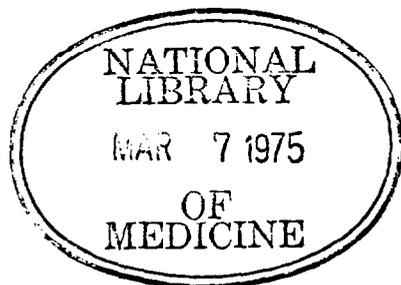


The
Health Consequences
of SMOKING
1974



U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service
Center for Disease Control

**THE
HEALTH CONSEQUENCES
OF SMOKING**

JANUARY 1974

**U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service**

Honorable Carl Albert
Speaker of the House of Representatives
Washington, D.C. 20515

Dear Mr. Speaker:

Enclosed is the 1974 report on the health consequences of smoking submitted to you as required by Section 8(a) of the Public Health Cigarette Smoking Act of 1969. As you will see, it confirms the evidence in previous reports that cigarette smoking is a serious health hazard and broadens our understanding of the mechanisms by which smoking contributes to the development of various forms of cancer, cardiovascular disease, and respiratory disease.

Under this Act, I am also required to submit to you such recommendations for legislation as I deem appropriate. This Department has previously taken a position in support of legislation which would authorize the regulation of cigarettes through the power to ban the manufacture and sale of cigarettes exceeding what are considered excessively hazardous levels of tar, nicotine, carbon monoxide, and other ingredients shown to be injurious to health. The extent to which the cigarette smoking public has over the years spontaneously moved towards this kind of self protection suggests that it would welcome the additional protection such legislation would bring. This Department, therefore, recommends to the Congress that it consider legislation providing this Department or some other appropriate agency with the authority to set maximum permissible levels of hazardous ingredients in cigarettes.

With kindest regards.

Sincerely,

Caspar W. Weinberger
Secretary

PREFACE

This report is the eighth in a series issued by the Public Health Service reviewing and assessing the scientific evidence linking cigarette smoking to disease and premature death. The current report is devoted to recent research that enlarges the evidence on which our knowledge is based and broadens our understanding of the mechanisms whereby smoking contributes to the development of various forms of cancer, cardiovascular disease, and respiratory disease.

It is now 10 years since the Advisory Committee of the Surgeon General issued its famous report of January 11, 1964, and 20 years since scientific evidence indicating that cigarette smoking is a major health problem came to widespread public attention. In the past 20 years substantial changes have taken place in the smoking habits of the American public. In the early 1950's cigarette smoking had reached its peak as a habit among men in their 20's and was rapidly increasing as a habit among each succeeding generation of women.

As a result of the continuing growth of scientific evidence on the hazards of cigarette smoking and the educational programs to disseminate this knowledge, millions of people have stopped smoking, and millions of others who would otherwise have taken up smoking have not done so. A further gain in reducing the hazards has been the substantial decline in the "tar" and nicotine content of cigarettes in the past 20 years. Despite population increase and increase in the rate of smoking by young women, there has been a very real reduction in exposure to cigarettes in some portions of our society.

The evidence is clear that people who have stopped smoking cigarettes have lower death rates from smoking-related diseases than those who continue to smoke. If these reductions continue we can look forward to the time when the rapid increase of diseases associated with smoking will halt and begin a decline that will result in fewer deaths during the most productive years of life.

Charles C. Edwards, M.D.
Assistant Secretary for Health

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PREPARATION OF THE REPORT AND ACKNOWLEDGMENTS

Previous Reports

"Smoking and Health. Report of the Advisory Committee to the Surgeon General of the Public Health Service," subsequently referred to as the "Surgeon General's Report," was published in 1964. The National Clearinghouse for Smoking and Health, established in 1965, has the responsibility for the continuous monitoring, compilation, and review of the world's medical literature which bears upon the health consequences of smoking. As called for by Public Law 89-92, three subsequent reviews of the medical literature on the health consequences of smoking were sent to the Congress:

1. "The Health Consequences of Smoking, A Public Health Service Review: 1967" (submitted July 1967).
2. "The Health Consequences of Smoking, 1968 Supplement to the 1967 PHS Review" (submitted July 1968).
3. "The Health Consequences of Smoking, 1969 Supplement to the 1967 PHS Review" (submitted July 1969).

Public Law 91-222 was signed into law on April 1, 1970, and called for an 18-month interval between the 1969 supplement and the next report. During this period, a comprehensive review of all of the medical literature available to the Clearinghouse relating to the health consequences of smoking was undertaken, with an emphasis upon the most recent additions to the literature. The product of this review was: "The Health Consequences of Smoking, A Report of the Surgeon General: 1971," submitted to the Congress in January of 1971.

