Vendor Compliance with Ontario's Tobacco Point of Sale Legislation

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ABSTRACT

Objective: On May 31, 2006, Ontario joined a small group of international jurisdictions to implement legislative restrictions on tobacco point of sale promotions. This study compares the presence of point of sale promotions in the retail tobacco environment from three surveys: one prior to and two following implementation of the legislation.

Method: Approximately 1,575 tobacco vendors were randomly selected for each survey. Each regionally-stratified sample included equal numbers of tobacco vendors categorized into four trade classes: chain convenience, independent convenience and discount, gas stations, and grocery. Data regarding the six restricted point of sale promotions were collected using standardized protocols and inspection forms. Weighted estimates and 95% confidence intervals were produced at the provincial, regional and vendor trade class level using the bootstrap method for estimating variance.

Results: At baseline, the proportion of tobacco vendors who did not engage in each of the six restricted point of sale promotions ranged from 41% to 88%. Within four months following implementation of the legislation, compliance with each of the six restricted point of sale promotions exceeded 95%. Similar levels of compliance were observed one year later. Grocery stores had the fewest point of sale promotions displayed at baseline. Compliance rates did not differ across vendor trade classes at either follow-up survey. Point of sale promotions did not differ across regions in any of the three surveys.

Conclusion: Within a short period of time, a high level of compliance with six restricted point of sale promotions was achieved.

Key words: Tobacco; marketing; compliance

La traduction du résumé se trouve à la fin de l'article.

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Point of sale promotion of tobacco products constitutes an important pillar in tobacco industry marketing efforts. Severe restrictions on other forms of public advertising for tobacco products increase the importance of in-store promotions. Aggressive point of sale advertising includes power walls (i.e., cigarette displays that exhibit cigarette brand associated colours, three-dimensional displays and promotional lighting), countertop displays and signs advertising tobacco products. In 2006, the tobacco industry spent \$107 million on point of sale promotions in Canada, including \$40 million in Ontario alone.¹ A study conducted in California estimated that, on average, there were 17.2 cigarette advertisements and promotional materials in each of the surveyed tobacco vendors.² Moreover, significantly more cigarette marketing has been observed in retail environments where adolescents frequently shop, particularly for cigarette brands that are popular among adolescents,³ and in stores within 1000 feet of a school.⁴

A number of recent studies address the effects of retail cigarette advertising on youth. Cigarette advertisements at point of sale have been shown to increase brand user imagery in a positive direction among adolescents.⁵ Another study found that the prominence of cigarettes at point of sale increased adolescents' perceptions about the ease of illegally purchasing cigarettes, while the combined presence of cigarettes and advertising at point of sale decreased their perception of being asked for proof of age.⁶ Frequent exposure to retail cigarette marketing has been found to significantly increase the odds of smoking susceptibility⁷ and ever smoking among adolescents.^{7,8} Furthermore, cigarette promotions have been associated with influencing youth who were already experimenting with cigarettes to progress to regular smoking, and established smokers being most influenced by promotional offers.⁹

Despite the apparent detrimental effects of point of sale promotions in promoting cigarette smoking, few jurisdictions have implemented legislation that bans or restricts tobacco point of sale promotions. Eleven of Canada's 13 provinces and territories and 6 international jurisdictions (Iceland, Thailand, United Kingdom, South Africa, New Zealand, and Australia) currently have tobacco point of sale promotion restrictions in force.¹⁰ Ontario joined this small group of pioneers in May 2006. To date, only New Zealand has published compliance rates with regards to the point of sale restrictions. In that study, 64% of stores surveyed were non-compliant with at least one of the point of sale regulations three years after the regulations were put in place.¹¹

On May 31, 2006, Ontario implemented the *Smoke-Free Ontario Act* (SFOA),¹² restricting tobacco point of sale promotions in any place where tobacco products are sold. The SFOA also strengthens youth access restrictions and restricts smoking in enclosed workplaces and public places. SFOA restrictions on tobacco point of sale promotions include a ban on: a) countertop displays; b) displays that permit handling by a purchaser prior to purchase; c) displays of cigarette cartons; d) decorative, illuminated panels; e) three-dimensional exhibits; and f) outside promotional displays. A complete ban on tobacco displays came into effect on May 31, 2008.

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Table 1. Weighted Estimates of Tobacco Vendor Compliance with Point of Sale Promotion Prohibitions in Ontario

Promotion Type	Baseline (May-June, 2006) (n=1,215)		First Follow-up (Sept-Oct, 2006) (n=1,421)		Second Follow-up (May-June, 2007) (n=1,507)	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Decorative or illuminated panels	41	(36.0, 46.3)	98*	(95.8, 100)	100*	(98.8, 100)
Three-dimensional exhibits	50	(44.2, 55.3)	97*	(95.3, 99.0)	98*	(96.4, 99.9)
Countertop displays	58	(52.9, 63.5)	99*	(97.4, 100)	97*	(95.2, 98.4)
Display of cigarette cartons	59	(54.1, 64.7)	96*	(94.0, 98.0)	95*	(93.3, 97.6)
Outside promotional displays	74	(69.0, 78.9)	96*	(94.3, 98.6)	99*	(97.2, 100)
Display permits handling by purchaser prior to purchase	88	(84.6, 91.8)	100*	(99.0, 100)	99*	(98.5, 100)

* Significant difference between follow-up and baseline survey, $p < 0.001$

Using a cross-sectional study design with provincially representative samples of tobacco vendors, this study compares the presence of point of sale promotions captured in three surveys: one prior to and two following the SFOA implementation.

