

Secondhand Smoke Policies at State and County Fairs

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Abstract

Objectives: We sought to assess the smoking policies at state and county fairs in North Carolina.

Methods: We contacted North Carolina fair managers by telephone to solicit participation in a survey that assessed the extent to which fairs have written policies about smoking and secondhand smoke (SHS) exposure, managers' beliefs concerning the health risks associated with SHS exposure, and specific reasons that might prompt managers to adopt smoke-free policies.

Results: Attempts were made to contact 47 fair managers, and 31 (66.0%) participated in the study. We found that although almost two-thirds of fairs prohibited smoking indoors, the vast majority (83.9%) had no limits on outdoor smoking. Most fair managers (84.6%) acknowledged that SHS may cause lung cancer, and a majority (51.6%) reported a belief that their patrons would largely be supportive of a more restrictive policy.

Limitations: Fair managers' responses were primarily based on their own opinions, estimates, and attitudes.

Conclusions: Because of the high number and density of fair patrons, unrestricted outdoor smoking likely exposes most patrons to SHS. Action to eliminate all exposure to SHS at state and county fairs is needed.

Keywords: policy; secondhand smoke; state fair; tobacco

Secondhand smoke (SHS) exposure causes thousands of pulmonary and cardiac deaths and diseases in the United States annually [1]. A 2006 report by the US surgeon general indicates that even short-term exposure to SHS has serious adverse effects, increasing the risk of a heart attack [2]. The only protection from the health effects of SHS is the implementation of smoke-free policies [2].

Evidence exists that outdoor exposure to SHS may have health risks similar to those of indoor SHS exposure, particularly in environments where many people congregate and/or physical barriers limit ventilation [3-5]. A few states, such as California and Minnesota, have implemented smoking bans in public outdoor spaces, including beaches and parks owned by the city [6, 7].

State and county fairs are outdoor public places drawing tens of millions of visitors each year. Fair patrons are at particular risk for exposure to SHS because of the large

number and high density of visitors, limited ventilation in physical structures, and higher-than-average smoking rates among blue-collar fair employees [8]. No prior research has examined whether fairs have policies regulating SHS exposure. North Carolina law prohibits smoking in some public indoor areas. However, this law does not apply to outdoor venues.

North Carolina's outdoor fairs attract a total of 3 million visitors annually, which is approximately one-third of the state's population [9]. This study explores the smoking and SHS policies at fairgrounds throughout North Carolina.

Methods

Sample. The target sample included managers for all types of fairs in North Carolina, representing county and community agricultural fairs, as well as the state fair in Raleigh. The Web site of the North Carolina Association of Agricultural

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Fairs provided a list of North Carolina fairs in 2006 (available at: <http://www.ncagfairs.org>). When a nonprofit organization operated the fair, the research team contacted the responsible organization to determine the appropriate survey respondent. Many fair Web sites provided contact information for fair managers. Otherwise, contact information came from local chambers of commerce or from city and county managers' offices.

Questionnaire. The research team contacted fair managers by telephone to solicit participation in a survey (Appendix, available only in the online edition of the NCMJ). Survey questions assessed written policies on smoking, barriers to adoption of smoke-free fair policies, and beliefs concerning SHS exposure risks. Respondents estimated the percentage of employees who, while working, smoke. For fairs that allowed smoking outdoors, respondents estimated the percentage of patrons who smoke. Fair managers were also asked about their agreement with a variety of factors that might prompt their fair to adopt a 100% smoke-free policy (eg, "required by law," "complaints from nonsmoking patrons," and "petition from patrons"). The survey included questions about policies related to alcohol for comparison purposes, and respondents were given the opportunity to provide comments.

Interviews occurred during May and June 2006. The project received approval by the institutional review board at the University of North Carolina School of Medicine.

Analysis. Two researchers double-checked and entered all data. Statistical analysis was performed using SPSS, version 12.0 (SPSS). Analyses were descriptive and primarily exploratory in nature. Analyses included frequency tabulations and measurements of associations between respondents' demographic characteristics and policy outcomes.

Results

Sample characteristics. A total of 47 fairs existed during 2006 in North Carolina, and managers of 31 (66.0%) agreed to be interviewed. The remaining 16 managers did not respond to requests for participation. Researchers attempted to contact nonrespondents at least 10 times.

Respondents to the survey were predominantly male (89.9%) and nonsmokers (93.5%), with a mean age of 60.2 years (range, 26-83 years). The mean duration of existence among the fairs was 58.9 years (range, 6-153 years). Approximately half (48.4%) of the fairs still had an agricultural exhibit featuring tobacco during the previous fair season. During the operating season of each fair, the mean weekly attendance was 70,529 people (range, 4,500-800,000 people). Fair managers estimated that 43.6% (range, 15%-80%) of fair attendees were younger than 18 years of age.

Fair managers estimated that 25.9% (range, 5%-80%) of their patrons smoked.

Respondents also estimated that 15.8% (range, 0%-50%) of the previous season's employees smoked.

Written policies on smoking and alcohol use. Although 80.6% of fair managers said that their fairs had written policies on alcohol, only 61.3% managed fairs with written policies on smoking. Five fair managers (16.1%) reported that tobacco was sold at their fair, and no managers reported that alcohol was sold (Table 1).

