

Views About Secondhand Smoke and Smoke-Free Policies Among North Carolina Restaurant Owners Before Passage of a Law to Prohibit Smoking

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Abstract

Background: This study examined the knowledge, attitudes, and beliefs about secondhand smoke and smoke-free policies among North Carolina restaurant owners and managers before passage of House Bill 2, which prohibited smoking in most restaurants and bars.

Methods: A random sample of North Carolina restaurants was selected to participate. A 15-minute telephone survey was completed by 523 restaurant owners and managers (one per participating restaurant) who spoke English and operated a restaurant that had seating for guests and was not a corporate headquarters for a restaurant chain (response rate, 36.7%). Bivariable analyses using χ^2 tests of association were conducted. Multivariable modeling with logistic regression was used to examine relationships among several predictor variables and current smoking policies at participating restaurants, support among owners and managers for a statewide ban on smoking in restaurants, and beliefs among owners and managers about the economic impact of smoke-free policies.

Results: Restaurant owners and managers were aware that secondhand smoke causes cancer and asthma (79% and 73% of respondents, respectively) but were less aware that it causes heart attacks (56%). Sixty-six percent of restaurants did not permit any smoking indoors. Sixty percent of owners and managers supported a statewide smoke-free law. Owners and managers who were current smokers, those who worked at a restaurant with an employee smoking prevalence of more than 25%, and those who worked in a restaurant without a 100% smoke-free policy were significantly less likely to support a statewide law requiring smoke-free public places. Only owner and manager smoking status and no current smoke-free indoor policy were significant independent predictors of the belief that instituting a smoke-free policy would have negative economic consequences for the restaurant.

Limitations: Although participating establishments were a representative sample of North Carolina restaurants, an overall survey response rate of 36.7% limits the generalizability of these findings.

Conclusions: Most North Carolina restaurant owners and managers in our sample had a smoke-free indoor policy and supported a law to make public places smoke-free. Results were used to strengthen interventions that create a safe and healthy environment for restaurant employees and customers, in anticipation of passage of House Bill 2.

Keywords: secondhand smoke; smoking policy; smoking restrictions; restaurant

Cigarette smoking is the leading cause of premature mortality and morbidity and is harmful not only to those who smoke but also to those exposed to secondhand smoke.^{1,2}

Smoke-free policies that restrict smoking reduce exposure to secondhand smoke.^{3,4} Restrictive and smoke-free policies are also associated with reduced daily consumption of cigarettes^{4,5} and increased attempts to quit smoking.⁵

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Policies that limit smoking also increase smoking-cessation rate.^{4,5}

Although some progress has been made in North Carolina to increase smoke-free environments in government buildings and in schools and universities,^{6,7} residents remain at risk for exposure to secondhand smoke at work and in most public places. A recent survey of North Carolina business owners and managers revealed that having a statewide law making all public places smoke-free was the biggest motivation to implement a smoke-free policy in their establishment.⁸ However, restaurant and bar owners were not specifically included in that survey. Nationally, at least 25 states have enacted comprehensive laws prohibiting smoking in public places and workplaces, including restaurants and bars.⁹ Unfortunately, two previous attempts to enact this legislation in North Carolina were opposed by the North Carolina Hospitality and Restaurant Association, yet few data were available to understand the views held by independent restaurant owners about this issue. This study explores North Carolina restaurant owners' and managers' knowledge, attitudes, and beliefs about smoking, secondhand smoke, and smoke-free policies, to gain insights into how best to work with them to create safe and healthy environments for their employees and customers. It is important to note that this study was conducted before the passage of House Bill 2 (HB 2), which made most North Carolina restaurants and bars smoke-free.¹⁰

Methods

Study sample and data collection. Restaurants were selected using a two-step process from a frame of all restaurants in the state provided by the Tobacco Prevention and Control Branch of the North Carolina Division of Public Health (NC DPH). A sample of 3,500 North Carolina restaurants was selected from the frame and matched to a national white pages database provided by Marketing Systems Group.¹¹ A total of 2,834 restaurants had telephone numbers that were specified in the NC DPH file or that matched numbers from the white pages file. This study is based on a simple random sample of these 2,834 restaurants.

