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## “Not Lighting Up”: A Case Study of a Woman Who Quit Smoking

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**Purpose/Objectives:** To review the prevalence, incidence, and risks of smoking by American women; to outline services, treatments, and educational options for smoking prevention and cessation; and to present the conceptual link between the epidemiologic and research literature and experiences of one individual in the target population—an adult female former smoker with a 30-year habit who began smoking during her teenage years.

**Data Sources:** Published literature, expert opinion, and an interview with a former smoker—a female healthcare professional who had a 30-year habit.

**Data Synthesis:** Literature was reviewed and the content was evaluated for relevance, accuracy, and timeliness. The relevant content was augmented with the author’s practical experience and applied to the case study to make recommendations.

**Conclusions:** Oncology nurses may use a number of strategies to assist people to never start or to stop using tobacco products. The most effective strategy begins with collaboration between healthcare professionals and patients and a combination of instruction, counseling, and emotional support. Oncology nurses can participate in grassroots efforts to educate the public about addiction related to tobacco use, provide counseling for patients who smoke, and become actively involved in legislative solutions to the problem of tobacco use.

**Implications for Nursing:** Oncology nurses may intervene to affect positive behavioral change and participate in grassroots efforts to educate the public. Substantial resources are available to professionals and patients who wish to quit smoking or prevent tobacco use by friends and relatives. Nurses should take every opportunity to support smoking cessation and tobacco use prevention.

Some women smoke over a lifetime. Some women start and quit. Others never try. What makes some women become tobacco users whereas others stay away? The literature contains a litany of explanations, predictive factors, and warnings. Yet, despite these warnings and evidence of harmful effects, people still use tobacco. Teenagers still think that smoking is “cool.” Nurses and other healthcare professionals know the risks, yet some still are seen “lighting up.” Even though a substantial body of lay and scientific literature describes the negative health effects of tobacco use, people deny the relevance and postpone quitting and young people acquire new habits.

### Key Points . . .

- ▶ Cigarette smoking costs the United States \$157.7 billion per year in medical care and lost productivity and is a significant cause of premature death.
- ▶ Tobacco use is declining overall, but cigarette use by women continues to increase.
- ▶ Several programs address specific issues associated with smoking prevention and cessation for women.

From 1965–1990, tobacco use in the United States declined 40% and consumption dropped from a 4,500 per capita cigarette consumption in 1975 to approximately 2,200 per capita consumption in 1998 (American Cancer Society [ACS], 2002b, 2003b). This change is attributed to different approaches taken to prevent tobacco use, including public education initiatives, high sales taxes, and antismoking campaigns. Eighty percent of adult smokers began smoking as minors. Although smoking is declining among adults, first use of cigarettes rose 30% among teenagers from 1988–1996 (Centers for Disease Control and Prevention [CDC], 2002b). Nearly 22% of teenagers smoked a cigarette before age 13 and nearly 64% have tried cigarette smoking (ACS, 2002d). Teenage girls who use oral contracep-

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tives are at particular risk for acquiring a smoking habit (CDC, 2002a). Evidence also exists that girls who start smoking during their teenage years have an increased risk of developing breast cancer before they reach menopause (ACS, 2002d). Not only is smoking hazardous, but the age at onset and duration of use contribute to the health risks.

The purpose of this article is twofold: first, to present a case study of an American woman who began smoking at age 12 and developed a habit that lasted 30 years; and second, to describe services, treatments, and educational options available to women who are at risk of smoking or who wish to stop. An interview with "Laura" was conducted by one of authors and condensed to a case study. The case illustrates the problems that are unique to female former smokers who struggle with lifelong addiction and obstacles to quitting. The authors, who are experts in the field of cancer prevention and early detection, critiqued the case. The critique summarizes problems raised by the case. Legislative approaches to controlling tobacco use are summarized along with comments on ways that nurses can advocate for preventing tobacco use among Americans. This article is a project undertaken by members of the Oncology Nursing Society Prevention and Early Detection Special Interest Group.

## Background

Tobacco use in the form of smoking costs money and lives. Each pack of cigarettes sold costs the United States more than \$7 in medical care and lost productivity (CDC, 2002c). The CDC set the nation's total cost of smoking at \$3,391 a year for every smoker or \$157.7 billion (Associated Press, 2002).

### Smoking and Disease

According to the U.S. Surgeon General, the American Heart Association, the American Lung Association, and ACS, cigarette smoking is the most preventable cause of premature death. ACS estimated that tobacco is responsible for nearly one in five deaths in the United States. Approximately half of all continuing smokers die from diseases caused by smoking, and half of these die in middle age, losing an average of 20–25 years of life (Jemal, Thomas, Murray, & Thun, 2002). Smoking is directly related to 30% of all cancer deaths and is a major cause of cardiovascular disease, chronic bronchitis, and emphysema. Specifically, cigarette smoking is responsible for 87% of diagnosed lung cancer cases and is implicated as contributing to the etiology of cancers of the mouth, pharynx, larynx, esophagus, pancreas, cervix, kidney, and bladder (ACS, 2002a). Persistent tobacco use by adults and new use by minors have been obstacles to public health efforts to decrease cancer mortality.

Smoke, whether firsthand or environmental, is the most dangerous component of cigarettes, cigars, and pipes (CDC, 2000a). Smoke contains nitrogen oxide and carbon monoxide. Inhaling the smoke brings tar to the lung tissue. Tar contains approximately 4,000 chemicals. Some of these chemicals are cyanide, benzene, formaldehyde, methanol, acetylene, and ammonia (Battista, 1980). Secondhand smoke also is classified as an environmental toxin equivalent to asbestos and other hazardous substances. Constant exposure to smoke in the workplace or home nearly doubles the risk of heart attack.

