20.6% in 2018, p<0.0001).

Associations when children were present

In both 2014 and 2018, the levels of active smoking (point prevalence) and visible packs and pouches were higher in venues where children were not present; this finding was consistent over time (table 4). In 2018, the RR for pack visibility per adult patron at venues without children present, compared with at venues with children present was 3.10 (95% CI 2.32 to 4.20), similar to 3.09 in 2014 (95% CI 2.68 to 3.57). The RR for active smoking per adult patron without children present, compared with with children present, was 3.32 in 2018 (95% CI 2.53 to 4.35) compared with 3.16 in 2014 (95% CI 2.68 to 3.71).

DISCUSSION

Main findings

This study found a marked reduction in visible packs or pouches per active smoker in 2018, compared with 2014 (0.8 in 2018 and 1.26 in 2014, p<0.0001). Our results also indicated a reduction in the proportion of packs displayed face-up, when compared with the non-standardised packs in 2014. In 2018, the percentage of patrons observed actively smoking was almost double that in 2014, despite a decrease in smoking prevalence over the last decade.[20] As in 2014, venues with children present had a lower prevalence of smokers and visible packs per patron compared with venues without children present, but the relative ratios between venues with and without children showed little change after standardised packaging was introduced

Table 3 Tobacco pack orientation on the outdoor tables of hospitality venues in central Wellington City, comparing only new standardised packs in May 2018 and old non-standardised packs in March 2014 (ie, excluding old-style packs but also excluding roll-your-own pouches from the 2018 sample)*

	2014		2018			
Pack orientation	N	% (95% CI)	N	% (95% CI)	Risk ratio (95% CI)	P value
Face-up	1366	83.5 (81.7 to 85.3)	339	71.4 (67.2 to 75.3)	0.85 (0.80 to 0.91)	<0.0001
Face-down	141	8.6 (7.3 to 10.1)	89	18.7 (15.4 to 22.4)	2.17 (1.70 to 2.78)	<0.0001
Standing on the side, top or bottom	31	1.9 (1.3 to 2.6)	8	1.7 (0.8 to 3.2)	0.89 (0.41 to 1.92)	0.791
Partly concealed (eg, with wallet, phone, but ignoring lighters)	97	5.9 (4.9 to 7.2)	39	8.2 (6.0 to 10.9)	1.38 (0.97 to 1.98)	0.082
Total	1635	100%	475	100%		

*We removed the data on the roll-your-own pouches for 2018 from this analysis as it was harder to ascertain orientation than for box-shaped packs, whereas in 2014 this is likely to have been much easier (with only a relatively small pictorial health warning on the front at that time). The table does not include the data for packs of unknown orientation, or in cases or tins.

in 2018. As in 2014, we found marked differences in active smoking and pack display per active smoker between the three close-by areas in the central city.

Strengths and limitations

To our knowledge, this is the first study outside Australia to report objective changes to pack display in outdoor areas of hospitality venues after the introduction of standardised tobacco packaging. In contrast to other studies, observations were carried out during the end of the phase-in period for new packs, when the likely novel effect of the standardised packaging on pack display was potentially greatest. Another strength of this study was the comparability to the 2014 study conducted in the same area prior to the implementation of standardised packaging. Furthermore, the use of Google Sheets for data entry improved quality control, as this approach ensured that any possible transcription error or recall bias was minimised.

However, the data from the end of the transition period may not show the full impact of the changes that would have happened once all old packs had been used, as some consumers may have purchased cartons or have used their packs slowly. The impact in the medium to long-term may also be different, as the novelty declines and wear-out occurs. From our results, the rollout of new packs appeared to be 475/522 (91%) complete. We also found a greater proportion of packs that were difficult to classify (20.6% in 2018 compared with 2.5% in 2014), which may reflect the presence of multiple pack types (non-standardised packs, standardised packs and pouches) and the fact that data collection occurred when there were fewer daylight hours. The potential difficulty in seeing packs and smokers may have therefore led to an underestimation of their prevalence.

It is plausible that packs of 'unknown type or orientation' may have been more likely to be classified as 'face up' if we had been able to observe these more clearly. Yet, we have no reason to assume that this was the case, and suspect that a non-differential bias is most likely. We also note that the ~10% of packs and pouches observed that still featured tobacco branding may have affected the accuracy of comparisons between 2014 and 2018 for the measure of tobacco pack and pouch display per patron.

Such studies should ideally also be done at 1-year and 2-year postimplementation, with this type of study matching (or adjusting in the analysis) the season, the weather (wind and temperature), time of day, day of the week, tobacco prices and mass media campaign expenditure (with such steps not possible for our unfunded study, for which the timing of the data collection was fixed). However, these factors appear unlikely to have affected a key finding of our study regarding changes in how observed packs were positioned. A further limitation is that the study was only in one city and also did not collect data in contrasting areas of socioeconomic status.

Strengths and limitations in relation to other studies: important differences in results

The reduction in visible packs per active smoker in 2018 compared with 2014 contrasts with Australian studies,[10–12] which found a drop in active smoking and visible packs per *patron*, but no significant change in visible packs per *active smoker*. The reduction in the proportion of packs displayed face-up aligns with immediate postimplementation Australian data, which showed a 12% reduction in the proportion of packs displayed face-up.[10] The *constant* different rate of packs to patrons in venues with children versus in venues without children differs from Australian studies, where Zacher *et al*[10] found a decline between, before and after the intervention. Also Brennan et *al* showed a greater decline in pack display and the point prevalence of active smoking in venues with children present during the early, 1-year and 2-year post-standardised packaging phases.[12] We have no further explanation for these country differences, other than to speculate that there might attitudes to protecting children from seeing smoking and tobacco products may differ across the two nations.

