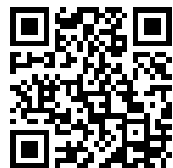


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S. 1875

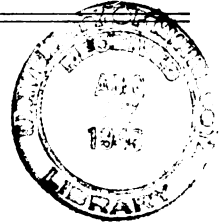
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18  
**CANCER RESEARCH**



**HEARINGS**  
BEFORE A  
SUBCOMMITTEE OF THE  
COMMITTEE ON FOREIGN RELATIONS  
UNITED STATES SENATE  
SEVENTY-NINTH CONGRESS  
SECOND SESSION

ON

**S. 1875**

A BILL TO AUTHORIZE AND REQUEST THE PRESIDENT TO UNDERTAKE TO MOBILIZE AT SOME CONVENIENT PLACE IN THE UNITED STATES AN ADEQUATE NUMBER OF THE WORLD'S OUTSTANDING EXPERTS, AND COORDINATE AND UTILIZE THEIR SERVICES IN A SUPREME ENDEAVOR TO DISCOVER MEANS OF CURING AND PREVENTING CANCER

—————  
JULY 1, 2, AND 3, 1946  
—————

Printed for the use of the Committee on Foreign Relations



UNITED STATES  
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WASHINGTON : 1946

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# CANCER RESEARCH

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MONDAY, JULY 1, 1946

UNITED STATES SENATE,  
A SUBCOMMITTEE OF THE COMMITTEE ON FOREIGN RELATIONS,  
Washington, D. C.

The subcommittee met, pursuant to call, at 10 a. m., in room 424-B of the Senate Office Building, Senator Claude Pepper (chairman) presiding.

Present: Senators Pepper (chairman) and Green.

Members of subcommittee: Senators Pepper (chairman), Murray, Green, Bridges, and Gurney.

(The subcommittee met to consider the cancer-research bill, S. 1875; which is as follows:)

[S. 1875, 79th Cong., 2d sess.]

**A BILL** To authorize and request the President to undertake to mobilize at some convenient place in the United States an adequate number of the world's outstanding experts, and coordinate and utilize their services in a supreme endeavor to discover means of curing and preventing cancer

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the President is hereby authorized and requested to undertake, in whatever manner he may deem most appropriate, to mobilize at some convenient place in the United States an adequate number of the world's outstanding experts, and coordinate and utilize their services in a supreme endeavor to discover means of curing and preventing cancer; and to take any additional action that he may consider necessary or proper to achieve the desired result.

Sec. 2. The sum of \$100,000,000 is hereby authorized to be appropriated to enable the President to carry out the provisions of this Act.

Senator PEPPER (chairman of subcommittee). The hearing will come to order, please.

## INTRODUCTORY STATEMENT BY SENATOR PEPPER

Today and on the next 2 days there will appear before this subcommittee the outstanding experts and authorities on the problem of cancer, to testify on S. 1875, which would authorize the President to mobilize services of the world's authorities on cancer to discover means of curing and preventing this horrible disease. An appropriation of \$100,000,000 is authorized under this bill.

This proposed legislation is a restatement of our national policy with respect to our great concern to combat the second greatest killer of the people of the United States. Cancer takes a toll annually of over 170,000 cases. It is estimated that as many as 20,000,000 people who are living today in the United States will undergo the agonies caused by this disease and then will eventually die of cancer.

Despite the great advances of medical science and research, today cancer stands as the second greatest cause of death in our country, whereas 30 years ago it stood seventh on the list. We must admit that our knowledge of the causes and methods of treatment and prevention are far from complete. As a result many people are dying because of meager knowledge we now possess.

The time has come to make an all-out attack on cancer in the same way we did in building the atomic bomb on which we spent over \$2,000,000,000. In this case, however, we would spend only a small fraction as much money to save lives as we did in building the atomic bomb to take lives.

I would like to see a commission set up to administer the funds appropriated under this bill. The commission, in my opinion, should consist of primarily nongovernmental persons. The primary functions of this commission should be the coordination of cancer research carried on by the United States Public Health Service—and, I may add, other public agencies—with the work being done by private agencies in research and treatment and to cooperate with the outstanding cancer research agencies of other countries—in short, to do everything that could effectively be done to discover a cure for cancer.

It is my earnest hope that passage of this bill will enable science to find some way to stop this deadly enemy of the one out of every seven persons who will die of cancer.

Our first witness this morning is Dr. Lewis H. Weed, chairman of the Division of Medical Sciences, National Research Council, of Washington. We are very honored to have Dr. Weed here. We will invite him to make his statement.

**STATEMENT BY DR. LEWIS H. WEED, CHAIRMAN, DIVISION OF MEDICAL SCIENCES, NATIONAL RESEARCH COUNCIL, WASHINGTON, D. C.**

Dr. WEED. If I may read my statement, Senator Pepper, I think I can save time.

Senator PEPPER. All right; go right ahead.

Dr. WEED. I assume that you wish to qualify me as a witness before this Senate committee. I am Lewis H. Weed, and I possess the degree of doctor of medicine. For many years I have been professor in the School of Medicine of Johns Hopkins University, and for the last 15 years director of that school.

Senator PEPPER. Dr. Weed, while Senator Green is here—he will not be able to get to hear your whole statement—could you briefly summarize your testimony so that he will have the privilege of hearing it from as eminent a doctor as you are?

Senator GREEN. Just give me the "headlines," so to speak.

Dr. WEED. I shall be very glad to do that.

Senator PEPPER. We will then get your statement in full, a little later.

Dr. WEED. Yes.

I want to say that as an individual—and I am appearing solely as an individual and not as representative of the National Research Council or of any other organization that I have connection with—that I approve very heartily the general philosophy of the proposed

bill, S. 1875. It seems to me that inasmuch as we necessarily face Federal subsidy of medical research, this bill falls in line with the other undertakings in the way of Federal subvention of medical research. I have already testified before Senator Pepper's Subcommittee on Education and Labor that I believe in Federal subsidy of research for the medical institutions of this country. In no other way will these institutions be able to maintain their prewar level of medical research.

