

Retailer licensing and tobacco display compliance: are some retailers more likely to flout regulations?

Rae Fry,¹ Suzan Burton,² Kelly Williams,¹ Scott Walsberger,¹ Anita Tang,¹ Kathy Chapman,¹ Sam Egger³

¹Cancer Programs Division, Cancer Council NSW, Sydney, New South Wales, Australia
²Western Sydney University, Sydney, New South Wales, Australia

³Cancer Research Division, Cancer Council NSW, Sydney, New South Wales, Australia

Correspondence to

Rae Fry, Cancer Programs Division, Cancer Council NSW, P.O. Box 572, Kings Cross, Sydney, NSW 1340, Australia; rae.fry@gmail.com

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ABSTRACT

Objectives To assess retailer compliance with a licensing scheme requiring tobacco retailers to list their business details with the government, to examine whether listed retailers are more likely to comply with a point-of-sale (POS) display ban and other in-store retailing laws and to explore variations in compliance between different retailer types and locations.

Method An audit of 1739 retailers in New South Wales, Australia, was used to assess compliance with tobacco retailing legislation. Auditors actively searched for and audited unlisted retailers and all listed retailers in 122 metropolitan and regional postcodes. Multivariate generalised linear regression models were used to examine associations between compliance and retailer type, remoteness and demographic characteristics (socioeconomic level, proportion of population under 18 years and proportion born in Australia).

Results One unlisted tobacco retailer was identified for every 12.6 listed tobacco retailers. Unlisted retailers were significantly more likely than listed retailers to breach in-store retailing laws ($p < 0.001$). Compliance with the POS display ban was observed in 91.3% of tobacco retailers, but compliance with all retailing laws was only 73.4%. Retailers in socioeconomically disadvantaged areas had lower compliance than those in high socioeconomic areas.

Conclusions Some tobacco retailers did not list their business details with the government as required, even though there was no financial cost to do so. Unlisted retailers were more likely to violate in-store regulations. The results suggest licensing schemes can be useful for providing a list of retailers, thus facilitating enforcement, but require a system to search for, and respond to, unlisted/unlicensed retailers.

INTRODUCTION

The retail environment is an avenue for tobacco marketing, providing a venue for advertising and promotion and a means of widespread distribution. In response to evidence that retail availability of tobacco facilitates smoking uptake and limits cessation success, there is growing interest in reducing the number of tobacco retailers.¹ Licensing retailers, with a moratorium on new licences until a target is reached, could reduce tobacco density by attrition.² An increase in any license fee could be used to reduce the number of retailers, though one study found an increased license fee did not appear to result in any reduction in retailers with high tobacco sales.³ Licensing of retailers can also assist in enforcing tobacco control legislation, allowing

spot checks of licensed retailers and penalties for infringements, including license revocation.¹

Australia has advanced policies to regulate the tobacco retailing environment, but licensing requirements vary among the eight states and territories. New South Wales (NSW), the most populous state, requires retailers to list their business details with the NSW Ministry of Health via the Tobacco Retailer Notification (TRN) scheme before being allowed to sell tobacco. This type of licensing scheme is sometimes referred to as a 'negative licensing scheme',⁴ where retailers may be prohibited from selling if repeatedly convicted of violating retail regulations.⁵ The TRN scheme was introduced at the same time as a point-of-sale (POS) display ban and other in-store regulations in 2009,⁶ and its stated purpose was to inform the Ministry of Health about the number and location of tobacco retailers in NSW to support enforcement of the ban and other in-store retail laws, such as the requirement to display a 'Smoking kills' warning sign.⁷

There is no fee to be listed as a tobacco retailer in NSW, in contrast with fee-based schemes in other Australian states, New York, Indiana and Singapore.³ In theory, the NSW scheme therefore maximises the likelihood of obtaining a complete list of tobacco retailers, facilitating inspections and enforcement. However, retailers who do not comply with one aspect of the legislation (ie, the requirement to be included on a register) may also be less likely to comply with other aspects (eg, prohibition of in-store display and promotion). Failure of retailers to list, as required (either due to lack of awareness of the legislation or unwillingness to comply), is likely, however, to have the paradoxical result that those who do not comply with the listing requirement will be less likely to be inspected for compliance with other aspects of tobacco retailing legislation because they will not appear on any list of retailers used for enforcement.

