

# Hospital Efforts in Smoking Control: Remaining Barriers and Challenges

Adam O. Goldstein, MD, Windsor R. Westbrook, MBA, MHA, R. Edward Howell, MHA, and Paul M. Fischer, MD

Chapel Hill, North Carolina, and Augusta, Georgia

**Background.** This study reports the barriers and challenges for hospital tobacco control efforts after the institution of smoke-free policies.

**Methods.** Surveys of employees and inpatients of five hospitals in Augusta, Georgia, were conducted and evaluated 4 months after joint hospital implementation of smoke-free policies. A random sample of 1997 employees and a convenience sample of 517 inpatients returned usable surveys.

**Results.** Although attitudes to the hospital bans on smoking reflected strong support for smoke-free policies, four out of five hospitals reported significant implementation problems. Despite the bans, 49% of patients who were smokers continued to smoke

while hospitalized, and almost one half of all hospitalized smokers had received no advice to quit smoking from a physician or a nurse since admission. Employees and patients both agreed that the smoke-free policies had benefited employees more than patients.

**Conclusions.** Despite achieving a smoke-free status, there are many challenges that remain for comprehensive hospital tobacco-control efforts. Hospitals and health care professionals must remain particularly alert and attentive to the needs of patients and employees still addicted to tobacco.

**Key words.** Smoking; hospitals; health policy.  
*J Fam Pract* 1992; 34:729-734.

Although our nation's hospitals devote significant resources to the treatment of tobacco-related diseases, until recently, relatively few hospitals were attentive to the hospital's role in tobacco-control efforts.<sup>1-4</sup> Recognizing this increased interest, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) recently implemented requirements for all its accredited hospitals to become smoke-free facilities.<sup>5</sup>

Since virtually all US hospitals now have smoke-free policies, many health care professionals and hospital administrators may assume that they have fulfilled their responsibilities for achieving a smoke-free society. After all, smoke-free hospital policies are strongly endorsed by employees<sup>2-4,6,7</sup> and patients.<sup>3,7</sup> The establishment of smoke-free policies in hospitals has primarily arisen, however, out of concern for the effects of environmental tobacco smoke on *nonsmokers*,<sup>2,8,9</sup> with a secondary in-

terest in the effects such policies have had on employees' smoking behaviors.<sup>2,3,10</sup> Little research has examined what effects smoke-free hospital policies have had on hospitalized patients or the roles such policies play in overall hospital tobacco-control efforts.<sup>6,10</sup>

We report the results of a study designed to measure what impact hospital smoking bans may have had on patients and employees at five hospitals several months after joint implementation of similar smoke-free policies.

## Methods

### *Policy Development*

The Medical College of Georgia Hospitals and Clinics, along with four other hospitals in the Augusta area, declared their facilities completely smoke-free on January 1, 1990. The common implementation date grew out of a meeting in April 1989 of the Augusta Area Hospital Council, in which each hospital agreed to implement smoke-free policies on the same day. The joint implementation arose from concerns about potential employee

Submitted, February 24, 1992.

From the Department of Family Medicine (Dr Goldstein), The University of North Carolina at Chapel Hill, and the Department of Family Medicine (Dr Fischer), and Hospital Administration (Ms Westbrook and Mr Howell), Medical College of Georgia Hospitals and Clinics, Augusta. Requests for reprints should be addressed to Adam O. Goldstein, MD, Primary Care Research Fellow, CB 7225, Wing C Medical School, UNC School of Medicine, Chapel Hill, NC 27599.

or patient shifts among hospitals if only one or two of the five area hospitals adopted such a policy.

Each hospital subsequently took responsibility for developing, writing, approving, and disseminating its own institutional smoke-free hospital policy to its patients and employees. Four months after the ban implementations, hospital administrators returned detailed reports describing their respective institution's smoke-free policies, their policy development, extent of smoking cessation programs, and problems that had arisen since implementation. Each hospital's smoke-free policy prohibited employees from smoking anywhere within the hospital, but employees and patients could smoke outside, 25 feet from hospital entrances and exits. Each policy prohibited patients from smoking in the hospital except under extenuating circumstances. For patients to receive permission to smoke while hospitalized, an attending physician's order indicating such must have been placed in the patient's chart. Such orders were intended to be used only when the physician judged that it was detrimental to the patient's health *not* to smoke, such as in a terminally ill or chronically bedridden patient. All hospitals' smoke-free policies were similar to the ones recently advocated by the JCAHO.

