SEMICENTENNIAL CELEBRATION

National Cancer Institute

May 26, 1987
Bethesda, Maryland

A Special Supplement
prepared by
the *Journal of the National Cancer Institute*

TABLE OF CONTENTS

Happy Anniversary NCI— Think of a World Without Cancer

Vincent T. DeVita, Jr., *M.D.*
Director, National Cancer Institute

The National Cancer Institute celebrates two anniversaries this year, its 50th and its 15th. The former, of course, is the celebration of its founding. In 1937, the American people, through the U.S. Congress, expressed their concern for this dread disease by supporting the creation of the first categorical institute at the National Institutes of Health. The Cancer Act of 1971 was an extension of this concern and also an expression of the feelings of many that the time had come to shift gears and accelerate research support toward the conquest of cancer, as described in the summary report of the work of the Yarborough Commission entitled "Toward the Conquest of Cancer."

There were many myths and misperceptions about the Cancer Program, most of which have now been dispelled[1]. The most pervasive was that the cancer initiative would draw money from all other research supported by NIH. This is once again effectively dealt with by Mr. Schmidt in his comments before the National Cancer Advisory Board coincident with the anniversary of the signing of the Cancer Act, but this spectre still haunts all new adventurous scientific initiatives. Both the Yarborough Commission report and Mr. Schmidt's comments are printed in this Anniversary issue and make interesting reading.

The essence of the Cancer Act was to provide not only more resources for cancer research, which it did, but some protection from the bureaucratic processes that tend to envelop special initiatives by providing special authorities, to allow the Institute to operate with greater speed and flexibility, and special reporting lines to troubleshoot problems that might arise. An unwillingness to reach further than you could see characterized the opposition to the special initiative represented by the Cancer Act, and what couldn't be easily seen was a revolution of the first order. The signs of the scientific revolution around us are undeniable, and much of it was fueled by the funds provided to and programs

---

[1] DEVITA VT. The governance of science at the National Cancer Institute: A perspective on misperceptions. Cancer Res 1983; 43:3969-3973.

[2] LIOTTA LA, MANDLER R, MURANO G, et al. Tumor cell autocrine motility factor. Proc Natl Acad Sci USA 1986; 83:3302-3306.

initiated by the National Cancer Program. The signs foretell paradigm changes in medicine, and especially cancer medicine, that we must be ready for.

Fifty years ago, the cancer cell was regarded as a total enigma and cancer science was mostly descriptive. Fifteen years ago, the cancer cell was still a black box, albeit more definable and subject to greater measurement. The lid of this black box was lifted and the workings of the cell exposed for all to see by support for basic cancer research. We now have an inkling of what is going on in the cell. We see it, not as a random invading enemy, more dangerous than bacteria and viruses because of a capacity to circumvent any attempt at control, but as an aberration of a normal process, the process of growth, development, and differentiation that follows upon the fertilization of the egg. The cancer cell, in effect, appears to be trying to make a whole human being by utilizing the normal genetic programs involved in growth and development, expressing genes, many of which we now know as oncogenes. These programs, extremely dangerous to a fully formed adult, have appropriately been shut down in most of us. When they are switched back on by a variety of interactions with the environment, we have cancer. The cancer cell cannot succeed in making a facsimile of an adult because too many of the required programs are not available to it (teratomas with teeth and hair tell us that it can succeed in part if it starts with the right cell line); but it tries the next best thing, to make a copy of the organ it derives from. Here it comes closer, for we can usually recognize the similarity under a microscope, but it also cannot make a functional organ. In its undifferentiated form, the cancer cell does effectively retain the capacity to express the earliest and most dangerous of these programs, the capacity to grow in situ and to travel and grow in secondary sites, the process we know as metastasizing—the process that, in the end, is the lethal effect for most cancer patients.

This animated version of the cancer story has been made more plausible by the recent identification of autocrine motility factor in cancer cells[2], a factor under genetic control that is required during embryogenesis for the normal migration of cells to their site of organogenesis. The gene for this product appears to have been cloned, and with its identification comes the certainty that all steps in the cancer process are under genetic control, susceptible to the manipulation of the tools of modern molecular biology. It is this fact that provides assurance of a level of understanding that will allow us to control the cancer process in ways undreamed of in 1971. Trying to interfere with a random process is often like looking for a needle in a haystack. Devising means to intercept, interfere with, or reverse a predetermined, albeit extraordinarily complex, series of programs that are the essence of life itself is a plausible exercise, which may well lead to the control of cancer and staggering information on developmental biology useful to all of medicine.

Anniversaries provide an opportunity to reflect, and my own reflections tell me we have come a long way thanks to some visionaries who had the courage to think grandly in scientific terms. For while undreamed of information is often the product of support for basic research, what is fully appreciated is the degree of acceleration when this support is provided to special initiatives like the Cancer Program and many of its component programs. This is not, as was once feared, targeting the basic research but just acting on opportunity when it presents itself.

Thinking of the total conquest of cancer was indeed difficult in 1971 when most of tools of molecular biology were yet to be described. It did, however, offer several managerial opportunities that can be viewed as models for all biologic research today. When you think in terms of total control of any disease or the total solution of any problem, you are forced to consider the mechanisms you use, and even your institution, as mere tools, as the means to an end, not an end in themselves. Then you are most likely to take scientific risks, risks that are

healthy and necessary in today's scientific climate. Focusing on the short term, on the other hand, leads to an emphasis on bureaucratic niceties of organizations. The "total solution" approach sets up the scientific equivalent of a "running fuse." If the science is going well, and success is achieved at the first level, you must anticipate the downstream impact on other programs at the implementation level, like clinical trials and the rapid translation of advances in basic research into the practice of medicine. On an even greater scale, it forces you to consider the impact of a reduction say in cancer mortality on the diseases that affect the quality of life of those who will live longer so these research programs can be adjusted accordingly. Amazingly enough, this kind of direction was included in some of the mandates of the Cancer Act, apparently because the architects of the Act were not inhibited by convention.

To fully capitalize on the plethora of resources we can now bring to bear toward the conquest of cancer requires that we rededicate ourselves to maintaining the momentum of the special initiative of the Cancer Program and be willing to take further scientific risks. All of this will be much easier if we try to envision a world without cancer. In this vein, this Director would like nothing better than to preside over the closing of the National Cancer Institute because it is no longer needed. In fact, I hope those who celebrate NCI's 100th Anniversary will reminisce at the site where it once stood and think fondly of the adventure associated with the eradication of a major disease.

Past Directors of the National Cancer Institute

CARL VOEGTLIN, *M.D.*
(1938–1943)

ROSCOE R. SPENCER, *M.D.*
(1943–1947)

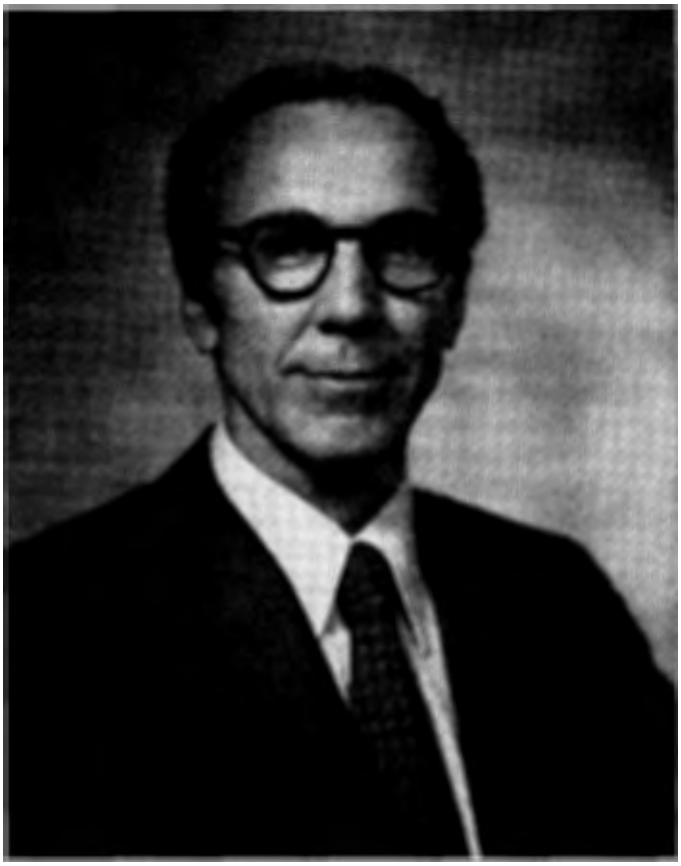
LEONARD A. SCHEELE, *M.D.*
(1947–1948)