Restaurants were contacted via telephone for a 15-minute interview about smoking-related topics between October 2008 and the first week of January 2009. Restaurants were screened by interviewers, and those that had English-speaking owners and managers, had seating for guests, and were not a corporate headquarters were eligible for survey participation. One owner or manager per eligible restaurant was recruited for questionnaire completion. Interviewers used a computer-assisted telephone interviewing approach. A copy of the survey is available from L.A.L. by request.

The study was approved by the University of North Carolina at Chapel Hill institutional review board. All participants provided verbal consent before completing the survey.

Analysis. Data were converted to an SAS data set (version 9.2 [SAS Institute]) and cleaned before analysis. Bivariable

analyses using χ^2 tests of association were conducted to understand the relationship between restaurants with and those without a 100% smoke-free policy. Multivariable modeling with logistic regression was used to examine relationships between the following three outcome variables: restaurant smoking policy at the time of survey completion, support for a statewide ban on smoking in restaurants and public places, and beliefs about the negative economic consequences of smoke-free policies. The following hypothesized predictor variables were included: smoking status of the owner or manager (current smoker, former or ex-smoker, or never smoker), smoking prevalence among restaurant employees (high, > 25%; or low, $\leq$ 25%), liquor license (yes or no), total tobacco production in the restaurant's home county (none, 0 lbs; low, $\leq$ 555,000 lbs; medium, 555,001-3,925,000 lbs; or high, > 3,925,000 lbs), per capita income in the restaurant's home county (first quartile, < \$35,890; second quartile, \$35,890-\$40,423; third quartile, \$40,424-\$46,125; or fourth quartile, > \$46,126), restaurant policy banning smoking indoors (yes or no), and restaurant size (small, < 25 seats; or large, $\geq$ 25 seats). Selections of "Refused to Answer" and "Don't Know" were set to missing in bivariable and multivariable analyses.

Results

Characteristics of respondents and restaurants. Of 2,834 restaurants with telephone numbers available, 1,892 were contacted up to 10 times by interviewers. Of these, 465 were excluded because they did not meet eligibility criteria ($n=431$) or provide screening information ($n=34$). The survey response rate was 36.7% (523 of 1,427). Respondents at approximately one-third of the restaurants were owners and two-thirds were managers (Table 1). Length of time as an owner or manager varied widely (range, 1-49 years), with a median duration of 3 years. Most respondents (62%) were men. Forty-five percent of respondents were classified as never smokers, 24% were classified as former or ex-smokers, and 31% were classified as current smokers.

Twelve percent of restaurants had less than 25 seats, 21% had 25 to 49 seats, 34% had 50 to 99 seats, and 34% had 100 or more seats. Thirty-six percent had a license to sell liquor. Fifteen percent of restaurants belonged to the North Carolina Restaurant and Lodging Association, 68% did not belong, and 17% did not know their membership status (data not shown). Thirty-six percent were located in counties with no tobacco production, 14% were in counties with low production, 22% were in counties with medium production, and 28% were in counties with high production. Sixty-six percent of restaurants had policies that banned smoking indoors, 24% permitted smoking indoors only in designated areas, 6% permitted smoking anywhere indoors, and 3% had no policy about smoking indoors.

Knowledge and opinions about smoke and smoking. Nearly all owners and managers believed the effects of secondhand smoke were somewhat harmful (32%) or very

harmful (61%) (data not shown); 3% believed that smoking was not harmful (data not shown). Owners and managers of restaurants that permitted smoking were significantly less likely than those of restaurants that did not permit smoking to believe that secondhand smoke is very harmful (53% vs 70%; $P < .001$). Most owners and managers also recognized that secondhand smoke causes cancer (79% agreed or strongly agreed) and asthma (73% agreed or strongly

agreed) but were less knowledgeable about the effects of secondhand smoke on heart attacks (56% agreed or strongly agreed) (Table 2).

