

NATIONAL PROGRAM FOR THE
CONQUEST OF CANCER

REPORT

OF THE

NATIONAL PANEL OF CONSULTANTS ON
THE CONQUEST OF CANCER

AUTHORIZED BY

S. Res. 376

(Agreed to by Senate April 27, 1970)

PREPARED FOR THE

COMMITTEE ON LABOR AND
PUBLIC WELFARE
UNITED STATES SENATE



NOVEMBER 1970

PART 1

Printed for the use of the Committee on Labor and
Public Welfare

U.S. GOVERNMENT PRINTING OFFICE

AR-7011-003775

COMMITTEE ON LABOR AND PUBLIC WELFARE

RALPH YARBOROUGH, Texas, *Chairman*

JENNINGS RANDOLPH, West Virginia
HARRISON A. WILLIAMS, Jr., New Jersey
CLAIBORNE PELL, Rhode Island
EDWARD M. KENNEDY, Massachusetts
GAYLORD NELSON, Wisconsin
WALTER F. MONDALE, Minnesota
THOMAS F. EAGLETON, Missouri
ALAN CRANSTON, California
HAROLD E. HUGHES, Iowa
ADLAI E. STEVENSON III, Illinois

JACOB K. JAVITS, New York
WINSTON L. PROUTY, Vermont
PETER H. DOMINICK, Colorado
GEORGE MURPHY, California
RICHARD S. SCHWEIKER, Pennsylvania
WILLIAM B. SAXBE, Ohio

ROBERT O. HARRIS, *Staff Director*
GENE E. GODLEY, *General Counsel*
ROY H. MILLENSON, *Minority Staff Director*
EUGENE MITTELMAN, *Minority Counsel*

COMMITTEE OF CONSULTANTS ON CANCER

(Appointed Pursuant to S. Res. 376)

BENNO C. SCHMIDT, *Chairman*
Dr. SIDNEY FARBER, *Cochairman*

| | |
|-----------------------------|--------------------------|
| I. W. ABEL | Dr. HENRY S. KAPLAN |
| WILLIAM McC. BLAIR, Jr. | Dr. MATHILDE KRIM |
| ELMER BOBST | Mrs. MARY WELLS LAWRENCE |
| Dr. JOSEPH BURCHENAL | Dr. JOSHUA LEDERBERG |
| Dr. R. LEE CLARK | EMIL MAZEY |
| Dr. PAUL B. CORNELY | MICHAEL J. O'NEILL |
| EMERSON FOOTE | JUBAL R. PARTEN |
| G. KEITH FUNSTON | LAURANCE S. ROCKEFELLER |
| Dr. SOLOMON GARB | Dr. JONATHAN E. RHOADS |
| Mrs. ANNA ROSENBERG HOFFMAN | Dr. HAROLD P. RUSCH |
| Dr. JAMES F. HOLLAND | Dr. WENDELL G. SCOTT |
| Dr. WILLIAM B. HUTCHINSON | LEW WASSERMAN |

STAFF OF THE COMMITTEE

Robert F. Sweek, *Director*
Carl M. Fixman, *Deputy Director*
Mrs. Helena Curtis, *Special Assistant*
John A. Grimes, *Editorial Director*

(III)

Foreword

U.S. SENATE,
COMMITTEE ON LABOR AND PUBLIC WELFARE,
November 27, 1970.

Cancer is a disease which can be conquered. Our advances in the field of cancer research have brought us to the verge of important and exciting developments in the early detection and control of this dread disease, but as a nation we have not put forth the effort necessary to exploit the full potential of these gains, nor have we made the proper effort to ascertain what additional avenues of research should be opened.

In March of this year, I introduced a resolution supported by 53 of my colleagues in the Senate, calling for a completely new study of cancer, cancer research, and the cause and cure of cancer. The intent of this resolution is to make the conquest of cancer a national goal of the highest priority.

The resolution authorized the Committee on Labor and Public Welfare to study cancer research activities. It specifically charged the committee to "examine, investigate, and make a complete study of any and all matters pertaining to (1) the present status and extent of scientific research conducted by governmental and nongovernmental agencies to ascertain the causes and develop means for the treatment, cure and elimination of cancer, (2) the prospect for success in such endeavors, and (3) means and measures necessary or desirable to facilitate success in such endeavors at the earliest possible time."

