# ABSTRACT

The prevalence of smoking among physicians has gradually declined over the past 25 years. Few recent studies have examined specific smoking habits. Of 393 physicians in the Minnesota Medical Association who responded to a survey (response rate of 83%), 9% reported smoking any form of tobacco. The prevalence of cigarette smoking was 4.9%, while 5.1% smoked a pipe and 2.1% smoked cigars. The prevalence estimates of current and former smokers were greater among men than women and among older than younger physicians. Cigarette and overall smoking prevalence among physicians continues to be well below levels reported for the general population. (Am J Public Health. 1993:83:415-417)

# The Smoking Habits of Minnesota Physicians

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#### Introduction

Smoking among the general population in the United States has experienced a gradual decline since the mid-1960s.1 There has been a similar decline in smoking among physicians during this time, with prevalence estimates much lower than those of the general population.<sup>2-12</sup> Most studies on physicians have reported the prevalence of either smoking (unspecified) or solely cigarette smoking, but few studies have provided data on other forms of tobacco use. The purpose of this brief report is to provide an update on the prevalence of smoking in physicians and to provide more detailed information on specific smoking habits.

#### Methods

A survey inquiring about smoking habits, as part of a larger survey, was sent to a random sample of 500 practicing physicians, without regard to specialty, in the Minnesota Medical Association. Details of the survey procedure have been published elsewhere.13 The SAS statistical package14 was used to examine data by sex, age, smoking habits, and medical specialty. The BMDP statistical package15 was used to determine statistical significance by entering age, gender, and smoking status (current smoker, former smoker, never smoker) as variables in a polychotomous logistic regression model and examining the P values associated with the regression coefficients.

### Results

Of these 500 physicians, 12 had retired and 12 had moved away or were unavailable. Of the 476 eligible physicians, 393 returned surveys (a response rate of 83%). Four respondents did not answer the questions on smoking. In those responding, the mean age of current and former smokers was 49 years and the mean age of never smokers was 43 years. Table 1 shows respondents classified by 10-year age groups. The percentage of physicians who had never smoked decreased with in-

creasing age, while the percentages of current and former smokers increased.

The overall prevalence of current smoking of any form of tobacco was 9% (Table 2). Current smoking was reported by 10.1% of men and 2% of women. In addition, more men than women were former smokers (39.8% vs 21.6%). Therefore, women were more likely than men to have never smoked (76.5% vs 50.1%). A polychotomous regression model showed that age (P < .001) and gender (P = .02)were significantly related to smoking status. The prevalence of current cigarette smoking was 4.9%; pipe smoking was slightly more common at 5.1%, and 2.1% were cigar smokers. Current smokers were more likely to smoke a pipe, while former smokers were much more likely to smoke cigarettes (82% of former smokers smoked cigarettes, 35% smoked a pipe, and 25% smoked cigars). Although there were some differences in smoking habits among specialties, these differences did not attain statistical significance.

#### Discussion

Cigarette smoking by physicians steadily declined from 30% in the 1960s to about 20% in the early 1970s.2 Various surveys estimated the prevalence at approximately 10% to 15% around 1980.3-5 With regard to more recent data from the 1980s, the proportion of physicians in Rhode Island who smoked declined from 33% in 1963 to 9% in 1983.6 The prevalence of smoking among 567 pulmonary physicians practicing in 1983 was found to be 12%. Of this 12%, 4.6% were cigarette smokers, while 7.4% smoked a pipe or cigars.7 Among 500 cardiologists surveyed in 1984, the prevalence of cigarette smoking was 7.1%.8 In a 1984 survey of

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Age Group, y	Current Smokers		Former Smokers		Never Smokers	
	No.	%	No.	%	No.	%
20-29			* * *		2	100
30-39	5	4	33	25	92	71
40-49	13	11	48	39	62	50
50-59	12	13	43	45	40	42
6069	5	15	18	55	10	30
7079			3	75	1	25
Unknown					2	100
Total	35	9.0	145	37.3	209	53.7

Smoking Status	Men <sup>a</sup>		Women		Total	
	No.	%	No.	%	No.	%
Current smokers <sup>b</sup>	34	10.1	1	2.0	35	9.0
Cigarettes	18	5.3	1	2.0	19	4.9
Cigars	8	2.4	0		8	2.1
Pipe	20	5.9	0		20	5.1
Former smokers	134	39.8	11	21.6	145	37.3
Never smokers <sup>c</sup>	169	50.1	39	76.5	209	53.7

Massachusetts physicians, 7% of 292 community-based physicians smoked cigarettes, while 10% smoked a pipe or cigars. In this same survey, 6% of 51 attending physicians at the University of Massachusetts Medical School smoked cigarettes and 18% smoked a pipe or cigars. A 1987 survey of physicians at Johns Hopkins observed that 5.5% were current smokers, while a 1989 report from the Mayo Clinic indicated that 9% of the clinic staff were current smokers. Finally, a recent survey of 1349 internists reported that only 3.8% currently smoked, while 39.5% had ever smoked.