JOHN R. HELLER, *M.D.*
(1948–1960)

KENNETH M. ENDICOTT, *M.D.*
(1960–1969)

CARL G. BAKER, *M.D.*
(1970–1972)

FRANK J. RAUSCHER, JR., *PH.D.*
(1972–1976)



ARTHUR C. UPTON, *M.D.*
(1977–1979)

Legislative History of the National Cancer Institute

Mary C. Knipmeyer[1]

On August 5th, 1937, President Franklin D. Roosevelt signed into law the National Cancer Institute Act (P.L. 244) establishing the National Cancer Institute. The law mandated the new Institute "to provide for, foster, and aid in coordinating research relating to cancer." In 1944, the Public Health Service Act consolidated much of the Nation's health efforts, including designating the National Cancer Institute as part of the National Institutes of Health.

The next major legislative step in the Federal effort to fight cancer occurred with the signing of the National Cancer Act (P.L. 92-218) on December 23, 1971 by President Richard Nixon. This legislation was enacted following the report of the National Panel of Consultants on the Conquest of Cancer appointed by Senator Ralph Yarborough. The Act found a middle ground between those who thought the National Cancer Institute should be an independent agency and those who thought it belonged within the National Institutes of Health. The 1971 legislation met the concerns of both perspectives by enlarging the authorities and responsibilities of the Institute Director and initiating a National Cancer Program. Special authorities included appointment of the Director by the President, the development of an annual By Pass Budget, special peer review and training authorities, and the authority to hire expert consultants to enter into contracts and to award construction projects. It also established a 3-member President's Cancer Panel, charged with reporting to the President any delays or blockages in the rapid execution of the National Cancer Program. The National Cancer Advisory Board also was established with 18 Presidentially appointed members in addition to 5 ex-officio members. The first cancer centers were authorized by this new law, which called for 15 new research, training, and demonstration cancer centers. The Act also established cancer control programs as necessary for cooperation with State and other health agencies in the diagnosis, prevention, and treatment of cancer. An Information Dissemination Program for the collection, analysis, and dissemination of all data useful in the diagnosis, prevention, and treatment of cancer was established as well as the International Cancer Research Data Bank.

Three years after signing the original Act, President Nixon signed the National Cancer Act Amendments of 1974 (P.L. 93-352). This law included new provisions for disseminating information on nutrition as related to the treatment or causation of cancer as well as a peer review system of grant applications and contract projects.

The next significant set of amendments to the National Cancer Act came in 1978 when the Act was amended to emphasize education and demonstration programs in cancer treatment and prevention. The amendments (P.L. 95-622) also stipulated that the National Cancer Institute devote more resources to prevention, focusing particularly on environmental, dietary, and occupational cancer causes.

In 1985, the Health Research Extension Act (P.L. 99-158) recodified the portion of the Public Health Service Act related to the National Institutes of Health. The special authorities of the National Cancer Institute were maintained with the clear intent of continuing to provide for an expedited cancer research program. The mission of the National Cancer Institute continues to be to conduct and support research, training, health information dissemination, and other programs with respect to the cause, diagnosis, prevention, and treatment of cancer. The 1985 law placed additional emphasis on the continuing care of cancer patients and their families.

The legislative history of the National Cancer Institute reflects the Nation's continuing commitment to the goal of eradicating cancer through a multifaceted national research program and the desire of the Congress to provide the authority and flexibility needed to facilitate its achievement.

---

[1] Legislative Analyst/Congressional Liaison, Office of the Director, National Cancer Institute.

THE NATIONAL CANCER INSTITUTE ACT OF 1937[1]

Text of the Act of August 5, 1937, creating the National Cancer Institute and authorizing an appropriation therefor

[PUBLIC—NO. 244—75TH CONGRESS]

[CHAPTER 565—1ST SESSION]

[S. 2067]

AN ACT

To provide for, foster, and aid in coordinating research relating to cancer; to establish the National Cancer Institute; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the purposes of conducting researches, investigations, experiments, and studies relating to the cause, diagnosis, and treatment of cancer; assisting and fostering similar research activities by other agencies, public and private; and promoting the coordination of all such researches and activities and the useful application of their results, with a view to the development and prompt widespread use of the most effective methods of prevention, diagnosis, and treatment of cancer, there is hereby established in the Public Health Service a division which shall be known as the National Cancer Institute (hereinafter referred to as the "Institute").

SEC. 2. The Surgeon General of the Public Health Service (hereinafter referred to as the "Surgeon General") is authorized and directed for the purposes of this Act and subject to its provisions, through the Institute and in cooperation with the National Cancer Advisory Council hereinafter established—

(a) To conduct, assist, and foster researches, investigations, experiments, and studies relating to the cause, prevention, and methods of diagnosis and treatment of cancer;

(b) To promote the coordination of researches conducted by the Institute and similar researches conducted by other agencies, organizations, and individuals;

(c) To procure, use, and lend radium as hereinafter provided;

(d) To provide training and instruction in technical matters relating to the diagnosis and treatment of cancer;

(e) To provide fellowships in the Institute from funds appropriated or donated for such purpose;

(f) To secure for the Institute consultation services and advice of cancer experts from the United States and abroad; and

(g) To cooperate with State health agencies in the prevention, control, and eradication of cancer.

SEC. 3. There is hereby created the National Advisory Cancer Council (herein referred to as the "Council"), to consist of six members to be appointed by the

[1] In 1944 all Public Health Service laws were consolidated, with needed revisions and additions, in a new law known as the Public Health Service Act (P.L. 410, 78th Congress, 2d Session). Most of the provisions of the original National Cancer Institute Act were incorporated in this new legislation.

Surgeon General with the approval of the Secretary of the Treasury, and of the Surgeon General, ex officio, who shall be chairman of the Council. The six appointed members shall be selected from leading medical or scientific authorities who are outstanding in the study, diagnosis, or treatment of cancer in the United States. Each appointed member shall hold office for a term of three years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term, and (2) the terms of office of the members first taking office shall expire, as designated by the Surgeon General at the time of appointment, two at the end of the first year, two at the end of the second year, and two at the end of the third year after the date of the first meeting of the Council. No appointed member shall be eligible to serve continuously for more than three years but shall be eligible for reappointment if he has not served as a member of the Council at any time within twelve months immediately preceding his reappointment. Each appointed member shall receive compensation at the rate of $25 per day during the time spent in attending meetings of the Council and for the time devoted to official business of the Council under this Act, and actual and necessary traveling and subsistence expenses while away from his place of residence upon official business under this Act.

