

# Tobacco-Control Attitudes, Advocacy, and Smoking Behaviors of Oncology Nurses

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**Purpose/Objectives:** To describe oncology nurses' attitudes, smoking behaviors, and involvement in tobacco-control policy and legislation.

**Design:** Descriptive, cross-sectional survey.

**Sample:** Responses from 1,508 (38% return) of 4,000 randomly selected members of the Oncology Nursing Society (ONS). The typical respondent was female, age 44, a staff nurse, had practiced as an oncology nurse for 12 years, and was certified as an OCN®.

**Methods:** A mailed survey with specific questions about smoking status and the importance of nursing involvement in healthcare policy and legislation for tobacco control.

**Main Research Concepts:** Attitudes about tobacco-control policies and legislation; sociodemographic, professional, and institutional variables; and tobacco use.

**Findings:** The majority (85%) of members stated that nursing involvement in tobacco-control healthcare policy and legislation was important. More than 90% of respondents supported prevention of youth access to tobacco and providing information about health effects of tobacco and cessation. Seven percent ( $n = 106$ ) were current smokers. Significantly fewer smokers valued involvement in tobacco-control activities. Respondents with personal experience of tobacco-related illnesses were more likely to value involvement in advocacy activities. Educational programs to prevent tobacco use among youth and to help patients stop smoking received the most support (80%).

**Implications for Nursing Practice:** This sample of ONS members strongly supported involvement in tobacco-control policies and legislation. Smoking was associated with more negative attitudes about the importance of actively engaging in tobacco control. These oncology nurses recognized the need for additional educational programs to prevent tobacco initiation by youth.

Smoking has decreased in the United States since the 1964 Surgeon General Report on the health consequences of smoking. However, approximately 48 million adults and 4.5 million adolescents continue to smoke (Centers for Disease Control [CDC], 1998b, 1999c). Tobacco-control strategies have expanded beyond

## Key Points . . .

- More than 80% of Oncology Nursing Society (ONS) members surveyed strongly support efforts to prevent youth from smoking, provide information about cessation and health effects of tobacco to patients, and ensure smoke-free environments.
- Eighty-five percent of ONS members surveyed strongly endorsed the importance of involvement in tobacco control, but only 6% were directly involved in healthcare policy or legislative effort activities.
- ONS members who smoke have more negative attitudes about the importance of involvement in tobacco control.

individually focused interventions to help prevent and stop tobacco use, to help societal efforts to change tobacco policy, and to assist legislation at federal, state, and local levels (Fishman et al., 1999). Healthcare professionals can enhance public health efforts aimed at reducing tobacco-related death and morbidity by being actively involved and publicly endorsing their importance.

Tobacco prevention and control are of particular concern to oncology nurses because tobacco is associated with more than 30% of all cancer deaths, including 85% of lung

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cancers (CDC, 1989). Public health strategies for tobacco-control policies and legislation fit well with the principles of the Oncology Nursing Society's (ONS's) Health Policy Agenda: "ONS promotes environmental and occupational factors that influence health, wellness, and quality of life, while safeguarding against factors that promote disease" (ONS, 1999b). One of the 10 priorities ONS established for the 106th U.S. Congress was to participate actively in the support of "legislation and initiatives that address strategies to decrease tobacco use among all individuals and promote the constructive use of tobacco settlement funds or monies" (ONS, 1999b).

ONS, the largest oncology healthcare professional organization in the United States, has the potential to significantly influence cancer-related healthcare policy and legislation. Although numerous research studies have described advocacy activities of nurses in the prevention and early detection of cancer (e.g., skin, breast, cervical), limited attention has been placed on the role of nurses in the prevention of tobacco-related cancers. To enhance oncology nurses' efforts in tobacco control, an understanding of attitudes that might enhance or limit advocacy is needed. Thus, the goal of this study was to describe the attitudes of oncology nurses about involvement in tobacco control. Sociodemographic variables, professional characteristics, institutional factors, and personal tobacco use were conceptualized as variables affecting attitudes about tobacco control.

## **Tobacco Control Healthcare Policy Efforts**

Public health efforts, including legislative and policy solutions, have been added to healthcare providers' efforts to create social change to eliminate or decrease tobacco use. Recognizing the importance of a public health approach, a federal tobacco settlement was proposed and defeated in Congress in June 1998 (CDC, 1999c). Since that defeat, a 46-state settlement, known as the Master Settlement Agreement, has been reached. Unfortunately, despite the initial publicity about the purpose of the legal action, the majority of the money will not go for health-related or tobacco-prevention/cessation programs. Only 10% of the first settlement funds will support tobacco prevention programs (Irvine, 2000). Recently, the federal government renewed its efforts to hold tobacco companies accountable for the billions of dollars paid for tobacco-related diseases by filing a civil lawsuit (Lichtblau, 2000).