Nearly all respondents agreed or strongly agreed that employers have a responsibility to protect workers from exposure to occupational hazards (99%) and to encourage employees to make healthy lifestyle choices (81%), whereas 47% agreed or strongly agreed that employee health habits

are a matter of personal choice (Table 2).

Beliefs about smoking policy and its consequences.

Owners and managers of restaurants with liquor licenses were less likely than those without liquor licenses to report that smoking was not allowed anywhere indoors (51% vs 75%; $P < .001$). Respondents who never smoked were more likely than former smokers and current smokers to report that smoking was not allowed anywhere indoors (74% vs 69% and 51%, respectively; $P < .001$ for both comparisons). Restaurants with a higher prevalence of smoking among employees were less likely than those with a lower prevalence to have a smoke-free policy (56% vs 74%; $P < .001$).

Owners and managers believed that smoke-free policies were effective in protecting customers and employees (Table 2). Nearly all (93%) agreed or strongly agreed that smoke-free policies limit exposure to secondhand smoke, but only 30% believed that smoke-free policies help people quit smoking.

A majority (60%) of owners and managers supported a statewide law making public places smoke-free (data not shown). Owners and managers who never smoked were significantly more likely than former and current smokers to support a statewide law making public places smoke-free (81% vs 65% and 32%, respectively; $P < .001$ for both comparisons). Owners and managers of restaurants with a low prevalence of employee smoking were more likely than those with a high prevalence to support a statewide law to make public places smoke-free (73% vs 51%; $P < .001$). Not surprisingly, owners and managers of smoke-free restaurants were significantly more likely to support a statewide law making public places smoke-free than were those at restaurants that permitted smoking (71% vs 44%; $P < .001$).

Additional bivariable results indicated

Table 1.
Characteristics of Respondents and Their Restaurants

Characteristic	Value
Respondents	
Organizational role, proportion (%)	
Owner	178/523 (34)
Manager	327/523 (63)
Other	18/523 (3)
Sex, proportion (%)	
Male	292/471 (62)
Female	179/471 (38)
Smoking status, proportion (%)	
Never smoked	207/461 (45)
Former smoker	109/461 (24)
Current smoker	145/461 (31)
Restaurants	
Employees	
Full-time	
Proportion (%)	510/1,017 (50)
Median (range)	5 (0-99)
Part-time	
Proportion (%)	507/1,017 (50)
Median (range)	7 (0-90)
Employee smoking prevalence, proportion (%)	
≤ 25%	241/469 (51)
> 25%	228/469 (49)
Indoor smoking policy, ^a proportion (%)	
Allowed everywhere	32/504 (6)
Allowed in designated areas	122/504 (24)
Not allowed	334/504 (66)
No policy	16/504 (3)
County ^b	
Per capita income, \$, median (range)	41,579 (27,241-57,846)
Tobacco production, ×1000 lbs, median (range)	550 (0-22,370)

a. Percentages do not sum to 100% because of rounding.

b. Data are for the county in which the restaurant is located

Table 2.
Respondents' Knowledge and Beliefs about Secondhand Smoke and Smoke-Free Policies

Item ^a	Percentage of respondents			
	Agree/ strongly agree	Disagree/ strongly disagree	Refuse to answer	Don't know
Secondhand smoke causes lung cancer ^b (n=471)	79	13	1	6
Secondhand smoke causes heart attacks (n=471)	56	27	1	16
Secondhand smoke causes asthma (n=471)	73	15	1	11
Employer responsible for protecting employees from occupational hazards (n=515)	99	0	0	1
Employer responsible for encouraging employees to make healthy lifestyle choices (n=512)	81	16	2	1
Employee health habits are a personal choice (n=511)	47	46	3	4
Smoke-free policies help people quit (n=500)	30	67	1	2
Smoke-free policies limit customer exposure to secondhand smoke ^b (n=499)	93	4	1	1
Smoke-free policies limit employee exposure to secondhand smoke (n=499)	93	6	0	1

a. The text is identical to that used in the survey.