I have had a good deal of experience during the war, as I have been here in Washington for 7 years as chairman of the Division of Medical Sciences of the National Research Council. The council, as you know, is a subsidiary organization, the operating agency, of the National Academy of Sciences. The Academy was set up during the Civil War to act as adviser of Government in matters pertaining to science and art. The Academy so set up consists of the leading Scientists of the United States, and has for many years conducted researches and studies and has rendered reports to Government on the scientific problems of the Government.

During World War I, as we were getting ready for entry into the war, President Wilson requested the Academy to set up an operating agency, the National Research Council; and the National Research Council, as the active agency of the Academy, has functioned continuously throughout the intervening 30 years.

Senator GREEN. Excuse me. Is that identical with the Academy?

Dr. WEED. It is a subsidiary, it is a daughter institution. The Academy, having a congressional charter with very broad powers given to the Academy, when requested by President Wilson in 1916 established an emergency organization as the National Research Council, bringing in the scientific societies of this country.

Senator GREEN. Then it is broader than the Academy?

Dr. WEED. It is broader than the Academy.

In 1918 President Wilson issued an Executive order requesting the Academy to perpetuate the National Research Council as an organization of the scientific societies of America, and the Council is now made up of representatives of the leading scientific societies of America. The Academy operates the Council under the original congressional charter, and the council is divided into seven divisions of science and one division of foreign relations.

During the war the National Research Council was requested, in May 1940, by Surgeon General Magee, to give advice to the Medical Department of the Army. This request of General Magee's was concurred in by the Surgeon General of the Navy and the Surgeon General of the Public Health Service, and under the terms of our incorporation the council responded immediately to the request. We have maintained throughout this period, until June 30 of this year, a large number of committees. We have had 14 main committees, with about 40 subcommittees, covering widely the whole field of medicine.

In the initial stages we had no Federal funds whatsoever to support the work of these committees, but when the Office of Scientific Research and Development was established in June 1941 with a Committee on Medical Research as one of the constituent elements in the Office, large Federal funds were made available for research. The

committee on medical research, under the chairmanship of Dr. Richards, immediately took over all of the committees of the council, and throughout the term of the committee on medical research—now a 5-year period—the committees of the council have maintained advisory services both to the committee on medical research and to the three Surgeons General. In addition, other Federal agencies like War Production Board have asked for the services of the Division of Medical Society of the council in regard to the essentialities of drugs and medical supplies.

Senator PEPPER. Doctor, could I interrupt, right here? I think we all generally agree upon the objective of aiding research of this character by Federal funds. Now, what I would like specially for Senator Green to hear from you—and I do not know, myself, what your ideas are—is what form do you think this organization that we are trying to create should take. Should we put it under the Public Health Service? Should we put it under the Academy of Sciences, or put it under the Research Council, or should we create a commission, a majority of which should be public people and a minority private people, or vice versa?

Dr. WEED. I feel that I can concur in the statement that you made, Senator Pepper, before Senator Green came in, that what the immediate task is, is to implement the broad objectives of this particular bill and to see to it that instead of Federal funds being used in competition with other Federal funds or in competition with private funds, a co-ordinated effort in the fight against cancer can be made. Now, just how to achieve that coordination I do not know. I do not believe that lodging a commission or a director of this project in any of the established Government departments is going to suffice. I think you have got to have some mechanism, either within Government or without, which will have an independent power to secure this coordination that is essential if the battle against cancer is to go forward, without competition between funds, without competition for personnel, without competition for the physical facilities of this country.

Senator GREEN. I have got to go, but there is one question I would like to ask. You speak of power to secure coordination. Do you mean to say you are going to compel?

Dr. WEED. No; I would say intellectual power. I may not have used the right word. Yes—you cannot compel coordination.

Senator GREEN. That is why I wondered why you said "power to coordinate."

Dr. WEED. I feel, in a way, that was a very unfortunate term to use, but it is intellectual power; it is the gathering of minds to make the decision that this is the way to go ahead.

During the war we had a very good example of that coordination in the studies of malaria, where we had the various Federal agencies concerned—Army, Navy, and Public Health Service—and the civilian OSRD, all gathered together in one board which determined the phases of activity which should be undertaken by civilian groups and Federal groups.

Senator GREEN. Then, to summarize, I understand you would prefer to see created some such board. Is that right?

Dr. WEED. That is right. I would prefer to see the use made of existing agencies, but not the duplication of all existing agencies,

because, Senator Green, there is only a limited number of competent scientists.

Senator GREEN. I understand that; but in connection with power, I wondered if you had thought that through.

Dr. WEED. I think that possibly this could be done through the mechanism of the Academy Council. It can be done by any commission created under the bill.

Senator GREEN. I understand—in a great many different ways—but I understood you had a way you preferred, yourself.

Dr. WEED. I would prefer to see the Academy Council mechanism used, because I feel that it has resources in its field to summon the best scientific minds of this country; it is a quasi-governmental institution. As it was created by congressional charter, it operates, I think, as a national institution; and certainly in the field of medicine there is no other comparable national institution. The American Medical Association, the College of Physicians, the College of Surgeons, the American Surgical Association—all of these lack that central group of scientific minds such as the Academy Council can offer.

Senator GREEN. I am very sorry, Mr. Chairman, I have to leave, because I have to preside at this other meeting at half past 10.

Senator PEPPER. Thank you, Senator. You may take with you this list of the witnesses who are to appear here.

Senator GREEN. I will be glad to look at that.

Senator PEPPER. Thank you for coming.

Dr. WEED. I judge, Senator Pepper, that I have said enough. I will submit a detailed statement to your committee.

Senator PEPPER. All right. If you like, Doctor, either read your statement, or let your statement be filed, and summarize it. Due to the fact that we are meeting at 11 o'clock today, and we have this joint service, we are a little pressed for time, and in cases where we could file the more detailed statements and have the benefit of a discussion about this matter here this morning, we probably would save a little time.

Dr. WEED. There is just one thing I would like to add, and that is, the relationship of the Division of Medical Sciences to the American Cancer Society. When the American Cancer Society, due to the influence of several outstanding civilians, became a national organization, soliciting funds widely, the Cancer Society turned to the Division of Medical Sciences and requested that the Division set up a continuing committee on growth which should make recommendations to the executive committee of the American Cancer Society in regard to the whole research program of the society. We organized a central Committee on Growth, consisting of 14 persons outstanding in the field of cancer research, and in those fields ancillary to cancer research. Under this main committee we have constituted some 20 panels, small groups of 5 and 6 people who are the leading authorities in the field.