Current tobacco-control efforts have been directed toward the education and prevention of youth initiation of tobacco use and increasing cessation efforts of current smokers (Forster & Wolfson, 1998). Other strategies that have been discussed as important components of a comprehensive tobacco-control policy include elimination of cigarette advertising, changes in labeling of tobacco products, retail tobacco licensing, and product ingredient disclosure (Fishman et al., 1999). Oncology nurses' attitudes about (a) preventing youth access to tobacco products, (b) increasing cigarette taxes, (c) ensuring smoke-free environments, and (d) limiting global tobacco exports are the focus of this report. The following is a brief review of essential aspects of these tobacco-control strategies.

## **Youth Access to Tobacco Products**

Prevention of youth uptake of tobacco is a serious concern in the future prevention of cancer. The CDC (1996) projected that five million youth who smoke will die of a tobacco-related illness, and many of these deaths will be caused by cancer. The prevention of smoking among young people has been identified as a public health priority because the majority of people begin smoking before 18 years of age. Approximately 3,000 youths begin smoking every day, and half of all high school youths have used tobacco within the past year (CDC, 1996). The use of smokeless or "spit" tobacco, associated with cancers of the head and neck, also is on the rise (Tomar & Giovino, 1998). Additionally, the recent increased use of cigars, especially common among youth in ethnic minority communities, may portend an increase in lung cancer deaths (Boffetta et al., 1999; CDC, 1997).

In 1997, the U.S. Food and Drug Administration (FDA), motivated by evidence supporting the addictive properties of nicotine, sought to regulate tobacco and prevent tobacco use by children and adolescents through government regulations (Kessler et al., 1997). Despite heightened public awareness of the early age of tobacco addiction and the importance of advocacy activities aimed at youth, Congress defeated the proposals. The FDA proposal to control nicotine through the regulation of cigarettes was overturned by the U.S. Supreme Court (Savage, 2000).

ONS endorses laws that serve to prevent youth access to tobacco products and to prevent smoking among youths (ONS, 1999b). Although all states prohibit sales to minors, laws have been unevenly enforced throughout the nation (Rigotti et al., 1997). Youths are still able to purchase tobacco products, especially from small stores and gas stations (Fishman et al., 1999). Forty-one states and Washington, DC, now have laws that restrict youth access to vending machines that sell tobacco products (Fishman et al.).

## **Cigarette Taxes**

Several studies have suggested that increases in both the federal and state tax on cigarettes may be the single most effective way to reduce tobacco consumption, especially among youth (CDC, 1998b; Chaloupka & Wechsler, 1997; Fishman et al., 1999; U.S. Department of Health and Human Services, 1994). A review of 14 years of smoking data from the National Health Interview Survey showed that low-income adults, ethnic minorities (both Hispanic and African American smokers), youths, and young adults were most sensitive to these price controls (CDC, 1998a). In response to a price increase, smokers were more likely to reduce the number of cigarettes smoked or to quit smoking. The smoking status of low-income and ethnic minorities, especially African Americans, is of particular concern given the increased incidence of tobacco-related cancers in these groups (American Cancer Society [ACS], 2000; U.S. Department of Health and Human Services, 1998; Wingo et al., 1999). Community-based tobacco prevention educational programs, along with price increases, are even more effective than tax price increases alone in decreasing cigarette consumption (CDC, 1999a).



## Smoke-Free Environments

Environmental tobacco smoke is a carcinogen capable of causing cancer (U.S. Environmental Protection Agency, 1992). It is associated with 3,000 annual deaths from lung cancer and a variety of other tobacco-related cancers and illnesses, especially among infants and children. ONS healthcare policy supports the protection of nonsmokers from environmental tobacco smoke. Policies and legislation to ensure smoke-free environments and policies to restrict tobacco use in public arenas are the focal points for discussion in an increasing number of communities and have been associated with decreased tobacco consumption. Smoking policies in the workplace reduce exposure of nonsmokers to environmental tobacco smoke and are associated with a decrease in the prevalence of smokers, especially youths (Fishman et al., 1999). Even for healthcare professionals and patients, smoke-free hospitals are a relatively recent phenomenon (Longo et al., 1996).

## Global Exports

Unless drastic changes are made in worldwide tobacco use, a projected 10 million people who currently smoke will die of tobacco-related diseases every year (Murray & Lopez, 1996). By 2030, the burden of tobacco-related morbidity and mortality will be felt primarily by people in developing countries, especially women (Mackay, 1999; Murray & Lopez). Three million deaths per year are projected for China alone by the middle of the 21st century (Liu et al., 1998). Many of these deaths in other countries will be the result of the use of products made and exported by U.S. tobacco companies. The World Health Organization (WHO) has made international tobacco control a major priority (WHO, 1999). Organizational policies confirm the commitment of ONS to reduce global tobacco-related morbidity and mortality (ONS, 1999a). Important components of a legislative agenda to fight global tobacco use include an end to federal support for tobacco exports abroad (CDC, 1999c; Mackay).