Previous studies of compliance have found high levels of adherence to display restrictions.⁸⁻¹¹ However, some of those studies have been limited by not including a weighted sample by retailer type,⁸ and/or by using only urban samples.^{10, 11} There is some evidence that breaches of a display ban are less common than breaches of other retail laws,¹¹ such as restrictions on price boards and requirements for warning signs. If tobacco retailer registration is useful for enforcing tobacco retail laws, as envisioned by the NSW legislation, it is important to determine what percentage of tobacco retailers comply with the requirement to list their



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business, particularly since a previous study found only 32.5% of electronic cigarette vape stores in Florida, where these stores are required to hold a tobacco retailer license, were on the licensure list.¹² However, to our knowledge, no previous studies have assessed the completeness of any list of licensed or registered retailers, or explored the relationship between compliance with listing and compliance with in-store tobacco retailing regulations.

This study was therefore designed to assess compliance with the requirement for tobacco retailers to list their business by actively searching for unlisted retailers, and to examine whether listed and unlisted retailers varied in compliance with the display ban and other in-store tobacco retailing regulations. The study also tested associations between retailer compliance, retailer type and neighbourhood and demographic characteristics (ie, remoteness) associated with higher levels of smoking, and/or potentially associated with compliance.

METHODS

The sampling and data collection methods have been previously published.¹³ Cancer Council NSW, a non-government organisation, obtained business data for tobacco retailers listed on the TRN scheme (hereafter ‘listed retailers’) from the NSW Ministry of Health through a formal information request. A data set of 13 439 retailer records was received reflecting notifications up to 30 June 2012. After removing exactly matching duplicates, 12 731 records in 605 postcodes remained. The sampling frame was limited to 8 of 10 NSW regions where Cancer Council staff capacity was available. The eight regions encompassed 10 794 retailer records, or 80.3% of all records, in 468 postcodes. Postcodes for audit were randomly selected within each region to achieve targets of 15–20% of retailer records and 15–20% of postcodes, resulting in a target of 100 postcodes for auditing listed retailers. Five were small rural localities where no auditors could be recruited, leaving 2279 retailer records in 95 postcodes—51 in regional areas and 44 in the Sydney metropolitan area. These 95 postcodes and 2279 records encompassed 15.7% of NSW postcodes and 17% of retailer records on the TRN list.

Retailers were audited between November 2012 and February 2013 by 166 staff and volunteers associated with Cancer Council NSW. All auditors received training, either face to face or by telephone, using the same written training materials, and were provided with all-hours telephone numbers to enable response to any questions that arose in the field. Full details about training and copies of the training materials are available from the authors.

Auditors were given a list of retailers from one or more of the 95 randomly selected postcodes and asked to audit all retailers on the list. They used a questionnaire developed and tested for the study to record compliance with in-store tobacco display restrictions, which prohibit tobacco advertising or promotion in retail outlets, or the display of tobacco products, non-tobacco smoking products (eg, herbal cigarettes) and smoking accessories (eg, cigarette papers). Retailers must also display a ‘Smoking kills’ warning sign and a notice that it is illegal to sell tobacco products to persons under 18. Prices may be shown on price tickets or on a price board, but not both, and the size and colour of price displays are restricted. Tobacco may be sold only from one POS in each outlet. Vending machines are restricted to adult-only areas of venues licensed to sell alcohol (eg, bars and liquor stores) and must be controlled by staff.⁶ In this paper, breaches of any of these requirements relating to the retail display, sale and promotion of tobacco are collectively referred to as ‘in-store’ breaches. Price information for the leading brand of cigarettes was also collected, with the results reported elsewhere.¹³

Auditors were also asked to look for and audit any tobacco retailers in their assigned postcode that did not appear on the TRN list (hereafter ‘unlisted retailers’), using a systematic approach. First, they were instructed to visit any stores they knew that would usually sell tobacco (eg, petrol stations, convenience stores and liquor stores) but that were not on the list supplied to them. Second, they were instructed to do a systematic walk-around of shopping areas and look for any of those store types that were not on their list. We assumed volunteers would be more successful in locating unlisted tobacco retailers in an area they knew, so if a volunteer was not auditing their home postcode, they were given a list of listed retailers in their home postcode and asked to search for and audit any unlisted tobacco retailers in that postcode.