b. Percentages do not sum to 100% because of rounding.

that owner and manager smoking status, employee smoking prevalence, current smoking policy, and total county tobacco production were associated with beliefs that restaurants with smoke-free policies suffer negative economic consequences because of these policies. For example, owners and managers who currently smoke were more likely than former smokers and never smokers to agree or strongly agree that smoke-free policies have negative economic consequences for restaurants (53% vs 30% and 38%, respectively; $P < .01$ for both comparisons). Likewise, owners or managers of restaurants that permitted indoor smoking were more likely than owners and managers of smoke-free restaurants to strongly agree that there would be negative economic consequences of going smoke-free (14% vs 7%; $P < .001$). The belief that smoke-free policies have negative economic consequences was not statistically significantly associated with restaurant size, liquor license, county per capita income, or respondents' organizational role.

Owners and managers also differed in their views about whether restaurants that instituted smoke-free policies experienced an increase in the number of individuals patronizing the restaurant. Those who currently smoked were more likely than former smokers and never smokers to disagree or strongly disagree that smoke-free policies increase customer patronage (51% vs 36% and 24%, respectively; $P < .001$ for both comparisons). Owners or managers of restaurants with a high employee smoking prevalence were more likely than owners and managers of restaurants with

a low employee smoking prevalence to disagree or strongly disagree that smoke-free policies increase customer patronage (44% vs 27%; $P < .001$). Owners and managers of restaurants with liquor licenses were significantly more likely than those of restaurants without liquor licenses to disagree or strongly disagree that smoke-free policies increase customer patronage (45% vs 30%; $P < .05$).

Multivariable analyses. We modeled the relationships of key predictor variables from the bivariable analyses and our reading of the relevant scientific literature to better understand factors associated with three specific outcomes of interest: current smoking policy, support for a statewide ban on smoking, and beliefs about the negative economic consequences of smoke-free policies on restaurants.

Table 3 summarizes results of modeling to predict smoking policy status. After statistical control for restaurant size, liquor license, employee smoking prevalence, county per capita income, county tobacco production, and organizational role of respondents, analyses revealed that owners and managers who never smoked were 2.53 (95% confidence interval [CI], 1.55-4.16) times as likely as those who were current smokers to report having a smoke-free policy indoors. Owners and managers of restaurants with a low employee smoking prevalence were 1.78 (95% CI, 1.15-2.76) times as likely as those at restaurants with a high employee smoking prevalence to report having a smoke-free policy indoors. Restaurants with a liquor license were 0.26 (95% CI, 0.17-0.42) times as likely as restaurants without a liquor

license to have a smoke-free policy indoors. The odds of having an indoor smoke-free policy among restaurants in counties with low (odds ratio [OR], 2.37 [95% CI, 1.42-3.96]) or medium (OR, 2.31 [95% CI, 1.25-4.25]) tobacco production were more than twice the odds for restaurants in counties with high tobacco production. The odds of having an indoor smoke-free policy among restaurants in the first (OR, 0.46 [95% CI, 0.25-0.88]), second (OR, 0.52 [95% CI, 0.28-0.97]), and third (OR, 0.48 [95% CI, 0.25-0.91]) quartile of county per capita income were approximately half the odds for restaurants in the fourth quartile (ie, counties with the greatest per capita income). After statistical control for other factors, organizational role and restaurant size were not independent predictors of having a 100% smoke-free policy.