## Nurses as Advocates in Tobacco Control

Nurses have been less visible than other healthcare professionals in legislative efforts in local, state, and national arenas in the fight against tobacco-related disease. The importance of the involvement of nurses in public education about tobacco prevention and cessation has received limited discussion, even though the importance of oncology nurses' involvement in such efforts has been addressed in the oncology nursing literature since the 1980s (Johnson, 1981; Knopf, 1984). ONS has issued antitobacco policy statements since 1984 (ONS, 1984).

An important factor encouraging increased nursing involvement in tobacco control was the publication of the first national guidelines for smoking cessation by the Agency for Health Care Policy Research (AHCPR) (Fiore et al., 1996). This document contains strategies and recommendations for smoking cessation based on meta-analyses of current research in the area. These recommendations were intended for use by all healthcare professionals to recognize the important contributions that nurses can make

in smoking cessation. However, clinical interventions alone are not enough to eliminate cancer-related deaths caused by tobacco. Prevention of tobacco use is essential.

## Conceptual Framework for the Study

In the framework for this study, sociodemographic, professional, and institutional factors were conceptualized as influencing attitudes about advocacy in tobacco control. In addition, nurses' smoking status was considered as a variable influencing involvement in tobacco control. Compared to other healthcare professionals, nurses have the highest prevalence of tobacco use (Nelson et al., 1994). However, smoking among oncology nurses has been reported to be lower than other specialty nurses (Trinkoff & Storr, 1998). Additionally, sociodemographic variables, including age, gender, ethnicity, marital status, place of residence, living with a household member who smokes, and experiences with tobacco-attributable diseases in a family member or friend, may influence a commitment to advocacy. Professional education, clinical experiences, work-related responsibilities, and job position also may contribute to different attitudes toward tobacco control.

## Purpose

The purposes of this study were to describe oncology nurses' (a) attitudes about their involvement in tobacco control, (b) evaluation of the importance of specific tobacco-control policies and legislation, (c) views about the relative importance of types of educational tobacco-control programs, and (d) the relationships among sociodemographic, professional, and institutional factors, tobacco-control attitudes and advocacy, and smoking behaviors. A secondary purpose was to describe smoking prevalence among respondents and investigate differences in smoking status by sociodemographic, professional, and institutional factors. This report is part of a larger study describing the involvement of oncology nurses in tobacco-control interventions in clinical practice as recommended by AHCPR's *Smoking Cessation Clinical Practice Guideline* (Sarna et al., 2000).

## Methods

### Sample

A cross-sectional survey design was used to describe the attitudes of randomly selected members of ONS about tobacco control. Four thousand members who described themselves in a membership form as being involved in patient care were selected to receive the mailed questionnaire. The focus of the larger survey on the use of tobacco cessation interventions in clinical practice was relevant to ONS members who currently were employed in a patient-care setting; thus, responses from retired and unemployed respondents were not included in the analyses. Because of the anticipated low response to a mailed survey, the researchers purposefully oversampled to ensure a minimum response of 760 respondents to allow for comparisons between groups (i.e., 380 per group) using a 95% confidence interval and power set at 0.80.



Thirty-nine percent ( $n = 1,650$ ) of the targeted sample returned the questionnaire. After exclusion of retired or unemployed nurses, 1,508 respondents (91% of those returned, 38% of original sample) were included in the final analysis.

## Instrument

The development, reliability, and validity of the 41-item survey instrument "Oncology Nurses and Tobacco Control Survey" are described in detail elsewhere (Sarna et al., 2000). The survey included eight specific questions/subscales about attitudes on involvement of oncology nurses in tobacco control, views about the importance of certain tobacco-control policies and legislation, and importance of tobacco-control educational programs. The attitude subscale focused on attitudes about nurses' role in tobacco control and was based on items used in a previous survey of oncology nurses conducted by Gritz and Kanim (1986). The four items in the attitude subscale included attitudes about encouraging patients to stop smoking, helping patients stop smoking, the need for additional training in tobacco prevention and cessation, and setting a good example by not smoking. Each item had a five-point response scale (1 = strongly agree; 5 = strongly disagree). The eight-item healthcare policy subscale assessing the importance of oncology nurse involvement in legislation and healthcare policy included (a) supporting laws to prevent youth access to tobacco products, (b) supporting laws to ensure smoke-free environments, (c) supporting laws to restrict tobacco use in public, (d) supporting laws to increase cigarette taxes, (e) supporting policies to limit the export of tobacco, (f) providing information about the role of nurses in tobacco control, (g) the role of the nurse in providing information about tobacco control, and (h) the health benefits of smoking cessation. The five-point response scale ranged from 1 (very important) to 5 (not important). These items were developed prior to the proposal by the FDA to control tobacco. The internal consistency of the two subscales using Cronbach's alpha was acceptable (attitudes  $\alpha = 0.79$ ; healthcare policy  $\alpha = 0.91$ ).

