

men and men at the first, second, third (at the time of the Optimal Family Planning Service

	Visit 3		%	Visit 4		%
	Total	n		Total	n	
12.4	6060	607	10.0	4332	343	7.9
19.9	5212	998	19.1	3701	666	18.0

$\chi^2_1=6.84$ ;  $p=0.009$ ), 3-4 ( $\chi^2_1=13.40$ ;  $p<0.001$ ).

$\chi^2_1=0.94$ ;  $p=0.33$ ), 3-4 ( $\chi^2_1=1.89$ ;  $p=0.17$ ).

6 Matsuki H, Yanagisawa Y, Spengler J. Urinary cotinine measurements for passive smokers using gas chromatography and flame thermionic detector with glass capillary column. In: *Proceedings of the 4th international conference on indoor air quality and climate, Berlin, 17-21 August 1987*, Vol 2 (*Environmental Tobacco Smoke*):85-9.

7 Feyerabend C, Bryant AE. Determination of cotinine in physiological fluids by gas chromatography. In: *Environmental carcinogens, methods of analysis and exposure measurement*. Vol 9 (*Passive Smoking*), Lyons: International Agency for Research on Cancer, 1987:309-16.

### Self-service tobacco displays and consumer theft

*To the Editor*, - We were interested to read the paper by Wildey *et al* on self-service display of tobacco products in the San Diego area.<sup>1</sup> We note that several communities in the United States have banned or limited the use of large self-service, free-standing tobacco displays (FSTDs) in retail stores in an attempt to restrict minors' access to tobacco products. However, many communities continue to allow the use of smaller tobacco-product displays on counter-tops, near checkout counters.

Massachusetts communities have been especially active in restricting cigarette vending machines and large FSTDs: as of March 1994, 46 communities limited (41) or prohibited (5) vending machines, and 25 communities limited (14) or prohibited (11) FSTDs (source: Group Against Smoking Pollution, Boston). However, few regulations have focused on the more ubiquitous problem of smaller tobacco counter-top displays. Although restricting the use of large FSTDs might partially reduce minors' access to tobacco products, we hypothesised that the continuing use of any self-service counter-top displays in retail stores presents a powerful temptation for the illegal purchasing or even theft of tobacco products by minors. It is well known that shoplifting is a significant source of cigarettes for minors.<sup>2,3</sup>

We surveyed 28 convenience stores in Massachusetts and New Hampshire from March to May 1994 to ascertain the presence of self-service tobacco displays and reported theft of tobacco products. The stores we surveyed were privately owned and operated, and not associated with large chains (such as Seven-Eleven).

At each store we asked if shoplifting was a problem. We then asked which items were commonly stolen. Tobacco-product theft was recorded only if it was volunteered by the store owner. We independently counted the number of self-service FSTD and counter-top tobacco-product displays in each store.

Of the 28 stores surveyed, 27 (96%) mentioned shoplifting as a problem in their store; 16 (57%) specifically mentioned cigarette theft as a problem. Nineteen (68%) stores had accessible cigarette counter-top displays and six (21%) stores had FSTDs with or without counter-top displays.

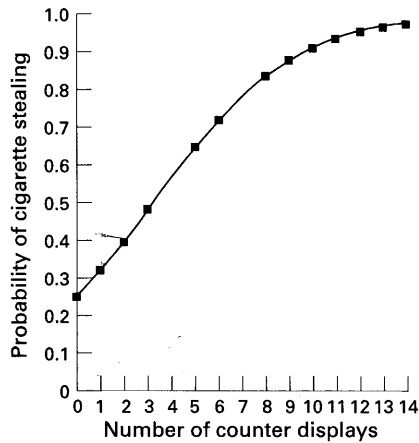


Figure 1 Modelled probability of tobacco-product theft according to number of counter displays.

Of the eight stores with neither FSTDs nor self-service tobacco counter-top displays, only one reported cigarette theft as a problem. Of the 20 stores with either FSTD or cigarette counter-top displays, 15 (75%) reported cigarette theft.

We also assessed the relationship between the number of tobacco-product counter displays and racks, and the probability of cigarette theft. There was a strong relationship between the number of tobacco-product counter displays (figure 1) and racks (figure 2), and the probability of tobacco-product theft. The odds ratio (OR) of tobacco product theft for each additional counter was 1.41 (95% confidence interval (CI)=1.1 to 1.8) while the OR of theft for each additional rack was 1.14 (95% CI=1.0 to 1.3).

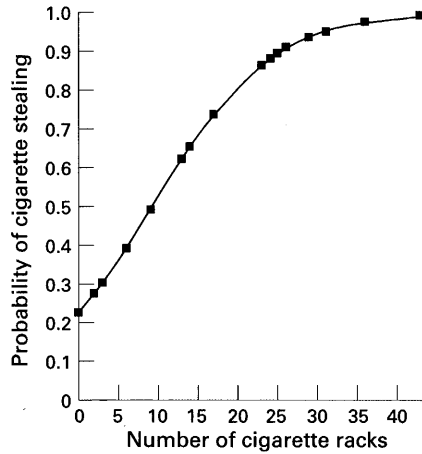


Figure 2 Modelled probability of tobacco-product theft according to number of racks.

Our data suggest that the smaller tobacco-product counter-top displays are a major inducement to theft. The greater the number of tobacco-product counter displays, the higher the probability of tobacco products being stolen. Given the association of theft with the use of self-service FSTDs and tobacco-product counter-top displays, why do retailers continue to use them? The only economically sensible answer is that retailers are sufficiently compensated by tobacco companies for maintaining the self-service FSTDs and counter displays. Stores report that they receive the most compensation for self-service cigarette displays closest to the cash register.

We have identified a potentially important loophole through which minors could

continue to obtain tobacco products. Public health professionals concerned with restricting minors' access to tobacco products should not only promote the removal of large FSTDs, but *all* self-service tobacco displays. We therefore recommend that states and local municipalities ban all forms of self-service tobacco product displays, not just large FSTDs.

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- 1 Willey MB, Woodruff SI, Pampalone SZ, Conway TL. Self-service sale of tobacco: how it contributes to youth access. *Tobacco Control* 1995;4:355-61.
- 2 US Department of Health and Human Services. *Preventing tobacco use among young people. A report of the Surgeon General*. Atlanta, Georgia: Public Health Service, Centers for Disease Control and Prevention, Office on Smoking and Health, 1994, p65, table 7. (US Government Printing Office No S/N 017-001-00491-0.)
- 3 Roswell Park Cancer Institute. *Survey of alcohol, tobacco and drug use: ninth grade students in Erie County, 1992*. Buffalo, New York: Roswell Park Cancer Institute, Department of Cancer Control and Epidemiology, 1993.