### *Patient Survey*

A 12-item, piloted survey was distributed to hospitalized patients in the five Augusta area hospitals 4 months after the January 1990 implementation date. Patient representatives administered the patient questionnaire on a random day to a convenience sample of patients at each hospital. To ensure standard administration of the questionnaire by the patient representatives, patients located in the intensive care units and in pediatric, psychiatric, and labor and delivery wards were excluded from participation, as were those patients not able to be interviewed because of severe illness, dementia, or absence from their rooms on the chosen interview day. In addition to self-report smoking status, the patient survey measured patients' knowledge and attitudes about the bans. Patients who were cigarette smokers were asked to indicate whether they had continued to smoke cigarettes while hospitalized and whether any physician or nurse had counseled them on smoking cessation since admission.

### *Employee Survey*

A random sample of employees was selected from each hospital in proportion to its total employee population. After piloting the survey, each selected employee received a 21-item questionnaire along with a cover letter from

the hospital administrator or chief executive officer. Initial nonresponders received a follow-up survey. The employee survey measured employee smoking status, attitudes toward the bans, attitudes toward hospital efforts at ban implementation, and observations about compliance.

All data were analyzed with descriptive statistics. Categorical variables were analyzed with Pearson chi-square tests for two-way tables. A *P* value of .05 was deemed significant.

## Results

### *Hospital Policies and Implementation*

The five hospitals had distinct operational structures and serviced diverse patient populations (Table 1). The smoking bans affected a total of over 10,000 employees. The total annual number of inpatient days in 1989 for the five hospitals was 572,000. Multidisciplinary task forces composed of smokers and nonsmokers guided policy formation and implementation in each hospital. Two hospitals (A and D) that surveyed their employees before implementing the smoking bans reported strong a priori support for the bans. Actual lead time before employee notification about the final smoke-free policies ranged from 1 month (hospital E) to 1 year (hospital C).

All hospitals offered smoking cessation activities for their employees who smoked, often available during regular working hours, and all except one (hospital D) provided such services free of charge. No hospital reported offering specialized smoking cessation services for their hospitalized inpatients, although all hospitals informed patients of their smoke-free policy at the time of admission and in advance through patient brochures when appropriate. While employees who wished to smoke at work had to leave the hospital, only one hospital (E) built a separate, enclosed, heated area for such activity. Even after 4 months, four of five hospitals reported some residual problems with their policies: (1) enforcement of the 25-foot rule, (2) smoking in bathrooms, (3) patients leaving the hospital to smoke, and (4) the hospital's image affected by the sight of people smoking cigarettes outside the entrance (Table 1).

### *Patients*

A total of 517 inpatients from the five hospitals completed usable surveys, representing approximately 65% of potentially eligible patients. The average daily census for all five hospitals was 1560, and the number of patients meeting exclusion criteria was 765. Fifty-six per-

Table 1. Characteristics of Five Hospitals in Augusta, Georgia, 4 Months After Initiation of a Smoking Ban on January 1, 1991

Characteristic	Hospital Designation				
	A	B	C	D	E
Hospital type	Public, tertiary care academic center	Nonprofit, community hospital	Nonprofit, church-operated	Investor-owned	Government, military
Date of employee notification of ban	6/89	7/89	1/89	4/89	11/89
Smoking-cessation programs available to employees	American Cancer Society, self-help packages (free)	Smokestoppers, Nicotine Relief Center (free)	Smokestoppers (free)	Smokeless (employee pays)	American Cancer Society (free)
Smoking employees who participated in institutional smoking cessation program (%)	5	8	7	9	3
Smoking cessation programs offered to inpatients	No	No	No	No	No
Problems	Image, patients smoking outdoors, litter	None	Enforcement, smoking in bathrooms	Enforcement	Enforcement, smoking in bathrooms, image, litter

cent of patients were female, 31% were older than 60 years of age, and 37% lacked a high school diploma. Approximately 28% ( $n = 143$ ) of all patients classified themselves as current smokers, including 32% of men and 24% of women surveyed, with a range between hospitals of 21% to 33% (Table 2).