Additionally, two questions requested information about the nurses' involvement in public-education efforts in tobacco cessation and prevention efforts and participation in tobacco policy or legislative activities within the previous year. Those who were active were asked to describe their involvement. Two items evaluated attitudes about the overall importance of oncology nurses' involvement in tobacco-control activities and the importance of tobacco control in comparison with other prevention activities. The five-point response scale ranged from 1 (not/least important) to 5 (very/most important). Finally, from a list of seven options, respondents were asked to select the three most important types of tobacco-control programs that they would like ONS to provide and then to select the best venues for these programs (e.g., Fall Institute, Congress, regional workshops, local chapter level).

Sixteen questions assessed sociodemographic variables (age, gender, ethnicity, marital status, geographic location, and experience with a tobacco-related illness), professional variables (educational background, years as a nurse, years as an oncology nurse, certification as an oncology nurse, and job position), and institutional variables (work-

ing in an inpatient/acute care or outpatient/community care, oncology-specific, or nononcology setting) that were conceptualized as influencing attitudes about tobacco control.

Because smoking status may affect attitudes about tobacco control, specific information about the respondent's smoking behavior was important to assess (Prochaska & Velicer, 1997). If the respondent was a current or former smoker, information was requested about age at initiation and quitting experiences. If the respondent was a current smoker, additional questions inquired about number of cigarettes smoked per day and the contribution of psychological, social, and nicotine dependence factors to continued smoking (adapted from the Gritz and Kanim survey, 1986). The five-point response for these factors ranged from 1 (not important) to 5 (very important). Cronbach's alpha for this subscale was 0.79.

## Procedure

After the study was approved for exemption by the University of California, Los Angeles Institutional Review Board, a list of 4,000 randomly selected oncology nurses who lived in the United States and worked in patient care was obtained from ONS. The survey was mailed using a bulk-mail permit, and reminder postcards were sent within two weeks of mailing the survey.

## Data Analysis

Descriptive statistics were used to summarize the sample characteristics. After examination of the distribution of the responses, several strategies were used for data reduction to ensure more powerful analyses. Responses to questions about attitudes toward the nurses' role in tobacco control were reduced to three levels: agree (strongly agree/agree), not sure, and disagree (disagree/strongly disagree). Responses to questions about oncology nurses' involvement in tobacco-control healthcare policy and tobacco control also were collapsed to three levels: important (very important/important), not sure, and less/not important (somewhat important/not important). Responses to the importance of overall involvement in tobacco-control activities and the relative importance of tobacco control in relation to other cancer prevention activities were dichotomized to group those with the most positive response (4–5 important; 1–3 not important).

After consideration of the distribution of responses, data-reduction strategies also were used for collapsing the sociodemographic, professional, and institutional variables. Sociodemographic variables were dichotomized: ethnicity (white/nonwhite), married/partnered (yes/no), presence of smokers in household (yes/no), and personal experience with serious tobacco-related illnesses of a family member or friend (yes/no). State of residence was used to determine assignment to one of nine geographic groupings.

Reduction of professional variable categories included primary work position as a staff nurse (yes/no) and certification as an oncology certified nurse (OCN®) or advanced oncology certified nurse (AOCN®) (yes/no). Educational preparation was reduced to three levels (diploma or associate degree, baccalaureate degree, master's and doctoral degree or higher). Institutional factors included work setting (inpatient/acute care or outpatient/community



care) and a designation as an oncology-specific or non-oncology-specific practice setting. Because current smoking status was assumed to be related to tobacco-control attitudes, it was considered a dichotomous variable (smoker or nonsmoker) for this analysis. The differences in smoking status by sociodemographic, professional, and institutional variables were examined.

Frequency tables were constructed and chi-square statistics were computed to evaluate significant differences in the ratings, given tobacco-control advocacy behaviors by sociodemographic, professional, and institutional characteristics and smoking status. Percentages were based on available responses; missing data were not inputted. Because of the exploratory nature of the study, the level of significance was set at  $p < 0.05$ .

## Results

### Sample

The average participant was 44.1 years old ( $SD = 9$ , range = 24–70), female (98%), Caucasian (94%), and married/partnered (74%). The majority (54%) had a friend or family member who experienced serious tobacco-related illness, and 18% had a household member who smoked. The majority were staff nurses (62%), certified as oncology nurses (72%), and worked in inpatient settings (58%). The educational preparation was as follows: baccalaureate (39%), associate degree (23%), master's (20%), diploma (18%), and doctorate (< 1%). The typical respondent had worked as a nurse for 18 years ( $SD = 9$ ) and as an oncology nurse for 12 years ( $SD = 6$ ). These characteristics were similar to the ONS membership of July 1996 (51% were staff nurses, 39% were employed as a nurse for  $\geq 16$  years, and 36% worked in an oncology setting for  $\geq 11$  years) (Rutledge & Engelking, 1998). Further details of the sample can be found elsewhere (Sarna et al., 2000).