Smokeless tobacco comes in two forms: snuff and chewing tobacco. Nicotine and other chemicals are absorbed by the

digestive system or through mucous membranes. In 1994, about 7% of men in the United States reported using snuff and chewing tobacco (ACS, 2002c). In 1999, more than 14% of boys in their senior year of high school reported using smokeless tobacco. Girls viewed smokeless tobacco users more favorably than users of cigarettes (Kury, Rodrigue, & Perri, 1998). Seven percent to 27% of regular smokeless tobacco users have gingival recession, bone loss from the mandible, and oral decay (ACS, 2002a). The most serious health effects of smokeless tobacco are increased risk of cancer of the mouth and pharynx (Neville & Day, 2002).

### Demographic Variants

Tobacco use is associated with access to products and political and economic benefits of production. When cigarettes are easy to acquire, smoking prevalence is higher. Smoking also is more prevalent among people who reside in tobacco-producing states. In addition, a relationship appears to exist between level of education and tobacco use. The number of years of formal education is inversely correlated with tobacco use and smoking in particular. In 1999, smoking prevalence was more than four times higher among men and women who had 9–11 years of education versus those with 16 or more years of education (CDC, 2001c).

Smoking prevalence varies among U.S. states. In 2000, Utah had the lowest adult smoking percentages for men and women (14.6% and 12.1%, respectively) and Kentucky had the highest percentages for men and women (31.7% and 30.1%, respectively) (CDC, 2001c). Kentucky and other high-prevalence states usually are home to tobacco farms or tobacco industries. Also, the risk of smoking is higher among families involved in the production of tobacco products (Murphy & Price, 1988). Women smoke at rates (measured as packs per day) comparable to men in most U.S. states, but 25% of states reported higher use among women than men (ACS, 2003b). The CDC publishes a state-by-state description of tobacco use (CDC, 2001c).

### Risks to Females

More than 150,000 women die each year from smoking-related diseases, including heart disease, pulmonary disease, and lung cancer (Husten, 1998). Lung cancer surpassed breast cancer in 1989 as the leading cause of cancer-related deaths and will be the cause of approximately one-quarter of the 272,810 female cancer deaths in 2004 (Jemal et al., 2004). Primarily as a result of smoking, lung cancer rates have increased 500% in women since the 1950s (Ernster, 1994).

Besides the general risks to health, women suffer gender-specific liability because smoking adversely affects the female reproductive system, lung function (Gold et al., 1996), and high-density lipoprotein cholesterol levels (Jacobson, Aldana, Adams, & Quirk, 1995). Tobacco use has adverse effects during pregnancy and health consequences for infants and young children of mothers who smoke. Maternal smoking is associated with tubal pregnancy, miscarriage, premature delivery, and increased risk of having a low birth-weight neonate (U.S. Department of Health and Human Services, 1990; Zahniser, Gupta, Kendrick, Lee, & Spirtas, 1994). Smoking prevalence among pregnant women decreased from 1989–1998 but still ranges from 12.9%–22% (CDC, 2001d). Unfortunately, many women who stop smoking during pregnancy resume smoking within one year after delivery (Cataldo, Cooley, & Giarelli, 2002).

According to ACS and the CDC (ACS, 2003a; CDC, 2001a, 2001c, 2001d; Martin, Froelicher, & Miller, 2000), in 1999 the prevalence of smoking among U.S. women (aged 18 and older) was 21.5%, compared to 25.7% in men. The highest smoking prevalence for women was found among American Indians and Alaska Natives (40.8%), intermediate among Caucasian and African Americans (23.1% and 20.8%, respectively), and the lowest prevalence was among women of Hispanic and Asian/Pacific Islander descent (12.3% and 7.1%, respectively). Based on this information, smoking cessation and prevention efforts can be targeted to populations based on selected demographic and health risk factors such as age, sex, education, race and ethnicity, and state of residence.

### Beginning the Habit: Smoking by Young Women

Most smokers start at a young age. Currently, all states prohibit the sale of tobacco to minors, yet teenagers still buy and use cigarettes, snuff, and chewing tobacco (Glantz, 2002). Research on buying patterns among young people shows that adolescents and children purchase more than 256 million packs of cigarettes per year (Cummings, Pechacek, & Shopland, 1994). Among high school seniors, smoking prevalence peaked in the mid-1970s (39% in 1976), decreased to 29% by 1981, and then remained at this level until 1992 (CDC, 2000a). According to the CDC (2000b), in 1999, 70.4% of high school students tried cigarettes and female students in grades 10–12 were more likely to use tobacco than younger students. Smoking prevalence among high school seniors peaked again in 1997 (37%), and declined in 2000 to 31% (CDC, 2000a). Unfortunately, even the lower figure equates to more than 3,800 new teenage smokers each day. Since the mid-1980s, smoking prevalence in 12th grade girls and boys

has been comparable (Johnston, O'Malley, & Bachman, 2001). According to a report by the Youth Risk Behavior Surveillance System (CDC, 2001b), smoking among high school students is a function of race, age, and gender (see Table 1). In addition, the older the student is, the greater the likelihood of tobacco use.

The persistently high use may be a result, in part, of easy access to cigarettes. More than 50% of the respondents aged 17 and younger who smoked reported that they personally bought cigarettes in the past month despite laws in all 50 states prohibiting tobacco sales to minors (CDC, 2000b). For a complete description of the impact of smoking on the health of children and adolescents, see Cataldo et al. (2002).