As a result of this resolution a Panel of Consultants on the Conquest of Cancer, composed of 13 eminent laymen and 13 eminent scientists, was established to assist the Committee with the new study on cancer. After months of intensive and diligent effort, this Panel has prepared the attached report, "A National Program for the Conquest of Cancer." The report is dedicated to the proposition, expressed in a recent Concurrent Resolution of the Congress, that the conquest of cancer should be a national crusade. The recommendations are bold and far reaching. They call for a new agency, whose sole mission is the conquest of cancer. They call for adequate resources of manpower, facilities and funds to do the job in accordance with the provisions of a coordinated national program plan. The recommendations, along with the supporting findings, are spelled out in detail in the attached report.

I intend to introduce in this session of Congress major legislation to implement these recommendations and I therefore commend this report to the committee and to the Senate for early consideration.

RALPH W. YARBOROUGH, *Chairman.*

Letter of Transmittal

NEW YORK, N.Y., November 25, 1970.

HON. RALPH W. YARBOROUGH,
Chairman, Committee on Labor and Public Welfare,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: I am pleased to present herewith the report and recommendations of the Committee of Consultants on Cancer appointed pursuant to Senate Resolution 376. Part I of the report sets forth in 12 brief paragraphs a summary of the cancer problem, the areas of special promise which offer unusual opportunities for intensified effort, and the recommendations of the committee. Part II of the report sets forth the scientific and medical background in more detail. For the convenience of your committee, this part of the report is also preceded by a summary of the scientific material.

Of the \$250,000 appropriated by the Senate for this study, you will be pleased to learn that we have committed or spent only approximately \$75,000. This has been possible because of the generous contribution of time and effort of many persons who would not have been available at all on a reimbursement basis, but who, because of their dedication to the goals of this study, have given most generously of their time and talents. These included not only members of the committee, but several hundred members of the scientific community whose lives are devoted in a large measure to work related to the conquest of cancer.

I would like to express my personal appreciation to the members of the committee, not only for their splendid cooperation and 100-percent dedication to our task, but more particularly for the unprecedented hours of work which they have devoted without reservation. The scientific and professional members of the committee have borne by far the largest burden of the work of our committee, and no group could have given more unselfishly of their time and talent. The committee is most appreciative to the members of the scientific community, including those at the National Cancer Institute, and to the members of our staff for the information, views, and suggestions which they have so generously made available to the committee.

The committee was most fortunate in the diverse views and backgrounds represented, and in such a group one would not expect nor did we have unanimous agreement on all points. However, there has been unanimous commitment to the objective of the study as set forth in the Senate resolution. Out of our discussions and differences we have been able to crystallize a consensus. This report represents that consensus.

The committee is unanimously of the view that the conquest of cancer is a realistic goal if an effective national program along the lines recommended in the report is promptly initiated and relentlessly pursued.

Respectfully,

BENNO C. SCHMIDT, *Chairman.*

A NATIONAL PROGRAM FOR THE CONQUEST OF CANCER

INTRODUCTION

On April 27, 1970, the Senate passed Senate Resolution 376 authorizing the Senate Committee on Labor and Public Welfare, with the assistance of an advisory committee, to report to the Senate on (1) the present status of scientific knowledge with respect to the causes of cancer and its treatment, cure, and elimination, (2) the prospect of success in such endeavors, and (3) measures necessary or desirable to facilitate success at the earliest possible time. Pursuant to that resolution, the Committee of Consultants was designated in June 1970, and was asked to submit its report and recommendations at the earliest practicable date.

On July 15, 1970, the House of Representatives passed Concurrent Resolution 675, later passed by the Senate, expressing the unanimous sense of the Congress that "the conquest of cancer is a national crusade" and that "the Congress should appropriate the necessary funds so that the citizens of this land and all other lands may be delivered from the greatest medical scourge in history."

On June 29, 1970, the Committee of Consultants held its first meeting. Since that time the Committee has met 10 full days, subcommittees have met many additional days and the written or verbal testimony of 289 witnesses and advisors has been considered. The Committee is pleased to present herewith its report and recommendations.

