Women and Smoking
A Report of the Surgeon General–2001

At A Glance

The Burden:

This year alone, lung cancer will kill nearly 68,000 U.S. women. That's one in every four cancer deaths among women, and about 27,000 more deaths than from breast cancer (41,000). In 1999, approximately 165,000 women died prematurely from smoking-related diseases, like cancer and heart disease. Women also face unique health effects from smoking such as problems related to pregnancy.

The Trends:

In the 1990s, the decline in smoking rates among adult women stalled and, at the same time, rates were rising steeply among teenaged girls, blunting earlier progress. Smoking rates among women with less than a high school education are three times higher than for college graduates. Nearly all women who smoke started as teenagers - and 30 percent of high school senior girls are still current smokers.

The Hope:

We have the solutions for preventing and reducing smoking among women. Quitting smoking has great health benefits for women of all ages. Thanks to an aggressive, sustained anti-smoking program, California has seen a decline in women's lung cancer rates while they are still rising in the rest of the country. The voice of women is needed to counter tobacco marketing campaigns that equate success for women with smoking.

> *"When calling attention to public health problems, we must not misuse the word 'epidemic.' But there is no better word to describe the 600-percent increase since 1950 in women's death rates for lung cancer, a disease primarily caused by cigarette smoking. Clearly, smoking-related disease among women is a full-blown epidemic."*
>
> **David Satcher, M.D., Ph.D.**
> **Surgeon General**

Women and Smoking: a Report of the Surgeon General makes its overarching theme clear–smoking is a woman's issue. This report summarizes what is now known about smoking among women, including patterns and trends in smoking habits, factors associated with starting to smoke and continuing to smoke, the consequences of smoking on women's health and interventions for cessation and prevention. What the report also makes apparent is how the tobacco industry has historically and contemporarily created marketing specifically targeted at women.

Smoking is the leading known cause of preventable death and disease among women. In 2000, far more women died of lung cancer than of breast cancer. A number of things need to be acted on to curb the epidemic of smoking and smoking-related diseases among women in the United States and throughout the world.

- ▲ Increase awareness of the impact of smoking on women's health and counter the tobacco industry's targeting of women.
- ▲ Support women's anti-tobacco advocacy efforts and publicize that most women are nonsmokers.
- ▲ Continue to build the science base for understanding the health effects of smoking on women in particular.
- ▲ Act now: more than enough is already known to enable us to support efforts to stop smoking at both individual and societal levels.
- ▲ Do everything possible to stop the epidemic of smoking and smoking-related diseases among women globally.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
Office on Smoking and Health

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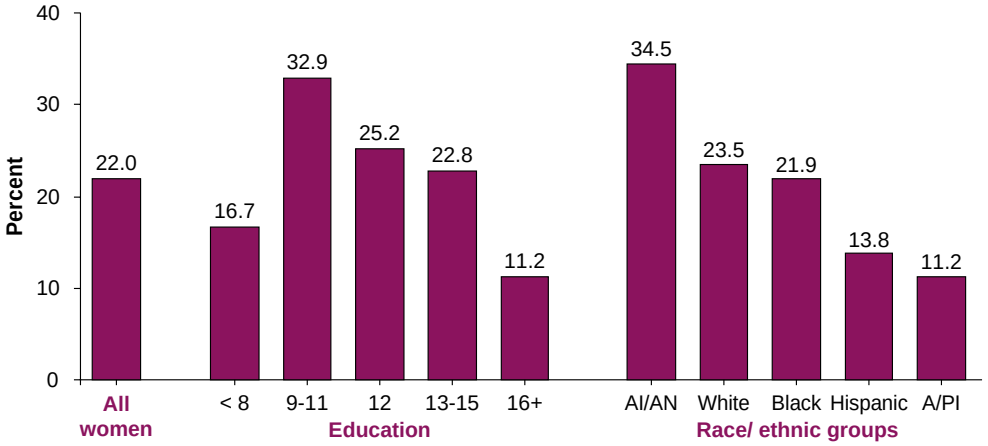
Major Conclusions of the Surgeon General's Report