### A Smoker's Perspective

Statistics reveal one dimension of the problem of tobacco use. The personal experiences of smokers provide a deeper and richer understanding of habitual use. Therefore, one of the authors of this article interviewed a woman who had the following typical demographic characteristics: middle-age adult female, former smoker, employed part-time, married to a non-smoker, and a parent of two minor children. The experiences of this woman mirror the literature with regard to demographic characteristics of smokers, smoking habits prior to quitting, and the addictive potential of cigarettes. The interview was semi-structured, tape recorded, and transcribed. Responses were read by all of the investigators and condensed to form a biographic sketch of the respondent's experiences from her earliest use of tobacco to the present. The sketch was reviewed by the subject, who verified the accuracy of the representation of her experiences. The biographical sketch is presented as a case study.

### Case Study

Laura is a 51-year-old healthy Caucasian mother of two adopted boys and a former cigarette smoker. She is a physician's assistant for Planned Parenthood in the state of New York. Her patient population is primarily young women, mostly in their mid-20s, who are sexually active. Laura smoked for 30 years. During that time, she attempted to quit several times and succeeded once for two years. Presently, none of her friends smoke. Laura quit four years ago and since then has been using nicotine replacement gum or lozenges continually. Even though she has been advised that nicotine substitution should be limited to one year or less, she believes that if she stops the nicotine replacement she will resume smoking.

Laura had her first cigarette in the early 1960s when she was about 12 years old. She admits that it was "cool" then and would sneak cigarettes from her parents' packs. Often her parents would send her to the store to buy cigarettes for them. In the 1960s, women smoked freely, even when pregnant. She recalled a scene in which her mother, pregnant with her brother, would rest an ashtray on her very large abdomen. Laura bought cigarettes for 25 cents in cigarette machines located in nearly every store (e.g., grocery stores, delicatessens, candy stores, gas stations). Sometimes the machines were located at the entrance and boxes of matches were on top of the machine. There were no restrictions on selling them to minors. Cigarettes were readily available. She said, "No one questioned a kid buying butts." At 12 years of age, she smoked occasionally and considered it a "grown-up" thing to do, like a "rite of passage" to adulthood.

Her smoking habit became more regular at age 18 when she started smoking up to a pack a week. She did not smoke every day. When she attended college she believed that she had the freedom to smoke whenever and wherever she wanted. It became part of her identity; at first, having such an identity felt more addictive than the nicotine.

While still in college, she advanced to smoking a pack a day. She had a cigarette when she first got up in the morning, after meals, often when she was writing, and always when she was studying. She claimed that it helped her to concentrate. When working as a waitress, she would have a cigarette in an ashtray ready to puff between orders. She would finish a good job and have a cigarette. It was a pleasurable activity. As stress increased, so did her smoking. She described it as energizing, satisfying, and relaxing. In part, she believed the addiction was physical. A cigarette would wake her up. It would help her to focus. It was easier to do mental work. It was stimulating. She confessed that if the research revealed that cigarettes were safe she would return to smoking. One of the hardest things about stopping smoking was changing her self-image as a smoker. She saw herself as a smoker. Laura described smoking as enslavement and dependence. She would spend time thinking about when she could have another cigarette. Limitations such as restricted access, prohibitions, and negative public attitudes were not deterrents. Her husband never smoked and actually disliked the smell, but she admitted that did not stop her.

*(Continued on next page)*

## Case Study (continued)

Laura quit when she decided to become pregnant. After two years, when unable to conceive and in-vitro fertilization failed, she decided to resume smoking. Even though she said that it tasted bad and it made her head cloudy, she ignored the negative sensation and continued. Slowly she increased to a few cigarettes per day. It took one year for her habit to rise back to a pack a day. After adopting her first child, she stopped smoking in the house to prevent him from being exposed to secondhand smoke. When she returned to school to be-

come a physician's assistant, she was uncomfortable providing health care to patients while engaging in unhealthy behavior. After five attempts over 15 years, she successfully quit and has not returned. Now Laura actively rejects her former persona as a smoker. Instead, she visualizes a middle-aged woman who smokes as unhealthy, unattractive, wrinkled, and drawn. She believes that the years of smoking accelerated her periodontal disease and dental problems and is concerned about her increased risk of head, neck, and lung cancers.

## Case Study Critique by Oncology Nurses

Several issues raised by the case are grouped into two main categories: (a) issues associated with prevention (e.g., availability of tobacco products, peer pressure, developmental tasks) and (b) issues associated with cessation (e.g., linking smoking to self-image, the addictive potential of tobacco products).

### Issues Associated With Prevention

Laura's experiences match the literature on smoking prediction with regard to who is at risk for smoking. Several significant factors are the availability of tobacco products, advertising, images in mass media, and peer pressure and establishing identity.

**Availability of tobacco products:** Laura's parents smoked, and she grew up in a suburban community. Distefan, Gilpin, Choie, and Pierce (1998) named parental smoking as a significant influence on smoking among children, and Farrow and Schwartz (1992) reported that white suburban youth were heavier users of tobacco products than urban nonwhites and they experienced more difficulties as a consequence. Selling tobacco products to minors is illegal, yet the accessibility of vendors continues to aid young people in buying these products. A study of product availability conducted by the CDC (1996) found that 89% of the young people surveyed purchased their own tobacco products and 45% were not asked for proof of age. Small stores were the most common places that these products were purchased (89%), but products also were purchased in larger stores (37%). The elimination of cigarette machines and the implementation of age restrictions on those who purchase cigarettes were designed to deter use. However, no data support a direct link among purchase patterns and eliminating cigarette machines and imposing age restrictions.