SUMMARY AND RECOMMENDATIONS

1. Cancer is the No. 1 health concern of the American people. A poll conducted in 1966 showed that 62 percent of the public feared cancer more than any other disease. Of the 200 million Americans alive today, 50 million will develop cancer at present rates of incidence, and 34 million will die of this painful and often ugly disease, if better methods of prevention and treatment are not discovered. About one-half of cancer deaths occur before the age of 65, and cancer causes more deaths among children under age 15 than any other disease. Over 16 percent of all deaths in the United States are caused by cancer, making it by a wide margin our second greatest killer (after cardiovascular diseases). Cancer often strikes as harshly at human dignity as at human life, and more often than not it represents financial catastrophe for the family in which it strikes.

2. The amount spent on cancer research is grossly inadequate today. For every man, woman, and child in the United States, we spent in 1969: \$410 on national defense; \$125 on the war in Vietnam; \$19 on the space program; \$19 on foreign aid and only \$0.89 on cancer research. Cancer deaths last year were 8 times the number of lives lost in 6 years in Vietnam, 5½ times the number killed in automobile acci-

dents, and greater than the number of Americans killed in battle in all 4 years of World War II. Given the seriousness of the cancer problem to the health and morale of our society, this allocation of national priorities seems open to serious question. In addition to the poignancy of the disease, and the death and suffering that it causes, the economic loss is staggering, with estimates of its costs to the Nation running as high as \$15 billion per year, of which some \$3 to \$5 billion represents direct care and treatment costs and the balance is loss of earning power and productivity.

3. The incidence of cancer is increasing. This is partly due to the fact that a greater number of our citizens are reaching more advanced ages, where cancer strikes more frequently, but it is also due to the sharp increase in lung cancer, undoubtedly attributable to the air pollution in certain environments and most importantly to the self-pollution of those who smoke cigarettes. It is estimated that if the American people stopped smoking cigarettes this alone would eliminate about 15 percent of all cancer deaths.

4. The nature of cancer is not yet fully known. We know that human cancers are caused by certain chemicals, by certain types of radiation, and probably by viruses. The precise mechanisms by which these carcinogenic agents cause, or interact to cause, cancer is not known, and very little is known about the natural defense mechanisms that prevent cancer in some cases and not in others. A great deal more must be learned about chemical carcinogens, radiation, and viruses, and how they work. We must also learn more about what takes place at the cellular level when cancer occurs. There is very strong suggestive evidence that viruses cause some human cancers, but which viruses, how they are transmitted, and how they operate are unknown. It is erroneous to think of cancer as a single disease with a single cause that will be subject to a single form of immunization (as in the case of polio) or a single cure. Cancer comprises many diseases and results from a variety of causes that will have to be dealt with in a variety of ways. However, as our knowledge is expanded, more and more cancers will become preventable or curable.

5. The cure rate for cancer is gradually improving. In 1930 we were able to cure only about one case in five; today we cure one case in three; and it is estimated that the cure rate could be brought close to one in two by a better application of knowledge which exists today, i.e. detection at an earlier stage through the more widespread use of existing techniques (such as the Papanicolaou test for women and mammography), coupled with an extension to all citizens of the same quality of diagnosis and treatment now available at the best treatment centers. There are three methods for curing cancer today: surgery, radiation therapy, and chemotherapy. Often two or even three of these methods are used in combination. Some types of cancer are far more curable than others. For example, early breast cancer treated by surgery, cancer of the cervix by radiation or surgery, and choriocarcinoma and Burkitt's tumor by chemotherapy, are among those most susceptible to cure today. Treatment techniques are improving markedly, particularly in radiation therapy and chemotherapy, and more widespread availability of the best quality detection and treatment will give us more and more cures. However, it is still true that those cancers which disseminate rapidly are seldom curable today, and this represents a major gap in our existing knowledge. Where we stand today in our knowledge of the causes, nature, prevention, diagnosis,

treatment, and control of cancer is set forth in detail in part II of this report.

6. There have been major advances in the fundamental knowledge of cancer in the past decade, and these advances in knowledge have opened up far more promising areas for intensive investigation than have ever heretofore existed. These areas of special promise must be explored with vigor, if we are to exploit the great opportunities that lie before us. They are examined in detail in part II of this report.