The recommendations for subvention of research flow from the panels through division heads—biology, chemistry, physics, clinical research—into the main committee, and then are acted on and dispatched to the American Cancer Society. The American Cancer Society has, of course, ultimate responsibility for the determination of the research program, but advice regarding expenditures for research lies in the group of scientists selected by the research council. The



procedure sets a pattern which I think over the years will be the best pattern possible for national societies and philanthropic foundations to receive unbiased advice from the leading scientists on that subject.

Senator PEPPER. Doctor, the council of the Academy is composed of how many people?

Dr. WEED. The Council of the Academy?

Senator PEPPER. You mentioned, I thought, it could be done under the Council of the Academy.

Dr. WEED. I mean the National Research Council which is the actual operating agency of the Academy of Sciences.

Senator PEPPER. How is membership determined in the Academy?

Dr. WEED. It is a self-perpetuating body consisting of 350 of the outstanding scientists in America. They, through their own mechanisms, appoint a chairman and the divisional heads for the Research Council.

Senator PEPPER. How many members make up the Council, altogether?

Dr. WEED. I think about 500 representatives of various scientific societies.

Senator PEPPER. But is there a smaller executive committee or something?

Dr. WEED. Oh, yes. The heads of the seven divisions and certain ex officio members meet as an executive board under the chairman of the Council; all administrative business is lodged in that executive board, flowing up to it from the various divisions of the Council.

Senator PEPPER. And that being a semipublic organization, you think maybe that is one group to which this direction might be committed; or, there might be created a special commission, a majority of which possibly should be from out-of-Government sources?

Dr. WEED. Yes.

Senator PEPPER. Thank you very much, Doctor Weed. You have done great work for the public interest, and I always like to commend you for it.

Dr. WEED. Thank you.

Senator PEPPER. And we thank you for coming here.

(Dr. Weed presented the following statement for the record:)

FORMAL STATEMENT BY LEWIS H. WEED, M. D.

I assume that you wish me to qualify myself as a witness before this Senate committee. I am Lewis H. Weed, and I possess the degree of doctor of medicine. For many years I have been a professor in the School of Medicine of the Johns Hopkins University, and for the last 15 years, director of that school. During the past 7 years I have been serving as chairman of the Division of Medical Sciences of the National Research Council. During the war period I have also acted as vice chairman of the Committee on Medical Research of the Office of Scientific Research and Development. For many years I have been connected, in an informal way, with the evaluation of research projects for several of the great philanthropic foundations, for which I have made studies of the national situation in several medical fields. I appear before you as a medical administrator who has had experience in allocation of funds for medical research, not in any sense as an expert in the problems of cancer.

I take it that I have been asked to testify largely because of my wartime experience in the national program of medical research. I speak solely as an individual and not as a representative of any of the institutions with which I am connected; the views which I express are therefore personal views and are based upon the background of my individual experience.

My general opinion of the stated aims and purposes of S. 1875 is favorable: I do not believe that there is any disagreement regarding the broad objectives of this bill. Certainly, everyone would agree upon the great importance of pressing the attack upon cancer with every resource which scientists in this country and abroad possess. The disease is one of the world's most serious and the solution of its problem can only come by a very wide effort to advance knowledge of the phenomenon of growth. Then, too, as an individual, I would give the philosophy of the bill general approval as I feel that the use of Federal funds for medical research is now desirable. I have already testified before a Senate committee, giving my reasons for upholding the use of Federal funds for medical research. Briefly, these reasons include the absolute necessity of maximum use of our medical resources, manpower, and equipment, and physical plants, in order that medical education, medical research, and medical service may be advanced as rapidly as possible.

In advocating the use of Federal funds for medical research, even under the broad provisions of such an act as we are discussing today—an act which pertains solely to one disease—I think it wholly desirable to point out the essential differences in the use of private and of Federal funds for such purposes. Private funds are largely derived from individual donors, from the great philanthropic foundations and national societies, and from industry. In the case of the foundations and national societies, the responsibility for expenditure rests solely with boards of trustees; in the case of industry, with boards of directors who in turn are responsible to stockholders. The funds of the great national societies, such as those devoted to tuberculosis, cancer, poliomyelitis, and other diseases, are private funds not raised by taxation. The trustees of these societies have, however, an inescapable responsibility to the American public, as the funds come not from an individual donor or his family but from a large mass of the public. The responsibility here is a broader one than in the case of the foundations; it is one which is widely appreciated as a public trust.

These private funds, devoted to research, have a mobility which Federal funds in general lack. The private funds may be rapidly mobilized for the support of a promising investigator or of a promising investigation. They may be used for long chances of return rather than for the assured, slow steps forward which characterize most research. Such private funds also have been employed profitably for demonstration experiments in medical research, in public health, and in other branches; when the demonstration is proved successful the private funds may be withdrawn to be replaced by funds raised through taxation. Then, too, private funds may be employed, without restriction, for the initiation and planning of broad programs which would be considered by many to be highly experimental in nature and to have but little justification were responsibility to the taxpayer involved. Finally, private funds may be devoted to the education of the public as part of a wide program for advance in knowledge and in the treatment of disease. Such educational programs have been financed with Federal funds but in general they have lacked the widespread appeal of national programs supported by national societies.

The most striking characteristic of Federal funds for research is that they are usually administered by a permanent Federal department. These funds have been employed to great advantage in several of the great Federal departments and the investigations so financed have contributed to first-class advance in knowledge. During the war a great share of the Federal funds for research was entrusted to the Office of Scientific Research and Development. This Office did not in any way eliminate or replace the research which had been proceeding in various Federal departments, particularly in the armed services; rather were the funds used for supplementation, in private institutions and industrial organizations, of the research enterprises of existing Federal agencies. Now that this effort is over, it becomes obvious that these OSRD funds were used in large measure for developmental research as contrasted with pure fundamental research. This emphasis upon the application of scientific information was inevitable as there was need for haste in the development of the instrumentalities of warfare, for haste in the supplementation of medical knowledge to meet the emergencies of war.