SEC. 4. The Council is authorized—

(a) To review research projects or programs submitted to or initiated by it relating to the study of the cause, prevention, or methods of diagnosis and treatment of cancer, and certify approval to the Surgeon General for prosecution under section 2 (a) hereof any such projects which it believes show promise of making valuable contributions to human knowledge with respect to the cause, prevention, or methods of diagnosis and treatment of cancer;

(b) To collect information as to studies which are being carried on in the United States or any other country as to the cause, prevention, and methods of diagnosis and treatment of cancer, by correspondence or by personal investigation of such studies, and with the approval of the Surgeon General make available such information through the appropriate publications for the benefit of health agencies and organizations (public or private), physicians, or any other scientists, and for the information of the general public;

(c) To review applications from any university, hospital, laboratory, or other institution, whether public or private, or from individuals, for grants-in-aid for research projects relating to cancer, and certify to the Surgeon General its approval of grants-in-aid in the cases of such projects which show promise of making valuable contributions to human knowledge with respect to the cause, prevention, or methods of diagnosis or treatment of cancer;

(d) To recommend to the Secretary of the Treasury for acceptance conditional gifts pursuant to section 6; and

(e) To make recommendations to the Surgeon General with respect to carrying out the provisions of this Act.

SEC. 5. In carrying out the provisions of section 2 the Surgeon General is authorized—

(a) With the approval of the Secretary of the Treasury, to purchase radium, from time to time, without regard to section 3709 of the Revised Statutes; to make such radium available for use in carrying out the purposes of this Act; and, for such consideration and subject to such conditions as the Secretary of the Treasury shall prescribe, to lend such radium to institutions, now existing or hereafter established in the United States for the study of the cause, prevention, or methods of diagnosis or treatment of cancer, or for the treatment of cancer;

(b) To provide the necessary facilities where training and instruction may be given in all technical matters relating to diagnosis and treatment of cancer to

such persons as in the opinion of the Surgeon General have proper technical training and shall be designated by him for such training or instruction; such persons while receiving training or instruction may, with the approval of the Surgeon General, receive a per-diem allowance to be fixed by the Surgeon General but not to exceed $10;

(c) To establish and maintain, with the approval of the Secretary of the Treasury, research fellowships in the Institute with such stipends or allowances (including traveling and subsistence expenses) as the Surgeon General may deem necessary to procure the assistance of the most brilliant and promising research fellows from the United States or abroad;

(d) To secure for the Institute, from time to time and for such periods as may be advisable, the assistance and advice of experts, scholars, and consultants from the United States or abroad who are learned and experienced in the problems involved in accomplishing the purposes of this Act;

(e) To make grants in aid for research projects certified by the Council pursuant to section 4 (c); and

(f) To adopt, upon recommendation of the Council and with the approval of the Secretary of the Treasury, such additional means as the Surgeon General may deem necessary or appropriate to carry out the provisions of sections 1 and 2 of this Act.

SEC. 6. The Secretary of the Treasury is authorized to accept on behalf of the United States gifts made unconditionally by will or otherwise for study, investigation, or research into the cause, prevention, and methods of diagnosis and treatment of cancer, or for the acquisition of grounds or for the erection, equipment, and maintenance of premises, buildings, and equipment for the Institute. Conditional gifts may be accepted by the Secretary if recommended by the Surgeon General and the Council. Any such gifts, if in money, shall be held in trusts and shall be invested by the Secretary of the Treasury in securities of the United States, and the principal or income thereof shall be expended by the Surgeon General, with the approval of the Secretary of the Treasury, for the purposes prescribed by this Act, subject to the same examination and audit as provided for appropriations made for the Public Health Service by Congress. Donations of $500,000 or over in aid of research under this Act shall be acknowledged permanently by the establishment within the Institute of suitable memorials to the donors.

SEC. 7. (a) There is hereby authorized to be appropriated a sum not to exceed $750,000 for the erection and equipment of a suitable and adequate building and facilities for the use of the Institute in carrying out the provisions of this Act. The Secretary of the Treasury is authorized to acquire, by purchase, condemnation, donation, or otherwise, a suitable and adequate site or sites in or near the District of Columbia for such building and facilities, and to erect thereon, furnish, and equip such buildings and facilities when funds are made available.

(b) There is hereby authorized to be appropriated the sum of $700,000 for each fiscal year, beginning with the fiscal year ending June 30, 1938, for the purpose of carrying out the provisions of this Act (except subsection (a) hereof). Sums appropriated pursuant to this subsection may be expended in the District of Columbia for personal services, stenographic recording and translating services, by contract if deemed necessary, without regard to section 3709 of the Revised Statutes; traveling expenses (including the expenses of attendance at meetings when specifically authorized by the Surgeon General); rental, supplies and equipment, purchase and exchange of medical books, books of reference, directories, periodicals, newspapers, and press clippings; purchase, operation, and maintenance of motor-propelled passenger-carrying vehicles; printing and binding (in addition to that otherwise provided by law); and for all other necessary expenses in carrying out the provisions of this Act.

SEC. 8. (a) There is hereby authorized to be appointed in the Public Health

Service, in accordance with applicable law, such commissioned officers as may be necessary to aid in carrying out the provisions of this Act.

(b) This Act shall not be construed as superseding or limiting (1) the functions, under any other Act, of the Public Health Service or any other agency of the United States relating to the study of the prevention, diagnosis, and treatment of cancer; or (2) the expenditure of money therefor.

(c) The Surgeon General with the approval of the Secretary of the Treasury is authorized to make such rules and regulations as may be necessary to carry out the provisions of this Act.

(d) The Surgeon General shall include in his annual report for transmission to Congress a full report of the administration of this Act, including a detailed statement of receipts and disbursements.

(e) This Act shall take effect thirty days after the date of its enactment.

(f) This Act may be cited as the "National Cancer Institute Act."

Approved, August 5, 1937.

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)

[91st Congress—2d Session]

Prepared for the Committee on Labor and Public Welfare United States Senate

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*

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 accidents, 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 delivery 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 strengthen 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.

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

THE NATIONAL CANCER ACT OF 1971

[PUBLIC LAW 92-218]

[92ND CONGRESS, S. 1828]

[DECEMBER 23, 1971]

An Act

To amend the Public Health Service Act so as to strengthen the National Cancer Institute of Health in order more effectively to carry out the national effort against cancer.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. This Act may be cited as "The National Cancer Act of 1971".

FINDINGS AND DECLARATION OF PURPOSE

SEC. 2. (a) The Congress finds and declares—

(1) that the incidence of cancer is increasing and cancer is the disease which is the major health concern of Americans today;

(2) that new scientific leads, if comprehensively and energetically exploited, may significantly advance the time when more adequate preventive and therapeutic capabilities are available to cope with cancer;

(3) that cancer is a leading cause of death in the United States;

(4) that the present state of our understanding of cancer is a consequence of broad advances across the full scope of the biomedical sciences;

(5) that a great opportunity is offered as a result of recent advances in the knowledge of this dread disease to conduct energetically a national program against cancer;

(6) that in order to provide for the most effective attack on cancer it is important to use all of the biomedical resources of the National Institutes of Health; and

(7) that the programs of the research institutes which comprise the National Institutes of Health have made it possible to bring into being the most productive scientific community centered upon health and disease that the world has ever known.

(b) It is the purpose of this Act to enlarge the authorities of the National Cancer Institute and the National Institutes of Health in order to advance the national effort against cancer.

NATIONAL CANCER PROGRAM

SEC. 3. (a) Part A of title IV of the Public Health Service Act is amended by adding after section 406 the following new sections:

NATIONAL CANCER PROGRAM

SEC. 407. (a) The Director of the National Cancer Institute shall coordinate all of the activities of the National Institutes of Health relating to cancer with the National Cancer Program.

(b) In carrying out the National Cancer program, the Director of the National Cancer Institute shall:

(1) With the advice of the National Cancer Advisory Board, plan and develop an expanded, intensified, and coordinated cancer research program encompassing the programs of the National Cancer Institute, related programs of the other research institutes, and other Federal and non-Federal programs.

