



## First exploratory descriptive study on adherence to and compliance with the Portuguese smoke-free law in the leisure-hospitality sector

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## LETTERS

## Association between tobacco vendor non-compliance with youth access and point of sale restrictions

A restriction banning the sale of tobacco products to underage youths (youth access) is a central component of tobacco control programmes that aim to minimise the use of tobacco products by youths. This restriction has been in place in numerous jurisdictions across North America since the mid-1990s. Recent estimates have shown between 10% and 14% of North American tobacco vendors sold tobacco to underage youths.<sup>1 2</sup>

A small number of jurisdictions have implemented restrictions on point of sale promotions of tobacco products aiming to minimise the marketing impact on youths, smokers and former smokers.<sup>3</sup> On 31 May 2006, the province of Ontario, Canada implemented restrictions under the Smoke-Free Ontario Act (SFOA) that banned tobacco point of sale promotions and advertising (eg, three-dimensional displays, promotional lighting, etc) while still allowing tobacco products to be visibly displayed at that time. Two evaluations of vendor non-compliance conducted 4 months and 12 months after the SFOA restrictions came into effect found that 12% of vendors were non-compliant with one or more point of sale restriction.<sup>4</sup> Comparative rates of vendor non-compliance in other jurisdictions were not available since this is a relatively new international tobacco control measure.

Little is known about whether vendors who are non-compliant with one tobacco control restriction are likely to be non-compliant with other tobacco control restrictions. The aim of this study is to assess the relation between youth access and point of sale non-compliance as a means to help guide enforcement efforts.

As part of a larger evaluation that encompassed three province-wide tobacco vendor compliance surveys, this study presents findings based on data collected from the latter two compliance surveys that were conducted 4 months and 12 months post-SFOA implementation.

Two separate stratified random samples of tobacco vendors were drawn for each of the two surveys. Each sample was stratified by vendor trade class and region—Tobacco Control Area Network (TCAN). Of the seven TCANs in Ontario, roughly 240 tobacco vendors were randomly selected within each of the five southern TCANs and a total of 300 tobacco vendors were selected from the combined two northern TCANs. Within each TCAN, tobacco vendors were selected in numbers proportional to the total number of tobacco vendors in each public health unit. 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).

Four vendor trade classes were included in this study: chain convenience stores, independent convenience and discount stores, gas stations and grocery stores. Equal numbers of tobacco vendors were selected in each of the vendor trade classes. Out of 12 000 eligible tobacco vendors in the province, 1575 were selected for the first post-SFOA survey and 1576 for the second post-SFOA survey.

Data for both follow-up surveys were collected by public health unit enforcement staff, as part of their routine responsibilities, using standardised inspection forms. Youth access non-compliance was assessed as a successful tobacco purchase attempt by an underage test shopper. Point of sale non-compliance was assessed by the presence of one or more of six point of sale promotion prohibitions: (a) countertop displays; (b) display that permits handling by a purchaser before purchase; (c) display of cigarette cartons; (d) decorative, illuminated panels; (e) three-dimensional exhibits; and (f) outside dimensional displays. Data were collected 18 September–8 October 2006 for the first follow-up survey; and 22 May–11 June 2007 for the second follow-up survey. Inspections were completed in approximately 90% of selected tobacco vendors during both follow-up surveys.

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 provincial-level estimates were calculated in a two-way table that included both the youth access and point of sale non-compliance outcome measures. Owing to small numbers of tobacco vendors within some of the strata, the bootstrap method for estimating variance was applied in the analysis. Pearson's  $\chi^2$  tests were conducted to determine significant differences between vendor trade classes and survey periods, and to test the association between the two types of vendor non-compliance.

Overall, 79.3% of tobacco vendors were compliant with both youth access and point of sale restrictions. Only 1.2% of tobacco vendors were non-compliant with both restrictions. The remaining 19.5% of tobacco vendors were non-compliant with one of the restrictions while being compliant with the other. There was no difference in rates of vendor non-compliance with both restrictions by vendor trade class ( $\chi^2_3=2.1$ ,  $p=0.58$ ) or survey period ( $\chi^2_1 < 0.1$ ,  $p=0.97$ ). Vendor non-compliance with the youth access restriction and point of sale restrictions were not significantly associated with one another ( $\chi^2_1 < 0.1$ ,  $p=0.99$ ).

The lack of an association between non-compliance may be due to the different nature of the restrictions. Point-of-sale non-compliance involves blatant public illegal activity, whereas selling tobacco to underage youths can be done discretely and can be justified as being inadvertent.

A limitation to this study is that using underage test shoppers to purchase tobacco products may result in an underestimation of vendor non-compliance since the test shoppers appear unfamiliar to tobacco vendors.

Tobacco enforcement policies should consider that non-compliance with one restriction does not predict non-compliance with another restriction of a different nature.