One way to reduce availability is to provide individuals with substitutes for cigarettes that meet their developmental needs and satisfy their desires. Researchers in the United Kingdom noted a drop in teenage smoking in Britain during the 1990s, hypothesizing the cause to be the corresponding increase in cellular phone use. Cellular phones provide something to do with the hands and mouth (Charlton & Bates, 2000).

**Advertising:** The ImpacTeen Research Team is identifying and tracking tobacco control policies at the state level for all

50 United States and the District of Columbia to evaluate their effectiveness in reducing mortality, morbidity, and psychosocial problems associated with substance use and abuse. The team found that certain retail environments frequented by teenagers promote tobacco use (CDC, 2002c). Strategies used to promote tobacco use in these stores included (a) self-service tobacco product placement, (b) advertising promotions using multipack products with discounts or gift with purchase offers, (c) tobacco-branded functional objects (e.g., counter change mats or shopping baskets with tobacco logos), and (d) tobacco advertising within the store. At least one of these strategies to promote tobacco was observed in 92% of the stores surveyed; 65% had at least one tobacco-branded functional item, 36% of the stores offered multipack discounts or gifts, and 23% had interior advertising.

Teenagers are receptive to tobacco company merchandise. The CDC (2002f) reported that 45% of the teenagers surveyed who used tobacco bought or received an item with a tobacco name or logo (such as a cigarette lighter or t-shirt). Tobacco companies recognize the potential gains from reaching out to school-aged children and have sought to sponsor public school-related sporting events and other activities such as fund-raisers that award bonus prizes that feature a brand logo. Advertisements from three of the four major tobacco companies appear in magazines such as *Rolling Stone*, *People*, *Entertainment Weekly*, *Sports Illustrated*, and *TV Guide* (Kuczynski, 2001).

Moreover, tobacco advertisers have focused on women for many years and target women's magazines. Products have been designed and marketed to this population using terms such as "attractive" or "feminine." A strong association continues to exist between the emancipation and rights of women and smoking for many decades (Bell & Tingen, 2001).

The financial impact of these sales and advertising is significant. Illegal sales of tobacco products to underage buyers amount to an estimated \$1 billion per year (CDC, 2002c). Laura's case illustrates the link between availability and progression of use, and the literature records the pervasiveness of the problem.

**Images in mass media:** Young people spend an average of 16 hours weekly viewing television beginning as early as age two (Strasburger & Donnerstein, 1999). Although cigarette commercials are banned from network television, cigarettes appear in the mouths of actors, on situation comedies, and in reruns of movies and shows produced prior to the ban. This form of advertising is covert and subtle. A mixed message of the dangers and appeal of smoking is found in images in the mass media. An advertisement may place a visual cue that is linked to a product, such as a burning cigarette in an ashtray or an empty pack on or by a garbage can with the name of a

**Table 1. Relationship Among Selected Race and Ethnicities, Gender, and Percent Smoking in High School Students**

Gender	Caucasian (%)	Hispanic (%)	African American (%)
Female	39	34	18
Male	38	32	22

brand clearly visible. An American Lung Association study of 133 movies released from 1994–1995 found that 77% depicted tobacco use (Thomas, 1996). A survey by the CDC (2002f) reported that 81% of students saw or heard an anti-smoking commercial on television or radio during the prior 30 days. In the same sample, 88% of the subjects reported seeing actors using tobacco on television or in movies in the prior 30 days and 32% reported seeing advertising for tobacco products on the Internet.

**Peer pressure and establishing identity:** A developmental task of adolescents is to separate from their parents and establish their own identity. Sometimes this is accomplished through rebellion, and smoking is rebellious. Lloyd, Lucas, and Fernbach (1997) reported that adolescent girls construct smoking identities with an organized system of values, ideas, and peer practices. Smoking contributes to individuation. Paavola, Vartiainen, and Puska (1996) reported that two-thirds of those who smoked in the ninth grade were still smoking at the age of 28 and previous smoking status and use of tobacco by friends were the most important predictors of smoking.

### Issues Associated With Smoking Cessation

Smoking is a complex behavior and no one remedy is effective for all smokers who attempt to quit many times before succeeding. Smoking cessation resources are aimed largely at adults but may be modified for any target population by using culturally and developmentally appropriate strategies. Pharmacologic therapies, however, have been tested and approved for use only by adults (Prokhorov, Hudmon, & Stancic, 2003). Factors that affect smoking cessation are the link to self-image, motivation to quit, and the addictive potential of nicotine.

**Link between smoking and self-image:** The link of smoking with identity is a problem for all users at any age. The social pressures to start smoking may be internalized and transformed to a self-image as “smoker” to perpetuate the habit. Laura, for example, identified smoking as a part of her personality that she had difficulty giving up. She associated smoking with a feeling of “freedom” and believed that smoking increased mental acuity. Research complements Laura’s reality. The U.S. Department of Health and Human Services (2000) reported that women may be more likely to face certain psychological issues during smoking cessation therapy, including depression and weight control concerns. For Laura, quitting meant changing the way that she perceived herself. Although health-care professionals readily point out the health benefits of smoking cessation during counseling, they also must acknowledge that smoking provides psychological benefits.

**Motivation to quit:** Laura’s motivations for stopping smoking were not linked directly to personal health. She identified parenthood as a major motivator for stopping. She had difficulty reconciling the conflicting images of “self-as-smoker” and “self-as-healthcare provider.” Her negative self-image as a smoker, especially after deciding to become a healthcare professional, was the factor that prevented her from resuming the habit. Oncology nurses who are trying to help people decide to quit smoking must recall that health risks may not be sufficient to motivate patients to quit. Associated benefits (e.g., enhanced reproductive ability, decreased risks to pregnancies, decreased risk to the fetus and newborn) may be more influential for women. A cessation program must be personal and individualized and grow from an understanding of the manifest, latent, and long- and short-term goals of women.