(2) Expeditiously utilize existing research facilities and personnel of the National Institutes of Health for accelerated exploration of opportunities in areas of special promise.

(3) Encourage and coordinate cancer research by industrial concerns where such concerns evidence a particular capability for such research.

(4) Collect, analyze, and disseminate all data useful in the prevention, diagnosis, and treatment of cancer, including the establishment of an international cancer research data bank to collect, catalog, store, and disseminate insofar as feasible the results of cancer research undertaken in any country for the use of any person involved in cancer research in any country.

(5) Establish or support the large-scale production or distribution of specialized biological materials and other therapeutic substances for research and set standards of safety and care for persons using such materials.

(6) Support research in the cancer field outside the United States by highly qualified foreign nationals which research can be expected to inure to the benefit of the American people; support collaborative research involving American and foreign participants; and support the training of American scientists abroad and foreign scientists in the United States.

(7) Support appropriate manpower programs of training in fundamental sciences and clinical disciplines to provide an expanded and continuing manpower base from which to select investigators, physicians, and allied health professions personnel, for participation in clinical and basic research and treatment programs relating to cancer, including where appropriate the use of training stipends, fellowships, and career awards.

(8) Call special meetings of the National Cancer Advisory Board at such times and in such places as the Director deems necessary in order to consult with, obtain advice from, or to secure the approval of projects, programs, or other actions to be undertaken without delay in order to gain maximum benefit from a new scientific or technical finding.

(9) (A) Prepare and submit, directly to the President for review and transmittal to Congress, an annual budget estimate for the National Cancer Program, after reasonable opportunity for comment (but without change) by the Secretary, the Director of the National Institutes of Health, and the National Cancer Advisory Board; and (B) receive from the President and the Office of Management and Budget directly all funds appropriated by Congress for obligation and expenditure by the National Cancer Institute.

(c) (1) There is established the President's Cancer Panel (hereinafter in this section referred to as the 'Panel') which shall be composed of three persons appointed by the President, who by virtue of their training, experience, and background are exceptionally qualified to appraise the National Cancer Program. At least two of the members of the Panel shall be distinguished scientists or physicians.

(2) (A) Members of the Panel shall be appointed for three-year terms, except that (i) in the case of two of the members first appointed, one shall be appointed for a term of one year and one shall be appointed for a term of two years, as designated by the President at the time of appointment, and (ii) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed only for the remainder of such term.

(B) The president shall designate one of the members to serve as Chairman for a term of one year.

(C) Members of the panel shall each be entitled to receive the daily equivalent of the annual rate of basic pay in effect for grade GS-18 of the General Schedule for each day (including traveltime) during which they are engaged in the actual performance of duties vested in the Panel, and shall be allowed travel expenses (including a per diem allowance) under section 5703(b) of title 5, United States Code.

(3) The Panel shall meet at the call of the Chairman, but not less often than twelve times a year. A transcript shall be kept of the proceedings of each meeting of the Panel, and the Chairman shall make such transcript available to the public.

(4) The Panel shall monitor the development and execution of the National Cancer Program under this section, and shall report directly to the President. Any delays or blockages in rapid execution of the Program shall immediately be brought to the attention of the President. The Panel shall submit to the President periodic progress reports on the Program and annually an evaluation of the efficacy of the Program and suggestions for improvements, and shall submit such other reports as the President shall direct. At the request of the President, it shall submit for his consideration a list of names of persons for consideration for appointment as Director of the National Cancer Institute.

NATIONAL CANCER RESEARCH AND DEMONSTRATION CENTERS

SEC. 408. (a) The Director of the National Cancer Institute is authorized to provide for the establishment of fifteen new centers for clinical research, training, and demonstration of advanced diagnostic and treatment methods relating to cancer. Such centers may be supported under subsection (b) or under any other applicable provision of law.

(b) The Director of the National Cancer Institute, under policies established by the Director of the National Institutes of Health and after consultation with the National Cancer Advisory Board, is authorized to enter into cooperative agreements with public or private nonprofit agencies or institutions to pay all or part of the cost of planning, establishing, or strengthening, and providing basic operating support for existing or new centers (including, but not limited to, centers established under subsection (a)) for clinical research, training, and demon-

stration of advanced diagnostic and treatment methods relating to cancer. Federal payments under this subsection in support of such cooperative agreements may be used for (1) construction (notwithstanding any limitation under section 405), (2) staffing and other basic operating costs, including such patient care costs as are required for research, (3) training (including training for allied health professions personnel), and (4) demonstration purposes; but support under this subsection (other than support for construction) shall not exceed $5,000,000 per year per center. Support of a center under this section may be for a period of not to exceed three years and may be extended by the Director of the National Cancer Institute for additional periods of not more than three years each, after review of the operations of such center by an appropriate scientific review group established by the Director of the National Cancer Institute.

CANCER CONTROL PROGRAMS

SEC. 409. (a) The Director of the National Cancer Institute shall establish programs as necessary for cooperation with State and other health agencies in the diagnosis, prevention, and treatment of cancer.

(b) There are authorized to be appropriated to carry out this section $20,000,000 for the fiscal year ending June 30, 1972, $30,000,000 for the fiscal year ending June 30, 1973, and $40,000,000 for the fiscal year ending June 30, 1974.

AUTHORITY OF DIRECTOR

SEC. 410. The Director of the National Cancer Institute (after consultation with the National Cancer Advisory Board), in carrying out his functions in administering the National Cancer Program and without regard to any other provision of this Act, is authorized—

(1) if authorized by the National Cancer Advisory Board, to obtain (in accordance with section 309 of title 5, United States Code, but without regard to the limitation in such section on the number of days or the period of such service) the services of not more than fifty experts or consultants who have scientific or professional qualifications;

(2) to acquire, construct, improve, repair, operate, and maintain cancer centers, laboratories, research, and other necessary facilities and equipment, and related accommodations as may be necessary, and such other real or personal property (including patents) as the Director deems necessary; to acquire, without regard to the Act of March 3, 1877 (40 U.S.C. 340, by lease or otherwise through the Administrator of General Services, buildings or parts of buildings in the District of Columbia or communities located adjacent to the District of Columbia for the use of the National Cancer Institute for a period not to exceed ten years;

(3) to appoint one or more advisory committees composed of such private citizens and officials of Federal, State, and local governments as he deems desirable to advise him with respect to his functions;

(4) to utilize, with their consent, the services, equipment, personnel, information, and facilities of other Federal, State, or local public agencies, with or without reimbursement therefor;

(5) to accept voluntary and uncompensated services;

(6) to accept unconditional gifts, or donations of services, money, or property, real, personal, or mixed, tangible or intangible;

(7) to enter into such contracts, leases, cooperative agreements, or other

transactions, without regard to sections 3648 and 3709 of the Revised Statutes of the United States (31 U.S.C. 529, 41 U.S.C. 5), as may be necessary in the conduct of his functions, with any public agency, or with any person, firm, association, corporation, or educational institution; and

(8) to take necessary action to insure that all channels for the dissemination and exchange of scientific knowledge and information are maintained between the National Cancer Institute and the other scientific, medical, and biomedical disciplines and organizations nationally and internationally.

SCIENTIFIC REVIEW; REPORTS

SEC. 410A. (a) The Director of the National Cancer Institute shall, by regulation, provide for proper scientific review of all research grants and programs over which he has authority (1) by utilizing, to the maximum extent possible, appropriate peer review groups established within the National Institutes of Health and composed principally of non-Federal scientists and other experts in the scientific and disease fields, and (2) when appropriate, by establishing, with the approval of the National Cancer Advisory Board and the Director of the National Institutes of Health, other formal peer review groups as may be required.