Although 77% of patients who smoked were aware of the hospital smoking policies, 49% of current smokers stated that they were still smoking cigarettes while hospitalized, mostly outdoors. Patients who continued to smoke while hospitalized varied significantly between hospitals, ranging from a high of 79% to a low of 12% ( $P < .01$ ) (Table 2). Less than 1% of all such smokers were given permission to smoke by an attending physician.

Patients who smoked were also asked about any

advice given to them since admission to quit smoking. Forty-eight percent of patients who smoked stated that they had not been counseled to quit smoking by any hospital physician, and 58% also stated that they had not been counseled to quit smoking by any hospital nurse. Patient reports on not receiving smoking-cessation advice by physicians varied significantly between hospitals, ranging from a high of 59% to a low of 18%,  $P < .05$  (Table 2).

### Hospital Employees

Surveys were distributed to 2679 employees, and usable responses were received from 1997, giving a final response rate of 75% (range between hospitals of 66% to 85%). Seventy-three percent of employees were female,

Table 2. Self-Reported Smoking Behaviors of Patients Responding to Survey After Implementation of Smoke-Free Ban in Five Hospitals ( $N = 517$ )

Self-Reported Patient Behavior	Hospital Designation					All Hospitals
	A	B	C	D	E	
Am a current smoker, no.	65	17	10	17	34	143
Have continued smoking while hospitalized, no. (%)	30 (46)	6 (35)	5 (50)	2 (12)	27 (79)	70 (49)
Have not been advised to quit smoking by any physician since admission, no. (%)	35 (54)	3 (18)	4 (40)	10 (59)	16 (47)	68 (48)



Table 3. Attitudes and Behaviors of Employees Responding to Survey After Implementation of Smoke-Free Ban in Five Hospitals

Employee Responses	Hospital Designation					All Hospitals (N = 1997)
	A (n = 574)	B (n = 640)	C (n = 187)	D (n = 308)	E (n = 288)	
"Am a current smoker," no. (%)	119 (21)	152 (24)	36 (19)	73 (24)	66 (23)	446 (22)
"Hospital did a good job educating employees about the smoking ban," no. (%) agreement	426 (74)	524 (82)	154 (82)	185 (60)	193 (67)	1482 (74)
"Hospital did a good job offering smoking cessation opportunities for employees," no. (%) agreement	373 (65)	506 (79)	150 (80)	176 (57)	147 (51)	1352 (68)
"Hospital does a good job educating patients about smoking cessation," no. (%) agreement	229 (40)	338 (53)	99 (53)	151 (49)	107 (37)	924 (46)

62% were younger than 40 years of age, and 73% had at least some college education. Eleven percent of respondents were physicians, 31% were nurses, 20% were allied health professionals, 24% were clerical workers, and 14% were support services personnel. Twenty-two percent of employees classified themselves as current smokers, including 25% of female and 17% of male employees ( $P < .05$ ). Current smoking prevalences ranged from a low of 3% among physicians, to 21% among nurses, to a high of 28% among support services personnel. Since the ban went into effect, 9% of previous smokers stated that they had quit smoking because of the hospital smoking ban, and an additional 57% of those who continued to smoke indicated that they had cut down on the daily number of cigarettes smoked. Reported quit rates did not differ significantly between hospitals.

Employees across all hospitals agreed that the hospitals did a better job of educating employees about the smoking bans than educating patients (Table 3). Seventy-four percent of employees (including the majority of smokers) agreed that the hospitals were doing a good job of educating employees about the new policies, compared with 46% who believed that the hospitals were doing an equally good job of educating patients who smoked about smoking cessation.