Among the areas of special promise which must be aggressively pursued are:

(a) The identification and study of the chemical, physical, and other environmental factors that cause cancer (food additives, air pollutants, industrial hazards, radiation, and other carcinogens);

(b) Viruses causing cancer (what viruses cause cancer, how are they transmitted, and how do they act);

(c) Cell and tumor biology (including cell surface phenomena, molecular functions, differentiation and genic expression, controls of cell division, mechanisms of metastasis, nutritional requirements and other biological factors);

(d) Immunology (host resistance against cancer, its nature, causes and therapeutic use);

(e) Epidemiology (the variables in cancer incidence and types stemming from geographic, social, economic, nutritional, occupational, and constitutional differences);

(f) Cancer prevention (more effective utilization of existing knowledge and intensified research on preventive measures);

(g) Diagnosis (the development of new and improved diagnostic techniques);

(h) Chemotherapy (the development of new and better drugs and improvement in their uses);

(i) Radiotherapy (development of new and better techniques and apparatus for radiation therapy);

(j) Surgery (the best techniques in cancer surgery coupled with earlier diagnosis must be made generally available in order to further increase the cure of cancer. Better rehabilitation techniques must be further developed and utilized to return the cancer patient to an active and full life);

(k) Combinations of treatment modalities (improvement in treatment results by better combinations of surgery, radiotherapy, chemotherapy, and immunotherapy).

7. A national program for the conquest of cancer is now essential if we are to exploit effectively the great opportunities which are presented as a result of recent advances in our knowledge. However, such a program will require three major ingredients that are not present today:

First, effective administration with clearly defined authority and responsibility;

Second, the development of a comprehensive national plan for a coherent and systematic attack on the vastly complex problems of cancer. Such a plan would include not only programmatic research where that is appropriate, but also major segments of much more loosely coordinated research where plans cannot be definitively laid out nor long-range objectives clearly specified; and

Third, the necessary financial resources.

At the present time there is no coordinated national program or program plan. The National Cancer Institute has done excellent work itself and has supported grants and contracts in the scientific community which have resulted in much outstanding work, but the overall research effort is fragmented and, for the most part, uncoordinated. The effort in cancer should now be expanded and intensified under an effective administration charged with developing and executing a comprehensive national plan for the conquest of cancer at the earliest possible time. The three foregoing elements are considered separately in more detail in the succeeding paragraphs 8, 9, and 10.

8. *Administration.*—An effective major assault on cancer requires an administrative setup which can efficiently administer the coherent program that is required in this formidable and complex scientific field. Such a setup will not be easy to achieve within the Federal Government. The effective implementation of such a program will require a simplification of organizational arrangements and a drastic reduction in the number of people involved in administrative decisions. This type of straight-line organizational efficiency does not exist today in the National Cancer Institute, the National Institutes of Health, or the Department of Health, Education, and Welfare. Obviously, from many standpoints it can be argued that any cancer program should be in the Department of Health, Education, and Welfare and indeed that it should be in the National Institutes of Health. However, there is real doubt whether the kind of organization that is required for this program can in fact be achieved within the National Institutes of Health or within the Department of Health, Education, and Welfare. Apart from the question of whether it can be done, there is also the question of whether it would be wise to require the Secretary of Health, Education, and Welfare to attempt to give cancer the priority necessary to carry out the congressional mandate in a department charged with the multiple health and other responsibilities of that Department.

In the past when the Federal Government has desired to give top priority to a major scientific project of the magnitude of that involved in the conquest of cancer, it has on occasion, with considerable success, given the responsibility for the project to an independent agency. Such an agency provides a degree of independence in management, planning, budget presentation, and assessment of progress which is difficult if not impossible to achieve in a large government department. Accordingly, if the Congress and the administration are truly committed to making the conquest of cancer a "national crusade", as expressed in the concurrent resolution of the Congress, it is the view of the Committee that a National Cancer Authority should be established whose mission is defined by statute to be the conquest of cancer at the earliest possible time. All the functions, personnel, facilities, appropriations, programs, and authorities of the National Cancer Institute should be transferred to the National Cancer Authority. The Authority should be headed by an Administrator appointed by the President with the advice and consent of the Senate, and he should report directly to the President and present his budgets and programs to the Congress. In considering the feasibility of an independent agency, it should be borne in mind that we are talking about a major scientific program and, as pointed out in subsequent paragraphs, not the delivery of patient care generally in cancer cases. The only patient care involved in this program will be that associated with clinical research and teaching and the development and demonstration of improved methods in the de-

livery of patient care undertaken as a part of the comprehensive program plan.

