

The Health Consequences Of Smoking

CANCER

*a report of the
Surgeon General*

1982



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Office on Smoking and Health
Rockville, Maryland 20857



THE SECRETARY OF HEALTH AND HUMAN SERVICES
WASHINGTON, D.C. 20201

The Honorable Thomas P. O'Neill, Jr.
Speaker of the House of Representatives
Washington, D.C. 20515

Dear Mr. Speaker:

I hereby submit to you the 1982 Report on the Health Consequences of Smoking, prepared in accordance with the Public Health Cigarette Smoking Act of 1969 and its predecessor, the Federal Cigarette Labeling and Advertising Act. This is the first report in the series to focus on a single disease entity--cancer.

Scientists inside and outside of Government have evaluated the evidence presented in this report. It joins this Department's previous reports on smoking and health in making publicly available information about one of the major health risks of smoking. These reports reflect the important responsibility of Government to inform its citizens in order that they can make a considered decision about whether to smoke.

Sincerely,

A handwritten signature in cursive script that reads "Richard S. Schweiker".

Richard S. Schweiker
Secretary



THE SECRETARY OF HEALTH AND HUMAN SERVICES
WASHINGTON, D. C. 20201

The Honorable George Bush
President of the Senate
Washington, D. C. 20510

Dear Mr. President:

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Sincerely,


Richard S. Schweiker
Secretary

FOREWORD

The 1982 report on *The Health Consequences of Smoking* presents a comprehensive evaluation of the relationship between cigarette smoking and cancer.

Since 1937, cancer has been the second most important cause of death in the United States and will account for an estimated 430,000 deaths this year. Surveys have shown that Americans fear dying of cancer more than any other disease. We have yet to observe, however, a decline in the cancer mortality rate as is currently occurring for other chronic diseases, such as the 30 percent decline in the cardiovascular disease mortality rate and the 50 percent decline in the cerebrovascular disease mortality rate observed over the last three decades. The mortality rate for cancer has changed little over two decades, and that change has been a small, but measurable, increase. This increase in mortality has occurred in the face of remarkable improvements in survival rates for some cancer sites through earlier or better diagnosis and treatment. Unfortunately, however, these advances have failed to counter the remarkable increases in mortality from smoking-related cancers, many of which have a poor prognosis for long-term survival or cures.

The Public Health Significance of this Report

Cigarette smoking is the major single cause of cancer mortality in the United States. Tobacco's contribution to *all* cancer deaths is estimated to be 30 percent. This means we can expect that 129,000 Americans will die of cancer this year because of the higher overall cancer death rates that exist among smokers as compared with nonsmokers. Cigarette smokers have total cancer death rates two times greater than do nonsmokers. Heavy smokers have a three to four times greater excess risk of cancer mortality. If large numbers of our population did not smoke, the cancer death rate in this country could be reduced, and instead of the small but continued increase in the total cancer death rate, there could be a substantial decline. There is no single action an individual can take to reduce the risk of cancer more effectively than quitting smoking, particularly cigarettes.

Cigarette smoking is a major cause of cancers of the lung, larynx, oral cavity, and esophagus, and is a contributory factor for the development of cancers of the bladder, pancreas, and kidney. The term contributory factor by no means excludes the possibility of a causal role for smoking in cancer of these sites.

Lung Cancer

Lung cancer, first correlated with smoking over 50 years ago, is the single largest contributor to the total cancer death rate. Lung cancer alone accounts for fully 25 percent of all cancer deaths in this country; it is estimated that 85 percent of lung cancer cases are due to cigarette smoking. Overall, smokers are 10 times more likely to die from lung cancer than are nonsmokers. Heavy smokers are 15 to 25 times more at risk than nonsmokers. The total number of lung cancer deaths in the United States increased from 18,313 in 1950 to 90,828 in 1977. The lung cancer death rate for women is currently rising faster than the lung cancer death rate for men, a fact that reflects the later adoption of smoking by large numbers of women. The lung cancer death rate for women will soon surpass that of breast cancer (perhaps as early as next year), currently the leading cause of cancer mortality in women. This remarkable increase in lung cancer mortality for women mimics that observed among men some 30 years ago. However, since the early 1960s, large numbers of men have given up cigarette smoking or have not begun to smoke, whereas only recently has the prevalence of cigarette smoking by women started to decline. These differences in patterns of smoking have a decided effect on lung cancer mortality trends in this country, with a decline in lung cancer mortality already apparent for younger men. These differences will clearly affect future lung cancer mortality experience by sex in the United States. The American Cancer Society estimates there will be 111,000 lung cancer-related deaths in 1982, of which 80,000 will be in men and 31,000 in women.