SHS policies. Twenty-six fair managers (86.6%) reported that their fairs allowed smoking in all outdoor areas (Table 2). Although a majority (63.3%) of fair managers reported that their fairs had a policy prohibiting smoking in indoor areas, 7 (23.3%) reported that their fairs had no limits on smoking or SHS exposure indoors or outdoors. Three fair managers (10.0%) reported limiting smoking outdoors to designated smoking areas and prohibiting smoking indoors. One fair manager (3.3%) reported that their fair was 100% smoke-free. No correlation existed between fair size (defined as the mean weekly number of attendees) and presence or absence of a policy about smoking ($P = .175$).

Beliefs about SHS. The great majority of respondents agreed or strongly agreed that SHS may cause lung cancer (84.6% of managers) and that SHS may cause heart disease (76.9%). The majority agreed or strongly agreed that SHS exposure should be eliminated or restricted (64.3% of managers) and that fair visitors would support such a policy (66.7%). Most managers (58.1%) also indicated that exposure to other people's cigarette smoke should be eliminated entirely or confined to areas with ventilation. Approximately half of respondents (51.6%) agreed that the majority of their fair patrons would be supportive of a policy that eliminated SHS exposure or limited it to a separate area.

Factors influencing policy change. Fair managers were asked to indicate the most important reason that the fair did not have a 100% smoke-free policy. The reason most frequently reported (by 38.7% of managers) was that the fair was outside. When prompted for additional reasons that might cause the fair to become 100% smoke-free, fair managers agreed that the following factors might lead to stronger indoor and outdoor smoke-free policies: petition from patrons (64.5% of managers), petition(s) from school children (61.3%), and complaints from nonsmoking patrons (61.3%).

Table 1.
Alcohol and Tobacco Policies at North Carolina Fairs

Policy	Response, no. (%) of managers (N=31)	
	Yes	No
Written policy on smoking	19 (61.3)	12 (38.7)
Tobacco for sale	5 (16.1)	26 (83.9)
Written policy on alcohol	25 (80.6)	6 (19.4)
Alcohol for sale	0	31 (100)

Table 2.
Smoking Policies at North Carolina Fairs

Policy	No. (%) of managers (N=30)
100% smoke-free	1 (3.3)
Smoking allowed outdoors, not indoors	19 (63.3)
Smoking areas outdoors, not indoors	3 (10.0)
No limits on smoking	7 (23.3)

Discussion

Limitations on SHS exposure in many outdoor environments are increasing [10-13]. In North Carolina, a tobacco-free schools movement resulted in all school-district grounds becoming smoke-free [10]. Colleges and hospitals have adopted smoke-free campus policies [11, 12], outdoor stadiums with a high density of patrons frequently prohibit smoking [13], and parks, beaches, and other outdoor environments have begun to implement smoke-free policies [6, 7]. Interest in eliminating outdoor exposure to SHS at fairgrounds appears to be increasing; fairs in Colorado, Kentucky, and Arkansas have prohibited smoking inside buildings on the fairgrounds [14-16]. North Carolina's recent smoke-free law, implemented in January 2010, should require all indoor areas at fairs to be smoke-free if food is served in these areas. Broad public support for this indoor-air law should help fair managers reassess the outdoor smoking policies at their fairs.

Most North Carolina fair managers acknowledge the health hazards of SHS, personally support eliminating or restricting SHS, and believe their patrons would also support greater restrictions. However, current policies do not reflect these perceptions and beliefs. Results also suggest that fair managers (and other community leaders) need to hear from the community in support of such policy change, through petitions, complaints about current SHS exposure, and positive recognition of expanding smoke-free policies. Although it is also possible that the fair managers interviewed may not

have the authority to implement smoke-free policies, their perceptions have face validity for what it would probably take, in the absence of legislation, to influence the change to a smoke-free policy at future fairs. Although we hypothesized that a historic economic dependence on tobacco in North Carolina would make fair managers reticent to consider tobacco-free policies, our results do not support this hypothesis, as the majority of participants in this study appear to be supportive of such policies.

A majority of the North Carolina fairs also have a written policy limiting SHS exposure indoors, but such policies are inadequate. Almost one-fourth have no restrictions on smoking, and only one has completely eliminated exposure by adopting a 100% tobacco-free policy. The majority allow smoking outdoors, thus exposing most fair attendees and employees to SHS for the duration of their stay. As evidence mounts that outdoor exposure to SHS has health risks similar to those of indoor exposure, it becomes imperative that outdoor recreational venues such as fairs implement more-comprehensive tobacco policies [3-6].

Although this study is intended to provide an initial look at the existing tobacco policies among North Carolina fairs and at the attitudes and opinions of the managers of these fairs, several limitations exist. One is that fair managers' responses were based on their own opinions and attitudes. However, results demonstrated that these managers were knowledgeable about the health risks of SHS and knew their fairs' policies. Although we did not use a previously validated questionnaire because of the specific topic and population of the study, we used an original questionnaire that was based on input from a number of tobacco and health researchers. Finally, this survey was conducted several years ago. Additional research is now needed to measure levels of SHS at fairs to document the exposure to both employees and fair patrons. In fairs implementing a smoke-free policy, data outlining the benefit of policy change and consumer support will be useful in supporting the argument for tobacco-free policies in these environments. NCMJ

Acknowledgments

Potential conflicts of interest. All authors report no relevant conflicts of interest.

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