### Attitudes About Tobacco Control

The majority (85%,  $n = 1,256$ ) stated that involvement in tobacco-control activities was an important role for oncology nurses, and 80% ( $n = 1,193$ ) agreed that nursing involvement in tobacco control was very important compared to other cancer-prevention activities. Respondents agreed that nurses should actively encourage patients to stop smoking (89%,  $n = 1,318$ ) and be actively involved

in helping their patients to stop (88%,  $n = 1,307$ ). Practically all (95%,  $n = 1,414$ ) of the respondents endorsed the statement that nurses should set a good example by not smoking.

### Importance of Tobacco-Control Policies and Legislation

Table 1 presents the level of agreement of oncology nurse respondents with the importance of a variety of tobacco-control activities. A majority of the respondents endorsed all eight of the legislation and policy statements regarding tobacco control. The greatest support ( $\geq 90\%$ ) was given to the importance of oncology nurses' involvement in supporting laws to prevent youth access to tobacco products, providing information about the health benefits of smoking cessation, and providing information about the health effects of tobacco.

Twelve percent ( $n = 183$ ) of the respondents were involved in public-education efforts in tobacco prevention within the previous year, and 9% ( $n = 131$ ) were involved in public-education efforts in tobacco cessation. The most common write-in comments described involvement in activities of ACS. Only 6% ( $n = 92$ ) of the respondents participated in tobacco policy or legislative activities. The most common advocacy activities listed were writing letters or contacting members of Congress and signing petitions.

### Importance of Educational Programs

Table 2 presents the most important tobacco-control programs desired by the respondents. These included programs to prevent tobacco use by youth and strategies to help patients to stop smoking. Programs on how to influence legislation and tobacco policy received the lowest ranking among the seven options. Local ONS chapters (66%,  $n = 986$ ) were selected as the best venue for tobacco-control programs, followed by ONS Congress (53%,  $n = 795$ ), regional ONS workshops (51%,  $n = 758$ ), and Fall Institute (45%,  $n = 669$ ).

### Smoking Behaviors

Table 3 displays the smoking characteristics of the sample. Of the former smokers, 30 nurses had quit smoking within the past year. Not displayed, 17% of the smokers had started by age 14. The average age at smoking initiation was similar for current smokers ( $\bar{X} = 17.1$  years,  $SD = 4.7$ ) as

Table 1. Importance of Advocacy Behaviors in Tobacco-Control Legislation and Policies by Oncology Nurses

Advocacy Behavior	Important		Not Sure		Not Important	
	n	%	n	%	n	%
Support laws to prevent access of tobacco products by minors.	1,375	92	48	3	70	5
Provide information about the health benefits of cessation.	1,377	90	40	3	76	5
Provide information about the health effects of tobacco.	1,350	90	59	4	86	6
Support laws to ensure smoke-free environments.	1,309	88	88	6	95	6
Support laws to restrict tobacco use in public.	1,229	82	140	9	123	8
Provide information about the role of nurses in tobacco control.	1,111	75	261	18	118	8
Support laws to increase cigarette taxes.	1,062	71	274	18	155	10
Support policies to limit export of tobacco products.	991	67	342	23	150	10

Percentages are based on the number of respondents; missing data ranged from 13–25 respondents.

N = 1,508



**Table 2. Tobacco-Control Programs Listed as Most Important for ONS Members**

Type of Program <sup>a</sup>	n	%
Prevention of tobacco use among youth	1,191	79
How to help patients stop smoking	987	66
How to implement the Agency for Health Care Policy Research <i>Smoking Cessation Clinical Practice Guideline</i>	686	45
How to help family members/friends of patients with cancer to stop smoking	521	35
How to help nurses stop smoking	439	29
How to influence tobacco legislation	343	23
How to influence tobacco-control policy	274	18

<sup>a</sup>Each respondent was allowed to select three programs.

compared to former smokers ( $\bar{X} = 17.3$  years,  $SD = 4.0$ ). Current smokers did not differ from other respondents as to geographic location, gender, ethnicity, educational background, years as a nurse, years in oncology nursing, certification in oncology nursing, practice role, clinical specialty in oncology, or type of work setting. A higher percentage of single/divorced/widowed nurses were smokers as compared with married/partnered nurses ( $\chi^2 = 7.25$ ,  $DF = 1$ ,  $p = 0.007$ , 10% versus 6%). However, a lower proportion of smokers as compared to nonsmokers had household members who also smoked ( $\chi^2 = 58.94$ ,  $DF = 1$ ,  $p = 0.001$ , 48% of smokers versus 58% of nonsmokers).