Table 4 Comparison of tobacco pack/pouch visibility and active smoking (point prevalence) at hospitality venues with and without children as patrons in central Wellington City in in May 2018 compared with March 2014*

Venue setting (n=number of observations)	Packs/pouches or active smokers (n)		Adult patrons (n)		Ratio* (%) (95% CI)		Risk ratio for without versus with children		P value (two-tailed)	
	2014	2018	2014	2018	2014	2018	2014	2018	2014	2018
Pack or pouch visibility										
No children present (n=2729 in 2014 n=2355 in 2018)	1503	845	13 172	6862	11.4 (10.9 to 12.0)	12.3 (11.6 to 13.1)	3.09 (2.68–3.57)	3.10 (2.32–4.20)	<0.0001	<0.0001
1+children present (n=242 in 2014 n=67 in 2018)	205	44	5556	1115	3.7 (3.2 to 4.2)	3.9 (2.9 to 5.3)	1.00 (ref)	1.00 (ref)		
Active smoking										
No children present (n=2729 in 2014 n=2355 in 2018)	1197	1061	13 172	6862	9.1 (8.6 to 9.6)	15.4 (14.6 to 16.3)	3.16 (2.68–3.71)	3.32 (2.53–4.35)	<0.0001	<0.0001
1+children present (n=242 in 2014 n=67 in 2018)	160	52	5556	1115	2.9 (2.5 to 3.4)	4.7 (3.6 to 6.0)	1.00 (ref)	1.00 (ref)		

CIs for the 2014 values for people smoking/all patrons % have been recalculated using the same methodology as used in this study to facilitate comparability.
*Ratio of packs to adult patrons or ratio of people actively smoking to adult patrons. 'Children present' included children within 10 m of the venue. 2014 data from table 5 of Martin *et al*.[13]

Some limitations of this study compared with others were that the 4-year period 2014–2018 was not directly comparable to the Australian before and after study periods, was not in the same month in 2014 and 2018 (along with different weather conditions), and our study only covered one post-implementation time period.

The meaning of the study

Our results suggest smokers may have found the new standardised packs less attractive, though as Brennan *et al* noted,[12] increasing tobacco prices may also have reduced pack display, as smokers may attempt to avoid requests to supply others with tobacco. Efforts to conserve tobacco and avoid social supply requests may be even greater in NZ, where incomes are lower than in Australia, making tobacco relatively less affordable. The reduction in the proportion of packs displayed face-up, when compared with the non-standardised packs in 2014, is consistent with suggestions that smokers found the new and larger pictorial warnings on the front of the pack less attractive compared with the non-standardised pack design.

The increase in observed smoking among these outdoor patrons may have been due to the colder, wetter and windier weather conditions during the observations in this 2018 study (May, late autumn) compared with during observation in the 2014 study (March, early autumn). That is non-smoking patrons may have been disproportionately more likely to sit indoors in these poorer weather conditions in 2018. The other explanation that may be plausible (in the context of ongoing declines in smoking prevalence nationally[20]) is the increase in tourism to NZ, with tourists having potentially higher smoking rates. But we consider that the weather effects would be more important than any such tourism effects.

The stable RRs across 2014 and 2018 of smoking and pack display, at venues with and without children, may indicate that the presence or absence of children have an enduring effect. This effect seemed to persist even when the weather during the observation period was worse (in 2018), which may have increased the proportion of patrons who were active smokers (ie, patrons who did not need to go outside to smoke may have been more likely to remain indoors).

Lower observed occurrence of smoking around children (in both the 2014 and 2018 NZ studies) is a favourable finding, as children are vulnerable to the effects of tobacco marketing and smoking normalisation. Similarly, children are vulnerable to secondhand smoke exposure, which may persist in outdoor areas and present risks to health.[21]

Implications for future tobacco control policies

This study adds to the growing body of evidence that standardised packaging is likely to be an effective tobacco control intervention that countries should consider adopting to reduce tobacco marketing. The changes observed support the idea that the introduction of standardised packaging makes packs less attractive, which in turn reduces the social cachet of displaying tobacco products.

Unanswered questions and future research

Internationally, there is a need for other studies to investigate any links between the introduction of standardised packaging and measures such as smoking uptake and prevalence.[4] Such studies should ideally be repeated to determine whether the effects of standardised packaging continue to hold over time, and in areas with more low-income smokers present. Future work could be desirable in low-income areas and those with higher proportions of minority groups such as (in NZ) Māori and Pacific peoples (groups burdened by higher smoking rates).[20] Such smokers could also be asked their attitudes to sharing their cigarettes with others around them, to determine the role of high tobacco prices in keeping packs out of view. Differences, such as those found in this study between the three close-by areas in the central city, could be explored in other cities to test their stability. In addition, future work could also examine the attitudes and beliefs underpinning pack display.

Countries that introduce standardised packaging should consider these types of before-and-after observational studies to better understand the impact on smoking behaviour and pack display. Such observational studies may also inform the optimal design of legislation for smokefree outdoor public areas. These policies, for instance, for outside hospitality areas, have been introduced in a number of jurisdictions.[21–23] The expansion of these smokefree areas and the associated denormalisation of smoking are likely to help increase quitting and reduce relapses to smoking.[24 25] The relatively high proportion of patrons smoking outside hospitality areas can give a misleading impression of the normality of smoking.[26]

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Patient consent for publication Not required.

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