The powers of such a National Cancer Authority should be very broadly defined in order to accomplish a mission of this complexity. It would not be useful to attempt to enumerate here all the powers that such an Authority should have and in the writing of the implementing legislation, the Committee believes that the powers should be broadly defined and not enumerated. However, the following are illustrative of the kinds of powers which the National Cancer Authority will have to be able to exercise in order to carry out a comprehensive program of the type envisaged:

(a) The power to enter into prime contracts with authority in the prime contractor to enter into subcontracts;

(b) The power to commit available funds until expended rather than on a year-to-year basis;

(c) The power to authorize exceptions to existing regulations, where necessary, to permit the use of experimental drugs, biologicals, and devices in cancer research;

(d) The power to establish or support the large-scale production of specialized biological materials for cancer research, such as viruses, cell cultures, animals, and the like, as well as the power to set standards of safety and care for those using such materials;

(e) The power to support research outside the United States by highly qualified foreign nationals, collaborative research involving American and foreign participants, and training of American scientists abroad and foreign scientists in the United States, to the extent that such activities will promote the accomplishment of the mission. The Committee believes that cancer research offers a particularly fruitful field for collaboration with other nations, including those nations with whom present cooperation is limited but with whom greater collaboration is desired;

(f) The power to fund by loan, grant, contract, or otherwise any facilities or programs, or to take such other actions, as may be required for the accomplishment of the mission.

9. *Program plan.*—A comprehensive national plan for the conquest of cancer should be developed as promptly as possible. The development of a coherent overall program plan should include the following features:

(a) The present research activities now being carried forward under the National Cancer Institute should in no way be impeded or interrupted while plans are being made for the expansion, intensification, and coordination of the cancer research program;

(b) Existing research facilities and manpower should be used as promptly as possible for the accelerated exploitation of the opportunities in the areas of special promise. There is substantial unused capacity in this country today that should be utilized in order to attract and retain the manpower that is needed. It is a myth that we could not spend effectively on cancer very much more than is now being spent. The fact that Federal support for cancer research has leveled off since 1967 and that, due to inflation, the actual amount of work done has decreased has created a serious gap between what we are doing now and what we could and should be doing in cancer research. It is estimated that current expenditures could be doubled within the framework of the existing facilities and manpower potential of this country

today, exclusive of the great industrial research capability in this field which should be brought to bear on an appreciable scale in high priority areas to which this type of capability is particularly suited.

(c) Existing cancer centers should be strengthened and additional cancer centers in different parts of the country should be created. The solution of the cancer problem lends itself to a multidisciplinary effort, where teams of highly qualified specialists are available to interact on problems of research, both clinical and nonclinical, teaching, diagnosis, preventive programs, and the development of improved methods in the delivery of patient care, including rehabilitation. Among those who work in the cancer field, there is great emphasis on the advantages of critical mass—a critical mass of scientists and physicians committed to the cooperative solution of the cancer problem, of research facilities, of patients, and of financial and other resources. This is simply another way of saying that the comprehensive cancer center offers the best organizational structure for the expanded attack on cancer. In addition to the few comprehensive cancer centers that exist in the United States today, there are a number of other institutions which combine all or most of the capabilities for a multidisciplinary effort in cancer. These could serve as a base for the creation of additional centers. The new centers should have appropriate geographic distribution and should, wherever possible, be created where a nucleus of scientific, professional and managerial personnel already exists and preferably where a university or a medical school affiliation exists or is planned.

In the creation of new cancer centers, manpower limitations should be taken into account, and new centers should not be created where there would be a dilution in the effectiveness of existing centers which would offset any gain from the new center. There should be a realistic operating plan for each new center which assures the scientific and managerial commitment and ability necessary to the creation and operation of a successful center.

It should be emphasized that the strengthening of existing cancer centers and the creation of new cancer centers does not mean that under this program general responsibility should be undertaken for the care of the Nation's cancer patients. The delivery of patient care in cancer cases is a part of the general problem of the delivery of patient care and should be so dealt with. However, this inhibition must not prevent the cancer centers from including such patient care facilities as are necessary for clinical research and teaching and for the development and demonstration of the best methods of treatment in cancer cases.

(d) The cancer centers should also serve as administrative coordinators of those programs which require regional coordination. Such centers should support and assist clinics and community medical centers in their own geographic areas in order to assure the widespread use of the best available methods for early detection and treatment of cancer. They should also serve to collect data useful in the prevention and cure of cancer, including patient follow-up information, and be responsible for the dissemination of information, both at the lay and professional levels, that is useful in the prevention, diagnosis and cure of cancer. The effective dissemination and utilization of such information is a most important part of any national plan to conquer cancer.