The model used to predict support for a statewide ban on smoking revealed some similar patterns in our sample (data not shown). Specifically, after statistical control for other factors in the model, the odds of support for a statewide law making public places smoke-free among owners and managers who were never smokers were nearly seven times the odds for current smokers (OR, 6.95 [95% CI, 4.11-11.75]). Likewise, former smokers were more than three times as likely as current smokers to support a statewide law making public places smoke-free (OR, 3.23 [95% CI, 1.78-5.85]).

Owners and managers of restaurants with a low employee smoking prevalence were 1.72 (95% CI, 1.09-2.73) times as likely to support a statewide law making public places smoke-free, compared with those at restaurants with a high employee smoking prevalence. Owners and managers of restaurants with a smoke-free indoor policy were 2.47 (95% CI, 1.52-4.01) times as likely as those at restaurants without such a policy to support a statewide law. After statistical control for other factors, organizational role, restaurant size, liquor license possession, and county tobacco production were not independent predictors of support for a statewide smoke-free policy.

Table 4 summarizes results of models that evaluated owner and manager beliefs about possible negative economic consequences among restaurants after implementation of a smoke-free policy. After statistical control for all other factors in the model, only smoking status among owners and managers and current smoking policy among restaurants emerged as statistically significant independent predictors of the belief that instituting a smoke-free policy would have negative economic consequences for the restaurant. In this study, owners and managers who were former smokers were half as likely as those who were current smokers to agree or strongly agree that restaurants with smoke-free policies would suffer negative economic consequences

(OR, 0.52 [95% CI, 0.29-0.91]). Likewise, owners and managers of restaurants with a smoke-free indoor policy were half as likely as those at restaurants without a smoke-free indoor policy to agree or strongly agree that restaurants with smoke-free policies would suffer negative economic consequences (OR, 0.47 [95% CI, 0.30-0.74]). Organizational role, restaurant size, liquor license possession, employee smoking prevalence, county per capital income, and county tobacco production were not statistically significant independent predictors of beliefs about the negative economic consequences of instituting a smoke-free policy.

Discussion

We assessed the knowledge, attitudes, and beliefs of North Carolina restaurant owners and managers about smoking, secondhand smoke, and support for a 100% smoke-free policy for public places, including restaurants. This survey was conducted immediately before the introduction of HB 2, a statewide law that made most North Carolina restaurants and bars smoke-free. Specifically, we wanted to summarize the opinions

Table 3.
Characteristics Associated With the Presence of an Indoor Smoke-Free Policy

Characteristic	OR (95% CI)
Respondents	
Owner	0.70 (0.45-1.09)
Never smoked	2.53 (1.55-4.16)
Former smoker	2.50 (1.38-4.52)
Restaurants	
Large size (≥ 25 seats)	0.81 (0.40-1.68)
Low employee smoking prevalence ($\leq 25\%$)	1.78 (1.15-2.76)
Liquor license	0.26 (0.17-0.42)
Tobacco production ^a	
Low ($1 \text{ to } \leq 1.55 \times 10^5$ lbs)	2.37 (1.42-3.96)
Medium ($> 1.55 \text{ to } 3.935 \times 10^5$ lbs)	2.31 (1.25-4.25)
Per capita-income quartile ^a	
First ($< \$35,890$)	0.46 (0.25-0.88)
Second ($\$35,890$ - $\$40,423$)	0.52 (0.28-0.97)
Third ($\$40,424$ - $\$46,125$)	0.48 (0.25-0.91)

Note. Data are for 465 restaurant owners and managers. Responses were dichotomized as "smoke-free policy indoors" and "no smoke-free policy indoors." CI, confidence interval; OR, odds ratio.

a. Data are for the county in which the restaurant is located. See Methods for additional information

and concerns of restaurant owners and managers about enactment of a statewide law to prohibit smoking in public places and to clarify how to best work collaboratively with this group to create a safe, healthy, and smoke-free environment for their customers and employees should a new law be enacted.