(b) The Director of the National Cancer Institute shall, as soon as practicable after the end of each calendar year, prepare in consultation with the National Cancer Advisory Board and submit to the President for transmittal to the Congress a report on the activities, progress, and accomplishments under the National Cancer Program during the preceding calendar year and a plan for the Program during the next five years.

NATIONAL CANCER ADVISORY BOARD

SEC. 410B. (a) There is established in the National Cancer Institute a National Cancer Advisory Board (hereinafter in this section referred to as the 'Board') to be composed of twenty-three members as follows:

(1) The Secretary, the Director of the Office of Science and Technology, the Director of the National Institutes of Health, the chief medical officer of the Veterans' Administration (or his designee), and a medical officer designated by the Secretary of Defense shall be ex officio members of the Board.

(2) Eighteen members appointed by the President. Not more than twelve of the appointed members of the Board shall be scientists or physicians and not more than eight of the appointed members shall be representatives from the general public. The scientists and physicians appointed to the Board shall be appointed from persons who are among the leading scientific or medical authorities outstanding in the study, diagnosis, or treatment of cancer or in fields related thereto. Each appointed member of the Board shall be appointed from among persons who by virtue of their training, experience, and background are especially qualified to appraise the programs of the National Cancer Institute.

(b) (1) Appointed members shall be appointed for six-year terms, except that of the members of first appointed six shall be appointed for a term of two years, and six shall be appointed for a term of four years, as designated by the President at the time of appointment.

(2) Any member appointed to fill a vacancy occurring prior to expira-

tion of the term for which his predecessor was appointed shall serve only for the remainder of such term. Appointed members shall be eligible for reappointment and may serve after the expiration of their terms until their successors have taken office.

(3) A vacancy in the Board shall not affect its activities, and twelve members thereof shall constitute a quorum.

(4) The Board shall supersede the existing National Advisory Cancer Council, and the appointed members of the Council serving on the effective date of this section shall serve as additional members of the Board for the duration of their terms then existing, or for such shorter time as the President may prescribe.

(c) The President shall designate one of the appointed members to serve as Chairman for a term of two years.

(d) The Board shall meet at the call of the Director of the National Cancer Institute or the Chairman, but not less often than four times a year and shall advise and assist the Director of the National Cancer Institute with respect to the National Cancer Program.

(e) The Director of the National Cancer Institute shall designate a member of the staff of the Institute to act as Executive Secretary of the Board.

(f) The Board may hold such hearings, take such testimony, and sit and act at such times and places as the Board deems advisable to investigate programs and activities of the National Cancer Program.

(g) The Board shall submit a report to the President for transmittal to the Congress not later than January 31 of each year on the progress of the National Cancer Program toward the accomplishment of its objectives.

(h) Members of the Board who are not officers or employees of the United States shall receive for each day they are engaged in the performance of the duties of the Board compensation at rates not to exceed the daily equivalent of the annual rate in effect for GS-18 of the General Schedule, including traveltime; and all members, while so serving away from their homes or regular places of business, may be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as such expenses are authorized by section 5703, title 5, United States Code, for person in the Government service employed intermittently.

(i) The Director of the National Cancer Institute shall make available to the Board such staff, information, and other assistance as it may require to carry out its activities.

AUTHORIZATION OF APPROPRIATIONS

SEC. 410C. For the purpose of carrying out this part (other than section 409), there are authorized to be appropriated $400,000,000 for the fiscal year ending June 30, 1972; $500,000,000 for the fiscal year ending June 30, 1973; and $600,000,000 for the fiscal year ending June 30, 1974.

(b) (1) Section 402 of the Public Health Service Act is amended by adding at the end thereof the following:

(b) Under procedures approved by the Director of the National Institutes of Health, the Director of the National Cancer Institute may approve grants under this Act for cancer research or training—

(1) in amounts not to exceed $35,000 after appropriate review for scientific merit but without the review and recommendation by the National Cancer Advisory Board prescribed by section 403(c), and

(2) in amounts exceeding $35,000 after appropriate review for

scientific merit and recommendation for approval by such Board as prescribed by section 403(c)."

(2) Section 402 of such Act is further amended—

(A) by inserting "(a)" immediately after "Sec. 402."; and

(B) by redesignating paragraphs (a), (b), (c), (d), (e), (f), and (g) as paragraphs (1), (2), (3), (4), (5), (6), and (7), respectively.

(3) Secton 403(c) of such Act is amended by striking out "In carrying out" and inserting in lieu thereof "Except as provided in section 402(b), in carrying out".

REPORT TO CONGRESS

SEC. 4. (a) The President shall carry out a review of all administrative processes under which the National Cancer Program, established under part A of title IV of the Public Health Service Act, will operate, including the processes of advisory council and peer group reviews, in order to assure the most expeditious accomplishment of the objectives of the Program. Within one year of the date of enactment of this Act the President shall submit a report to Congress of the findings of such review and the actions taken to facilitate the conduct of the Program, together with recommendations for any needed legislative changes.

(b) The President shall request of the Congress without delay such additional appropriations (including increased authorizations) as are required to pursue immediately any development in the National Cancer Program requiring prompt and expeditious support and for which regularly appropriated funds are not available.

PRESIDENTIAL APPOINTMENTS

SEC. 5.

Title IV of the Public Health Service Act is amended by adding after part F the following new part:

PART G—ADMINISTRATIVE PROVISIONS

DIRECTORS OF INSTITUTES

SEC. 454.

The Director of the National Institutes of Health and the Director of the National Cancer Institute shall be appointed by the President. Except as provided in section 407(b)(9), the Director of the National Cancer Institute shall report directly to the Director of the National Institutes of Health."

CONFORMING AMENDMENTS

SEC. 6.

(a)(1) Section 217 of the Public Health Service Act is amended (A) by striking out "National Advisory Cancer Council," each place it occurs in subsection (a), and (B) by striking out "cancer," in subsections (a) and (b) of such section.

(2) Sections 301(d), 301(i), 402, and 403(c) of such Act are each amended by striking out "National Advisory Cancer Council" and inserting in lieu thereof "National Cancer Advisory Board".

(3) Section 403(b) of such Act is amended by striking out "National Cancer Advisory Council" and inserting in lieu thereof "National Cancer Advisory Board".

(4) Section 404 of such Act is amended—
(A) by striking out "council" in the matter preceding paragraph (a) and inserting in lieu thereof "National Cancer Advisory Board", and
(B) by striking out "COUNCIL" in the section heading and inserting in lieu thereof "BOARD".

EFFECTIVE DATE

SEC. 7.
(a) This Act and the amendments made by this Act shall take effect sixty days after the date of enactment of this Act or on such prior date after the date of enactment of this Act as the President shall prescribe and publish in the Federal Register.
(b) The first sentence of section 454 of the Public Health Service Act (added by section 5 of this Act) shall apply only with respect to appointments made after the effective date of this Act (as prescribed by subsection (a)).
(c) Notwithstanding the provisions of subsection (a), members of the National Cancer Advisory Board (authorized under section 410B of the Public Health Service Act, as added by this Act) may be appointed, in the manner provided for in such section, at any time after the date of enactment of this Act. Such officers shall be compensated from the date they first take office, at the rates provided for in such section 410B.

Approved December 23, 1971.

Remarks on the 15th Anniversary of the National Cancer Act of 1971[1]

Benno C. Schmidt[2]

Dr. Marks, Dr. Longmire, Dr. Korn, members of the President's Cancer Panel, members of the National Cancer Advisory Board, ladies and gentlemen. It gives me enormous pleasure to welcome all of you attending this joint meeting of the National Cancer Advisory Board and the President's Cancer Panel to Memorial Sloan-Kettering Cancer Center (MSKCC). It is particularly nostalgic for me that you should be here on the 15th Anniversary of the passage of and signing of the National Cancer Act of 1971. In honor of that Anniversary I have, for the first time in the 15 years that have intervened, put in my pocket this morning the pen with which the President signed the Act and which he presented to me on that occasion.