The location of each audited retailer was coded for remoteness (since compliance might be expected to be lower in remote areas), socioeconomic status (SES) of the postcode (reflecting the association between neighbourhood SES and smoking rates¹⁴), percentage under 18 in the postcode (reflecting differential health effects according to neighbourhood age¹⁵) and percentage in the postcode born in Australia (since smoking in Australia is higher among some migrant groups¹⁶). Details of demographic measures used are reported elsewhere.¹³

Analysis

Two multivariate generalised linear regression models were used to examine associations between compliance with tobacco

Table 1 Number and proportion of each retailer type in audit sample

Retailer type	All audited retailers		Listed		Unlisted		
	n	Percentage of all retailers	n	Percentage of retailer type	n	Percentage of retailer type	Percentage of unlisted retailers
Alcohol-licensed premises and/or vending	594	34.2	538	90.6	56	9.4	32.2
Convenience store*	344	19.8	323	93.9	21	6.1	12.1
Petrol station	252	14.5	233	92.5	19	7.5	10.9
Newsagent	171	9.8	154	90.1	17	9.9	9.8
Supermarket	166	9.5	144	86.8	22	13.3	12.6
Tobacconist	81	4.7	76	93.8	5	6.2	2.9
General grocery store*	46	2.6	30	65.2	16	34.8	9.2
Other/not specified	85	4.9	67	78.8	18	21.2	10.3
Total (all retailers)	1739	100	1565	90.0	174	10.0	100

*Convenience stores typically sell drinks, snack foods and a very limited grocery range. General grocery stores stock more grocery items but are smaller than supermarkets.

retailing legislation and retailer characteristics. In the first model, the dependent variable was defined as being unlisted with the TRN scheme (vs being listed). In the second, the dependent variable was defined as having one or more breaches of in-store provisions of the legislation (vs no breaches). In both models, generalised estimating equations (GEEs) were used to adjust for clustering of retailers within postcodes. Logit link functions and binomial distributions were assumed.

Tests for linear trends were performed by substituting the nominal versions of independent variables with continuous or ordinal versions where appropriate. Robust variance estimators and exchangeable working correlation structures were used for all GEE procedures with sensitivity analyses being performed using other working correlation matrices. (Those results are omitted because differences were negligible.) Data were analysed using Stata V.11.0.