The 5-year survival rate for cancer of the lung is less than 10 percent. This rate has not changed in 20 years. Early diagnosis and treatment do not appreciably alter this dismal survival rate—the best preventive measure a smoker can take to reduce the risk of lung cancer is to quit smoking, and for a nonsmoker, to not take up the habit.

Larynx and Oral Cavity Cancer

Laryngeal and oral cancers will strike an estimated 40,000 individuals and will be responsible for approximately 13,000 deaths this year in the United States. These sites have 5-year survival rates of 60 and 40 percent, respectively. An estimated 50 to 70 percent of

oral and laryngeal cancer deaths are associated with smoking. These cancers are strongly associated with the use of cigars and pipes in addition to cigarettes. All carry approximately the same excess relative risk of at least fivefold. The use of alcohol in conjunction with smoking acts synergistically to greatly increase the risk of these cancers.

Esophageal Cancer

This year, 8,300 deaths due to cancer of the esophagus are expected. Cancer of the esophagus has one of the poorest survival rates of all cancers—only about 4 percent of esophageal cancer patients live 5 years after diagnosis and most die within 6 months. Cigarette smoking is estimated to be a factor in over half of esophageal cancer deaths. Smokers have mortality ratios approximately 4 to 5 times higher than nonsmokers. The use of alcohol has a synergistic interaction with smoking that greatly increases this risk.

Bladder and Kidney Cancers

Over 50,000 Americans are expected to develop bladder and kidney cancer this year. Bladder and kidney cancers will be responsible for a total of 20,000 deaths this year. The 5-year survival rates are approximately 50 to 60 percent. Various investigators have estimated that between 30 and 40 percent of bladder cancers are smoking related, with slightly higher estimates for males than for females.

Pancreatic Cancer

Approximately 24,000 people will develop cancer of the pancreas this year, and there will be an estimated 22,000 deaths. Like cancers of the lung and esophagus, cancer of the pancreas is often fatal, with a 5-year survival of less than 3 percent. While few estimates are available as to the proportion of these deaths attributable to smoking, it would appear to be about 30 percent. Pancreatic cancer appears to be increasing at a more rapid rate than most other cancer sites.

Stomach and Uterine Cervix Cancer

A link between smoking and stomach cancer and cancer of the uterine cervix is noted. However, no judgment can be reached on the significance of any association, because of insufficient data.

Involuntary Smoking and Lung Cancer

In recent months, the popular press has generated interest in the controversy of whether passive or involuntary smoking causes lung cancer in nonsmokers. Three epidemiological studies examined this issue in the past year. Evidence from two of the studies demonstrated a statistically significant correlation between involuntary smoking and lung cancer risk in nonsmoking wives of husbands who smoked. A third noted a positive association, but it was not statistically significant. While the nature of this association is unresolved, it does raise the concern that involuntary smoking may pose a carcinogenic risk to the nonsmoker. Any health risk resulting from involuntary smoke exposure is a serious public health concern because of the large numbers of nonsmokers in the population who are potentially exposed. Therefore, for the purpose of preventive medicine, prudence dictates that nonsmokers avoid exposure to second-hand tobacco smoke to the extent possible.

Lower Tar Cigarettes

This report also notes that smokers who use filtered or lower tar cigarettes have statistically lower death rates from lung cancer than do cigarette smokers who use nonfiltered or higher tar brands. This reduced risk was also noted for laryngeal cancer. However, cancer death rates for smokers of lower tar cigarettes were still significantly higher than those noted for nonsmokers.