With the Office of Scientific Research and Development being liquidated, as it is solely a wartime agency, the Senate is now considering a national science bill (S. 1850), which provides for continued Federal support of basic and developmental research in many branches of science. One of the divisions of the Foundation, as specified in the bill, is that of medical science and health. If this bill passes and funds are appropriated, support of basic medical research will be

afforded through this means. At the same time the United States Public Health Service has been granted funds for subvention of medical research and for fellowships in the medical sciences—funds which are available throughout the field of medicine. The Public Health Service has also Federal funds to be administered by the National Cancer Institute for grants-in-aid of investigations in cancer, as well as funds for the maintenance of the institute.

But in the attack on cancer, other disciplines than the medical sciences are involved, and we find that the Federal Government is already appropriating funds for research in nonmedical sciences, in which advance in knowledge may have application in the ultimate solution of the cancer problem. I refer to the Chemical Warfare Service, the National Bureau of Standards, and to other Government agencies.

This review, partial and incomplete as it may be, of the availability of Federal funds for research in areas of science which touch upon cancer, immediately brings forward the problem of coordination of the use of these Federal research funds so that completion and duplication of effort are avoided. It seems to me essential that a critical study be made of possible machinery, both in Government and outside of Government, which might be used to avoid this competition and duplication of effort. Not only should this study be made of the coordination of Federal expenditure in the field of medical research so that maximum benefit from such subvention may be derived, but the coordination should extend, if possible, to private agencies which are supporting medical research in the same fields. The coordination between the employment of private and Federal funds devoted to investigative attack on the same biological problems should be achieved by establishing a mechanism by which maximum utility of the funds and of available personnel could be secured.

I take it that because of my 7 years' experience within the National Research Council the committee here would welcome comments regarding the National Research Council and its parent body, the National Academy of Sciences. The National Academy of Sciences owes its origin to a congressional charter, which was approved by President Lincoln in 1863; this charter provides that "the academy shall, whenever called upon by any department of the Government, investigate, examine, experiment, and report on any subject of science or art, the actual expenses of such investigations, examinations, experiments, and reports to be paid from appropriations which may be made for the purpose, but the Academy shall receive no compensation whatever for any service to the Government of the United States." Under this provision the Academy has acted, since the time of its establishment, as an official adviser of the Government on a wide variety of scientific problems. During the Civil War, the Academy, through its committees and members, dealt actively with military and naval problems of a similar type to those which pressed for solution during the World Wars. As the country began to prepare itself for World War I, President Wilson in 1916 requested the Academy to establish the National Research Council as an active agency of the Academy, to assist the Government in mobilizing the scientific resources of the country. At the end of the war, in May 1918, President Wilson issued an Executive order requesting the Academy to perpetuate the National Research Council, with broad advisory and coordinating duties which were specified in the Executive order. The Council thereupon became a cooperative organization of the scientific men of America. The membership of the Council is composed of appointed representatives of approximately 85 of the major scientific and technical societies of the country, as well as representatives of various Federal departments.

Financial support of the administrative work of the Research Council is largely derived from an endowment given to the National Academy of Sciences by the Carnegie Corp. of New York. For the financing of scientific projects undertaken and sponsored by it, the Council relies on special gifts and appropriations obtained from time to time from various sources, both private and governmental. The Council is not an institution for the maintenance of scientific laboratories; it is largely an institution which has the facilities for furnishing scientific advice, both to Government and to other qualified organizations. The Council has served often and well as a common meeting place for scientific discussions between Federal officers and civilian scientists.

During World War II, the advisory services of the Council have been widely used by Government departments. As we are concerned here with a problem of medical research, I shall speak largely of the Council's Division of Medical Sciences. This Division was requested in May 1940 by Surgeon General Magee, of the United States Army, to give advice on medical problems of particular

significance to the armed services. This request from the Surgeon General of the Army was enthusiastically concurred in by the Surgeon General of the Navy and the Surgeon General of Public Health Service. While initially advice was sought merely in two special medical sectors, it soon became obviously desirable to extend advice to all fields of medical science and practice. Even though Federal funds for support of the advisory services were largely lacking during the first 16 months, many committees and subcommittees were formed by the Council to supply the required professional and research advice. With the establishment of the Office of Scientific Research and Development by Executive order of President Roosevelt in June 1941, the problem of Federal financing of medical research was solved with the formation of a Committee on Medical Research as a constituent part of the Office. The committees of the Research Council were employed by the Committee on Medical Research to serve in an advisory relationship. Through the activities of the Council's committees, the program of wartime research in medicine was initiated and carried to a successful conclusion. In addition, the services of the Medical Division of the Council were used by several other Federal agencies—War Production Board, the War Food Administration, and the Office of Price Administration.

The National Research Council demonstrated during the war period its ability to secure without cost to government, other than the cost of travel, the enthusiastic services of medical scientists throughout the country. Over 400 individuals served on various advisory committees of the Division of Medical Sciences and gave unstintingly of their time and knowledge. This service initiated as a wartime activity was considered to be of such value by the medical officers of the armed services that it will be extended by contract during 1946-47 to meet the present problems of the Army and Navy medical departments. In addition, the Veterans' Administration has requested the services of the Division to provide the Veterans' Administration with an extension program of follow-up study on wartime casualties and of clinical research leading to betterment of care of veterans. Similarly, the air surgeon and the Division of Aviation Medicine, Bureau of Medicine and Surgery of the Navy, are arranging for advisory service of the Division in the broad field of aviation medicine.

These functions of the Council's Division of Medical Sciences undertaken for Federal departments are related to the activities of the Division which pertain to civilian agencies and institutions. For many years the Division has awarded fellowships in the medical sciences from funds provided by the Rockefeller Foundation, and in recent years these fellowship funds have been augmented by appropriations from the National Foundation for Infantile Paralysis and from the American Society of Anesthesiologists. In addition, the Division has awarded grants-in-aid in sex research from funds provided by the Rockefeller Foundation and in endocrine research from funds provided by the John and Mary R. Markle Foundation.