Table 2 Association between retailer characteristics and being unlisted

Characteristic	Unlisted, n (%) [*]	Listed, n (%) [*]	OR for being unlisted (vs listed)	
			Crude OR	Adjusted OR†
All	174 (10.0)	1565 (90.0)		
Retailer type				
Supermarket	22 (13.3)	144 (86.7)	Ref.	Ref.
General grocery store	16 (34.8)	30 (65.2)	2.98 (1.55 to 5.73)	3.04 (1.41 to 6.56)
Convenience store	21 (6.1)	323 (93.9)	0.59 (0.41 to 0.83)	0.44 (0.28 to 0.70)
Petrol/service station	19 (7.5)	233 (92.5)	0.60 (0.41 to 0.88)	0.54 (0.33 to 0.88)
Newsagent	17 (9.9)	154 (90.1)	0.81 (0.50 to 1.31)	0.67 (0.36 to 1.24)
Alcohol-licensed premises	56 (9.4)	538 (90.6)	0.76 (0.54 to 1.08)	0.69 (0.44 to 1.09)
Tobacconist	5 (6.2)	76 (93.8)	0.51 (0.31 to 0.84)	0.37 (0.19 to 0.73)
Other/not specified	18 (21.2)	67 (78.8)	1.57 (0.95 to 2.60)	1.40 (0.76 to 2.59)
<i>p Value</i>			<0.001	<0.001
Remoteness of postal area				
Major cities of Australia	142 (11.0)	1152 (89.0)	Ref.	Ref.
Inner regional Australia	22 (6.9)	298 (93.1)	0.35 (0.17 to 0.74)	0.40 (0.19 to 0.84)
Outer regional and remote Australia	10 (8.0)	115 (92.0)	0.46 (0.17 to 1.22)	0.46 (0.18 to 1.16)
<i>p Value</i>			0.012	0.025
SES of postal area				
Lowest SES	25 (10.6)	211 (89.4)	Ref.	Ref.
2	25 (7.9)	290 (92.1)	1.11 (0.46 to 2.69)	0.98 (0.35 to 2.73)
3	38 (11.4)	296 (88.6)	1.67 (0.64 to 4.37)	1.17 (0.35 to 3.87)
4	46 (8.4)	501 (91.6)	1.14 (0.49 to 2.69)	1.01 (0.40 to 2.52)
Highest SES	40 (13.0)	267 (87.0)	2.16 (0.99 to 4.72)	1.63 (0.72 to 3.70)
<i>p Value</i>			0.291	0.589
<i>p-Trend</i>			0.094	0.233
Percentage of postal area population <18 years				
0 to <16	21 (5.9)	332 (94.1)	Ref.	Ref.
16 to <22	73 (12.4)	518 (87.6)	2.15 (0.88 to 5.29)	2.44 (0.98 to 6.09)
22 to <25	32 (8.2)	359 (91.8)	1.05 (0.43 to 2.55)	1.17 (0.39 to 3.45)
25+	48 (11.9)	356 (88.1)	1.72 (0.71 to 4.18)	1.83 (0.60 to 5.55)
<i>p Value</i>			0.106	0.064
<i>p-Trend</i>			0.882	0.715
Percentage of postal area population born in Australia				
0 to <60	47 (7.9)	550 (92.1)	Ref.	Ref.
60 to <70	35 (13.9)	217 (86.1)	2.20 (0.82 to 5.95)	1.86 (0.71 to 4.87)
70 to <90	61 (10.1)	544 (89.9)	0.91 (0.42 to 1.99)	1.71 (0.63 to 4.68)
90+	31 (10.9)	254 (89.1)	0.87 (0.37 to 2.07)	2.61 (0.72 to 9.42)
<i>p Value</i>			0.229	0.478
<i>p-Trend</i>			0.429	0.161
In-store breaches‡				
Zero breaches	110 (8.2)	1237 (91.8)	Ref.	Ref.
One or more breaches	64 (16.3)	328 (83.7)	1.84 (1.40 to 2.42)	2.24 (1.57 to 3.20)
<i>p Value</i>			<0.001	<0.001

^{*}Includes 1739 listed and unlisted retailers. The % shows percentage of retailers with each characteristic that are unlisted/listed.

[†]Adjusted for retailer type, remoteness of postal area, SES of postal area, % of postal area population less than 18 years, % of postal area population born in Australia and in-store breaches.

[‡]Includes breaches of POS display ban and other in-store requirements such as those relating to warning signs, price boards and prohibition of advertising and promotion. Owing to transitional arrangements in place at the time of the audit, tobacconists were counted as breaching the POS display ban only if the display was less than 2 m from a public facing opening (prohibited by the legislation at the time).
SES, socioeconomic status.

RESULTS

Of the 2279 listed records sampled, 664 were identified during the audit as inactive (not selling tobacco or no longer at the listed address) or as duplicate listings of one retailer. The largest source of duplicate listings was vending machines, since the legislation requires listing by both the vending machine operator and the alcohol licensee for the premises. A second source of duplicate listings was two or more businesses listed at the same address, presumably due to turnover of the business. All duplicate listings were reviewed and excluded from analysis. After removing retailers no longer selling tobacco and duplicate listings, 1615 retailers remained. Of these, auditors successfully visited 97% (n=1565).

By extrapolating the results from the sample, after allowing for duplicate listings and unlisted retailers, we estimated the total number of active tobacco retailers in NSW at 9597, compared with 13 439 records on the TRN list. Venues licensed to sell alcohol were the most numerous, comprising 34.2% of audited retailers, followed by convenience stores (19.8%) and petrol stations (14.5%) (table 1). There was an average of 17.7 tobacco retailers per postcode.