**Addictive potential of tobacco products:** Tobacco cessation literature describes the experiences of former smokers who make multiple attempts to quit (Jorenby, 2001). The addiction is real. Tolerance quickly develops, which, in turn, encourages an increase in smoking. As tobacco use increases, smokers develop physical and psychological dependence along with tolerance. Social and psychological factors influence starting, but the physical effects of tobacco are correlated closely with habitual use (Botvin, Epstein, & Botvin, 1998).

Nonsmokers may assume incorrectly that once smokers quit, the influence of their smoking habit is eliminated. Cravings may persist for years after quitting. Laura’s continuing desire to smoke and her need for nicotine substitutes demonstrate that, even after quitting, the addiction persists. She continued to use replacement gum and lozenges and believed that she would smoke if these substitutes were not available. She was motivated to regain the pleasure that cigarettes provided even to the point of ignoring the acute displeasure (i.e., “bad taste” and “cloudy head”) that she initially experienced when she resumed smoking.

**Smoking prevention:** Oncology nurses must think of tobacco use as a lifelong habit and prevention as a lifelong battle to maintain abstinence. An effective smoking prevention program will consider developmental tasks and interpersonal dynamics of the targeted population. Generally, stress management is a place to start. Some specific activities, such as yoga, massage, meditation, and support groups, are techniques that anyone can learn or use to reduce anxiety and redirect energy to health-promoting behaviors. Consuming healthy foods enhances appearance, and socializing with nonsmoking friends reduces availability. All of these behaviors may decrease the likelihood of using tobacco. Former smokers can talk to teenagers and young adults, and prevention efforts should be organized to counter marketing strategies aimed at this age group.

## Smoking Cessation Strategies and Programs

Smoking cessation programs may be targeted to women based on the understanding of gender-specific physiology, social roles, and patterns of stress. For women of reproductive age, the CDC (2002e) recommended relating the effects of smoking directly to their reproductive goals and child-rearing responsibilities. Further research is needed to explore the magnitude of the relationship between smoking and female health outcomes (e.g., fertility; psychosocial distress; breast, colorectal, and other cancers). Research is needed to identify gender-specific differences in the success of smoking prevention and to explain disparities in use among socioethnic-economic groups. Because women access healthcare providers more frequently than men, especially during the reproductive years, these are junctures to initiate a discussion about the importance of tobacco avoidance and smoking cessation (Britton, 1998).

### Smoking Cessation: What Works and What Does Not

Generally, the most effective way to help patients quit smoking is by offering targeted smoking cessation therapy combining pharmacologic therapy and counseling. Of the 70% of smokers who report that they want to quit, less than

8% are able to quit without assistance. Therapy that includes nicotine replacement, antidepressants, and counseling has been shown to increase the quit rate to 35% (Mallin, 2002). Research directly comparing one approach to another is limited (Lancaster, Stead, Silagy, & Sowden, 2000). Therefore, therapy is designed based on an individual's personality, demographic, and healthcare profile as determined (often informally) by healthcare professionals.

**Counseling and instruction:** The first step toward increasing a person's likelihood of quitting is to point out the experiences of current tobacco users. Oncology clinic staff can adopt the 5As strategy used in primary care (see Figure 1). The 5Rs is an intervention aimed at motivating smokers who currently are unwilling to quit (see Table 2).

Brief advice from healthcare providers, in the form of suggestions on where to find information about quitting, support organizations, and the use of nicotine replacement therapy, has been found to increase the quit rate in primary care, inpatient, outpatient, and occupational health settings (Lancaster et al., 2000). Although not specifically studied in oncology settings, nursing counseling regarding smoking cessation significantly increased quit rates when compared to a control or usual care in 16 studies (Rice & Stead, 2001). The effectiveness of individual and group counseling and self-help materials has been studied. When compared to no intervention, self-help materials (e.g., pamphlets, manuals, audiotapes, videotapes, computer programs) improved quit rates somewhat but did not provide additional benefit when added to brief advice to quit (Lancaster et al.).

**Nicotine replacement therapy:** Nicotine replacement therapy increases the chances of quitting smoking by 1.5–2 times (Lancaster et al., 2000). The goal of nicotine replacement is to reduce the symptoms of tobacco withdrawal. Nicotine replacement therapy plus supportive interventions produces higher quit rates, but nicotine replacement therapy increases the likelihood of quitting regardless of the presence of adjuvant support. Nicotine replacement comes in many forms—chewing gum, transdermal patch, nasal spray, inhaler, sublingual tablet, or lozenge. Effectiveness varies little among the delivery systems (Lancaster et al.). Nicotine replacement products usually are recommended for short-term use. These products can be purchased without a prescription, and patterns of use rarely are monitored by healthcare providers. Healthcare professionals do not know how many individuals self-prescribe or use replacements in nonrecom-

**Table 2. The 5Rs Strategy for Smoking Cessation**

Strategy	Reason
Relevance	Help the person to identify reasons for quitting that are relevant to them.
Risks	Help the person to identify short- and long-term negative consequences of smoking.
Rewards	Help the person to identify rewards or benefits to self and loved ones from smoking cessation.
Roadblocks	Help the person to identify barriers to quitting.
Repetition	Ensure that people who have quit previously know that it usually takes more than one quit attempt to succeed.

