Smoking Control in Restaurants: The Effectiveness of Self-Regulation in Australia

ABSTRACT

Objectives. The provision of smoke-free areas in restaurants has been a controversial issue; the restaurant industry largely opts for a self-regulation approach. This study aimed to examine the effectiveness of self-regulation as a strategy in meeting the industry's and customers' perceived needs.

Methods. Restaurateur and customer perspectives on the provision of smoke-free areas in restaurants were examined by survey among 365 restaurateurs and 1327 customers in New South Wales, Australia.

Results. Less than 2% of restaurants were totally smoke-free; 22% provided some smoke-free areas. Customers were much more likely than owners to think that smoke-free areas should be provided. Owners appeared to be unaware of customers' views about smoke-free areas in restaurants.

Conclusions. Little evidence was found to support the effectiveness of the self-regulation policy adopted by the restaurant industry. Characteristics of restaurants and owners associated with the provision of smoke-free areas are presented and implications of the findings are discussed. (*Am J Public Health.* 1993; 83:1284–1288)

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Introduction

The harmful effects of active cigarette smoking on health have been long established.[1,2] Over the 1980s, evidence has accumulated linking passive smoking with lung cancer,[3,4] coronary heart disease,[5,6] and increased respiratory illnesses in children.[7] A resolution adopted by the 39th World Health Assembly in 1986 provided a major impetus for the protection of nonsmokers "from involuntary exposure to tobacco smoke in public places, restaurants, transport, and places of work and entertainment," inasmuch as individuals have less control over their exposure in such settings than in other places.[8] The number of smoke-free workplaces has steadily increased and workplace smoking bans have been widely accepted by both smokers and nonsmokers.[9,10] Even partial smoking bans have been associated with reduced levels of airborne smoke in the workplace.[11]

Restaurants represent one public area where nonsmokers are unwillingly exposed to environmental tobacco smoke, despite growing interest in encouraging restaurants to provide smoke-free areas.[12,13] There are several reasons why restaurants might want to provide a smoke-free environment. First, a recent study of air quality in enclosed public places found unacceptably high levels of nicotine in air samples.[14] Second, restaurant employees are particularly at risk from environmental tobacco smoke owing to prolonged exposure. One study found clearly detectable amounts of components of tobacco smoke in the body fluids of nonsmoking restaurant staff.[15] Another study found that carbon dioxide levels in nonsmoking club staff increased over a work session by four times as much as levels in nonsmoking hospital staff whose workplaces banned smoking during work hours.[16] A third argument for restricting smoking in restaurants is to further marginalize smoking behavior. Studies of workplace bans have shown a consequent reduction in cigarette consumption by smokers, especially heavy smokers.[17,18] A fourth advantage of restricting smoking in restaurants is to avoid the dulling effects of tobacco smoke on smell and taste[19,20] and thus to enhance customers' enjoyment of the food.

Despite strong arguments against smoking in restaurants, the means of creating smoke-free areas has been controversial. A legislative approach to the restriction of smoking in public places has been endorsed by major national health bodies[3,8] and has the advantage of bringing about more rapid change. Legislation banning smoking in public places has been enacted in countries including New Zealand and France and in many states of the United States.[21] Yet the restaurant industry has actively opposed legislative action through lobbying groups such as Restaurants for a Sensible Voluntary Policy.

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One restaurant association cited as its second aim "Combating the anti-smoking lobby by encouraging self-regulation by members" (Restaurant and Catering Association of New South Wales, letter to members, June 1, 1990). Self-regulation has been defined as "restaurateurs taking responsibility for creating an environment in their own restaurants in which all of their customers feel comfortable and welcomed . . . It means allowing them to determine their own policy" (K. Orth, National Restaurant and Catering Association of Australia, letter to members, June 1, 1990).

Thus the success of self-regulation could be tested in two ways. The first considers whether the provision of smoke-free areas matches restaurateurs' perception of what should be provided. This approach assumes that restaurateurs are accurate in their perceptions of their customers' preferences and willing to act on these perceptions. However, if restaurateurs have inaccurate perceptions, this would cast doubt on the ability of the restaurant industry to successfully implement self-regulation. A second test of self-regulation asks whether the provision of smoke-free areas meets customer demand. Previous attempts to assess the level of public demand for smoke-free areas have involved surveys of the general public[22,23] rather than specific customer groups. Thus, the preferences of particular customer groups are not known, nor is the extent to which preferences vary across restaurants.

