The Largest Preventable Cause of Death in the United States

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FIFTEEN YEARS AGO, the Surgeon General's Advisory Committee on Smoking and Health found cigarette smoking to be a health hazard of sufficient importance in the United States to "warrant appropriate remedial action." In its report to the Surgeon General, the Advisory Committee concluded that cigarette smoking is causally related to lung cancer in men, is the most important cause of chronic bronchitis, increases the risk of dying from bronchitis and emphysema, and is associated with coronary heart disease.

Since 1964, research in smoking and health has intensified as new fields of inquiry have opened up. The accumulation of new scientific evidence culminated on January 11, 1979, in a new "Surgeon General's Report on Smoking and Health." The new report, which reflects the results of 30,000 studies, clearly confirms the scientific judgement of 1964.

Background of Report

The Surgeon General's report of 1979 was issued for three reasons:

1. To bring together the new information on smoking and health that had accumulated since 1964.
2. To extend the area of inquiry into smoking and health beyond medicine into education and the behavioral sciences, and
3. To provide a firm base of knowledge on which to build public policy.

Twelve agencies of the Department of Health, Education, and Welfare prepared chapters in the report. The chapters describe the health consequences of smoking, the behavioral aspects of smoking, and efforts in education and prevention.

Extensive information in three areas—women and smoking, occupational exposure and smoking, and smoking among children and teenagers—distinguish this report from its predecessor.

Women

Because information on women who smoked was not widely available in 1964, this subject was not treated in detail in the first report. However, studies cited in the new report indicate that women have begun to pick up smoking habits similar to men's and have begun to show similar trends in morbidity and mortality.

To complicate the picture, while there has been a gradual reduction in the percentage of the adult population that smokes, men have quit in greater numbers than women. There has been only a modest drop in the percentage of women who smoke but a significant increase, over the last 10 years, in the number of teenage girls who smoke.

Several suggestions may explain why women do not quit smoking. It may be that women do not generally perceive smoking as a threat to their health. Lung cancer, heart attacks, and emphysema are diseases often thought to affect men more than women. However, we now know that lung cancer among women is increasing at a rapid rate. In fact, if present trends continue into the next decade, lung cancer will become the leading cause of cancer deaths in women, exceeding even breast cancer.

It is also suggested that cigarette smoking, for some women, may be symbolic of equality with men. It is known that the smoking habits of women employed outside the home match the smoking habits of men in various occupations where men and women hold equal positions. Housewives who, at present, have few male counterparts with whom to identify have the lowest smoking rates.

The new Surgeon General's report reveals that women who smoke and use oral contraceptives containing estrogens have 10 times the chance of having a heart attack compared with women who do not smoke and do not take such contraceptives.

The report also brings together findings about women who smoke during pregnancy. Smoking by the pregnant woman retards the rate of fetal growth and increases the risk of spontaneous abortion, of fetal death, and of neonatal death. Babies born to women who smoke during pregnancy are, on the average, 200 grams lighter than babies born to comparable women who do not smoke. Such low birth weight infants face serious survival problems.

Even more important than these measurements at birth are the possible long-term consequences of retarded fetal growth associated with maternal smoking during pregnancy. Evidence in the report suggests that

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the pregnant woman who smokes may affect the physical growth, intellectual functioning, and behavioral development of her child at least up to the age of 11.

Occupational Exposures

The second area emphasized in the report is smoking and occupational exposure. Workers in the asbestos, rubber, coal, textile, uranium, and chemical industries, among others, face dramatically increased risks of disease from smoking. For example, studies of asbestos workers reveal that exposure to this substance, combined with smoking, holds a risk of lung cancer up to 90 times greater than the risk to nonsmokers who are not exposed to asbestos.

Identified and illustrated in the report are six ways in which smoking may act in combination with physical and chemical agents in the workplace to produce or increase a broad spectrum of adverse health effects:

1. Cigarettes and other tobacco products may serve as vehicles that allow toxic agents to enter the body;
2. Workplace chemicals can be transformed into more harmful agents by smoking;
3. Certain toxic agents in tobacco products or smoke, such as carbon monoxide, can also be present in the workplace, thus increasing exposure to the agent;
4. Smoking can cause an additive biological effect;
5. Smoking can act synergistically with toxic agents; and
6. Smoking contributes to accidents in the workplace.

Children and Teenagers

In the third significant area, the new report deals with prevention of smoking among children and teenagers. Every day, approximately 4,000 children become smokers. Children are starting to smoke at an earlier age, and girls are catching up with boys in their smoking rates. The percentage of girls ages 12 to 14 who smoke has increased eightfold since 1968. Among young people 13 to 19 years, there are an estimated 6 million regular smokers and, at present, 100,000 children under age 13 are regular smokers.

Many existing smoking prevention programs place emphasis on communicating the dangers of smoking to teenagers. The programs are based on the assumption that fear of disease will, in itself, be sufficient to keep children from smoking. However, findings in the report suggest almost all children, by the time that they reach junior high school, believe smoking is dangerous, but the fear of the health consequences of smoking is not enough to discourage a substantial number from beginning to smoke.

Programs that stress the harmful effects of smoking violate the concept of time prespective for the teenager. As children grow older, they recognize that people around them who smoke do not die instantly and that heart attacks or cancer are not a certainty. The concept of future is not relevant to the teenager. Findings in the report suggest that prevention programs for this age group may be more effective if they present evidence that smoking has immediate physiological effects on the body. The role of the peer group in reinforcing nonsmoking behavior among teenagers is also important in prevention programs, according to the report.

Scientific Research

In describing the health consequences of smoking for these three high risk groups—women, industrial workers, and teenagers—the new Surgeon General's report has made an important contribution in providing future directions for prevention programs. However, an equally important long-term contribution will be the influence of the report's significant findings on further research and study. Following are some significant findings:

- Life expectancy at any given age is significantly shortened by cigarette smoking. Current cigarette smokers have a chance of dying from disease that is approximately 70 percent greater than that of nonsmokers.
- Cigarette smoking is causally related to coronary heart disease among both men and women in the United States. Smoking is one of the three major risk factors for heart attack, and it is a risk factor for a second myocardial infarction.
- Cigarette smoking significantly increases the risk of dying from peptic ulcer disease.
- Children of parents who smoke are more likely to have bronchitis and pneumonia during the first year of life.
- Cigarette smoking is a major contributor to morbidity, which can be measured in terms of days of bed disability and days lost from work.
- The lighted cigarette generates more than 2,000 chemicals, of which carbon monoxide, nicotine, and tar are the most likely contributors to the health hazards of smoking.
- The longer one smokes and the older one gets, the more difficult it is to break away from this addictive-like pattern. Women, especially, find it hard to quit. Persons who try to stop smoking have had considerably more success with rapid and complete cessation than with gradual reduction in the amount smoked.
- Cigarette smoking is the largest preventable cause of death in the United States.
- Individuals vary in their health risks associated with cigarette smoking and in their cigarette smoking behavior. The health consequences of cigarette smoking for minorities may be particularly severe.

The Surgeon General's 1979 report associates cigarette smoking with up to 320,000 deaths each year. The responsibility of the Public Health Service concerning smoking and health is clear—to continue to intensify its research and prevention efforts to reduce death and disability from smoking.