Analyses revealed that restaurant owners and managers from our sample were generally knowledgeable about the health risks of smoking and secondhand smoke, although their knowledge was somewhat lower than that specified in a recently published study by Colgan and colleagues⁸ involving persons who owned businesses other than restaurants and bars in North Carolina. Thus, it is worthwhile to continue efforts to educate restaurant owners and managers about the negative health impact of secondhand smoke. In addition, although nearly all respondents to our survey agreed or strongly agreed that employers had a responsibility to protect workers from exposures to occupational hazards, they appeared to have limited knowledge about the status of secondhand smoke as a class A carcinogen, which characterizes it as a deadly occupational pollutant.

Most owners and managers in this study agreed or strongly agreed that employers have a responsibility to encourage their employees to make healthy lifestyle choices.

If employers believe they have a responsibility to limit exposure to hazardous substances and encourage healthy lifestyle choices among their employees, it is clear that they should implement measures to limit exposure to secondhand smoke and help decrease the prevalence of smoking in this group. It may be useful to focus attention on the negative impact of secondhand smoke (as opposed to focusing only on the smoker) and to be clear that secondhand smoke contains deadly levels of carcinogens that employees should not be exposed to at work. Moreover, if smoking is permitted, exposure levels among full-time restaurant employees are likely to be high. Given that adverse health consequences are associated with smoking and exposure to secondhand smoke and that 40% of owners and managers reported that they provide health insurance to their full-time employees, these negative health impacts will have consequences for the bottom line of these businesses. On average, annual medical expenditures for people who currently use or previously used tobacco are 14%-20% higher than expenditures for people who never used tobacco.¹² In addition, workers who do not smoke and are exposed to secondhand smoke at the workplace are nearly 40% more likely to visit a physician.¹³

Most owners and managers in our sample agreed that

smoke-free policies limit employee and customer exposure to secondhand smoke. Yet survey respondents were more skeptical that smoke-free policies help people quit smoking. Interventions that correct misperceptions about the beneficial affect of smoke-free policies on smoking-cessation attempts and successes may be an important strategy for getting owners and managers to support restrictive policies and refer smokers to cessation programs.

Despite beliefs that smoke-free policies have positive benefits for health, 35% of owners and managers in our sample permitted indoor smoking, and 40% thought that smoke-free restaurants experience negative economic consequences. This is slightly lower than the percentage observed by Colgan and colleagues,⁸ who found that 53% of North Carolina business owners believed that smoke-free policies would result in a loss of business. Evidence clearly suggests that restaurants and bars with a smoke-free policy do not experience negative economic consequences,^{3,14} and some in fact have reported an increase in patronage.¹⁵ Nonsmokers represent 70%-80% of the adult population in North Carolina, and nonsmokers clearly favor smoke-free

Table 4.
Characteristics Associated With the Belief That a Smoke-Free Policy Has Negative Economic Consequences for Restaurants

Characteristic	OR (95% CI)
Respondents	
Owner	0.95 (0.63-1.45)
Never smoked	0.66 (0.42-1.06)
Former smoker	0.52 (0.29-0.91)
Restaurants	
Indoor smoke-free policy	0.47 (0.30-0.74)
Large size (≥ 25 seats)	0.57 (0.30-1.06)
Low employee smoking prevalence ($\leq 25\%$)	0.94 (0.62-1.43)
Liquor license	0.77 (0.49-1.20)
Tobacco production ^a	
Low (1 to $\leq 1.55 \times 10^5$ lbs)	0.72 (0.45-1.17)
Medium (> 1.55 to 3.935×10^5 lbs)	
Per capita-income quartile ^a	0.96 (0.54-1.70)
First ($< \$35,890$)	0.98 (0.55-1.75)
Second ($\$35,890$ - $\$40,423$)	1.06 (0.61-1.85)
Third ($\$40,424$ - $\$46,125$)	0.72 (0.40-1.31)

Note. Data are for 450 restaurant owners and managers. Responses were dichotomized as "agree/strongly agree" and "disagree/strongly disagree." The y-intercept was 3.78. CI, confidence interval; OR, odds ratio.

a. Data are for the county in which the restaurant is located. See Methods for additional information.

restaurants. In addition to the potential for increased patronage, there are fewer cleaning and insurance costs associated with settings where smoke is not allowed. Thus, any potential negative economic consequences are likely to be offset by these positive consequences.