### Differences in Attitudes About Tobacco Control and Healthcare Policy

In evaluating the relationships of sociodemographic characteristics, professional attributes, institutional factors, and smoking status with the attitudes about nurses' involvement in tobacco-control activities, several significant associations emerged. Professional attributes and smoking status were significantly associated with these attitudes. Professional preparation and clinical role were related to attitudes about the value of tobacco control. The higher the level of education, the greater the perception of tobacco control as important ( $\chi^2 = 18.22$ ,  $DF = 2$ ,  $p = 0.001$ , 82% for diploma/associate degree, 85% for bachelor's degree, and 92% for master's/doctoral education). Staff nurses, as compared to nurses in other positions, were less likely to value tobacco-control efforts as important ( $\chi^2 = 5.32$ ,  $DF = 1$ ,  $p = 0.021$ , 84% versus 88%). Oncology nurses who smoked reported significantly different attitudes toward nursing involvement in tobacco-control activities compared to nonsmokers. Significantly fewer smokers thought that nurses should set a good example by not smoking ( $\chi^2 = 12.19$ ,  $DF = 2$ ,  $p = 0.002$ , 89% versus 96%), or should actively encourage their patients to stop smoking ( $\chi^2 = 7.91$ ,  $DF = 2$ ,  $p = 0.003$ , 81% versus 89%). Significantly fewer smokers thought that nurses needed additional training and skills ( $\chi^2 = 13.33$ ,  $DF = 2$ ,  $p = 0.001$ , 86% versus 93%). Table 4 displays significant differences in attitudes about nurses' involvement in tobacco-control policies and legislation by sociodemographic, professional, and institutional factors and smoking status.

The geographic location of the respondent was related to some of the differences in attitudes about healthcare

**Table 3. Smoking Characteristics**

Variable	n	%
<b>Number of cigarettes smoked per day</b>		
$\bar{X} = 11$	—	—
$SD = 8$	—	—
Range = 1–35	—	—
<b>Smoking status<sup>a</sup></b>		
Current smoker	106	7
Former smoker	449	30
Never smoker	944	63
<b>Age at initiation</b>		
< 18 years	313	57
18–21 years	197	36
> 21 years	42	7
<b>Distribution of current smokers by age (years)</b>		
20–29	4	4
30–39	18	18
40–49	50	51
50–59	23	23
60–69	4	4
<b>Reasons given for smoking<sup>b</sup></b>		
Psychological factors	51	76
Nicotine dependence	42	63
Social factors	8	13
<b>Readiness to quit smoking<sup>c</sup></b>		
Not thinking about quitting	6	1
Smoke occasionally	42	40
Thinking about quitting	35	33
Trying to quit	14	13
Tried to quit in past six months but relapsed	9	9

<sup>a</sup>Based upon 1,499 respondents

<sup>b</sup>Rated 4 or 5 on a scale of 1–5 (5 = very important)

<sup>c</sup>Based upon 542 respondents

policy. Views about the importance of oncology nurses providing information about the health effects of tobacco differed ( $\chi^2 = 29.96$ ,  $DF = 16$ ,  $p = 0.018$ ), with respondents from the South (95%) and central southeastern states (94%) ranking the highest and respondents from the mountain (79%) and central southwestern states (87%) the lowest. The findings were similar for the evaluation of the importance of providing information about health benefits of tobacco cessation ( $\chi^2 = 30.28$ ,  $DF = 16$ ,  $p = 0.017$ ), with respondents from the South (96%) and central southeastern (96%) states placing the greatest value for this strategy and respondents from the mountain (84%) and central southwestern (87%) states assuming the lower value. Geographic location was significantly related to the appraisal of the importance of oncology nursing involvement in tobacco control ( $\chi^2 = 19.51$ ,  $DF = 8$ ,  $p = 0.012$ ). Respondents from the mountain (79%) and the Pacific (72%) states reported the lowest support and the central northeastern (89%), Southern (89%), and New England (88%) respondents reported the greatest support.

## Discussion

### Support for Tobacco-Control Measures

The results of this survey of ONS members reveal overwhelming support for tobacco-control legislative and policy interventions, especially the support of laws to prevent youth access to tobacco products. The respondents



**Table 4. Attitudes About Oncology Nurses' Involvement in Tobacco-Control Legislation and Healthcare Policy**

Tobacco-Control Activity	Agree	$\chi^2$ <sup>a</sup>	p
<b>Providing information about the role of the nurse</b>			
• Ethnicity		6.54	0.038
– White	74%		
– Nonwhite	86%		
• Education <sup>b</sup>		12.27	0.015
– Diploma/associate	71%		
– Bachelor's	75%		
– Master's/doctoral	80%		
• Staff nurse		10.68	0.005
– Yes	72%		
– No	79%		
• Smoking status		6.58	0.037
– Smoker	71%		
– Nonsmoker	75%		
<b>Restrict tobacco use in public places.</b>			
• Smoking status		55.48	0.001
– Smoker	57%		
– Nonsmoker	84%		
• Staff nurse		6.07	0.048
– Yes	81%		
– No	85%		
<b>Increase cigarette taxes.</b>			
• Experience with tobacco-related illness		7.23	0.026
– Yes	74%		
– No	68%		
• Staff nurse		6.88	0.032
– Yes	69%		
– No	74%		
• Smoking status		49.74	0.001
– Smoker	46%		
– Nonsmoker	73%		
<b>Smoke-free environment</b>			
• Experience with tobacco-related illness		7.10	0.029
– Yes	90%		
– No	85%		
• Smoking status		60.69	0.001
– Smoker	64%		
– Nonsmoker	90%		
<b>Prevent teen access to tobacco.</b>			
• Smoking status		10.74	0.005
– Current smoker	84%		
– Nonsmoker	93%		
<b>Limit export of tobacco.</b>			
• Experience with tobacco-related illness		7.66	0.022
– Yes	69%		
– No	64%		
• Smoking status		44.05	0.001
– Smoker	45%		
– Nonsmoker	69%		