This study had four aims:

1. To examine restaurateurs' provision of smoke-free areas, their perceptions of their customers' desire for smoke-free areas, and customers' actual preference for such areas.
2. To determine characteristics of restaurants and owners that predicted no-smoking policies.
3. To determine whether customer preference for no-smoking areas in restaurants differed by smoking status, sex, and age of customers.
4. To examine restaurateurs' perception of barriers to the provision of smoke-free areas and their attitudes toward a legislative approach.

Methods

Survey of Restaurant Owners

The sample for the restaurateurs' survey consisted of 460 restaurants from two industrial nonmetropolitan cities in New South Wales, Australia: 248 restaurants randomly selected from the 321 restaurants listed in the telephone directory in town A (population approximately 500 000) and all 212 restaurants in the telephone directory for town B (population approximately 280 000). Eligibility was limited to restaurants that provided sit-down meals.

An 18-item telephone interview schedule was used to determine the current practices and attitudes of restaurateurs toward the provision of no-smoking areas in restaurants. Restaurateurs were asked whether they provided any no-smoking areas, whether they thought that restaurants should provide no-smoking areas, what they thought was the main reason for restaurants' not providing no-smoking areas, and what percentage of their customers they thought would like no-smoking areas provided. Restaurateurs were also asked their attitude toward a legislated approach for no-smoking areas. Restaurateurs who did not provide no-smoking areas were asked whether they thought the provision of such areas would lead to an overall loss or gain in business. Those who did provide separate areas were asked what percentage of table space was reserved for nonsmokers and whether the introduction of separate areas had caused a loss or gain in business. The interview also asked about restaurant characteristics, such as restaurant size and average price of a meal, and smoking status of the owner and staff. The interviews were conducted by trained interviewers.

Survey of Customers

A subsample of 60 randomly selected restaurants in town A was approached for the customer survey. All customers from consenting restaurants who were dining between 7 PM and 9 PM on either a Friday or Saturday night during October 1990 were administered a 6-item questionnaire that asked whether they were currently smokers; which type of smoking policy they preferred for restaurants (freedom to smoke anywhere, separate no-smoking areas, or a total smoking ban); whether they would stop going, go more often, or go as often as they did before if a total smoking ban were introduced in their favorite restaurant; the number of smokers at their table; and their age and sex. A research officer approached each table of customers after they had ordered their meal and asked them to complete the questionnaire.

Statistical Methods

Descriptive univariate and bivariate analyses were undertaken with the SAS statistical package.[24] Forward stepwise logistic regression was undertaken with the BMDP statistical package LR procedure.[25] In this procedure, variables are entered into or removed from the model on the basis of either maximum likelihood ratio or asymptotic covariance estimate. Variables with a probability value of less than .10 are entered into the model; variables that develop a probability of more than .15 after entry are removed. For categorical variables, dummy or design variables are created by the procedure; the number of dummy variables is one less than the number of categories.

Results

Sample Characteristics

Survey of restaurant owners. Contact was made with 389 (85%) of the 460 restaurants approached. Of these, 16 were ineligible because they were take-away (carryout) venues or duplicate listings. From the 373 contacted and eligible restaurateurs, responses were obtained from 352 (94%). The number of seats in the restaurants ranged from 4 to 1200 (median: 80). The median price of a meal for one person was US$13.50 (range: $4 to $53). Thirty-four percent of owners were smokers and a median 25% of staff were smokers.

Survey of customers. Of the 60 restaurants selected for the customer survey, 11 were unable to be contacted and 9 were ineligible. From the 40 eligible and contacted restaurants, 28 (70%) consented to the customer survey; owner surveys had been completed for 23 of these. Of 1365 customers asked to participate, 1327 (97%) consented; 1154 (85%) of these were customers from the 23 restaurants with both owner and customer data. Forty-seven percent of customers were male and 53% were female. Eight percent were younger than 20 years of age, 40% were between 20 and 30 years of age, and 52% were older than 30 years of age. A total of 339 customers (26%) were smokers.