METHODS

Setting

Enforcement of the SFOA is funded by Ontario's Ministry of Health Promotion and is administered through 36 local public health units. Tobacco Enforcement Officers in each public health unit are responsible for conducting three types of routine inspections to assess compliance with the SFOA: youth access to tobacco products; tobacco point of sale promotions; and smoke-free enclosed workplace and public places. All inspections are conducted using standardized inspection protocols and inspection forms.

The 36 public health units are geographically grouped into seven regions known as Tobacco Control Area Networks (TCAN). The number of public health units within each TCAN ranges from 1 in the Toronto TCAN to 9 in the South West TCAN.

Sample

Three separate stratified random samples of tobacco vendors were drawn for the baseline and two follow-up surveys. Sample selection was stratified by region (public health unit within TCAN) and vendor trade class. Applying precision-based sample size calculations, roughly 240 tobacco vendors were randomly selected within each TCAN for each survey. Due to the smaller number and geographic distribution of tobacco vendors, the two northern TCANs were collapsed into a single northern area and 300 tobacco vendors were selected from the newly combined northern area. Each survey sample represented approximately 5% of the tobacco vendors in the largest TCAN (Toronto) and 28% of tobacco vendors from the smallest TCAN (combined northern area). Within each TCAN, tobacco vendors were selected in numbers proportional to the total number of tobacco vendors in each public health unit.

Five vendor trade classes were included in this study: chain convenience stores, independent convenience and discount stores, gas stations, grocery stores, and restaurants (baseline survey only). Restaurants were not included as a vendor trade class in the follow-up surveys due to the decreasing number of restaurants selling tobacco products following implementation of the SFOA. Equal numbers of tobacco vendors were selected in each of the vendor trade classes. In total, 1,594 tobacco vendors were selected for the baseline survey, 1,575 for the first follow-up survey, and 1,576 for the second follow-up survey.

Data collection

Data for all three surveys were collected by public health unit enforcement staff as part of their routine responsibilities. Using a standardized inspection form, enforcement staff collected information on the presence of six point of sale promotion prohibitions: a) countertop displays; b) display that permits handling by a purchaser prior to purchase; c) display of cigarette cartons; d) decorative, illuminated panels; e) three-dimensional exhibits; and f) outside promotional displays. Data were collected between April 18 and May 9, 2006 for the baseline survey; September 18 and October 8, 2006 for the first follow-up survey; and May 22 and June 11, 2007 for the second follow-up survey. Inspections were completed in approximately 90% of selected tobacco vendors during all three surveys.

Data analysis

All analyses were conducted using SAS version 9.1.¹³ The data were weighted by the inverse of their sampling probability such that the sum of their weights represents the tobacco vendor population within each public health unit. Weighted estimates of the rate of tobacco vendor compliance with the point of sale prohibitions were calculated at the provincial, vendor trade class, and TCAN levels. Due to small numbers of tobacco vendors within some of the strata, the bootstrap¹⁴ method for estimating variance was applied to all analyses. For the purpose of comparing similar vendor populations in the baseline and follow-up surveys, the restaurant vendor trade class was excluded from the baseline survey analyses. At baseline, the proportion of restaurants that did not engage in each of the six point of sale promotion prohibitions exceeded 90%. Significant differences between surveys were determined by Pearson's χ^2 (provincial level) and two-sample t-tests (vendor trade class and TCAN levels).

To facilitate tobacco vendor trade class and geographic comparisons between the baseline and follow-up surveys, a point of sale (POS) index score was created. The 6-point index score was calculated by summing the number of point of sale promotional activities in which each vendor was not engaged. For example, a score of 6 indicates that a vendor did not engage in any of the six point of sale promotional activities and a score of 0 indicates that a vendor was engaged in all six point of sale promotional activities.

University of Toronto ethics approval was sought for this study. Collection of compliance data was deemed quality assurance and exempted from review.

RESULTS

Provincial level

The proportion of tobacco vendors who did not engage in each of the six point of sale promotions ranged from 41% to 88% in the

Figure 1. Baseline and follow-up measurements of the mean POS index score among tobacco vendor trade classes in Ontario, 2006 and 2007 **Figure 2.** Baseline and follow-up measurements of the mean POS index score among Tobacco Control Area Networks in Ontario, 2006 and 2007

baseline survey (Table 1). This contrasts sharply with data from both follow-up surveys, where the proportion of tobacco vendors in compliance with each of the six point of sale promotions exceeded 94%. The greatest change between surveys was observed in the decorative, illuminated panels (41% at baseline to 98% at first follow-up; $p < 0.001$). Tobacco vendor compliance did not differ between the first and second follow-up surveys. In total, about 88% of vendors were compliant with all six point of sale promotion prohibitions in both follow-up surveys, up from the 16% of vendors who did not engage in any of the six point of sale promotions at baseline.