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## First exploratory descriptive study on adherence to and compliance with the Portuguese smoke-free law in the leisure-hospitality sector

The 'smoke-free law' in Portugal was introduced on 1 January 2008,<sup>1</sup> with the aim of making virtually all enclosed public places and workplaces smoke-free. However, this law could potentially be ineffective in creating smoke-free environments, particularly in the leisure-hospitality sector, since it permits the creation of identified smoking areas. These have to be separated from non-smoking areas by physical barriers or have separate ventilation systems which are (supposedly) able to prevent smoke

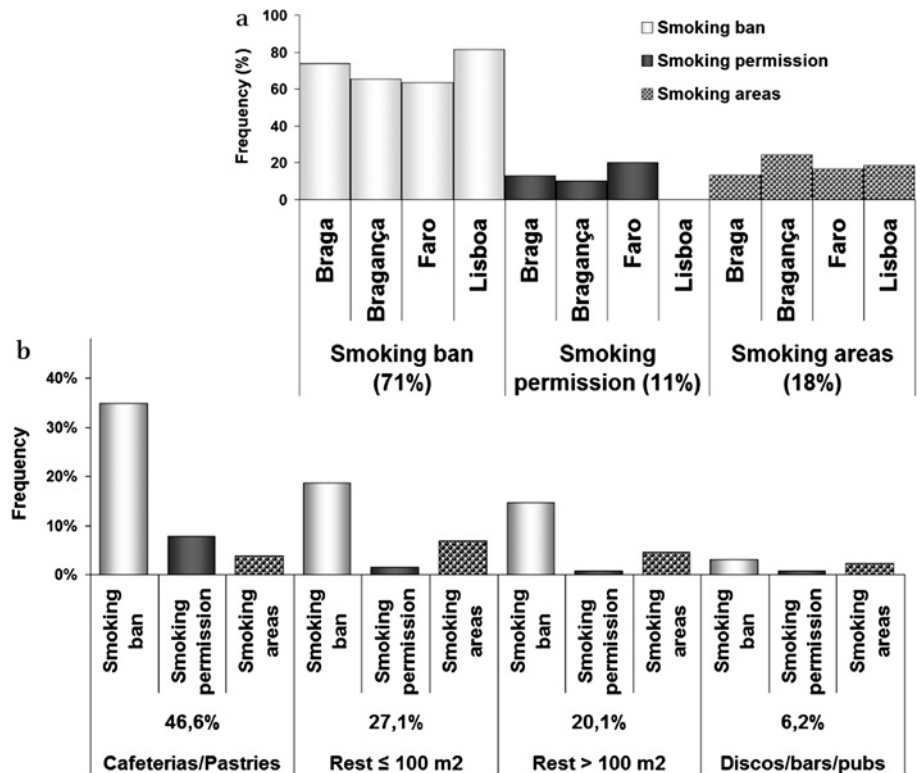
spreading to adjacent areas. In either case, the removal of exhaust air to the outside has to be guaranteed, in order to (allegedly) protect workers and non-smokers from the effects of secondhand smoke (SHS) exposure. But previous scientific research has shown that these two alternatives are ineffective in eliminating non-smokers' exposure to SHS in adjacent areas or in protecting the health of the workers required to work in them.<sup>2</sup> Moreover, they may intensify smokers' exposure to SHS and fail to contribute either to reducing smoking initiation or to making it easier for smokers to cut down or quit.<sup>3,4</sup>

From February to April 2008, an exploratory descriptive study was carried out in four Portuguese cities to investigate adherence to and compliance with the new legislation in the leisure-hospitality sector. This assessed owners', customers' and workers' attitudes towards the 'options' provided by the new law (smoking banned, smoking permitted, smoking areas), and their compliance with the legislation's requirements. Every establishment among the 30 randomly selected in each city was visited once during their potential busiest period, and observations made on the 'no smoking'/'smoking' signs; their conformity with the regulations; the existence of designated smoking areas; evidence of smoking; and the existence and operating situation (on/off) of ventilation/exhaust systems.

Adherence to the smoke-free law was assessed on the rating of the observed establishments on one of the three possible options. Compliance with the law was determined through 'indicators of accomplishment' associated with each of these options and calculated by the contributions (positive=1/negative=0) of the observed aspects.

As shown in figure 1 the study findings demonstrate a very high (71%) and unanticipated adherence to the smoking ban option. Considering that a total ban is the only effective way to create totally smoke-free environments, the study gives a clear indication of the ample support for effective smoke-free legislation from the leisure-hospitality sector. In addition, such broad acceptance calls for the need to raise awareness among decision-makers to enforce fully effective smoke-free environments.

As has been previously reported,<sup>5</sup> the study also showed, only for the establishments that prohibited smoking, that 90% or more do not present evidence of potential non-accomplishment (compared with around 50% for smoking permitted or smoking areas), meaning that compliance with the law is much more fully achieved with this option. This suggests that the legislation on the alleged 'alternatives' is neither clear nor simple to interpret, and that allowing smoking is likely to be significantly more challenging for businesses to implement, with the potential problems associ-



**Figure 1** Comparative analysis of the options to regulate smoking in the leisure-hospitality sector: (a) globally and by locality; (b) by type of setting.

ated with non-compliance and without the benefits of effective protection of workers' and customers' health.

Although this is only a small exploratory descriptive study (a larger study is being developed), we argue that the study's findings highlight the need to raise awareness among decision-makers and public health advocates about both the importance of promoting amendments to the Portuguese 'smoke-free' law to create a comprehensive ban and implementing and monitoring effective smoke-free environments in the leisure-hospitality sector.

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**Contributors** MFR, JP and LR designed the study, wrote the protocol and managed the literature searches and summaries of related work. MFR, RC and PA undertook the statistical analysis and MFR wrote the draft of the manuscript. All authors have approved the final manuscript.

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