Employees across all hospitals reported consistent violations of the smoking ban by their colleagues within the month before the survey. Although 51% of employees reported that they had not seen any violations, 25% reported having seen one or two, 12% reported having seen three to five, and 12% reported having seen six or more violations. We classified each hospital according to employee reports of violations into two categories: those

with good overall reported compliance (less than 2 violations seen per employee) and those with significant compliance problems (6 or more violations seen per employee). Using this classification, the hospitals differed significantly, with overall good compliance reported by 67% to 91% of the employees and significant compliance problems reported by 2% to 19% of the employees.

## Discussion

By the end of 1992, almost all US hospitals will have become smoke-free.<sup>10-12</sup> Such an accomplishment is rather remarkable considering the very small number of hospitals that were smoke-free only 5 years ago.<sup>6,13</sup> Moreover, cleaner and safer worksites that are free of passive smoke are important public health gains that should not be underestimated. Although the research literature has appropriately emphasized the positive attributes of such policies,<sup>3,4,8</sup> our study points out an important caveat: establishing smoke-free hospitals cannot be viewed as an end in itself, but as part of the evolving process of creating comprehensive hospital tobacco-control programs.<sup>11,14</sup>

Our research shows that many hospitals will continue to face difficult challenges for many months after implementing smoking bans. First is the issue of non-compliance with the policy. In some hospitals, almost one in five employees reported seeing the smoke-free policy violated more than six times in 1 month. In such cases, specific areas, eg, hospital bathrooms, have likely replaced smoking lounges as alternatives for smokers attempting to continue smoking in the hospital. To help

avoid undermining the smoke-free policy, hospitals should direct special attention to high-risk areas and consistently enforce the policy. If a consistent system of monitoring, feedback, and reprimand is maintained, violations should become less frequent. It is important that hospital administrators deal with known violations just as they would any other violation of hospital policies, thus reinforcing and focusing attention on the policy itself, not on the individual.

Compliance with smoke-free policies may also be problematic. Hospital employees who continue to smoke are away from their work for longer periods, as they must go outside the building to smoke. Smoking around hospital entrances predictably increases litter, and creates a "hangout" that may reinforce smoking habits and discourage smoking cessation.<sup>10,15,16</sup> Also, allowing patients to leave the hospital to smoke cigarettes might cause liability problems if something should happen to the patient while outside.<sup>10</sup> At the very least, the image that smoke-free institutions are striving to create is threatened.<sup>10,16,17</sup>

In this context, it is interesting to note that the one hospital in our study that built a separate, enclosed outdoor area for smoking also reported the most problems after implementation of the ban. Some hospitals that have completely eliminated tobacco smoking on hospital grounds report more favorable experiences.<sup>4</sup> Many hospital administrators may still feel ambivalent, however, about how far they should or can go in limiting tobacco smoking at work. All solutions, while recognizing and empathizing with the individual's tobacco addiction, should maintain the highest standards for protecting and promoting public health.

Another major lesson is that creating smoke-free hospitals does not eliminate the need for health care professionals to identify those patients who are addicted to nicotine and offer them specialized smoking-cessation treatment protocols. While we were glad to find that specific physician orders allowing patients to smoke while hospitalized were rare in our hospital cohort, almost half of the patients who were smokers reported that they had not been counseled to quit smoking by any health care professional since being admitted. Many of these same smokers continued to smoke while hospitalized, thus risking disease prolongation or exacerbation as well as endangering the health of other patients. Although the original purpose for smoke-free hospitals was not to stimulate patients to quit smoking, the smoke-free environment offers an unequalled opportunity for health care professionals to encourage smoking cessation,<sup>14</sup> just as hospitalized patients with alcohol addictions are offered detailed acute and chronic detoxification programs.

All hospitals should establish formal smoking cessation programs for their patients who smoke.