Vendor trade class level

The province-wide mean POS index score increased from 3.75 at baseline to 5.88 at first follow-up ($p < 0.001$) to 5.92 at second fol-

low-up. At the baseline measurement, mean POS index scores ranged from a low of 3.07 for chain convenience stores to a high of 4.84 for grocery stores ($p < 0.001$; Figure 1). At both follow-ups, there was no significant difference in mean POS index scores across vendor trade classes.

TCAN level

At baseline, mean POS index scores ranged from 3.41 in the Central West TCAN to 4.22 in the South West TCAN (Figure 2). By the time of the first follow-up survey, all TCANs achieved significantly higher mean POS index scores, ranging from 5.81 in Central East TCAN to 5.96 in Eastern TCAN. There was no significant difference in mean POS index scores between the two follow-up surveys or across TCANs in all three surveys.

DISCUSSION

This study found that within a short time period following implementation of a tobacco point of sale legislation, vendor compliance with such restrictions was very high across vendor trade classes and TCANs. Furthermore, vendor compliance remained at a high level one year following implementation of the SFOA. These findings are encouraging for the implementation of a total display ban on May 31, 2008.

There are three possible reasons for success of the ban as evidenced by compliance. The first is the comprehensive education campaign conducted by the Ontario Ministry of Health Promotion together with the public health units in the months leading up to implementation of the SFOA. The comprehensive education campaign included educational mail-outs to tobacco vendors, educational visits by tobacco enforcement staff to premises, group educational sessions, and detailed media coverage of the restrictions prior to May 31, 2006.

Another reason for success is the regular presence of enforcement staff at tobacco vendors due to other legislative components of the SFOA. Since 1994, Ontario public health units have been required to conduct routine annual youth access compliance checks on tobacco vendors in the province. The net effect of the long enforcement history and added enforcement presence on site might encourage higher levels of voluntary compliance in other restrictions of the SFOA, such as the point of sale restrictions, via the theory of perceived risk.¹⁵

A third reason for success is that vendors might be more likely to comply with point of sale regulations due to the physical presence of point of sale promotions, similar to smoking in restaurants. Non-compliance in either situation would exhibit the premise in a blatant and public illegal activity.

Since tobacco point of sale restrictions are relatively new to the field of tobacco control, there is very little scientific literature describing the state of compliance within jurisdictions that have point of sale restrictions similar to Ontario. This study is important as it is the first study reported in the scientific literature that evaluated the change in the presence of point of sale promotions before and after implementation of a point of sale legislation.

A limitation to this study is that compliance could not be calculated at the public health unit level. Also, this study did not include reasons for vendor non-compliance.

In conclusion, there was a significant change in the presence of point of sale promotions within four short months and one year following implementation of the SFOA. About 12% of the tobacco vendor population in Ontario remains non-compliant with at least one of the six point of sale restrictions. Further study is required to explore the characteristics of non-compliant vendors and the possible explanations for continued non-compliance.

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RÉSUMÉ

Objectif : Le 31 mai 2006, l'Ontario s'est jointe à un petit groupe de compétences internationales pour mettre en œuvre des restrictions législatives sur la publicité dans les points de ventes du tabac. Cette étude compare la présence de publicité sur le tabac dans les points de vente dans un environnement de vente au détail du tabac à partir de trois études : une avant la mise en œuvre des mesures législatives, et deux après cette mise en œuvre.

Méthode : Environ 1 575 vendeurs de tabac ont été sélectionnés au hasard pour chaque étude. Chaque échantillon stratifié par région comprend un nombre égal de vendeurs de tabac classés selon quatre catégories de commerce : les dépanneurs sous bannière, les dépanneurs indépendants, les postes d'essence-dépanneurs et les épiceries. Les données relatives à la publicité dans six points de vente restreints ont été recueillies à l'aide de protocoles normalisés et de formulaires d'inspection. Les estimations pondérées et 95 % des intervalles de confiance ont été produits au niveau provincial, régional et des catégories de commerce à l'aide de la méthode bootstrap pour estimer la variance.

Résultats : À la base, la proportion de vendeurs de tabac qui ne participaient pas à la promotion de chacun des six points de vente restreints variait entre 41 % et 88 %. Quatre mois après la mise en œuvre des mesures législatives, la conformité à la promotion de chacun des six points de vente restreints excédait 95 %. Des niveaux similaires de conformité ont été observés un an plus tard. Les épiceries affichaient le moins de publicité au point de vente à la base. Les taux de conformité n'ont pas différé parmi les catégories de commerce lors de l'étude de suivi. La publicité dans les points de vente n'a pas différé dans les régions dans aucune des trois études.

Conclusion : Au cours d'une courte période, un niveau élevé de conformité avec la publicité dans les six points de vente restreints a été atteint.

Mots clés : tabac; commercialisation; conformité