With the background of experience thus gained over 25 years, and because of the willing cooperation of medical scientists in responsibilities of the Research Council, the Division of Medical Sciences was selected, something over a year ago, to serve as adviser in research to the American Cancer Society. The arrangement between the society and the council specified that the council should appoint an advisory committee of medical scientists with such subordinate groups as needed, and should establish a central office for administrative purposes. To this end, the council established within the Division of Medical Sciences a committee on growth, with membership made up of outstanding scientists from all fields of science pertinent to the solution of the problems of growth. At its first meetings, the committee, under the chairmanship of Dr. C. P. Rhoads, of Memorial Hospital, New York City, decided upon a very wide attack upon the problem of cancer, with programs of research in certain phases of physics, chemistry, biology, botany, and clinical medicine and surgery. In order to gather competent advice for these widely spread programs of research a number of panels were formed under the main board; each panel (and there are approximately 20 in number) was constituted of a small number of the eminent scientists in the particular area of science. Recommendations from the technically informed members of the panels flow through four divisions subordinate to the main committee—physics, chemistry, biology, and clinical research.

The final evaluation of the projects for subvention by the American Cancer Society is made by the main Committee on Growth and its executive group. In

this way allocations of the available funds in the various phases of activity looking toward advancing knowledge in the phenomenon of growth become properly weighed—the one proposal against the other. During its first year of existence the Committee on Growth has held many meetings and conferences and has made many recommendations to the society for the support of research. In addition to this function the Committee on Growth has assumed responsibility for recommendation of qualified candidates for fellowships in the broad fields underlying the study of cancer. It is generally agreed that in its year of activity the Committee on Growth has made an extraordinarily good record and for the first time in America a really comprehensive program of attack upon fundamental mechanism of atypical growth has been made. A research program of approximately \$800,000 has been financed for the year by the American Cancer Society.

Even before the initial meeting of the Committee on Growth, it was realized that the activities of this group should be coordinated with the undertakings of Federal agencies and of philanthropic organizations in the same field. To this end the three Surgeons General were invited to appoint liaison officers who should sit with the Committee on Growth, so that the Federal services would be informed of the program and extent of research subvention developed under the committee. Thus, the Director of the National Cancer Institute was named by the Surgeon General of the Public Health Service, and intimate exchange of programs and appointments has been carried out by the National Cancer Institute and the Committee on Growth. Other enterprises, planned in the future, relate to conferences on specific subjects in cooperation with philanthropic foundations.

With this mechanism set up for the transmission of professional and scientific advice from the National Research Council to the American Cancer Society, one necessarily wonders what mechanism should be established for the administration of the very large Federal fund mentioned in S. 1875. Certainly such sums as may be provided by congressional appropriation must be administered on the basis only of the best scientific advice. One would think immediately of a board or commission of outstanding scientists and lay members, appointed by the President, and of a director, chosen for his particular competence as an administrative medical scientist. Such an organization is not specified in the bill as at present drawn, for the bill provides merely for the President to call a conference of world leaders in the field of cancer research and "to take any additional action that he may consider necessary and proper."

An organization spreading broadly throughout the fields of scientific endeavor, as represented in the panels of the Research Council's Committee on Growth, would obviously be needed. Accepting such advice from competent authorities, any administrative agency set up under the bill could then use Federal funds to advantage, for the employment of skilled personnel, for the training of promising young scientists, for essential equipment for research, and for construction of such laboratories and institutes as are needed for the expanded program of research and for the proper training of young investigators. But it must be realized that advisory groups established under the bill will necessarily include almost the same personnel as now constitute the Research Council's Committee on Growth and its panels. For there are only a limited number of highly qualified scientists in this country, and the same individuals with some shuffling constitute almost all the national advisory committees. Realizing this shortage of personnel, one may predict that the Federal program of research in cancer will encounter the same difficulties as are met in other investigative undertakings at the present time: the need is for competent broadly trained scientists and this need can only be met by a thoroughgoing training program. Furthermore in any coordinated attack on cancer as contemplated under this Federal program, the essential independence of the investigator must be maintained if advance in knowledge is to be achieved. It is, I take it, unnecessary to reaffirm the contention that the world provides but few of the really great scientists; these occur only rarely in any civilization but they are responsible for uncovering the great laws of nature. So in any program of research the emphasis must be constantly upon maintenance of the liberty of the investigator and upon the slow steps forward, achieved by scientists who cannot be considered to be geniuses.

With these opportunities envisioned under the bill S. 1875, one must necessarily think of helpful coordination of its activities with those of other Federal agencies doing research within fields related to the basic problems of cancer. Similarly, its activities must, in order to provide the maximum effort, be carefully coordinated with the enterprises of private foundations and with those of the na-

tional societies. The funds provided in S. 1875 should not be used in competition with other Federal funds or with private funds; rather should they be used to supplement all other existing funds devoted directly or indirectly to advance in knowledge of the problems of cancer.

With these viewpoints in mind, I venture to suggest that the mechanism of the National Academy of Sciences-National Research Council could possibly be used for the effectuation of a coordinated and cooperative program of research in cancer. The mechanism was successfully employed during the war in several fields of endeavor by the Army, Navy, and Public Health Service; the cooperation, for instance in the studies in malaria offers a striking example of what can be done by joint effort when departmental independencies and competitions are forgotten for the common good. I know of no other agency in the broad field of the medical sciences which occupies the unique position of the National Academy-Research Council as an adviser to Government on scientific problems and as a central body of scientific thought. Perhaps in some way the ability of the Council as an agency functioning for the scientific societies and able to mobilize the best scientific advice in the many fields involved in the study of atypical growth could be made use of in the program contemplated in S. 1875.

So, in my opinion, approval must be given to the basic philosophy of the bill under discussion, with its purpose of supplying Federal funds for a broad attack upon the problem of cancer. But the bill, in its present form, lacks essential administrative machinery which must be established with wisdom so that the moneys appropriated will be expended on the basis of the best scientific advice. This administrative machinery should not be hard to devise, but the success of the enterprise will be based upon cooperative undertakings brought about through most intelligent use of Federal and non-Federal funds in a broadly conceived effort to solve the problem of cancer.

Senator PEPPER. Dr. Simon L. Ruskin, of New York City.

#### STATEMENT BY DR. SIMON L. RUSKIN, NEW YORK, N. Y.

Senator PEPPER. Dr. Ruskin, have you got a copy of your statement?

Dr. RUSKIN. I have.