*Note.* Based on information from the U.S. Department of Health and Human Services, 2000.

mended ways. Nicotine is addictive whether in natural tobacco or in synthetic form; therefore, the patterns of use of nicotine replacement products should be carefully researched.

**Antidepressants:** Antidepressants have been used in combination with psychosocial cessation programs. One agent is bupropion. The clinical effects of bupropion when used for smoking cessation are not fully understood, but the antidepressant blocks uptake of noradrenaline and dopamine. Bupropion has been found to improve tobacco quit rates when used with or without nicotine replacement therapy. Fewer studies report evidence that nortriptyline is useful in smoking cessation (Lancaster et al., 2000). Other medications and therapies that have been studied but have not been found to be effective aids for smoking cessation include anxiolytics, lobeline, acupuncture, and hypnotherapy. Clonidine, an antihypertensive, has been shown to improve quit rates, but its benefits must be weighed against its troublesome side effects of sedation and postural hypotension (Lancaster et al.).

Several private and public organizations provide information about the epidemiology and public health effects of tobacco products, cessation and prevention programs, support services, and other resources. In addition, several Web sites provide smoking prevention and cessation resources that can be accessed by patients, the public, and healthcare professionals (see Figures 2 and 3).

### Social Advocacy and Antitobacco Legislation

Oncology nurses may become social advocates and join the political debate on antimoking legislation. Local, state, and federal legislative solutions (e.g., new laws, consistent enforcement of regulations) are ways to limit the effect of tobacco use on public health. More than 100 years ago, the Tennessee Supreme Court upheld the conviction of a person for selling cigarettes, saying that cigarettes were “wholly noxious and deleterious to health” (Glantz & Annas, 2000). By the turn of the 20th century, 14 states had outlawed the sale, manufacture, or possession of cigarettes; 21 states had considered similar bans; and two states had passed laws that declared cigarettes to be narcotics.

In 1994, attorneys general in several states filed lawsuits to secure funds from the tobacco industry for reimbursement of healthcare expenditures arising from tobacco use. By the end of 1996, 18 other states had filed similar legal actions. In 1997, a group of state attorneys general presented a tobacco

#### Counseling Tools

- Offer brief advice to quit using the 5As: **Ask** patient whether he or she uses tobacco, **advise** patient to quit, **assess** patient's willingness to quit, **assist** if patient is willing to quit, and **arrange** for follow-up.
- If unwilling to quit now, use the 5Rs: relevance, risks, rewards, roadblocks, repetition.
- Group counseling
- Individual counseling
- Self-help materials: weigh time and costs when developing if also providing advice to quit

#### Pharmacotherapy

- Nicotine replacement therapy: gum, patch, nasal spray, inhaler, sublingual tablet, lozenge
- Antidepressants: bupropion, nortriptyline

### Figure 1. Smoking Cessation Strategies

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**Agency for Health Care Policy and Research**—Publications Clearinghouse, 2101 East Jefferson Street, Suite 501, Rockville, MD 20852. Call 301-594-1364 or visit [www.ahcpr.gov](http://www.ahcpr.gov). The site provides clinical, patient, and consumer information about prevention services and links to sites that offer research about evidence-based practice, support groups, and other relevant Internet sites.

**American Academy of Addiction Psychiatry**—7301 Mission Road, Suite 252, Prairie Village, KS 66208. Call 913-262-6161 or visit [www.aap.org](http://www.aap.org). Offers an Internet store with addiction resources and course material.

**American Cancer Society**—1599 Clifton Road NE, Atlanta, GA 30329. Call 800-ACS-2345 or 404-320-3333 or visit [www.cancer.org](http://www.cancer.org) or [www.ca-journal.org](http://www.ca-journal.org). Offers a good program that covers four one-hour sessions during a two-week period. They claim that 20%–30% of people remain off cigarettes. Call to find the nearest program for quitting smoking. The Web site includes the “Complete Guide to Quitting,” “Quitting Smokeless Tobacco,” and “Help for Cravings and Tough Situations.”

**American Council on Science and Health**—1995 Broadway, Second Floor, New York, NY 10023-5860. Call 212-362-7044 or visit [www.acsh.org](http://www.acsh.org). Offers information on evidence-based practice and outcomes as well as a consumer quit-smoking program.

**American Lung Association**—1740 Broadway, New York, NY 10019-4374. Call 800-LUNG-USA or 212-315-8700 or visit [www.lungusa.org](http://www.lungusa.org). Offers a wide range of tobacco control fact sheets and online programs for cessation.

**National Cancer Institute**—31 Center Drive, MSC 2580, Building 31, Room 10A03, Bethesda, MD 20892-2580. Call 800-422-6237 or 301-435-3848 or visit [www.nci.nih.gov](http://www.nci.nih.gov). Offers free information on smoking cessation programs, fact sheets, and links to related sites.

**Nicotine Anonymous World Services**—Call 866-536-4539 or visit [www.nicotine-anonymous.org](http://www.nicotine-anonymous.org). Uses the same principles as Alcoholics Anonymous. Offers a directory of meeting places and times in many locations as well as an Internet store with helpful guides and aids.

**Smokefree.gov**—Visit <http://smokefree.gov>. Allows visitors to read, download, and print guides and tools for smoking cessation.

#### Sources of Alternative Methods

**American Academy of Medical Acupuncture**—4929 Wilshire Boulevard, Suite 428, Los Angeles, CA 90010. Call 323-937-5514 or visit [www.medicalacupuncture.org](http://www.medicalacupuncture.org). To find an acupuncturist in a specific area, visit [www.medicalacupuncture.org/refsearch.html](http://www.medicalacupuncture.org/refsearch.html).