Effectiveness of Self-Regulation Policy

To determine the success of self-regulation, we compared the percentage of restaurateurs who provided smoke-free areas with the percentage who thought they should provide smoke-free areas. Only a third of restaurateurs who thought

TABLE 1—Provision of Smoke-Free Areas: Current Practice, Owners' Views, and Customers' Views

	All Phone Survey Restaurants (n = 352)		Customer Survey Restaurants (n = 23)		Customers (n = 1154)
	Do You Provide?	Do You Think Restaurants Should Provide?	Do You Provide?	Do You Think Restaurants Should Provide?	Do You Think Restaurants Should Provide?
Totally smoke free, %	1.7	12.5	0.0	13.0	47.3
Separate areas, %	21.9	53.1	26.1	47.8	41.9
No permanent smoke-free areas, %	76.4	34.4	73.9	39.1	10.7

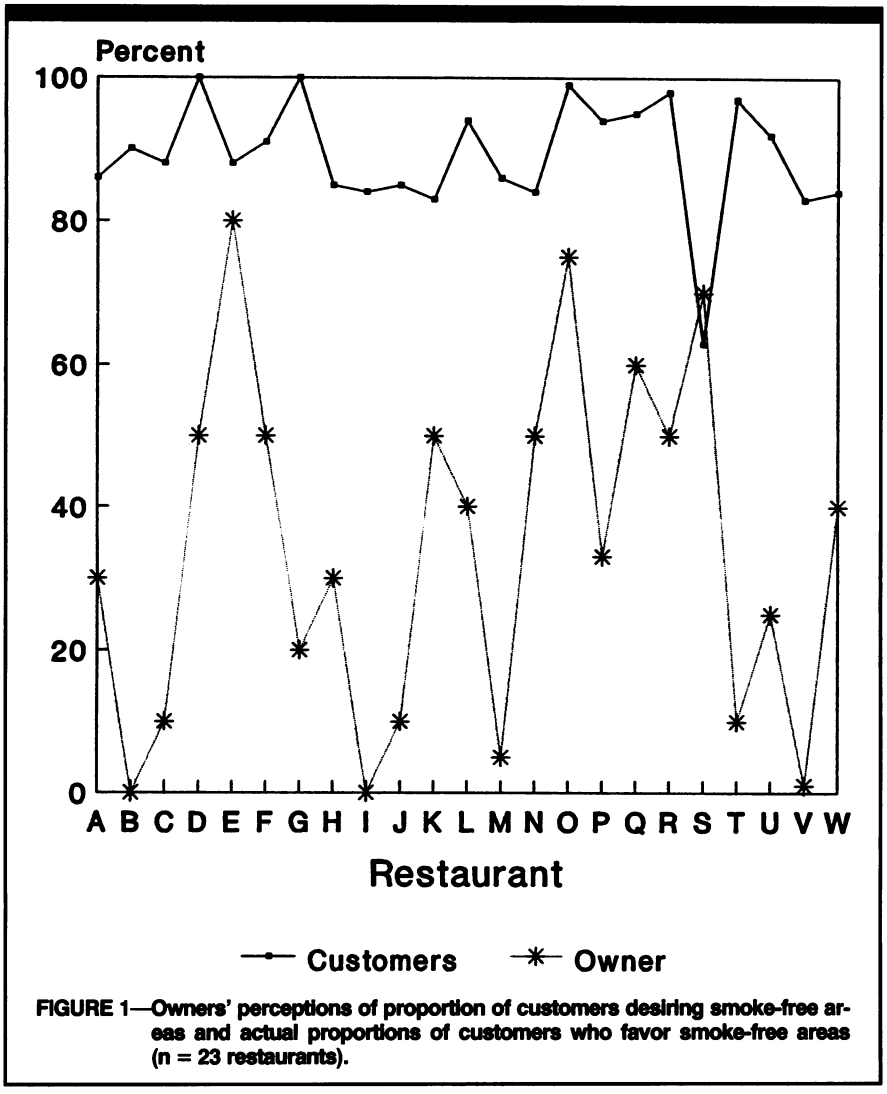

FIGURE 1—Owners' perceptions of proportion of customers desiring smoke-free areas and actual proportions of customers who favor smoke-free areas (n = 23 restaurants).

they should provide smoke-free areas actually provided such areas. As shown in Table 1, the actual provision of separate smoke-free areas or a totally smoke-free environment did not match either the restaurateurs' perception of the need to provide such areas or the stated preferences of customers. Although 89.2% of the customers in 23 restaurants thought that restaurants should provide smoke-free areas, only 26.1% of those restaurants and 23.6% of all 352 restaurants provided such areas. Only 1.7% of all restaurants were totally smoke-free.