As many of you know, I had what might be called a rather intimate connection with the events preceding and for 9 years following the passage of the National Cancer Act. I have not lost touch during the last 6 years by any means, but my focus during that period has been here at MSKCC rather than on the national scene. But during the 9-year period from 1972 through 1980, I attended and presided at every meeting of the President's Cancer Panel and attended every session of the National Cancer Advisory Board. Those were enormously interesting times, and it was a great privilege and education for me to be so closely involved and to carry so much of the responsibility of that early period. I will reflect briefly in a moment on the enormous satisfaction that I feel regarding the clinical and scientific progress flowing from that period and particularly the basic science foundation that has been built during the past 15 years.

---

[1] Mr. Schmidt's remarks were given at a meeting of the President's Cancer Panel and National Cancer Advisory Board at Memorial Sloan-Kettering Cancer Center, New York, NY, on December 9, 1986.

[2] Former Chairman, President's Cancer Panel, J. H. Whitney and Co., 630 Fifth Avenue, New York, NY 10111-0302.

Before doing that, however, it may be interesting to those of you who were not a part of the action preceding the passage of the National Cancer Act to review for you briefly some of the interesting aspects of those exciting and historic days. I have never spoken or written about these interesting and critical days, and this anniversary and this audience seemed the right time and place to do so, although in the time permitted I can only hit some of the high spots.

I was sitting in my office in New York minding my own business in the early spring of 1970 when I received a letter from Senator Ralph Yarborough, then Chairman of the Health Subcommittee of the Senate, asking me to serve on a panel to review and to make recommendations regarding the Federal support of biomedical research and particularly the Federal programs supporting cancer research. The first meeting of this Panel was held in the Senate Hearing Room on Monday, June 29, 1970. At that meeting, Senator Yarborough asked me to serve as Chairman of the Panel. That in itself had a little bit of interesting history.

It is my belief that Mary Lasker was primarily responsible for Senator Yarborough's appointing this Panel and that, after discussions with Laurance Rockefeller, she recommended to Yarborough that I be made Chairman of the Panel. I have since been told that Ralph's staff vigorously opposed my appointment on the ground that Yarborough, a liberal Democrat, couldn't possibly appoint a New York Republican to chair the Panel. What the staff of course did not know was that the particular New York Republican that they were talking about, by one of those crazy coincidences that life is made of, was a former student of Ralph Yarborough's at the University of Texas Law School who had made a top grade in a course Ralph taught there thirty-seven years earlier. I was later told that one of the Senator's staff said: "There was no way Senator Yarborough was going to buy that 'untrustworthy New York Republican' stuff about that 'fine young man from Abilene.'" So, when we met in June, I became Chairman of the Yarborough Panel.

The balance of 1970 was consumed with the Panel's taking evidence from all quarters to familiarize itself with the then current programs in biomedical research, and particularly cancer research, and in determining through long sessions and discussions what should be done in the future.

By the end of 1970, we had drafted a proposed National Cancer Act and Yarborough had introduced it in the Senate. Thereupon, he went back to Texas for the 1970 election and was defeated by Lloyd Bentsen. With the organization of the new Congress in 1971, Ted Kennedy became Chairman of the Health Subcommittee and it was his prerogative to reappoint the Panel and its Chairman. He asked me if I would be willing to continue in the chairmanship and I agreed to do so. The National Cancer Act was reintroduced, this time as the Kennedy-Javits Bill.

The year 1971 was taken up with the Senate and House hearings and other activities necessary to obtain the passage of the Act and its signing on December 23 of that year. This involved some very interesting times.

I had taken the chairmanship of the Yarborough Panel in the naive assumption and belief that I would be involved in little, if any, controversy. Obviously, everyone would want to do everything possible to improve our progress in cancer, as well as in other areas of biomedical research, so what could possibly be controversial about a sincere and thoughtful attempt to enhance the effectiveness of our programs? My, oh, my.

Long before the Yarborough Panel completed the drafting of the Act, an enormous opposition had built up within the scientific community to whatever act we might produce. Why on earth were the scientists and, most particularly our most highly regarded scientists, opposed to such an act? Nobody ever precisely formulated the opposition platform, but I can give you my answer to that question based on all that I saw and heard.

1) So far as the scientists were concerned, the National Institutes of Health (NIH) were sacred, and it was thought that we would somehow weaken or impair the excellence of the NIH.

2) Many of our best scientists were supported by institutes within the NIH other than the National Cancer Institute (NCI), and they were afraid that any increase in the cancer budget would be at the expense of the other institutes. They had not learned that the next best thing to getting a raise yourself is for the person next door to get one.

3) It was widely assumed that the Yarborough Panel thought that it could set up a centrally directed applied research program for cancer, notwithstanding the fact that the basic science foundation did not exist. The charge was common that we were somehow embracing a false analogy to the Space Program and, therefore, wanted to substitute a centrally directed and targeted program for the tried and true programs of investigator-initiated, peer-reviewed, grant-supported research. In short, the stupidity of our Panel was greatly exaggerated.

4) There was concern that we were holding out false promise, creating false optimism, and raising expectations to a level that could only lead to public and Congressional disappointment and disillusionment.

5) There was also a fear that much of the research money flowing into the premier universities and their basic science departments would be rerouted into something called "centers" with the result that mediocrity would be elevated and excellence subordinated.

Those were some of the fires we were trying to put out on the scientific side, and the conflagration was made far more serious by the fact that the Academy of Sciences and its members, the Nobel Laureates in medicine and biomedical science, and a majority of the most highly regarded biomedical scientists were almost all aligned in opposition to our efforts.

Meanwhile, all was not entirely smooth on the political front. Ted Kennedy understood clearly what we were attempting to do and, equally importantly, what we were *not* attempting to do, and he was committed to the concept of the National Cancer Act as drafted by the Yarborough Panel. Paul Rogers, a Democrat and Chairman of the House Health Subcommittee, was originally strongly committed to the views of the biomedical science establishment as I have briefly summarized those views. This meant that we had problems with the House. In addition, it was not sufficient to have Congressional support unless we also had White House support, and Richard Nixon and Ted Kennedy were not natural allies.

To abbreviate a very long story, most of the positions of the elite scientific community would have been correct if their assumptions had been correct. But our Panel shared their view about the excellence and superiority of the NIH and the efficacy of its peer review system. We had no thought of attempting to target a program nor was there any semblance of the illusion that a basic science foundation existed for a targeted program. Most of us on the Yarborough Panel, and certainly its Chairman, were very careful that there was no over-promise. Furthermore, we felt that what was being done in the NIH and the NCI was excellent—we simply felt that there should be higher funding so that we could enhance and accelerate our clinical and, most of all, our basic research. The main thrust of the proposed Act was greatly to enhance and expand the basic biomedical research effort that our Government was already supporting through the NCI and the NIH. We felt that progress against cancer and other diseases was too slow and at the then prevailing levels of research was destined to remain too slow. We had to do more to increase our knowledge at the basic level.

We were able in hearings to convince Paul Rogers that this was our thrust and, after intense debate between him and me in a good many hours of public hearings, to overcome in his mind the fears and bugaboos that were being fostered by so much of so strong a part of the scientific community. After he was convinced, Paul became one of the best friends of the Cancer Program. At the White House, Elmer Bobst, a member of the Yarborough Panel and a very close friend of President Nixon, was able to get us a very good hearing with the President himself. He gave

us a generous period of time during which we were also able to convince him that it was in the national interest for him to support the National Cancer Act. He did so and for the entire term of his presidency he was one of the staunchest and most effective supporters of the Act and its programs. When the Act was passed, calling as it did for a President's Cancer Panel, the President asked me to serve as Chairman of that Panel. He promised me his support and he never thereafter wavered. We were one of his priority interests.