**American Society of Clinical Hypnosis**—130 East Elm Court, Suite 201, Roselle, IL 60172-2000. Call 630-980-4740 or visit [www.asch.net](http://www.asch.net). Reliable hypnotherapists can be found by sending a self-addressed stamped envelope to the society.

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## Figure 2. Resources for Smoking Cessation

settlement proposal that would settle all pending class action lawsuits against the tobacco industry and all pending actions against the industry brought by states and other governmental entities (Campaign for Tobacco-Free Kids, 2004). These actions resulted in the Master Tobacco Settlement (MTS), in which the industry agreed to pay the 46 states \$206 billion over a 25-year period, to respect certain limits on tobacco advertising, and to fund a nationwide campaign of public education (Kessler & Myers, 2001; Loveland, 2002).

MTS can positively affect the health of young and adult women if funding is used to augment educational programs and make instruction on prevention relevant to this subgroup of tobacco users (Daynard, Parmet, Kelder, & Davidson, 2001). State use of MTS funds, however, is at the discretion of individual state legislatures. Tobacco suit settlements have been used for smoking cessation programs, healthcare expenses, or other expenses unrelated to health care. For example, in New York the funds have been used to balance

state budget shortfalls in lieu of layoffs or cuts in state aid to schools (McKinley, 2002). In another example, Governor Bob Holden of Missouri covered the state’s budget shortfall by using \$63.5 million that had been allocated to a tobacco-control program, a senior prescription drug program, an endowment fund, a state health laboratory, an early childhood development, childhood lead screenings, and other health programs (Campaign for Tobacco-Free Kids, 2002). Some bills that have been proposed in the U.S. House of Representatives and the U.S. Senate that are directly related to the control of the sale and use of tobacco products are listed in Figure 4.

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**[www.cdc.gov/tobacco/how2quit.htm](http://www.cdc.gov/tobacco/how2quit.htm)**—Centers for Disease Control and Prevention (CDC) references on how to quit

**[www.cdc.gov/tobacco/stat-nat-data.htm](http://www.cdc.gov/tobacco/stat-nat-data.htm)**—online compilation of state-based tobacco information that combines many different data sources and allows users to view comprehensive summary information on tobacco use in all 50 states and the District of Columbia. The state system contains up-to-date and historical data on the prevalence of tobacco use, tobacco control laws, the health impact and costs associated with tobacco use, and tobacco agriculture and manufacturing.

**[www.cdc.gov/tobacco/sports\\_initiatives\\_splash.htm](http://www.cdc.gov/tobacco/sports_initiatives_splash.htm)**—information about how the CDC encourages smoking cessation with sports activities

**[www.who.int/tobacco/wntd/2004/en](http://www.who.int/tobacco/wntd/2004/en)**—information on World No Tobacco Day

**[www.cdc.gov/tobacco/data.htm](http://www.cdc.gov/tobacco/data.htm)**—tobacco information and source tips for health professionals from the CDC

**[www.cdc.gov/tobacco/bestprac.htm](http://www.cdc.gov/tobacco/bestprac.htm)**—The CDC’s Best Practices for Comprehensive Tobacco Control Programs is an evidence-based guide to help states plan and establish effective tobacco control programs to prevent and reduce tobacco use.

**[www.cdc.gov/tobacco/comguide.htm](http://www.cdc.gov/tobacco/comguide.htm)**—The CDC’s Guide to Community Preventive Services addresses the effectiveness of community-based interventions for three strategies to promote tobacco use prevention and control: (a) prevent tobacco product use initiation, (b) increase cessation, and (c) reduce exposure to environmental tobacco smoke.

**[www.naccho.org/GENERAL185.cfm](http://www.naccho.org/GENERAL185.cfm)**—Guidelines can structure comprehensive local tobacco control efforts, offer tips on how to allocate local funds to help ensure effective programs, and provide a framework that local public health officials can use to discuss with local and state elected officials the allocation of funds from the Master Tobacco Settlement to local tobacco control programs.

**[www.cdc.gov/tobaccoevaluation\\_manual/contents.htm](http://www.cdc.gov/tobaccoevaluation_manual/contents.htm)**—This document is a “how to” guide for planning and implementing evaluation activities. The manual reflects the priorities of the CDC’s Office on Smoking and Health for program monitoring and evaluation.

**[www.surgeongeneral.gov/tobacco](http://www.surgeongeneral.gov/tobacco)**—recommendations from the surgeon general’s office related to tobacco use cessation

**[www.cancer.org](http://www.cancer.org)**—American Cancer Society Web site that contains information for healthcare providers and the public

**[www.tobaccofreekids.org](http://www.tobaccofreekids.org)**—up-to-date statistics and programs useful for the public and healthcare professionals.