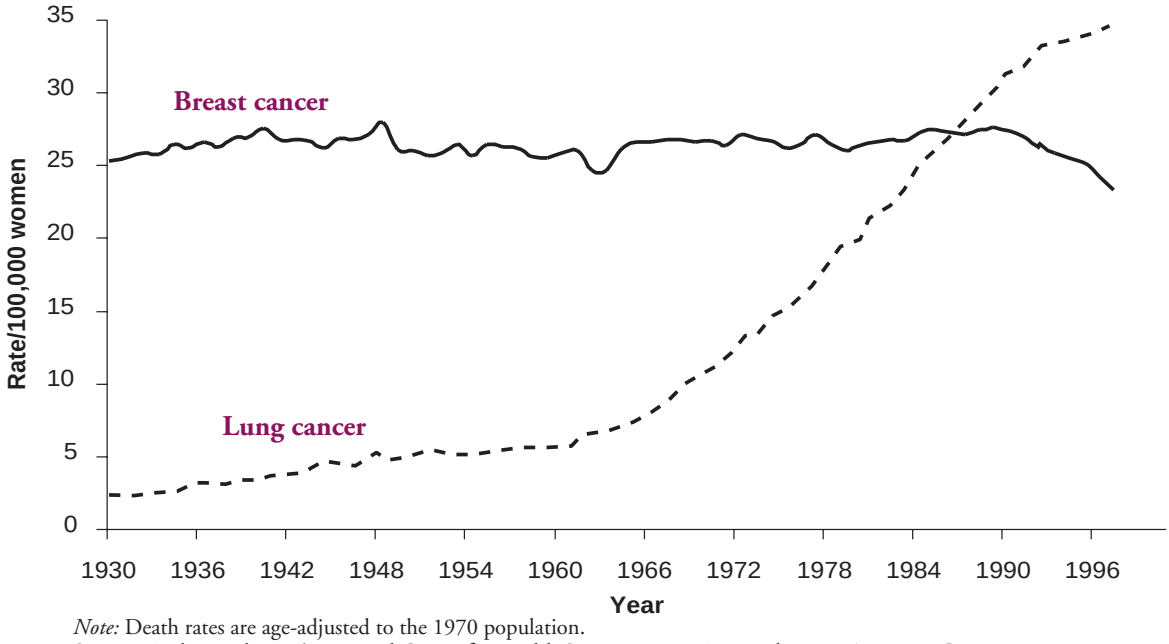
- ▲ Despite all that is known of the devastating health consequences of smoking, 22.0 percent of women smoked cigarettes in 1998. Cigarette smoking became prevalent among men before women, and smoking prevalence in the United States has always been lower among women than among men. However, the once-wide gender gap in smoking prevalence narrowed until the mid-1980s and has since remained fairly constant. Smoking prevalence today is nearly three times higher among women who have only 9 to 11 years of education (32.9 percent) than among women with 16 or more years of education (11.2 percent).
- ▲ In 2000, 29.7 percent of high school senior girls reported having smoked within the past 30 days. Smoking prevalence among white girls declined from the mid-1970s to the early 1980s, followed by a decade of little change. Smoking prevalence then increased markedly in the early 1990s, and declined somewhat in the late 1990s. The increase dampened much of the earlier progress. Among black girls, smoking prevalence declined substantially from the mid-1970s to the early 1990s, followed by some increases until the mid-1990s. Data on long-term trends in smoking prevalence among high school seniors of other racial or ethnic groups are not available.
- ▲ Since 1980, approximately 3 million U.S. women have died prematurely from smoking- related neoplastic, cardiovascular, respiratory, and pediatric diseases, as well as cigarette-caused burns. Each year during the 1990s, U.S. women lost an estimated 2.1 million years of life due to these smoking attributable premature deaths. Additionally, women who smoke experience gender-specific health consequences, including increased risk of various adverse reproductive outcomes.
- ▲ Lung cancer is now the leading cause of cancer death among U.S. women; it surpassed breast cancer in 1987. About 90 percent of all lung cancer deaths among women who continue to smoke are attributable to smoking.
- ▲ Exposure to environmental tobacco smoke is a cause of lung cancer and coronary heart disease among women who are lifetime nonsmokers. Infants born to women exposed to environmental tobacco smoke during pregnancy have a small decrement in birth weight and a slightly increased risk of intrauterine growth retardation compared to infants of nonexposed women.
- ▲ Women who stop smoking greatly reduce their risk of dying prematurely, and quitting smoking is beneficial at all ages. Although some clinical intervention studies suggest that women may have more difficulty quitting smoking than men, national survey data show that women are quitting at rates similar to or even higher than those for men. Prevention and cessation interventions are generally of similar effectiveness for women and men and, to date, few gender differences in factors related to smoking initiation and successful quitting have been identified.
- ▲ Smoking during pregnancy remains a major public health problem despite increased knowledge of the adverse health effects of smoking during pregnancy. Although the prevalence of smoking during pregnancy has declined steadily in recent years, substantial numbers of pregnant women continue to smoke, and only about one-third of women who stop smoking during pregnancy are still abstinent one year after the delivery.
- ▲ Tobacco industry marketing is a factor influencing susceptibility to and initiation of smoking among girls, in the United States and overseas. Myriad examples of tobacco ads and promotions targeted to women indicate that such marketing is dominated by themes of social desirability and independence. These themes are conveyed through ads featuring slim, attractive, athletic models, images very much at odds with the serious health consequences experienced by so many women who smoke.