Unlisted retailers

Auditors identified 174 unlisted retailers—120 in 52 of the 95 randomly selected postcodes audited and an additional 54 in 27 auditors' non-randomly selected home postcodes (table 1). These 174 retailers were verified as unlisted by checking an updated TRN list, bringing the total number of audited retailers to 1739 (1565 listed retailers and 174 unlisted retailers) in 122 postcodes. Premises licensed to sell alcohol comprised the largest percentage of unlisted retailers (32.2%; table 1), but general grocery stores were most likely to be unlisted, with more than a third of all general grocery stores selling tobacco being unlisted (34.8%).

The ratio of unlisted to listed retailers was assessed by comparing the number of unlisted to listed retailers in randomly selected postcodes in which at least one of the data collectors lived. In those postcodes, 109 unlisted retailers were identified in addition to 1369 listed retailers, resulting in a ratio of one unlisted retailer for every 12.6 listed retailers. (Unlisted retailers in postcodes that were not randomly sampled were not included in this calculation, because it was not possible to determine the number of accurately listed retailers in postcodes that were not fully audited.)

After adjustment for other factors, retailer type was significantly associated with being unlisted ($p < 0.001$; table 2). Relative to supermarkets, which dominate tobacco market share in Australia,¹⁷ general grocery stores were significantly more likely to be unlisted (OR=3.04, 95% CI 1.41 to 6.56), while convenience stores (OR=0.44, 95% CI 0.28 to 0.70), petrol stations (OR=0.54, 95% CI 0.33 to 0.88) and tobacconists (OR=0.37, 95% CI 0.19 to 0.73) were less likely to be unlisted. The likelihood of a retailer being unlisted varied according to remoteness of postcode ($p = 0.025$). In major cities, retailers were significantly more likely to be unlisted than those in inner regional areas (11.0% vs 6.9%; OR=0.40, 95% CI 0.19 to 0.84). A similar but non-significant difference was observed between major cities and outer regional and remote areas (11.0% vs 8.0%; OR=0.46, 95% CI 0.18 to 1.16). Retailers with one or more breaches of in-store tobacco legislation were significantly more likely to be unlisted than those with no breaches (OR=2.24, 95% CI 1.57 to 3.20; $p < 0.001$). The SES of the retailer's postcode, the percentage of the population under 18 and the percentage born outside

Australia were not significantly associated with the probability of being unlisted.

Compliance with regulations

Compliance with the POS display ban was high (91.3%, data not shown). However, overall non-compliance was common: 26.6% of audited retailers failed to comply with one or more legislative requirements (including the requirement to list with the TRN scheme) (table 3).

Variations in compliance with in-store regulations

Unlisted retailers were significantly more likely than listed retailers to breach one or more in-store regulations, after adjusting for other factors ($p < 0.001$, table 4). Among unlisted retailers, 36.8% were non-compliant, compared with 21% of listed retailers (OR=2.42, 95% CI 1.62 to 3.61). Although tobacconists could still display tobacco at the time (as noted above), tobacconists recorded the highest percentage of in-store breaches at 39.5% (OR=3.12, 95% CI 1.50 to 6.50). Convenience stores and other/unspecified types of retailers were also significantly more likely than supermarkets, the reference category, to breach in-store regulations (OR=2.12, 95% CI 1.31 to 3.43 and OR=3.06, 95% CI 1.76 to 5.32, respectively).

Retailers in disadvantaged postcodes were more likely to breach in-store regulations than those in less disadvantaged postcodes (p -trend=0.02, $z = -2.33$; table 4). Retailers in postcodes with a lower proportion of the population born in Australia were more likely to breach in-store regulations (p -trend=0.006, $z = -2.75$). Compliance varied according to the percentage of children in the postcode ($p = 0.013$), but the relationship was not linear and therefore difficult to interpret.

DISCUSSION

The study shows that even if there is no cost to register as a tobacco retailer, a proportion of retailers will not do so. For every 12.6 listed tobacco retailers, the audit found one unlisted retailer. However, it is unlikely that auditors found all unlisted retailers, so this is almost certainly an underestimate. The results therefore suggest that without an enforcement system to identify unlisted/unlicensed retailers, any list is likely to be incomplete.