(e) A national plan of the type envisaged must take account of the manpower requirements for this effort. There is a critical need for

training and career opportunities for young scientists, physicians, and other personnel in this program. We must reaffirm to young investigators our confidence in the future of American science and in our national dedication to success in the conquest of cancer. A manpower program in this field should include training stipends, predoctoral fellowships for particularly promising candidates, postdoctoral fellowships for brilliant investigators, and career positions where appropriate through career initiation awards, career development awards, and senior career awards.

(f) A national plan for the conquest of cancer should provide for the generous use of grants as well as contracts and other methods of funding. There should be increased emphasis on the grants mechanism in order to stimulate continued independent exploration, particularly in those areas where knowledge is not sufficiently mature for a coordinated program aimed at reaching defined objectives.

(g) A comprehensive national program requires optimum communication and centralized banks of information. There must be an accurate and prompt information flow in both directions. This will call for integrated data processing, storage, and retrieval in order to rationalize the decision-making and to make information available when and where needed. As indicated above, the centers can be important foci in both the collection and dissemination of this information.

(h) A coordinated national program plan should, to the greatest possible extent, be generated by the voluntary productive interaction and joint planning of the scientists who will be responsible for doing the work. The program should not be the result of the happenstance of a multitude of random decisions independently arrived at. An integrated and coherent plan resulting from the joint effort of representative scientists who will be responsible for its execution is fundamentally different from the hierarchical imposition or direction of a research program from above. However, the effective use of collective planning does not mean that centralized administration or management of resources should be sacrificed.

10. *Funding.*—The Committee estimates that a coordinated national program aimed at the conquest of cancer at the earliest possible time, as envisaged by the concurrent resolution of the Congress, would require an appropriation in fiscal 1972 of approximately \$400 million. Thereafter, the cost of the program would increase at the rate of approximately \$100 to \$150 million per year, reaching a level of \$800 million to \$1 billion in 1976. These sums are not large in terms of our national resources or of the human suffering and economic loss attributable to cancer. A program of the type herein recommended is so important to the American people and to the world that we feel that the amounts called for should be provided even if this necessitates the raising of additional revenues. It is of utmost importance that the financing of this program not result in cutbacks in other health programs.

11. *National Cancer Advisory Board.*—Both the public and the scientific community must be effectively represented in this effort, and must have a part in its planning as well as its execution. To this end, a National Cancer Advisory Board should be created with 18 members, nine of whom are distinguished scientists and doctors in the field of cancer, and nine of whom are distinguished laymen. The members should serve for a term of 6 years with the terms of one-third of the

members expiring every 2 years. Members of the Board should be appointed by the President of the United States with the advice and consent of the Senate. The Chairman of the Board should be elected by the members and should serve for a term of 2 years. The Board should meet not less than once each quarter and its function should be to advise and assist the National Cancer Authority and its Administrator in the development and execution of the program. The Administrator should be an ex-officio member of the Board. The Board should have statutory responsibility for the approval of each year's program plan and budget, but the responsibility for administering the program should rest with the Administrator. The Board should have full investigatory powers and should be required to report once each year to the President and the Congress on the progress of the National Cancer Authority in the accomplishment of its mission. This Board should supersede the presently existing National Advisory Cancer Council, and the members of that Council should serve as additional members of the National Cancer Advisory Board for the duration of their present terms.

12. Cancer is an implacable foe and the difficulty of eliminating it as a major disease must not be underestimated. A top priority commitment by the Congress, the President, and the American people is required if we are to mount and sustain an assault on cancer of the magnitude envisaged by Senate Resolution 376 and the concurrent resolution of the Congress. Such a commitment involves a recognition not only of the difficulty and complexity of cancer but also of the time and resources required to attack it effectively. While it is probably unrealistic at this time to talk about the total elimination of cancer within a short period of time or to expect a single vaccine or cure that will eradicate the disease completely, the progress that has been made in the past decade provides a strong basis for the belief that an accelerated and intensified assault on cancer at this time will produce extraordinary rewards. The Committee is unanimously of the view that an effective national program for the conquest of cancer should be promptly initiated and relentlessly pursued.