These figures compare favorably with the general population in the United States. Data from the 1987 National Health Interview Survey revealed that 38.9% of men and 27.2% of women in the United States used some form of tobacco. Among men, 3.4% smoked a pipe and 5.3% smoked cigars. Cigarette smoking was reported by 31.2% of men and 26.5% of women. By 1990, these estimates for cigarette smoking had declined to 28.4% and 22.8% for men and women, respectively.

In other countries, the decline in smoking among physicians has not reached the same levels as in the United States. <sup>18,19</sup> In a recent survey of 12 countries in the European community, the prevalence of physicians who smoked was less than 20% in only 1 country, the United Kingdom. <sup>18</sup> In 8 of these countries, this figure exceeded 30%, including 4 where the prevalence of smoking among physicians was greater than in the general population. <sup>18</sup>

The results of this survey are in agreement with previous reports that show a low prevalence of smoking among physicians in the United States. In addition, the increased prevalence of pipe and cigar smoking compared with cigarette smoking reported in this study is consistent with the previous surveys of pulmonary physicians and Massachusetts physicians discussed above. However, caution should be exercised when interpreting the relative percentages reported herein because of the small number of current smokers. Nevertheless, the type of smoking is irrelevant inasmuch as mortality ratios for oral, laryngeal, and esophageal cancers are similar among smokers regardless of the specific smoking habit,1 while mortality ratios for many other causes of death are increased for pipe and cigar smokers compared with nonsmokers.20

Overall, the relatively low levels of smoking, and specifically cigarette smoking, among physicians in this study are encouraging. There is some evidence that physicians' counseling practices reflect their personal habits. 12,21 Assuming this to be true, their sustained low prevalence of smoking should continue to help promote physicians to "preach what they are practicing."  $\Box$ 

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#### References

- Centers for Disease Control. Reducing the Health Consequences of Smoking: 25 Years of Progress—A Report of the Surgeon General. Rockville, Md: US Dept of Health and Human Services, Public Health Service; 1989. DHHS publication CDC 89-8411.
- Smoking and Health. A Report of the Surgeon General. Washington, DC: Public Health Service, Office of the Assistant Secretary for Health, Office on Smoking and Health; 1979. DHEW publication PHS 79-50066.
- Enstrom JE. Trends in mortality among California physicians after giving up smoking: 1950–79. Br Med J. 1983;286:1101– 1105.
- Wyshak G, Lamb GA, Lawrence RS, Curran WJ. A profile of the health-promoting behaviors of physicians and lawyers. N Engl J Med. 1980;303:104–107.
- Wells KB, Lewis CE, Leake B, Ware JE. Do physicians preach what they practice? A study of physicians' health habits and counseling practices. *JAMA*. 1984;252: 2846-2848.
- Centers for Disease Control. Smoking-related mortality decline among physicians— Rhode Island. MMWR. 1990;39:656-658.
- Sachs DPL. Smoking habits of pulmonary physicians. N Engl J Med. 1983;309:799. Letter.
- Marwick C. Many physicians following own advice about not smoking. *JAMA*. 1984;252:2804.
- Ockene JK, Aney J, Goldberg RJ, Klar JM, Williams JW. A survey of Massachusetts physicians' smoking intervention practices. Am J Prev Med. 1988;4:14-20.
- Stillman FA, Becker DM, Swank RT, et al. Ending smoking at the Johns Hopkins medical institutions. *JAMA*. 1990;264:1565–1569.
- Hurt RD, Berge KG, Offord KP, et al. The making of a smoke-free medical center. JAMA. 1989;261:95–97.
- 12. Lewis CE, Clancy C, Leake B, Schwartz JS. The counseling practices of internists. *Ann Intern Med.* 1991;114:54–58.
- Hensrud DD, Sprafka JM, Connett J, Leon AS. Physical activity in Minnesota physicians. *Prev Med.* 1992;21:120–126.
- 14. SAS User's Guide: Basics Version 5 Edition. Cary, NC: SAS Institute Inc; 1985.
- Dixon WJ, Brown MB, Engelman L, Jennrich RI, eds. BMDP Statistical Software

- Manual, Vol. 2. Berkeley, Calif: University of California Press; 1990.
- Schoenborn CA, Boyd GM. Smoking and other tobacco use: United States, 1987. Vital Health Stat [10]. 1989; No. 169. DHHS publication PHS 89-1597.
- 17. Centers for Disease Control. Cigarette smoking among adults: United States,
- 1990. MMWR. 1992;41:354-355, 361-362.
- 18. Lowry S. Teaching by example. *Br Med J*. 1989;299:936.
- Adriaanse H, Van Reek J. Physicians' smoking and its exemplary effect. Scand J Primary Health Care. 1989;7:193– 196
- 20. Carstenson JM, Pershagen G, Eklund G.
- Mortality in relation to cigarette and pipe smoking: 16 years' observation of 25,000 Swedish men. *J Epidemiol Community Health*. 1987;41:166–172.
- Lewis CE, Wells KB, Ware J. A model for predicting the counseling practices of physicians. J Gen Intern Med. 1986;1: 14-19.

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