Our study has several potential limitations. The Augusta hospitals established their smoke-free facilities 1 year before the recent JCAHO smoking ban; their hospital efforts were voluntary rather than mandated; and the policies were instituted in a single southern city. Our experiences are probably very similar, however, to the majority of US hospitals that have just enacted the smoking ban because of our use of a joint implementation date, the 7-month lead time, and hospital-specific methods for policy implementation. Also, our research was conducted only 4 months after the Augusta hospital smoking bans were enforced, a relatively short time to accurately predict the long-term effects of such policies or to determine whether the short-term effects persist over time. Our data on employee smoking rates and behaviors are consistent, however, with data from studies with longer follow-up periods,<sup>3,8</sup> and reports from hospital administrators at the Augusta hospitals 1 year after the ban was implemented show that many of the problems cited above remain unresolved. Finally, although our research relied on self-report data from patients and employees, any response bias from underestimating smokers' responses only strengthens our findings, for the patients and employees who continued to smoke in and around the hospital generated many of the remaining challenges.

In conclusion, five hospitals in a state with traditionally strong ties to tobacco voluntarily agreed to establish smoke-free hospitals. Such cooperation may offer a unique method for hospitals to provide community-wide leadership in future tobacco control efforts both within and outside the hospital setting. Despite the expected initial support, several problems remain, and new ones were discovered that other hospitals will also need to confront. Now that hospitals have broken their institutional tolerance of tobacco, the individual tobacco addictions of their patients, employees, and communities must be addressed.

#### Acknowledgments

The authors wish to thank the staff, patient representatives, and administrators of the participating hospitals. Special thanks are given to the following hospital representatives: Warren Johnson, senior account executive, University Hospital; Brett Brannon, assistant executive director, Humana Hospital of Augusta; David Henderson, corporate development, Saint Joseph Hospital; and Major Jim Fuzy, administrative resident, Dwight David Eisenhower Army Medical Center. We also wish to thank Harry Davis and John Preisser for help in data analysis; Peter Curtis, MD, and Harvey Hamrick, MD, for manuscript review; and Nina Wallace for her support in manuscript preparation.

## References

1. Rice PR, Hodgson TA, Sinsheimer P, et al. The economic costs of the health effects of smoking. *Milbank Mem Fund Q* 1986; 64: 489-547.
2. Stillman FA, Becker DM, Swank RT, et al. Ending smoking at the Johns Hopkins medical institutions. *JAMA* 1990; 264:1565-9.
3. Hudzinski LG, Frohlich ED. One-year longitudinal study of a no-smoking policy in a medical institution. *Chest* 1990; 97:1198-1202.
4. Hurt RD, Berge KG, Offord KP, et al. The making of a smoke-free medical center. *JAMA* 1989; 261:95-7.
5. 'Smoking ban to be accreditation requirement.' *Am Med News*, April 15, 1991.
6. Holland RP. National hospital tobacco smoking policy survey. Lancaster, Pa: American Lung Association, 1988.
7. Kottle TE, Hill C, Heitzig C, et al. Smoke-free hospitals: attitudes of patients, employees, and faculty. *Minn Med* 1985; 1:53-5.
8. Becker DM, Conner MF, Waranch HR, et al. The impact of a total ban on smoking in the Johns Hopkins Children's Center. *JAMA* 1989; 262:799-802.
9. Dawley HH, Burton MC. Smoking control in a hospital setting. *Addict Behav* 1985; 10:351-5.
10. Joseph AM, O'Neil PJ. The Department of Veterans Affairs smoke-free policy. *JAMA* 1992; 267:87-90.
11. Barker AF, Moseley JR, Glidewell BL. Components of a smoke-free hospital program. *Arch Intern Med* 1989; 149:1357-9.
12. Hospitals go smoke-free. *Raleigh News and Observer* 1992 Jan 3.
13. Berman EJ, Richards JW, Fischer PM, Creten DA. Smoking in hospitals. *JAMA* 1985; 254:3420.
14. Hurt RD. Toward smoke-free medical facilities. *Chest* 1990; 97: 1027-8.
15. Dawley HH, Carrol SF, Morrison JE. The discouragement of smoking in a hospital setting; the importance of modeled behavior. *Int J Addict* 1981; 16:905-10.
16. Phillips WR. The camel shed test. *JAMA* 1991; 266:14.
17. Goldstein AO, Hellier A, Fitzgerald S, Stegall TS, Fischer PM. Hospital nurse counseling of patients who smoke. *Am J Public Health* 1987; 77:1233-4.