Prevalence of Current Smoking Among Women Aged 18 years or older, all women, by education (1998), and by race/ethnicity (1997-1998), United States.



Source: National Health Interview Survey, 1998. Source: National Health Interview Survey, 1997-1998.

Age-adjusted death rates for lung cancer and breast cancer among women, United States, 1930–1997



Note: Death rates are age-adjusted to the 1970 population.
Sources: Parker et al. 1996; National Center for Health Statistics 1999; Ries et al. 2000; American Cancer Society, unpublished data.

Patterns of Tobacco Use Among Women and Girls

- The prevalence of current smoking among women was 22 percent in 1998. Smoking prevalence was highest among American Indian or Alaska Native women, intermediate among white women and black women, and lowest among Hispanic women and Asian or Pacific Islander women. By educational level, smoking prevalence is nearly three times higher among women with 9 to 11 years of education than among women with 16 or more years of education.
- Much of the progress in reducing smoking prevalence among girls in the 1970s and 1980s was lost with the increase in prevalence in the 1990s: current smoking among high school senior girls was the same in 2000 as in 1988. Although smoking prevalence was higher among high school senior girls than among high school senior boys in the 1970s and early 1980s, prevalence has been comparable since the mid-1980s.
- Smoking declined substantially among black girls from the mid-1970s through the early 1990s; the decline among white girls for this same period was small.
- Smoking during pregnancy appears to have decreased from 1989 through 1998. Despite increased knowledge of the adverse health effects of smoking during pregnancy, estimates of women smoking during pregnancy range from 12.9 percent to as high as 22 percent.
- Since the late 1970s or early 1980s, women are just as likely to attempt to quit and succeed as are men.
- Smoking prevalence among women varies markedly across countries; it is as low as an estimated 7 percent in developing countries to 24 percent in developed countries. Thwarting further increases in tobacco use among women is one of the greatest disease prevention opportunities in the world today.

Health Consequences of Tobacco Use Among Women

- A woman's annual risk for death more than doubles among continuing smokers compared with persons who have never smoked in all age groups from 45 through 74 years.
- The risk for lung cancer increases with quantity, duration, and intensity of smoking. The risk for dying of lung cancer is 20 times higher among women who smoke two or more packs of cigarettes per day than among women who do not smoke.
- Smoking is a major cause of cancers of the oropharynx and bladder among women. Evidence is also strong that women who smoke have increased risks for liver, colorectal, and cervical cancer, and cancers of the pancreas and kidney. For cancers of the larynx and esophagus, evidence among women is more limited but consistent with large increases in risk.
- Smoking is a major cause of coronary heart disease among women. Risk increases with the number of cigarettes smoked and the duration of smoking. Risk is substantially reduced within 1 or 2 years of smoking cessation. This immediate benefit is followed by a more gradual reduction in risk to that among nonsmokers by 10 to 15 or more years after cessation.
- Women who smoke have an increased risk for stroke and subarachnoid hemorrhage. The increased risk for stroke associated with smoking is reversible after smoking cessation; after 5 to 15 years of abstinence, the risk approaches that of women who have never smoked.
- Women who smoke have an increased risk for death from ruptured abdominal aortic aneurysm. They also have risk for peripheral vascular atherosclerosis, but cessation is associated with improvements in symptoms, prognosis, and survival. Smoking is also a strong predictor of the

progression and severity of carotid atherosclerosis among women, but smoking cessation appears to slow the rate of progression.