Table 3 Observed non-compliance with tobacco retail regulations

Type of regulation	Number (%) of retailers*
No 'Smoking kills' sign	201 (11.9)
Retailer selling tobacco but not listed with Ministry of Health	120 (6.9)
Displaying tobacco but not a specialist tobacconist†	93 (5.5)
Displaying smoking accessories or non-tobacco smoking products but not a specialist tobacconist	60 (3.6)
More than one price type of price display	22 (1.3)
Prices more than 2 cm high and/or 1.5 cm wide	18 (1.1)
Retailer advertising or promoting cigarettes	14 (0.8)
Specialist tobacconist displaying tobacco less than 2 m away from a public facing opening†	14 (0.8)
Non-compliant warning sign colour (identified from volunteer comments)	1 (0.1)
Retailers non-compliant with at least one regulation	448 (26.6)
Total non-compliances observed	n=543‡

*Percentage of 1685 listed and unlisted retailers audited in randomly selected postcodes.

†See note to table 2 regarding transitional arrangements for tobacconists at the time of the audit.

‡Some retailers failed to comply with more than one regulation.

Table 4 Association between retailer characteristics and in-store breaches*

Characteristic	One or more breaches* n (%)	Zero breaches* n (%)	OR for having one or more breaches (vs zero breaches)	
			Crude OR	Adjusted OR†
All	392 (22.5)	1347 (77.5)		
Listing with Retailer Notification Scheme				
Listed	328 (21.0)	1237 (79.0)	Ref.	Ref.
Unlisted	64 (36.8)	110 (63.2)	2.24 (1.53 to 3.28)	2.42 (1.62 to 3.61)
<i>p Value</i>			<0.001	<0.001
Retailer type				
Supermarket	29 (17.5)	137 (82.5)	Ref.	Ref.
General grocery store	15 (32.6)	31 (67.4)	2.30 (1.02 to 5.18)	1.98 (0.86 to 4.58)
Convenience store	95 (27.6)	249 (72.4)	1.91 (1.22 to 3.01)	2.12 (1.31 to 3.43)
Petrol/service station	39 (15.5)	213 (84.5)	0.84 (0.51 to 1.39)	0.92 (0.55 to 1.53)
Newsagent	40 (23.4)	131 (76.6)	1.53 (0.93 to 2.54)	1.68 (1.00 to 2.84)
Alcohol-licensed premises	110 (18.5)	484 (81.5)	1.14 (0.72 to 1.80)	1.20 (0.75 to 1.93)
Tobacconist	32 (39.5)	49 (60.5)	2.90 (1.41 to 5.96)	3.12 (1.50 to 6.50)
Other/not specified	32 (37.6)	53 (62.4)	2.88 (1.73 to 4.81)	3.06 (1.76 to 5.32)
<i>p Value</i>			<0.001	<0.001
Remoteness of postal area				
Major cities of Australia	283 (21.9)	1011 (78.1)	Ref.	Ref.
Inner regional Australia	84 (26.3)	236 (73.8)	1.03 (0.62 to 1.71)	1.33 (0.81 to 2.18)
Outer regional and remote Australia	25 (20.0)	100 (80.0)	0.87 (0.49 to 1.56)	1.01 (0.56 to 1.85)
<i>p Value</i>			0.890	0.514
SES of postal area				
Lowest SES	67 (28.4)	169 (71.6)	Ref.	Ref.
2	84 (26.7)	231 (73.3)	0.83 (0.46 to 1.50)	1.26 (0.68 to 2.33)
3	72 (21.6)	262 (78.4)	0.73 (0.40 to 1.35)	0.88 (0.47 to 1.65)
4	105 (19.2)	442 (80.8)	0.55 (0.35 to 0.88)	0.61 (0.35 to 1.06)
Highest SES	64 (20.8)	243 (79.2)	0.68 (0.41 to 1.16)	0.63 (0.35 to 1.13)
<i>p Value</i>			0.084	0.040
<i>p-Trend</i>			0.043	0.020
Percentage of postal area population <18 years				
0 to <16	85 (24.1)	268 (75.9)	Ref.	Ref.
16 to <22	112 (19.0)	479 (81.0)	0.76 (0.49 to 1.17)	0.73 (0.51 to 1.03)
22 to <25	105 (26.9)	286 (73.1)	1.03 (0.65 to 1.65)	1.48 (0.94 to 2.33)
25+	90 (22.3)	314 (77.7)	1.01 (0.65 to 1.58)	1.13 (0.72 to 1.79)
<i>p Value</i>			0.437	0.013
<i>p-Trend</i>			0.396	0.084
Percentage of postal area population born in Australia				
0 to <60	143 (24.0)	454 (76.0)	Ref.	Ref.
60 to <70	64 (25.4)	188 (74.6)	1.08 (0.69 to 1.71)	1.06 (0.69 to 1.63)
70 to <90	125 (20.7)	480 (79.3)	0.66 (0.44 to 1.00)	0.56 (0.36 to 0.88)
90+	60 (21.1)	225 (78.9)	0.92 (0.54 to 1.58)	0.46 (0.26 to 0.83)
<i>p Value</i>			0.107	0.013
<i>p-Trend</i>			0.228	0.006