**[www.tobacco.org](http://www.tobacco.org)**—news about tobacco and tobacco control; many links to public press

**[www.lungusa.org/tobacco](http://www.lungusa.org/tobacco)**—information about the American Lung Association’s Freedom from Smoking Program

**[www.quitnet.com](http://www.quitnet.com)**—online smoking cessation program

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## Figure 3. Web Sites With Smoking Prevention and Cessation Resources

**HR 1043, FDA Tobacco Jurisdiction Act of 2001**—to amend the Federal Food, Drug, and Cosmetic Act to provide the U.S. Food and Drug Administration jurisdiction over tobacco. Sponsor: Rep. Henry A. Waxman

**HR 1044, Child Tobacco Use Prevention Act of 2001**—to prevent children from using tobacco products, to reduce the health costs attributable to tobacco products, and for other purposes. Sponsor: Rep. Henry A. Waxman

**HR 1453, Smokeless Tobacco Warning Label Act**—to strengthen warning labels on smokeless tobacco products. Sponsor: Rep. Elton Gallegly

**HR 1454, Bidi Cigarettes Import Prohibition**—to prohibit the importation of bidi cigarettes. Sponsor: Rep. Elton Gallegly

**HR 2180/S 190, National Youth Smoking Reduction Act**—to amend the Federal Food, Drug, and Cosmetic Act to grant the secretary of Health and Human Services the authority to regulate tobacco products, or for other purposes. Sponsors: Rep. Tom Davis and Sen. Bill Frist

**S 247, Kids Deserve Freedom From Tobacco Act of 2001 (Kids Act)**—to provide for the protection of children from tobacco. Sponsor: Sen. Tom Hardin

Visit [www.tobaccoarchives.com](http://www.tobaccoarchives.com) for tobacco company documents that have been produced from various lawsuits.

### Figure 4. Bills Proposed in the U.S. Senate and House of Representatives for Tobacco Control and Use Prevention

*Note.* Based on information from the Centers for Disease Control and Prevention, 2002d.

## Conclusion and Implications for Nurses

Tobacco use persists as a public health problem. The most apparent implication for oncology nurses is that the health risks and diseases caused by tobacco use also will persist. Oncology nurses must, therefore, remain actively engaged with patients and their families in their struggle to prevent their

children from beginning the habit and to help their loved ones quit. The second most apparent implication for oncology nurses is that any efforts to modify the factors that promote tobacco use will, in time, have a positive effect on the health of the population. These effects, although slow and incremental, are measurable and vital.

The effectiveness of smoking cessation and prevention programs relies on the willingness of smokers to begin and their commitment to complete them when completing means never smoking again. Beginning the programs can be relatively easy; the anecdotal evidence of the number of times smokers attempt to quit supports this statement. Remaining a non-smoker is more difficult.

Another factor in the success of smoking prevention and cessation efforts is the social environment and the community's beliefs about smoking. Tobacco use will be reduced in a social environment that favors the nonsmoker, such as smoke-free offices or restaurants. The CDC has developed a set of recommendations for comprehensive tobacco control that include personal, social, and legislative actions (see Table 3).

Oncology nurses are a credible source of information for patients and the public, but they first must serve as role models of health-promoting behavior. Oncology nurses may use a number of strategies to assist people to never start or to stop using tobacco products. Aspects of all of these programs can begin in any practice setting. The most effective approach begins with the collaboration of healthcare professionals and patients to identify a combination of instruction, counseling, and emotional support. Oncology nurses should be involved in prevention activities and advocate for broader use and testing of the effectiveness of cessation programs for high-risk populations, such as women and young girls. Regardless of practice setting, on-

**Table 3. Centers for Disease Control and Prevention Recommendations for Comprehensive Tobacco Control**

Recommendation	Implementation Cost	Description
Community programs to reduce tobacco use	\$0.70–\$2 per capita for local governments; additional costs for state personnel and resources	Implements tobacco control interventions and educational activities while partnering with local organizations
Chronic disease programs to reduce the burden of tobacco-related diseases	\$2.8–\$4.1 million per year	Targets the areas of cardiovascular health, asthma prevention, oral health, and cancer registries
School programs	\$500,000–\$750,000 per year for personnel and resources; \$4–\$6 per student in grades K–12	Implements tobacco-free policies, evidence-based curricula, teacher training, and parent awareness
Enforcement	\$150,000–\$300,000 for agency coordination; \$0.43–\$0.80 per capita for year	Restricts minors' access to tobacco and reduces smoking in public places
Statewide programs	\$0.40–\$1 per capita per year	State and regional support increases awareness of tobacco control issues.
Counter-marketing	\$1–\$3 per capita per year	Increases pro-health messages through a variety of media
Cessation programs	\$1 per adult to identify and advise against tobacco; \$2 per smoker for brief counseling; \$137.50 per smoker (if insured) or \$275 (if publicly financed) for other services (behavior modification, pharmaceuticals, etc.)	Should consider the Agency for Health Care Policy and Research smoking cessation guidelines
Surveillance and evaluation	10% of annual program costs	Monitors tobacco-related behaviors, attitudes, and health outcomes at regularly scheduled intervals
Administration	5% of annual program costs	Effective programs require strong management to facilitate coordination of program components and multiple agencies.

*Note.* Based on information from the Centers for Disease Control and Prevention, 1999.



cology nurses can participate in grassroots efforts to educate the public about addiction related to tobacco use, provide counseling for patients who smoke, and become actively involved in legislative solutions to the problem of tobacco use.

Lastly, ample studies of the effect of tobacco on health and sufficient literature on cessation and prevention programs exist. Daily, oncology nurses discuss the issues with patients and family members. However, no studies have determined the impact that oncology nurses, in particular, have on public

awareness of health risks, patient choices with regard to tobacco use, and patients' behavior changes based on oncology nurse-initiated discussion or treatment. Research is needed to demonstrate the force of oncology nursing against this public health threat.

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## For more information . . .

- QuitNet: Quit All Together  
[www.quitnet.com](http://www.quitnet.com)
- QuitSmokingSupport.com  
[www.quitsmokingsupport.com](http://www.quitsmokingsupport.com)
- Centers for Disease Control and Prevention: How to Quit  
[www.cdc.gov/tobacco/how2quit.htm](http://www.cdc.gov/tobacco/how2quit.htm)

*Links can be found at [www.ons.org](http://www.ons.org).*