- Cigarette smoking is a primary cause of chronic obstructive pulmonary disease (COPD) among women, and the risk increases with the amount and duration of smoking. Approximately 90 percent of deaths from COPD among women in the United States can be attributed to cigarette smoking.
- Adolescent girls who smoke have reduced rates of lung growth, and adult women who smoke experience a premature decline of lung function.
- Women who smoke have increased risks for conception delay and for both primary and secondary infertility and may have a modest increase in risks for ectopic pregnancy and spontaneous abortion. They are younger at natural menopause than non-smokers and may experience more menopausal symptoms.
- Women who quit smoking before or during pregnancy reduce the risk for adverse reproductive outcomes, including conception delay, infertility, preterm premature rupture of membranes, preterm delivery, and low birth weight.
- Postmenopausal women who currently smoke have lower bone density than do women who do not smoke. Also women who currently smoke have an increased risk for hip fracture compared with non-smoking women.
- The association of smoking and depression is particularly important among women because they are more likely to be diagnosed with depression than are men.
- Exposure to environmental tobacco smoke is a cause of lung cancer among women who have never smoked and is associated with increased coronary heart disease risk.

Factors Influencing Tobacco Use Among Women

- Girls who initiate smoking are more likely than those who do not smoke to have parents or friends who smoke. They also tend to have weaker attachments to parents and family and stronger attachments to peers and friends. They perceive smoking prevalence to be higher than it actually is, are inclined to risk taking and rebelliousness, have a weaker commitment to school or religion, have less knowledge of the adverse consequences of smoking and the addictiveness of nicotine, believe that smoking can control weight and negative moods, and have a positive image of smokers.
- Women who continue to smoke and those who fail at attempts to stop smoking tend to have lower education and employment levels than do women who quit smoking. They also tend to be more addicted to cigarettes, as evidenced by the smoking of a higher number of cigarettes per day, to be cognitively less ready to stop smoking, to have less social support for stopping, and to be less confident in resisting temptations to smoke.
- Women have been extensively targeted in tobacco marketing, and tobacco companies have produced brands specifically for women, both in the United States and overseas. Myriad examples of tobacco ads and promotions targeted to women indicated that such marketing is dominated by themes of both social desirability and independence, which are conveyed through ads featuring slim, attractive, athletic models. Between 1995 and 1998, expenditures for domestic cigarette advertising and promotion increased from $4.90 billion to $6.73 billion. Tobacco industry marketing, including product design, advertising, and promotional activities, is a factor influencing susceptibility to and initiation of smoking.
- The dependence of the media on revenues from tobacco advertising oriented to women, coupled with tobacco company sponsorship of women's fashions and of artistic, athletic, political, and other events, has tended to stifle media coverage of the health consequences of smoking among women and to mute criticism of the tobacco industry by women public figures.

Efforts to Reduce Tobacco Use Among Women

- Using evidence from studies that vary in design, sample characteristics, and intensity of the interventions studied, researchers to date have not found consistent gender-specific differences in the effectiveness of intervention programs for tobacco use.
- A higher percentage of women stop smoking during pregnancy, both spontaneously and with assistance, than at other times in their lives. Using pregnancy-specific programs can increase smoking cessation rates, which benefits infant health and is cost effective. Only about one-third of women who stop smoking during pregnancy are still abstinent one year after the delivery.
- Successful interventions have been developed to prevent smoking among young people, but little systematic effort has been focused on developing and evaluating prevention interventions specifically for girls.

For more information:

To obtain a copy of *Women and Smoking: A Report of the Surgeon General* full report or executive summary or for additional copies of this ***At A Glance,*** please call CDC's Office on Smoking and Health at (770) 488-5705 and press 3 to speak with an information specialist. Please note that the report, along with supporting documents, is available on-line at the Office on Smoking and Health Web site at **www.cdc.gov/tobacco.**