We had, much earlier, at the suggestion of members of the White House staff, gotten Senator Kennedy to take his name off the Bill (something he did gladly, saying he was interested in a good bill not in personal credit) and to let Senator Peter Dominick, a Republican, introduce substantially the identical bill under his auspices. This made it easier for the White House to actively support the Bill. The most amusing aspect of this was the position of Elliot Richardson, Secretary of Health, Education, and Welfare (HEW), who had testified against the Bill in its early incarnation as the Kennedy Bill when it was opposed by NIH and HEW; and he was now requested by the White House to testify for the Bill in its reincarnation as the Administration's Bill in almost precisely the same form. Even as skillful and brilliant a lawyer and tactician as Elliot Richardson had real difficulty with this one. I recall Senator Gaylord Nelson saying to him in a hearing, "Mr. Secretary, if you are not smart enough to see that they put jacks under the Kennedy Bill, jacked it up, changed its name and let the jacks down, then you are not as smart as I have been led to believe." Elliot laughed and carried on as best he could.

Well, how did it all turn out? As a result of the Act, the budget of the National Cancer Institute moved in successive steps from $180 million in 1971 to over $1 billion in 1980, and the budgets of the NIH went from $1 billion in 1971 to $3.5 billion in 1980, thus belying the fear so widely expressed in 1970 and 1971 that any increase in the cancer budget would be at the expense of other institutes.

Since 1980, the appropriations have increased annually so that by 1986 the NCI budget had reached $1.2 billion and the NIH budget was $5.3 billion. Over one-half of this money was spent on basic biomedical research, thus permitting levels of fundamental biomedical research that were totally unprecedented.

Meanwhile, through our strong appointments to the National Cancer Advisory Board, through numerous speaking engagements before scientific gatherings telling the real story and attempting to allay the myths, through our support of fundamental basic research, through the growth of the budgets of other institutes of the NIH as well as the NCI, through the prudent limitation of targeted research and the strong support of investigator-initiated, peer-reviewed, grant-supported basic research, and by insisting upon the same high standards of excellence that have always prevailed in the NIH, we have long since had the support of virtually the entire scientific community. The increased funds have been well spent, the scientists have responded with miraculous creativity so that I believe we are today in the early stages of a biomedical revolution that could become comparable to the revolution which followed the discovery of bacteria and the consequent development of vaccines and antibiotics which have virtually eliminated the diseases which constituted our primary health agenda 60 years ago. Now we have moved on to a new health agenda and cancer is undoubtedly at the top of our concerns, followed closely by such diseases as heart disease, stroke, diabetes, AIDS, arthritis, various forms of mental illness, and other life-threatening or incapacitating organic diseases which plague our society. I believe that the basic research of the past 15 years (built upon all that went before) is beginning for the first time to give us enough knowledge at the cellular level to begin a basic assault on the diseases that make up today's health agenda, including cancer.

The new biological revolution of which I speak began with the elucidation of the structure of DNA. Once the structure of DNA was known, the next crucial step was the discovery of enzymes that cleave DNA at specific sites. This was followed

by developments of methods for determining the sequence of DNA, and by discoveries leading to an ability to clone and characterize virtually any gene. Once cloned, the gene can be reproduced and then used to produce large amounts of human proteins through recombinant DNA technology.

This remarkable methodology has already made it possible to produce in a form suitable for human use (if such use is proved to be safe and efficacious) substantial quantities of such substances as:

1) Human insulin for diabetes; 2) TPA for heart attack victims; 3) growth hormone for dwarfism; 4) Factor VIII for hemophiliacs; 5) erythropoietin for anemia stemming from kidney failure; 6) bone morphogenic protein to stimulate bone growth; 7) Epidermal Growth Factor, which stimulates growth of epidermal tissue (with remarkably promising indications for eye surgery); and 8) a potential revolution in the making of vaccines. The foregoing discoveries illustrate the futility of attempting to predict in advance the clinical areas to which basic research will lead. Although much of the research that led to the recombinant DNA technology was funded as a result of the Cancer Act, we see from the foregoing what may be very significant consequences for everything from heart disease to eye surgery.

In addition to the substances already mentioned, there are also a number of substances that may be very significant in cancer medicine: GM-CSF; G-CSF; M-CSF; Interleukin II; Interleukin III; Tumor Necrosis Factor; and the Interferons. I am sure you will hear more about these substances as your meeting proceeds.

It is too early to know with certainty how important any of the above or any combination of the above will be. However, the probability is high that this list will produce an important impact on today's health agenda. Equally important are the highly significant discoveries relating to monoclonal antibodies and oncogenes, and the combination of this entire body of research makes it apparent that our basic science is racing ahead at a pace that is totally unprecedented, that reaches almost beyond the imagination and that seems certain to produce important consequences for today's health agenda.

I should mention one final development that would never have occurred if we had not materially increased the pace of our academic research. Never in the history of our nation have we seen anything like the present day capacity for moving basic research findings to clinical use. In the past 10 years, hundreds of millions of dollars have gone into the establishment and operation of genetic engineering companies and genetic engineering divisions of existing pharmaceutical companies committed solely to biomedical technology transfer (the transfer of basic research findings to practical use in prevention, diagnosis, and treatment). There can be no doubt today that the caliber of science being performed in the best genetic engineering companies and in the research laboratories of some of the large pharmaceutical companies is on a par with the best biomedical science programs being conducted in our academic centers. This means that today we will get our basic science discoveries to the patient at a rate never before approached.

Fifteen years ago, when the Congress was deliberating on the scope of the National Cancer Act of 1971, the determination was made that the Federal Government would encourage, through its support grants, the creation of Comprehensive Cancer Centers throughout the nation. The principal motivation of this decision was twofold: 1) to bring the best possible level of cancer care within the geographic reach of as many citizens of this nation as possible and 2) to improve the quality of both cancer care and cancer research by bringing these programs closer together in at least some of the institutions engaged in these enterprises. In 1971, Memorial Sloan-Kettering Cancer Center was the model on which the Congress based its call for the creation of a national network of Comprehensive Cancer Centers. Today there are 20 such centers, and Memorial is still,

I believe, the standard against which all such Comprehensive Cancer Centers are measured. We are making every effort to live up to that role.

In 1986 we are not content to be merely the oldest and best. More importantly, we are now much closer to our goal of being as good as the best should be (a goal, incidentally, which we shall never reach, but for which we must always strive).

We are delighted that you have brought this 15th Anniversary meeting to our Center. I hope your deliberations will be exciting and profitable, and may the next 15 years see progress in the clinic commensurate with that of the last 15 years in our basic research laboratories.

Thank you.

Addendum

In speaking to the joint session of the National Cancer Advisory Board and the President's Cancer Panel on events preceding, and for 9 years following, the passage of the National Cancer Act, time constraints made it impossible to deal with one important and rather complicated issue that was very much a part of that history. This issue was the status of the National Cancer Institute (NCI) and its place in relationship to the National Institute of Health (NIH) and the Department of Health, Education, and Welfare (HEW). The fundamental and overriding determination of the Yarborough Panel was that there should be substantial enhancement and acceleration of cancer research, both basic and clinical, which could only be obtained by progressive and substantial increases in the Federal budget for cancer research. However, it had become clear that neither the NIH nor HEW supported this view. The Director of the NIH and his top scientists were a part of the opposition which we were encountering from a large segment of the scientific community (as outlined in my speech), and their reasons were essentially those stated in my remarks. In addition, they were opposed to substantial increases in funding on the ground that there was not, at that time, enough scientific knowledge to spend more money usefully. Our position was derogatorily described as "throwing money at the problem."