(Dr. Ruskin presented for the record the following statement:)

#### PREPARED STATEMENT BY DR. SIMON L. RUSKIN

The present efforts for an all-out attack on the cancer problem parallels remarkably the drive that led to the solution of the problem of atomic energy. While the Greeks knew about atomic forces, we were, prior to the Second World War, hardly closer to the utilization of those forces. Similarly, 2,000 years ago Galen already attributed cancer to "black bile in the tissues." Today some of our latest theories still circle around the chemistry of porphyrin compounds contained in bile and the sterols related to bile. Methylcholanthrene, which is experimentally used to induce cancer in animals, is a derivative of bile acids. At the present time, similar to the time of Galen, these substances, are considered as possible sensitizers to cancer-producing stimuli. Among the sterol compounds, the sex hormones have been suspected with good cause, as demonstrated in animal experimentation.

These theories have, however, not brought us much closer to a solution of the cancer problem. In general, cancer research has been conducted under five different angles. There is the virus approach, which has periodically been intensively studied, with at times, what appeared to be brilliant results, that were not reproducible. This still requires a great deal of basic research, the nature of which we will describe later; a second angle is the production of cancer in animals by various chemical agents, primarily of the coal tar groups; third, a study of diet, particularly the relationship of vitamins and low-caloried diets to the prevention of cancer; fourth, studies on enzymes which catalyze and regulate the metabolism of body tissue; and fifth, the chemotherapy and radiation therapy, studying the effects of various chemicals and radiation on normal and cancerous tissues.

In these five fields an enormous amount of work has been done involving virtually all of our major universities and a host of individual laboratories operating under research grants with a healthy degree of rugged individualism,

periodically cooperative through society meetings and symposia. The amount of this work when totaled, is truly impressive and the sincerity and devotion of the men working in these laboratories is almost godlike. Yet, with the best intentions these investigations proceed in all directions without direction.

The cancer problem has, in the past, been attacked as a disease with the hope that by the observation of the disease process, its cause and cure would be seen. When, however, the cancer question is looked upon as a problem of life, we are confronted with a much more fundamental set of problems dealing with the basic elements of life itself directly similar to that of atomic energy in relationship to matter. Such studies are now possible through the instruments that have been developed by atomic research as well as the collateral major instruments of science now used in chemistry and physics. Through these newer instruments we are able to study molecular relationships and forces that influence molecular ultrastructure. When we view the cancer problem from this angle, it becomes a biological question related to the nuclei of cells which carry and regulate life processes and in their structure, are indeed close to virus configurations. It also becomes a chemical question involving every branch of chemistry, including newer developments in sugar chemistry since the nucleic acid structures contain a characteristic sugar. It involves the physics of molecular rearrangements incident to chemical reactions.

All of this basic work has to be done, just as it was done for the atom project. When this is accomplished, it must be correlated with the vast amount of scattered knowledge already accumulated in hundreds of independent laboratories. Neither the biologist, nor the physician and surgeon, the chemist, or the physicist can tackle this problem single-handed. A new type of worker who will be intermediate and well-grounded in all these departments will have to be evolved, and the possibility of the close cooperation and side-by-side work of all these men and women, in many instances under one roof, will have to be provided.

New lines of experimentation other than animal, must be developed along lines as theoretic as nuclear physics. The inadequacy of carrying over conclusions arrived at from plant and animal cancer to human beings has in recent years become all too manifest. Methylcholanthrene, which will produce cancer in rats, has not yet been demonstrated to have produced it in man.

Our lines of experimentation have to be moved up into the realms of molecular structure, governing life processes. Major instruments of science now housed in isolated laboratories available only to their own workers permitting studies of electron diffraction, molecular surfaces, new electron microscopes, specialized spectrometers, and X-ray diffraction equipment could become more familiar tools available to many now struggling manfully in basic research without them. Such instruments literally cast light on life processes and structure.

The byproducts of such investigation can, and undoubtedly will, easily transcend the cancer problem itself, great as its importance is today. All of medicine will be enriched virtually in every department as modern chemistry and physics has been by nuclear studies. An unprecedented era of health and longevity may be the fruits of this study, as peace may become the result of the atomic discoveries.

This appropriation requested by the Pepper-Neely bill would make possible the first coordinated grand attack on the basic forces of life, so urgently called for in the solution of the cancer problem.

It is unnecessary to call to mind the great national loss through cancer deaths, and the Pepper-Neely bill should be considered virtually in the light of a flood-control measure, for the preservation of national life and property.

Senator PEPPER. Suppose you just tell us orally, now, in supplementation of your statement, what your general views on this subject are—what you recommend to us.

Dr. RUSKIN. To be brief, my objective is more or less to point out the type of investigation that is before us, the scope of the problem, and the difference that exists between present organized agencies and the necessary form of expansion that possibly could lead to a solution. We have throughout the country a number of well-organized cancer research projects, by men who are not only eminent scientists but who have devoted their whole life's energies to it. We have just had the pleasure of hearing Dr. Weed, and of the wonderful work that his group has done; we know that. We also know that practically all

of the men engaged in cancer research are doing their very level best right now, but the results are not forthcoming. We have therefore to look again at the whole extent of the problem, to decide what kind of war this is. If we attack the problem by sending repeated "punitive expeditions" into the cancer problem, we will get the same kind of prolonged warfare that we have had in our whole history with punitive expeditions—they do not settle anything. This expedition into cancer is as much a challenge to science as the Nazi challenge was to the social sciences. If we had attacked the Nazi problem with a punitive expedition, we would have gotten nowhere. So large was our effort that the enormous research of the atomic bomb was only one phase of that warfare.

In attacking the cancer problem we are attacking a basic life problem. The result of that investigation will undoubtedly revolutionize our whole conception of medicine; it certainly will revolutionize physiology, it will revolutionize chemistry, it will revolutionize physics, it will revolutionize the whole system of training a man; and beyond that, it may even reach to the social sciences, because in the last issue of science was a plea from one of our leading scientific men, asking for scientific training of the character that produced the physicists who solved the atomic bomb, to come forward and solve the social-science problems, along lines of mathematics; so that if we are serious about attaining a solution to the cancer problem, we must lay down a strategy competent to solve it, and that strategy involve fundamentally the recruiting of perhaps 50,000 young men throughout the medical schools over a period of 10 years, who will be adequately trained to create an Army precisely the way we created an army to tackle the Nazi problem in social sciences. These men who have done the work up till today have to be retained as teachers, and young blood has to be developed, and we have to produce even a different type of man from the teachers we have today, because we have to produce men who are so well rounded that they can stand with their feet in biology, in medicine, in chemistry, and physics; but we haven't got those men today; but we have the teachers to make those men, and we have the young men who are anxious to become so well trained.