For the 23 restaurants for which complete owner and customer data were available, restaurateurs' perceptions of the demand for smoke-free areas in their restaurants were compared with their own customers' preferences. Restaurateurs greatly underestimated the proportion of their own customers who thought smoke-free areas should be provided (Figure 1). The median difference between owners' estimates of the proportion of customers who thought smoke-free areas should be provided and the actual proportion of customers was 55%. For all but one restaurant, 80% to 100% of customers favored the provision of smoke-free areas. However, restaurateurs' perceptions of the percentage of customers favoring the provision of smoke-free areas ranged from 0% to 100% (median: 25%).

Predictors of the Provision of Smoke-Free Areas

Restaurant and restaurateur characteristics were entered into a forward stepwise logistic regression to determine predictors of the provision of smoke-free areas. The restaurant characteristics entered were size, cost of a meal, and percentage of staff who smoked. Owner characteristics entered were smoking status, perceived customer demand, owner perception of whether smoke-free areas should be provided, and attitudes toward external regulation. The results are shown in Table 2. Two variables significantly predicted the provision of smoke-free areas. Owners who thought that a higher proportion of their customers would like smoke-free areas were more likely to provide such areas, and owners who thought they should not provide smoke-free areas were less likely to do so.

Predictors of Customer Preference for Smoke-Free Areas or Total Ban

To determine predictors of customer preference for smoke-free areas or a total ban on smoking, we undertook a forward stepwise logistic regression with five predictor variables: sex, age, and smoking status of customers, size of the restaurant, and cost of a meal. The dependent variable was customer preference in two categories: no restriction and some or total restriction. Smoking status was the only significant predictor of preference for smoke-free dining. Nonsmokers were five times more likely than smokers to prefer smoke-free areas (odds ratio =5.26 for nonsmokers vs smokers, 95% confidence interval [CI] = 3.45, 7.69).

Predictors of Customer Response to Introduction of Smoking Restrictions

When customers were asked whether the introduction of a total smoking ban

in their favorite restaurant would affect how often they went there, 65% said it would make no difference, 20% said they would go more often, and only 15% said they would go less often. A forward stepwise logistic regression was used to determine the effects of smoking status, sex, and age on perceived responses to the introduction of a total smoking ban in restaurants. The only significant predictor was smoking status. Smokers were 30 times more likely than nonsmokers to say they would stop going to their favorite restaurant if a total smoking ban were introduced (95% CI = 18.9, 47.7). However, whereas 163 smokers said they would stop going, 256 nonsmokers said they would go more often.

Barriers

Owners were asked what they thought was the main reason for restaurants' not providing smoke-free areas. The most frequently cited barrier was lack of space for providing separate areas (47%), followed by the difficulty of enforcing the policy (21%) and fear of potential loss of business (19%). Eight percent thought there was no demand.

Only 12% of the owners who had introduced smoke-free areas thought that the provision of such areas had definitely or probably caused a loss of business, whereas 88% thought it had definitely or probably not caused a loss of business. Restaurateurs were also asked their attitudes toward legislation. Twenty-six percent thought that the government should place a total ban on smoking in restaurants and 70% thought that if everyone had the same policy it would be easier to enforce.

TABLE 2—Logistic Regression: Predictors of the Provision of Smoke-Free Areas

	n	Coefficient	SE	Odds Ratio	95% Confidence Interval
Perceived customer demand	299[a]	0.024	0.00606	1.02[b]	1.01, 1.04
Owner attitude to provision of areas					
Think areas should be provided	195	...	...	...	...
Think no areas should be provided	104	−1.866	0.471	0.16[b]	0.06, 0.39
Owner agreement with legislation					
Disagree	217	...	...	...	...
Agree	82	−0.682	0.355	0.506	0.25, 1.02
Median price of meal	299[a]	0.021	0.012	1.02	0.997, 1.05

Note. Variables are listed in the order in which they were entered into the model. n = 299 restaurants because some owners responded "Don't know" when asked what percentage of their customers would like smoke-free areas provided.
[a]Continuous variable, therefore total sample size is given. Odds ratios are for an increase of 1 unit for continuous variables (1% increase in perceived customer demand; $1 increase in median meal price).
[b]Significantly different from 1, $\alpha = .05$.

Discussion

Self-Regulation

Much public debate has taken place on the need for smoke-free areas in restaurants and on the means by which they should be created. The self-regulation option, favored strongly by the restaurant industry, was examined to determine whether nonsmoking policies have been implemented in accord with the restaurateurs' perceived need for such policies. The findings highlighted a large discrepancy between owner-perceived need and actual implementation: only one third of owners who thought they should provide smoke-free areas actually provided such areas. It seems clear that self-regulation has not worked, as judged by the restaurant industry's own criterion of provision according to owners' perception of need.