*Includes breaches of POS display ban and other in-store requirements such as those relating to warning signs and price boards.

†Adjusted for retailer type, remoteness of postal area, SES of postal area, % of postal area population less than 18 years, % of postal area population born in Australia and listed/unlisted status.

SES, socioeconomic status.

The stated purpose of the NSW scheme is to support enforcement of the POS display ban and other in-store retailing laws by providing a comprehensive record of the number and location of tobacco retailers. However, unlisted retailers were significantly more likely than listed retailers to breach in-store tobacco retailing laws. The reasons behind this are not clear but are likely to relate to difficulties in enforcement (unlisted retailers will be more difficult for enforcement officers to find), education (those unaware of a requirement to list are likely to be unaware of other requirements and may not receive

communications from authorities) and/or retailer resistance (those who knowingly do not comply with the requirement for listing are presumably more willing to breach in-store tobacco retail regulations).

Compliance with the POS display ban on cigarettes and related products was high at 91.3%. However, compliance was lower than has been found in other jurisdictions, including Victoria, Australia (94.1%),¹¹ Ireland (97%),⁹ Norway (97%)¹⁰ and Ontario, Canada (99.8%).⁸ Moreover, we found a substantial proportion of retailers did not comply with other aspects of

tobacco retailing laws (excluding sales to minors, which this audit did not assess), with 73.4% failing to comply with at least one aspect of the legislation (table 3). This much lower level of compliance in NSW compared with previous studies may be due to auditors assessing a wider variety of regulations, but it may also be related to the likelihood of prosecution. To the best of our knowledge, no NSW retailers have been prosecuted or prohibited from selling tobacco for non-compliance with breaches of the new tobacco retailing laws since their introduction in 2009. There is no publicly available information on enforcement protocols, but NSW Health reported approximately 15 000 inspections of tobacco retailers between 2008 and 2013,¹⁸ which would equate to an average of one visit per retailer every 3.2 years if our estimated number of retailers (9597) is correct. If retailers perceive prosecution as unlikely, this would lower their incentive to comply with regulations.

In our study, retailers in disadvantaged postcodes were less likely to comply with in-store retailing laws than those in less disadvantaged postcodes, although there was no difference in compliance with the listing scheme. People in low socioeconomic groups in NSW are more likely to smoke,¹⁹ and research has found these populations find it harder to quit.²⁰ A separate analysis of TRN scheme records found a significantly higher density of tobacco retailers in disadvantaged local government areas than in high-SES areas, even after adjusting for smoking prevalence,²¹ and a similar association has been found in a number of studies in Australia and elsewhere.^{14 22–26} These results suggest the populations at most risk of tobacco-related harm are exposed to the most risky retailing environments and are afforded the least protection by current retailing laws.

Our results have implications for actions and policies to reduce tobacco-related harm. First, a listing or licensing scheme for tobacco retailers must be tightly administered to detect the substantial percentage of retailers who otherwise will not list, even if there is no cost to do so. The large number of duplicate records on the NSW list also shows that a one-off listing scheme must be actively managed if it is to provide an accurate record of the number and location of tobacco retailers. A positive licensing scheme with an annual renewal fee would remove duplicate and out-of-date records by providing a financial incentive for retailers to notify authorities if the business closes down, relocates or stops selling tobacco. Such a scheme could provide a disincentive for non-compliance⁴ and contribute resources for administration, education and enforcement.