I spoke recently at the Bronx High School of Science to a graduating class. A number of those boys want to be doctors, and I outlined to them the broadening of medical education that is required; and the enthusiasm of some of those boys for a place where they can become expert physicists, biochemists, and physicians was exhilarating to see.

This \$100,000,000 donation to the cancer warfare is the first material step of any magnitude. It should be looked upon as the first step. I hope that it will be followed by a mustering of sufficient wealth and sufficient power, in brain power, to really wage an offensive war.

Senator PEPPER. How much money, now, do you think we should make available?

Dr. RUSKIN. You have now asked for \$100,000,000.

Senator PEPPER. I would like everybody to consider that anything that is in this bill is in the nature of an original suggestion, so that you will feel perfectly free to suggest the alteration of any phase of it in any way that you think would be helpful. If \$100,000,000 is made available and continued available—if that is not enough, or if it should be \$100,000,000 a year, or if we should authorize \$100,000,000,



and appropriate from time to time so much as the directive agency might say could be used properly, and so on, I want to know your individual idea as to how much money we should make available, how it should be made available—that is, in a lump sum or so much a year—and, in the third place, what should be the form of the agency, and the character of the agency that should direct this research.

Dr. RUSKIN. I would, to my mind, say that \$100,000,000 a year would begin to approach the requirements, and there should be left open additional possibility for expansion of funds, just as a campaign in warfare is calculated to a certain number of men, and if something shows fruitful, to follow up that particular campaign. Now, you would need about \$100,000,000 a year, at the first few years, practically, to broaden the basic science in medical teaching alone. You would require probably \$10,000,000 for each of 10 of our major medical schools, to provide adequate facilities for training men in physics, chemistry, and biology, beyond the facilities at present available.

It should be looked upon also in the light of flood-control—that is, flood-control relief continues until the flood is stemmed, and the recent allocation of \$300,000,000 for flood control certainly does not come so close to the people of this country as the requirements for cancer; so that I would consider \$100,000,000 a fair beginning of a serious warfare.

Senator PEPPER. Then, what about the organization that should direct the research?

Dr. RUSKIN. I think the organization that should direct this research should follow pretty closely along the lines that we followed in fighting the Nazi social problem. That is, we had a standing army. We had an organization; and we have to use that organization, because that organization represents the keymen in the country today, who have their hand in it. Those are the generals who have been trained in organization; but they should make a radical step to markedly enlarge the whole organizational and scientific staff, so as to avoid trying to wage a great offensive warfare with the same small standing army that they had at the beginning. If they do, they are bound to run into difficulties.

Senator PEPPER. The Army was directed, at the top, by a civilian Commander in Chief; underneath him, the Joint Chiefs of Staff; then, the Chief of Staff of the Army; the Secretary of War, and so on; but you might say the President, the Joint Chiefs of Staff, and the Chief of Staff were the directing heads; and then the staff that the Chief of Staff recruited you might say was the way the Army was run. Now, how would you suggest that this great "Army" be run?

Dr. RUSKIN. I would suggest that the same system be followed—that the President be the Commander in Chief of this fund.

Senator PEPPER. Who would be the Chief Staff?

Dr. RUSKIN. And the Chief of Staff can be appointed by the President, either through the National Research Council, or through the Surgeon General, or through the newly appointed person to direct this.

Senator PEPPER. What is your own recommendation?

Dr. RUSKIN. My own recommendation is that as great latitude as possible be placed in the hands of the President, himself.

Senator PEPPER. Thank you very much, Dr. Ruskin. You certainly have a magnificent approach to the subject, and I thank you for coming here.

Dr. RUSKIN. Thank you for the privilege.

Senator PEPPER. Dr. Stanhope Bayne-Jones, director of the Jane Coffin Childs Memorial Fund for Medical Research, of New Haven.

**STATEMENT BY DR. STANHOPE BAYNE-JONES, DIRECTOR, JANE COFFIN CHILDS MEMORIAL FUND FOR MEDICAL RESEARCH, NEW HAVEN, CONN.**

Senator PEPPER. Doctor, as you heard me say, we are meeting earlier this morning than we had anticipated, and I do want to get the detailed statement you have. If you could summarize it and make such oral comment as you would like to make, if you feel you can cover the subject that way, and file your statement, without any injustice to you, we would be glad if you would do it; but we will allow ourselves to be governed entirely by your pleasure.

Dr. BAYNE-JONES. Thank you, sir. I have handed to the reporter a written statement.

Senator PEPPER. Fine.

(Dr. Bayne-Jones presented for the record the following statement:)

**FORMAL STATEMENT OF STANHOPE BAYNE-JONES, M. D.**

It was a pleasure to receive from Senator Pepper a telegram inviting me, as director of the board of scientific advisers of the Jane Coffin Childs Memorial Fund for Medical Research, to appear and to testify at this hearing on the cancer research bill, S. 1875, which he introduced in the Senate of the United States on February 27, 1946, and which is identical with the bill H. R. 4502, introduced in the House of Representatives by Mr. Neely on October 25, 1945. Since the winter of 1945, I have heard and read many discussions of the bill. It has been discussed at meetings of the board of scientific advisers and board of managers of the Jane Coffin Childs Memorial Fund for Medical Research. I am glad to have the opportunity of expressing my own views and some general opinions of the Jane Coffin Childs Memorial Fund for Medical Research on the question of the extensive support of cancer research by the Federal Government, as contemplated in this bill.

At the start I wish to make it plain that in presenting this statement I do so as a private citizen and as a representative of the Jane Coffin Childs Memorial Fund for Medical Research. Having been relieved from active duty in the Medical Corps of the Army of the United States on May 16, 1946, I am now on terminal leave as a brigadier general. I beg to have it understood that I am not speaking as an Army officer, and that my statement is in no way concerned or connected with War Department policy.