<sup>a</sup> DF = 1; <sup>b</sup> DF = 2

recognized and supported the role of oncology nurses in the education of the public about the health benefits of tobacco cessation and health effects of tobacco use.

Strong support existed for ensuring smoke-free environments. Despite the increase in smoke-free environments since the Environmental Protection Agency ruling in 1992, more efforts are needed in many states to make day-care centers, restaurants, and work and public sites smoke free (Fishman et al., 1999). Smoking restrictions result in more than cleaner air, they also are associated with decreased consumption of tobacco products (CDC, 1999b). In general, state or federal laws only set a minimum standard.

Although supported by the majority of respondents, the strategy that is perhaps most effective in reducing tobacco consumption, raising taxes on cigarettes, received less support than other policy options. Many explanations could exist for this response. Oncology nurses could be unaware of the link between prices and tobacco consumption. Others may feel concern for the predicament of impoverished smokers. Opponents to the failed federal settlement successfully used this argument, decrying a tax on the poor.

### Support for Global Interventions

The lowest level of support for tobacco control was given to policies that might limit the export of tobacco products. Both the International Society for Nurses in Cancer Care (ISNCC) and ONS support an international network of nurses against tobacco. In 1989, the International Council of Nurses (1993) approved a policy that states that member organizations should reduce, discourage, and eradicate the use of tobacco. Currently, WHO (1999) is organizing a Framework Convention on Tobacco Control to develop international rules and regulations for tobacco management. The efforts to establish a global tobacco-control treaty are needed to meet the challenges of the transnational spread of tobacco products (WHO, 1999). WHO (1998) also has adopted similar strategies to those proposed in the United States to prevent youth addiction to tobacco.

### Attitudes About Nursing Involvement in Tobacco Control

Attitudes about the need for involvement of oncology nurses in tobacco control have not changed substantially since Gritz and Kanim's (1986) survey of 409 oncology nurses in 1983. Eighty-nine percent of nurses in the present survey felt that encouraging patients to stop smoking was important as compared to 88% of the survey respondents 16 years ago. Similarly, 89% of nurses, as compared with 91% in the prior survey, felt that involvement in tobacco cessation was important.

Given the strong support in the United States for policies preventing youth access to tobacco, the fact that programs to prevent tobacco use by youth received the highest rating for recommended tobacco-control programs by respondents is not surprising. Further education about how to help patients stop smoking and use of the *Smoking Cessation Clinical Practice Guideline* (Fiore et al., 1996) also were highly ranked. However, educational programs regarding these topics received low ratings.



## Smoking Characteristics and Attitudes

The smoking prevalence of this sample of oncology nurses is similar to that reported by Reeve, Adams, and Kousekanani (1996)—7% of 316 oncology nurses in Texas. The prevalence is substantially lower than the 15% smoking prevalence among oncology nurses reported by Trinkoff and Storr (1998) and the 18% prevalence among nurses surveyed in 1991 (Nelson et al., 1994). Historical studies of student nurses have suggested that initiation of smoking increases after the time of entry to nursing school, in part, because of the role-modeling behavior of professional nurses (Padula, 1992). In this study, more than one-third (36%) began smoking during a time when they might have been receiving professional preparation as a nurse (18–21 years of age). The majority (57%), however, began smoking before 18 years of age. This is similar to findings about the initiation of tobacco use among youth (Elders, Perry, Eriksen, & Giovino, 1993).

## Factors Associated With Tobacco Control Advocacy

The results of this study indicate that attitudes about tobacco control are associated with some of the proposed influencing variables. In particular, the respondents' smoking status made a difference in these attitudes. Nurses who smoked did not place the same value on the importance of involvement in advocacy efforts in tobacco control as nonsmokers. Fewer nurses who smoked as compared to nonsmokers felt that policies should prevent youth access to tobacco products, restrict tobacco use in public places, ensure smoke-free environments, increase cigarette taxes, and limit export of tobacco products.