Subsequently, reviews of the medical literature, which had come to the attention of the Clearinghouse since the publication of the 1971 report, were published as, "The Health Consequences of Smoking, A Report of the Surgeon General, 1972," and "The Health Consequences of Smoking, 1973," and were submitted to the Congress in January of the corresponding years.

Every report published since the original "Surgeon General's Report" has contained a review of the medical literature relevant to the association between smoking and cardiovascular disease, non-neoplastic bronchopulmonary disease, and cancer. Several of the reports included reviews of the relationship between smoking and peptic ulcer disease (1967, 1971, 1972, 1973) and cigarette smoking and pregnancy (1967, 1969, 1971, 1972, 1973). Other topics relating to the use of tobacco have received special emphasis in single reports:

1. Noncancerous Oral Disease (1969).
2. Tobacco Amblyopia (1971).
3. Allergy (1972).
4. Public Exposure to Air Pollution from Tobacco Smoke (1972).
5. Harmful Constituents of Cigarette Smoke (1972).
6. Pipe and Cigar Smoking (1973).
7. Exercise Performance (1973).

The 1974 Report

The present document, "The Health Consequences of Smoking: 1974," includes reviews of the relationships between smoking and cardiovascular disease, chronic non-neoplastic bronchopulmonary disease, and cancer, which are based upon medical literature which has become available to the Clearinghouse since the publication of the 1973 report. Each chapter is organized in a similar fashion:

1. *Introduction.* Each introduction comprises a series of statements of the separate lines of evidence which converge to support a causal relationship between tobacco use and the specific diseases under consideration in the chapter. Each separate statement reflects critical reviews of the data available from the pertinent medical and scientific literature as presented in previous publications of "The Health Consequences of Smoking."
2. *Discussion.* The body of each chapter contains critical reviews of two types of articles which have come to the attention of the Clearinghouse in the interval since the publication of "The Health Consequences of Smoking: 1973."
 - a. Those articles which either extend our understanding of the relationships between tobacco use and the specific

disease under consideration, beyond the position reflected in the introduction, or provide additional confirmation of previously suggested, but less well-established, relationships.

- b. The articles which present new data which do not demonstrate the definite relationships between tobacco use and specific diseases identified by the critical review of previously available data.
3. *Summary.* The summary of each chapter includes statements of the most significant new contributions to the understanding of the relationships between tobacco use and specific diseases.
4. *Bibliography.* Each bibliography is divided into two parts. The first contains references to the studies discussed in the text; the second primarily contains references to those studies which form the bulk of the articles reviewed by the Clearinghouse, which have provided data confirming well-established relationships. Although these studies are not discussed in the text of the chapter, accession numbers from the "Smoking and Health Bulletin", published by the Clearinghouse, have been provided. The Bulletin contains abstracts of all of the articles obtained by the Clearinghouse each year, and the accession numbers provided in the supplemental bibliography of each chapter will direct the interested reader to the appropriate abstract. The Bulletin can be obtained from the Clearinghouse upon request.

Identification of Articles

For each report, the continuous monitoring and compilation of the medical literature on the health consequences of smoking has been accomplished through several mechanisms:

1. An information science corporation is on contract to extract articles on smoking and health from the medical literature of the world. This organization provides a semimonthly accessions list with abstracts and copies of the various articles. Translations are called for as needed. Articles are indexed and classified according to subject and filed in accession number order.
2. The National Library of Medicine, through the MEDLINE system, sends the National Clearinghouse for Smoking and Health a monthly listing of articles in the smoking and health area. These are reviewed, and the articles not

identified by the information science corporation are ordered.

3. Staff members review current medical literature and identify pertinent articles. Inevitably each year, articles containing important new data come to the attention of the Clearinghouse after the drafts of chapters have been submitted. Such articles are incorporated into the following year's report.

Review of Chapter Drafts

All of the articles so compiled related to cardiovascular disease, bronchopulmonary disease, and cancer were reviewed, and the first drafts of the chapters prepared by the medical staff of the National Clearinghouse for Smoking and Health. The first drafts were then sent to reviewers for criticism and comment with regard to the format, the thoroughness of screening the available literature, the selection and review of articles, and conclusions. The final drafts were reviewed as a whole by the Director of the National Clearinghouse for Smoking and Health, the Director of the National Cancer Institute, the Director of the National Heart and Lung Institute, the Director of the National Institute of Environmental Health Sciences, and by additional experts both within and outside of the Public Health Service.

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The National Clearinghouse for Smoking and Health, Daniel Horn, Ph. D., Director, was responsible for the preparation of this report. Medical Staff Director for the report was H. Stephen Williams, M.D., Assistant Medical Staff Director was Paul I. Schneiderman, M.D., and consulting editors were Elvin E. Adams, M.D., Daniel P. Asnes, M.D., and John H. Holbrook, M.D.

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