In this study, owners and managers who were current smokers and those who managed or owned restaurants with a high percentage of employees who smoked were less likely to have an indoor smoke-free policy and were less likely to support a statewide law making public places smoke-free. Moreover, restaurant owners and managers had a smoking prevalence (30%) that was significantly higher than that among US adults (20.6%).¹⁶ Smoking status among business owners has previously been found to be an important predictor of the smoking policy at their workplace,¹⁷ and when an owner or manager smokes, they may choose not to adopt, support implementation of, or enforce a restrictive smoking policy.¹⁸ Thus, it appears critically important to promote the availability of free or low-cost smoking-cessation programs and resources among owners and managers and their employees who smoke. By reducing the prevalence of smoking among business owners, it may increase their motivation to create, support, and maintain a smoke-free work environment.

Gingiss and colleagues¹⁹ reported that restaurants with bars were less likely than those without bars to have restrictive smoking policies. In our study, restaurants with a liquor license were also significantly less likely than restaurants without a liquor license to have a smoke-free indoor policy in place. In multivariable models that controlled for owner and manager smoking status, seating capacity, employee smoking prevalence, county tobacco production, per capita county income, and liquor license possession were not significant independent predictors of support for a statewide law to make public places smoke-free, nor was a belief that restaurants with smoke-free policies would suffer negative economic consequences. Thus, although possession of a liquor license was negatively associated with the presence of a smoke-free indoor policy, support for a statewide law to make public places smoke-free was not significantly diminished among restaurants with a liquor license.

Overall, 60% of restaurant owners and managers in our sample favored a statewide law to make public places smoke-free. However, those who smoked, those at restaurants with a high employee smoking prevalence, and those at restaurants with no restrictions on smoking were less supportive of a statewide law for smoke-free public policies. Owners and managers who smoked and those at restaurants with a higher employee smoking prevalence were also more likely to believe there are negative economic consequences to restaurants that institute a 100% smoke-free policy. Now that the new law has passed, it will be essential to identify and praise owners and managers who quit, who help their employees quit, and who report the cost-savings associated with implementing the new policy, to encourage

similar actions among other owners and managers.

There are a number of reasons why these data are useful beyond the historical perspective they provide on the period leading up to passage of HB 2. First, to ensure effective implementation and enforcement of the new law, it is useful to engage owners and managers in the process. These timely data provide an opportunity to start conversations with a representative sample of restaurant managers and owners and record their views about smoking policy. Second, these survey results can serve as a benchmark to monitor changes in the opinions and beliefs among owners and managers if similar questions are re-administered at follow-up time points. Third, these data give health department officials at the state and local levels unique insights about how to intervene with restaurant and bar owners to bring about smooth implementation of HB 2 and about how to anticipate potential problems during this process. For example, use of media campaigns or local outreach efforts to share success stories of owners and managers who have already gone smoke-free via would be extremely beneficial. Health educators from local health departments who will be responsible for monitoring and enforcement of HB 2 could be engaged in efforts to assist owners and managers with resources to educate their employees and customers about the new law and to provide referrals to cessation opportunities. An emphasis on providing businesses with information about potential cost savings associated with instituting a smoke-free policy change is essential. The best overall quit rates are observed when smoke-free policies are combined with other comprehensive tobacco-control efforts, such as educational campaigns, cessation programs, and increases in tobacco prices and/or taxes.²⁰

North Carolina has lagged behind other states in efforts to help smokers quit, both in taxing tobacco products and in enacting policies that restrict smoking in all public places. As recently as 2009, North Carolina received an *F* in three categories from a national rating program on state tobacco control programs: tobacco prevention and control spending, smoke-free air, and cigarette tax. The state received a *C* in the final category, cessation coverage.²¹ Some excellent progress has been made toward restricting smoking in state government buildings, hospitals, universities,^{6,7} and public schools.²¹ After years of tobacco production and industry influence, it is heartening that North Carolina is making needed progress on many indicators of tobacco control and prevention. Passage of HB 2 as a smoke-free policy for public places is an important step, yet these survey results can help ensure that strategies are in place for the successful implementation, monitoring, and enforcement of this new law.