Second, active retailer education, ongoing monitoring and enforcement and well-publicised prosecutions may improve compliance with retailing laws. In NSW, activities to encourage compliance with the POS display ban and other laws have focused on retailer education. Enforcement activities that include efforts to identify and penalise unlisted retailers, especially in disadvantaged neighbourhoods with high smoking prevalence and demonstrated lower compliance, may help reduce disparities in compliance and contribute to denormalising smoking in those communities.

Third, the high density of tobacco retailers and the high proportion of convenience, route and impulse-type retailers support calls for policies to influence the built retail environment (the number, type and location of tobacco retailers) as well as the consumer retail environment (marketing, packaging and labelling).²⁷ The disproportionate use of retailers selling alcohol, convenience stores, petrol stations and newsagents by light smokers and attempting quitters^{28 29} suggests that policies designed to reduce impulse purchases might be best targeted to these retailer types. A positive licensing scheme, where retailers

must pay a fee to be licensed, could be a useful first step in influencing the number, type and location of retailers, as well as potentially improving compliance with in-store retailing laws by providing a more accurate list of retailers. Licensing of tobacco retailers and high licence fees would also contribute to denormalisation of smoking by sending an unambiguous public signal that tobacco is an exceptionally harmful product.³⁰

Strengths and limitations

This study is the largest audit of tobacco retailers to date, though it lacks the sequential audits of another large study.⁹ Its strengths are the large sample size, the random selection of sampled postcodes within included regions and the high success rate in auditing (97%), which should ensure a representative sample of retailers was included. This is important because the study shows compliance rates differ widely across retailer types and to a lesser extent across different areas, so audits that are not representative may result in misleading compliance estimates. The comprehensiveness of our audit may explain our finding of lower compliance rates than other studies. Although the study under-represented remote areas of the state, these regions include only a very small percentage of the population and/or retailers, so this limitation is unlikely to have a material effect on the results.

Another limitation of the study is that unlisted retailers could not be randomly sampled (as the sampling frame is unknowable). The associations between retailer characteristics and being unlisted (table 2) are therefore subject to potential bias if auditors in some areas were more successful in identifying some types of unlisted retailers, though we have no reason to suspect that this occurred.

The audit would not have been possible without 166 volunteers and staff who collected data. However, the large number of auditors may have led to inconsistencies in observation and although all participants were trained using identical written training materials, inter-rater reliability was not assessed. The audit also relied on auditors' assessment of compliance with two aspects of the relevant legislation: price board lettering no more than 2 cm high and/or 1.5 cm wide and any display of tobacco products by a specialist tobacconist being more than 2 m away from any public facing opening. It is possible that errors in

What this paper adds

- ▶ The study found a substantial proportion of tobacco retailers had not complied with the requirement to list their details on a registry of tobacco retailers, suggesting any licensing scheme requires associated enforcement mechanisms to detect unlicensed retailers.
- ▶ One in four tobacco retailers failed to comply with at least one legislative requirement, while retailers who complied with the listing requirement had fewer violations of in-store requirements. A licensing scheme, coupled with enforcement activities to detect unlicensed retailers, may therefore result in higher compliance with tobacco control legislation.
- ▶ Breaches of in-store retailing laws were more common among unlisted retailers, among certain types of stores, in socioeconomically disadvantaged areas and in areas with a lower proportion of the population born in Australia, suggesting enforcement in these areas is particularly required.

assessment by auditors may have resulted in breaches being incorrectly recorded or, conversely, excluded.

CONCLUSIONS

The results showed that even with no financial disincentive for listing, a substantial percentage of tobacco retailers did not list as tobacco retailers, and found that unlisted tobacco retailers were significantly more likely to breach in-store regulations. Certain types of retailers and those in particular locations (ie, lower-SES areas and those with a lower proportion of people born in Australia) were also more likely to breach in-store regulations, showing a particular need for enforcement activities in these areas. The study thus shows the value of a listing or licensing system for retailers, and the need for an enforcement system that provides a disincentive for breaching regulations.

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