Hence, we found ourselves in the position of advocating a progressively increased budget for the National Cancer Institute when neither the NIH nor the HEW was in favor of such increases. This was a highly unpromising political position.

Faced with this opposition, with the NIH and HEW doubtless being encouraged in their opposition at that point in time by the Office of Management and Budget, we had either to abandon our cause or find a plausible strategy. The solution arrived at was to advocate that the NCI become the National Cancer Authority, an independent agency, under neither the NIH nor HEW. Sentiments on the Yarborough Panel were fairly strongly divided regarding this issue. Some of our panelists were enthusiastic about the idea of an independent authority. Others had very serious misgivings about removal of the NCI from the NIH. I shared the concerns of the latter group, but I also felt that the overriding consideration was to enhance the cancer research programs and, tactically, the proposal to create an independent National Cancer Authority appeared to be the best, if not the only way, to achieve this important fundamental objective. It was obviously not in the cards to expect success in advocating enhanced and accelerated programs with increased budgets for a subdivision of an agency that did not support those recommendations.

I discussed this dilemma with Senator Javits, who strongly supported the substantive views of our Panel but who had great reservations about separating the NCI from the NIH. He advised me that in his opinion the political difficulties of obtaining Congressional support for such a separation would be substantial.

However, both he and Senator Kennedy agreed that there appeared to be no other way to go at that time if we were to keep our fundamental purposes alive, and we all agreed that that was essential. Our proposed bill was drafted with provision for an independent National Cancer Authority, and that bill passed the Senate by a vote of 89 to 1. However, I had agreed with Senator Javits to keep an open mind on the organizational structure and be prepared to accept compromise on this issue if that could be accomplished without losing impetus for an expanded cancer research effort.

Two developments made it possible to resolve this dilemma. First, the entrance of President Nixon's support into the picture automatically reversed the official position of the HEW and the NIH regarding the basic thrust of our proposals. Secondly, Paul Rogers had, as indicated in my speech, started off with reservations about our proposals generally, but he had more than just reservations about this issue. He was determined that the structure of the NIH should be preserved and the NCI should remain a part of the NIH. It was a very ingenuous proposal that developed during the deliberations of his Committee that made it possible to resolve this dilemma. If the NCI was to remain in the NIH and therefore in HEW, and if those running the NIH and HEW did not have their heart in the Cancer Act but were only supporting it because of presidential direction, how could we be sure that an accelerated and enhanced cancer research program would not run into bureaucratic dismantlement? Congressman Ancher Nelson, a Republican from Minnesota, came up with the answer. Congress would created a three-man President's Cancer Panel, appointed directly by the President, to supervise and monitor the National Cancer Program and to report directly to the President and the Congress on progress. Further, the Cancer Institute would have a "budget bypass" which permitted the Institute, with the approval of the National Cancer Advisory Board and the President's Cancer Panel, to submit its budget requests directly to the President irrespective of whether such budget requests were endorsed or supported by the NIH and the HEW. This, in effect, resolved the problem for everyone. An enhanced and accelerated program could go forward; neither the NIH nor HEW would be able to impede it. At the same time, the NCI would remain a part of NIH where it belonged and where it could take full advantage of the uniquely effective and established procedures for peer review and of the desirable interrelationships between the NCI and other institutes of the NIH and other related parts of HEW such as the Food and Drug Administration.

This compromise has served the nation well, as evidenced by the progress in both budgetary and scientific matters reflected in my remarks. It has given both cancer research and biomedical research generally the best of both worlds, adequate independence and visibility while at the same time maintaining the organizational integrity of the NIH. One interesting historical footnote: On March 14, 1978, the Director of the NIH presented to the Chairman of the President's Cancer Panel the "NIH Director's Award." This was the first time that award had been given to a non-scientist. The Cancer Panel had become a source of added strength for all biomedical research. The organizational provisions of the Cancer Act were working for all concerned.

A Look at the National Cancer Institute 1937–1987

BUILDING 6. First offices and laboratories of the National Cancer Institute, about 1940.

BUILDING 10. Warren Grant Magnuson Clinical Center.

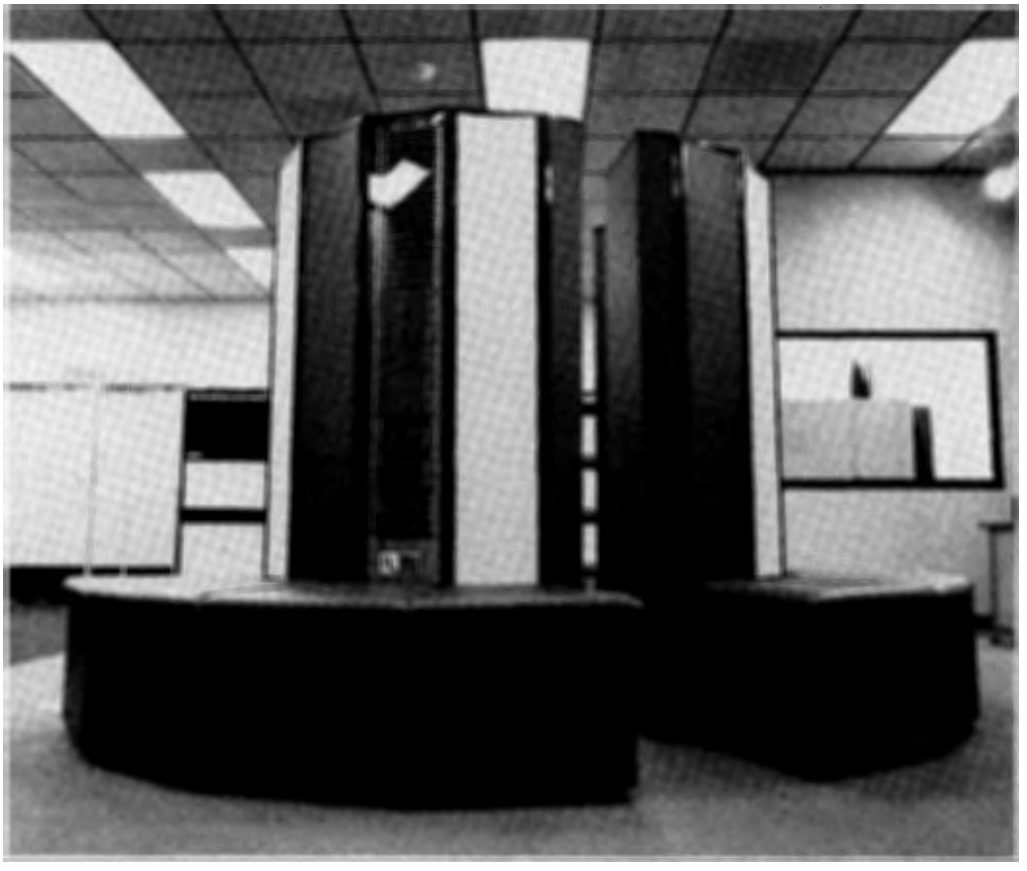
BUILDING 31. Administrative Office Building.

BUILDING 37. National Cancer Institute laboratories.

BUILDING 38A. Lister Hill National Center for Biomedical Communications.

BUILDING 82. R. A. Bloch International Cancer Information Center.

BUILDING 549. Library/Conference Center, Frederick Cancer Research Facility.



CRAY X MP 22 Supercomputer, Frederick Cancer Research Facility.

NATIONAL INSTITUTES OF HEALTH, Bethesda, Maryland