The findings also highlight the inadequate provision of smoke-free areas in restaurants relative to the level of customer demand. Restaurateurs greatly underestimated the proportion of customers who wanted smoke-free areas. Only 23.6% of all restaurants (26.1% of customer-surveyed restaurants) provided either separate areas or a total smoking ban, whereas nearly 90% of surveyed customers thought they should. Past reports of the public's views about smoke-free areas have been open to criticism because they may not reflect the views of customers of specific restaurants. This study examined the discrepancy between owners' perceptions of their customers' preferences and the actual preferences of those customers.

How can such a discrepancy occur? One reason must lie in the failure of the public to make its preference for smoke-free areas known. Education is needed to encourage those who dine out to state a clear preference. Restaurateurs have assumed that failure to state a preference indicates that customers have no preference. A second reason for the discrepant views may lie in the failure of restaurateurs to actively seek customer preferences. Unelicited views expressed during the telephone interview suggest that many owners have adopted a "let sleeping dogs lie" approach to the issue.

Characteristics of Restaurants That Provide Smoke-Free Areas

Two factors were found to predict the provision of smoke-free areas in restaurants. First, owners perceiving a higher level of customer demand were more likely to provide areas to meet that demand. Thus innovative methods are needed to make restaurant owners more aware of the public demand for smoke-free dining. Second, owners who believed that restaurants "should" provide such areas were more likely to provide separate areas. This finding highlights the importance of the owners' attitudes and perceptions and calls on health educators and researchers to provide accurate and credible information about the health risks of passive smoking and the preferences of customers.

Customer Preferences

Smokers were likely to want the freedom to smoke anywhere and were less likely than nonsmokers to support separate areas or total smoking bans. However, even smokers support bans on smoking in restaurants.[13] Predictably, smokers were also more likely than nonsmokers to say they would stop going to their favorite restaurant if a total smoking ban were introduced, whereas nonsmokers would go more often. The data presented suggest that restaurants have more to gain than to lose from the introduction of a smoking ban.

Barriers to the Provision of Smoke-Free Areas

A major perceived barrier to the provision of smoke-free areas was lack of space to provide effectively separate areas. However, given that nearly 50% of customers favored a total smoking ban in

restaurants and only 15% said that a total ban would cause them to go to their favorite restaurant less frequently, it would seem that a total ban is a more viable option for small restaurants than has previously been thought. Furthermore, a total smoking ban is the only effective strategy for protecting nonsmoking customers and staff from environmental tobacco smoke in small restaurants. The difficulty of enforcing a policy and fear of potential loss of business were two other perceived barriers. These would both be addressed best by a legislative approach.

Policy Implications: What Is Needed to Encourage Restaurant Owners to Go Smoke-Free?

One method of encouraging restaurateurs to provide smoke-free areas is to increase the level of active demand by customers. Although nearly 90% of customers say they would prefer smoke-free areas, apparently very few voice this concern. It may be that people are more reluctant to insist on their consumer rights when engaging in an essentially social activity such as dining out. This reluctance needs to be addressed through education of the public about its right to a smoke-free environment when eating out and accurate information about the high proportion of people who prefer smoke-free areas.

A legislative approach would address some of the important barriers to provision of smoke-free areas, such as the fear of loss of business. Owners seem reluctant to take this step for fear of losing business in an economic climate in which every customer is important. The fear relates to being the instigator of a new trend when smoking customers will have the option to go elsewhere. If legislation enforced a common policy, concern over losing customers would not be an issue. Some owners enthusiastically endorsed the option of government legislation because they felt this would take the onus from them and allow the government to take the brunt of any criticism.

The growing threat of court actions by employees exposed to passive smoking provides a further incentive for restaurateurs to consider a total smoking ban. The responsibility for protecting employees from the effects of passive smoking is clearly the employers'.[8] Recent court actions have highlighted this increasing threat.[26] The adoption of legislation on smoke-free dining would reduce the need for litigation.

Summary

The argument against regulated provision of smoke-free areas in restaurants has been based on emotional appeals rather than on accurate data about the needs and preferences of customers. The industry has promoted self-regulation for several years now; however, owners have failed to act. Failure to make self-regulation work suggests that legislation may be the most viable option, at least in New South Wales. Further work is needed to establish whether these findings generalize to other countries. □

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