Cessation of Smoking

Since cigarette smoking is a cause of many cancers, encouraging data about cessation are presented in this Report. Quitting smoking reduces one's cancer risk substantially, compared with the continuing smoker, even after many years of cigarette smoking. The more years one is off cigarettes, the greater the reduction in excess cancer risk. Fifteen years after quitting cigarette smoking, the former smoker's lung cancer risk, for example, is reduced close to that observed in nonsmokers. This same reduction in cancer risk is observed for the other cancer sites associated with smoking.

Part V of this Report contains a review of cessation research among adults and adolescents. In summary, many promising techniques are available to smokers who have been unable to quit on their own. It is nonetheless interesting to note that the vast majority of former smokers, probably close to 95 percent, quit on their own, without the aid of formal smoking cessation programs.

As a physician, I encourage all health care providers, particularly other physicians, to counsel cigarette smokers to quit and to give them as much support as possible. As this Report notes, a few

minutes' discussion with patients about their smoking behavior can have a decisive impact on whether they quit smoking or continue the habit.

Trends in Smoking Prevalence

I am encouraged by the recent decline in cigarette smoking rates in this country. Today, only one-third of adults smoke, a decline from 42 percent in 1965. Teenage smoking, particularly among adolescent girls, also appears to be declining.

While these figures are encouraging, there are still 53 million cigarette smokers in this country—about the same number of smokers as 20 years ago.

Furthermore, while per capita use of cigarettes has declined to its lowest level since 1957, there has been a substantial increase in the consumption of chewing tobacco and snuff, particularly among the young. What impact the use of these products will have on future cancer mortality is unclear; knowledge of the type and extent of the health effects of these tobacco products is limited. Current evidence indicates, however, that their use is not without risk. Studies conducted in this country and others have demonstrated an increased risk for oral cancer and other noncancerous oral diseases.

Educational Efforts

This Department is committed to continuing the programs of education and information for all our citizenry regarding the adverse health consequences of smoking. There is no more important aspect of this than the health education of our young, to convince them not to start smoking, or to quit the habit before it becomes difficult to break.

This problem cannot be left solely to government to solve. I call upon the rest of the health care community, the voluntary health agencies, and our schools to increase their efforts to control one of this country's most pressing health problems. Reducing smoking will reduce the devastating toll that cancer, as well as other smoking-related diseases, exacts on this Nation's health.

Edward N. Brandt, Jr., M.D.
Assistant Secretary for Health

PREFACE

In July 1957, Dr. Leroy E. Burney issued the Public Health Service's first statement on cigarette smoking: it identified smoking as a cause of lung cancer. Each succeeding Surgeon General has had occasion to issue additional and stronger warnings. These have linked smoking with lung cancer, with heart disease, with chronic lung disease, with other cancers, and with increases in overall mortality.

With this 1982 statement on cigarette smoking and cancer, I am joining my distinguished predecessors, Drs. Burney, Luther Terry, William Stewart, Jesse Steinfeld, and Julius Richmond. Cigarette smoking, as this Report again makes clear, is the chief, single, avoidable cause of death in our society and the most important public health issue of our time.

Over the years, 14 reports on the health consequences of smoking have been prepared by the Public Health Service under the Federal Cigarette Labelling and Advertising Act and its successor, the Public Health Cigarette Smoking Act of 1969. These reports have contributed greatly to public understanding of the hazards that cigarette smoking poses to the health of this Nation.

In contrast with previous Public Health Service reports on smoking and health, the present document examines the relationship between smoking and a single category of disease, cancer. The relationships between smoking and lung cancer, as well as cancer of other sites, are carefully examined. This should not distract attention from the fact that smoking is related to many diseases, including cardiovascular disease, which exacts a greater toll than does cancer in disease and death. Cancer, however, was the first disease to be linked with tobacco use, and its association with smoking has been the subject of the most intense research. Much of the research within the past few years has not previously been examined in the detail presented here.

As in previous years, this Report has been prepared with the aid and critical review of experts from within and outside the Government. On behalf of the Public Health Service, I express here my respect for their expertise and gratitude for their help.

C. Everett Koop, M.D.
Surgeon General

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