This study's strengths include its thoughtful design and careful sampling procedures; its timeliness, given the introduction of HB 2; its unique set of questions examining the knowledge, beliefs, and attitudes about secondhand smoke and smoke-free policies held by restaurant owners and managers; and its ability to gather new knowledge about percep-

tions of secondhand smoke and smoke-free policies as an occupational exposure. This study also had several weaknesses. First, it is possible that some restaurants were not included in the list provided by the NC DPH. Although this list is updated regularly, very new businesses may not have been included. Second, the relatively low survey response rate (36.7%) limits the generalizability of these results, and we have little information about nonrespondents to this survey. Thus, we may have responses from a select group of restaurant owners and managers who are generally in favor of a smoke-free policy. To explore this potential limitation further, we conducted a one-sample goodness-of-fit test to compare the percent distributions across the six North Carolina area codes (Charlotte area codes 704 and 980 were combined) among restaurants in the frame and restaurants that participated in the study; area codes were chosen because they occupy distinct geographic regions across the state. The distribution of responding restaurants was not significantly different from that of all restaurants in the frame ($P = .40$), which provides assurance about the generalizability of findings for participating restaurants. Third, we collected self-reported data on indoor smoking policy and smoking prevalence among respondents and their employees. Because public perception of smoking is becoming increasingly negative, self-reported smoking prevalence may be underestimated, and support for a law that makes public places smoke-free may be overestimated. Finally, this survey was administered at a single point in time. Thus, we must limit interpretation of our data to avoid drawing causal conclusions.

Findings from this survey should also be useful to individuals advocating for 100% smoke-free public places. Results

will also benefit collaborative efforts involving interested members of the public health and restaurant industry to ensure that HB 2 is successfully implemented and enforced. Survey results may also help inform public policy experts in other tobacco-growing states (as well as a broader national audience) who are trying to create a healthy and safe environment for employees and customers via policy and educational interventions. Moreover, this type of survey work may be an important first step toward understanding how to best develop health-promoting partnerships between public health agencies and local businesses. Given the obesity epidemic in the United States and the fact that employer-based health insurance pays for a large percentage of employee health care costs, gathering data on the opinions and beliefs of business owners and managers may provide critical insights about how to develop these partnerships, advocate for public and organizational policy changes, and identify leverage points for interventions that will improve the health of employees and communities. **NCMJ**

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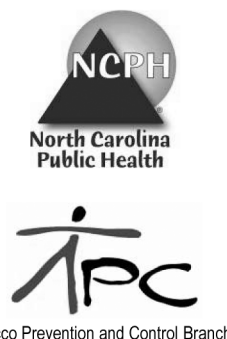
North Carolina Tobacco Use Quitline

Fax Referral Program

Ask. Advise. Refer.



Free and confidential ~ Multiple languages
Available 8 a.m. to midnight, 7 days a week
1-800-QUIT-NOW (1-800-784-8669)
For information on how you can refer your patients visit:
<http://quitlinenc.com/faxreferral/default.htm>



Quitline coaches know ways to make quitting easier. They give friendly support and practical tips that really work. They know that everyone is different and will help the quitter personalize their plan. Best of all, they can call the quitter back if they want to, or even make the first call if the patient agrees.

Jump start your patients by **Asking** if they smoke, **Advising** them to quit,
and **Referring** them to the N.C. Tobacco Use Quitline.

From the Tobacco Prevention and Control Branch, N.C. Department of Health and Human Services