Smokers were less likely to endorse the concept of the nurse as a nonsmoking role model. This lack of support is similar to the findings of other studies about attitudes among nurses who smoke (Dalton & Swenson, 1986; Knobf & Morra, 1983; Sanders, Stone, Fowler, & Marzillier, 1986). Tobacco-control resolutions endorsed by ONS have supported oncology nurses as nonsmoking role models (ONS, 1984; Sarna & Brown, 1995). ISNCC has a similar policy.

Not previously reported as an influencing factor, nurses who had personal experience with a serious tobacco-related illness in a family member or friend also were more likely to be supportive of tobacco-control activities. The personal experience was strongly associated with attitudes about advocacy. In general, more educated nurses and nurses in educational and administrative positions were more supportive of tobacco-control measures than staff nurses. Geographic differences in tobacco-control attitudes need further study. Interestingly, respondents from the South and Central Southeastern states, where tobacco use is higher, gave the strongest support for tobacco-control measures.

## Limitations

Several limitations of this study exist that affect the interpretation of the findings. The 38% response rate to this survey was low, but it is consistent with other tobacco-control surveys (Ockene et al., 1997) and surveys of ONS members (Rutledge & Engelking, 1998). Smokers may

have been less likely to return the survey; thus the smoking prevalence among oncology nurses may be higher than that reported. This survey was mailed during an intense period of national debate about tobacco legislation and the dangerous health effects of smoking. These factors could have increased the nurses' knowledge about policy issues and affected the social acceptability of some responses. Finally, this study only addressed a small number of issues surrounding tobacco control.

Since this study was completed, evidence from tobacco industry documents presented during the Minnesota tobacco trial revealed that the industry was well aware of the addictive nature of nicotine (Dyer, 1998; Hurt & Robertson, 1998). These facts and the results of the multistate tobacco settlement might influence attitudes about tobacco control in future surveys. In addition to ONS and ISNCC, other oncology organizations also have been strongly committed to tobacco control. The American Society of Clinical Oncology (ASCO, 1996) supported a wide-ranging tobacco-control policy. Collaborative statements about tobacco-control policies and integrated policy-working groups representing all oncology healthcare professionals may be more influential than the actions of any single organization. Even stronger evidence is now available that supports the importance and effectiveness of healthcare professionals in tobacco cessation (Fiore et al., 2000).

## Implications for Research and Practice

As the largest group of healthcare professionals, nurses have tremendous power for political activism to support a comprehensive approach to prevent and reduce tobacco use. ONS has been a potent political force for a variety of cancer-related healthcare policies and legislation. With endorsement of the membership, ONS activism around tobacco control can be enhanced by collaboration with other professional nursing and cancer organizations at federal, state, and local levels in legislative and policy issues. Through ONS media, members can be alerted to other opportunities to support tobacco control, such as the Great American Smokeout (ACS), World No Tobacco Day (WHO), and Kick Butts Day (Campaign for Tobacco-Free Kids) (CDC, 1999d).

Nurses can play an important role in facilitating international collaboration among nurses to stem the global epidemic of tobacco-related death (Sarna, 1999). The ONS global policy (1999a) can be a starting point for action. Nursing curricula must emphasize the health impact of tobacco use and importance of the nurse's role in tobacco control. As the acceptability of tobacco use is changing in many cultures, the acceptability of the nurse as a "smoker" may be changing. In keeping with the previous ONS resolution (Sarna & Brown, 1995), special efforts and resources are needed to prevent initiation of tobacco use during nursing school and to provide cessation programs for student nurses (Kraatz, Dudas, Frerichs, Paice, & Swenson, 1998). Similar to Fiore and Baker's (1995) entreaty to physicians to join the "good doctor" club by not smoking, nurses must enroll in the "good nurse" club as nonsmokers and advocates of tobacco control. Further



research is needed to explore the best strategies to instill a culture of nurses as nonsmoking exemplars.

ONS has developed an increasing number of policies and advocacy relationships in this area and has linked with other coalitions, but these respondents appear to have been minimally involved. Involvement in legislation and policy activities was rated the lowest among the types of tobacco-control programs needed by ONS members. ONS may be able to help members mobilize by offering educational programs at the annual Congress or Institutes of Learning and motivate oncology nurses to be more actively involved in policy efforts. Special recognition or awards might be given to chapters or individuals who contribute to changes in antitobacco health policies.

## Conclusion

This study demonstrates the strong support of oncology nurses for tobacco-control measures and has impli-

cations for increasing the efforts of oncology nurses in tobacco control. The strong stance of the ONS healthcare policy on tobacco control is consistent with these findings. To continue the trend of declining cancer mortality, efforts to fight against tobacco use are essential. Oncology nurses, in particular, have seen the devastating impact of tobacco-related cancers and can provide a powerful voice in advocating for tobacco control, as well as educating the nursing profession and the public about the importance of prevention and cessation of tobacco use. Further efforts are needed to engage ONS members in international efforts for tobacco control, to help oncology nurses to stop smoking, and to increase involvement of oncology nurses in tobacco-control policy and legislation.

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