The Jane Coffin Childs Memorial Fund for Medical Research was established at Yale University in June 1937 through deeds of gift from Mr. Starling W. Childs and Miss Alice S. Coffin as a memorial to the late Jane Coffin Childs. The purpose of the fund is primarily for medical research into the causes and origins and treatment of cancer. The deeds of gift provide also that in case the board of managers and the board of scientific advisers should decide at any time that the causes, origins, and treatment of cancer had been sufficiently determined, the fund, in accordance with specified procedures, could be devoted to research into some other unsolved problem of medicine or into some other field of science.

These broad purposes and this long and sound view of the future are set forth, with other historical and organizational material, in a pamphlet attached to this statement.

(The pamphlet referred to is entitled "The Jane Coffin Childs Memorial Fund for Medical Research, The Deed of Gift, Bylaws, and Other Official Documents. New Haven, Conn., 1938." It is placed on file with the clerk of the committee.)

I believe that the activities and experience of this fund in cancer research are pertinent to the discussion of this bill, S. 1875.

Since the summer of 1937 the fund has been in constant operation. It has functioned by making grants-in-aid to Yale University and to other institutions in this country and abroad for the support of work of experimental investigators. The fund's activities are not confined to Yale University. From the start the fund has taken the view that the problem of cancer is essentially a part of the broad problem of growth. The investigations it has supported have been both basic researches and specific researches on cancer. It has supported work on the characteristics of malignancy; in chemistry (including histochemistry, immunochemistry, and chemotherapy); in genetics; hormones; viruses, lymphoid tumors and leukemia; and work on gastric cancer. The fund has sponsored lectures and conferences, and contributes to the support of the journal, *Cancer Research*. The fund maintains a fellowship program along liberal lines. The grants of the fund have been made for periods from 1 to 3 years, with renewals which in some instances have provided continuous support for 10 years. Important scientific results have been produced from these investigations.

From these and other investigations under other auspices during this period there has been a notable advance in the attack on problems of cancer. But all the causes, origins, and treatment of cancer remain to be determined.

In dealing with the program of the fund, the board of scientific advisers and board of managers are constantly aware of the vastness and difficulties of the problems. These problems are administrative and economic as well as scientific. Coordination of research, while leaving a maximum degree of freedom to the investigator, is regarded as essential. This fund, however, has not coordinated its entire program, although there is more informal coordination than appears on the surface. There is little formal coordination between the activities of this fund and other agencies in the field, although there is a fair amount of exchange of information and some joint effort. Although the fund has supported certain projects continuously since its start, it has not and cannot provide life-tenure or assure long tenure for investigators in cancer. This is a characteristic of most of the agencies in the field. Careers in cancer research in this country, on the basis of assured long-term support, are rare. Provision for such careers is essential. Basic investigations of cancer start from, or lead to, dependence upon knowledge of the biochemistry, metabolism, and physiology of normal growth of animals, plants, and microorganisms, in which latter group one may provisionally include viruses, although viruses may be shown ultimately to be related to genes and enzymes. The investigator of cancer is constantly impeded by lack of knowledge of these normal processes. In 1942 more was known about the nucleus of the atom than is now known about the nucleus of the cell.

It is obvious that advance of knowledge in the basic field of normal growth will provide for advances in understanding of malignant growth and will yield knowledge that can be applied to the prevention and cure of cancer. The transfer of experimental results obtained in lower animals to conditions in human beings is extraordinarily difficult. This emphasizes constantly the urgent need of more basic study of cancer as it occurs naturally in man. This indicates that new fields of clinical cancer research must be opened up and developed if the problem is to be attacked where it is of gravest concern to mankind. These are vast problems. The experience of this fund indicates that very large, coordinated, and long-term support is needed to attack them. Private agencies have played a great role in all the advances in knowledge and power over cancer thus far. They will continue to have a highly important function in our society. The problems, however, and the requirements for the attack on them transcend the capacities of existing private foundations. No one can predict when a brilliant discovery may be made or older knowledge newly interpreted under existing conditions. It is believed, however, that the Federal Government is the only agency large enough to finance and carry through this attack on the whole problem.

Since 1937 the Jane Coffin Childs Memorial Fund for Medical Research has appropriated approximately \$940,000 for the support of cancer research. Of this amount, about \$124,000 has been canceled or refunded for various reasons, leaving approximately \$820,000 in actual use over this 9- to 10-year period. For the year 1945-46 the total appropriation, exclusive of administrative expense, was \$148,593.68, and is approaching that figure for the year 1946-47.

Looking back to 1937 these sums seem relatively large. In 1937, when *Fortune* published its notable article on Cancer—The Great Darkness the total funds

estimated as being available for support of cancer research in any year were under a million dollars. In that year greater sums became available. This fund was established. The National Cancer Act was passed and the National Cancer Institute and National Advisory Cancer Council were established, with Federal appropriations. Money for cancer research has increased since then. It is impossible to say how much is available now for this purpose. Some have estimated the amount to be \$1,500,000 a year from all sources in 1945. Since then the American Cancer Society, on recommendation of the Committee on Growth of the National Research Council has appropriated awards of \$900,000 for research and has made grants-in-aid approaching that full sum. These are notable increases but are still thought to be far short of what is needed for "a supreme endeavor to discover means of curing and preventing cancer."

The reorganized American Cancer Society now exemplifies the support which the people of this country wish to give to cancer research, and the prevention of cancer and the care of the cancer patient, through investigation and through lay and professional education. It typifies a democratic popular movement of great significance to the people of the country who are faced with a disease now in second place as a killing disease, responsible for some 175,000 deaths a year and upward of 500,000 cases of cancer a year. The society's fight against cancer is becoming greatly strengthened by popular contributions and effective direction. The society's research program is planned with high intelligence and has brought to bear on the problems brilliant investigators and wise administrators through the committee on growth and its distinguished panels. As a member of its board of directors of the American Cancer Society and as a member of some of its committees I know of the society's discussions of the bill H. R. 4502 and the stand it has taken in endorsing the principles of the bill in making available Federal funds for the support of cancer research, under conditions which would still permit the activities of private and popular agencies in the field. The Jane Coffin Childs Fund for Medical Research agrees with these general principles.

Obviously, careful study and consultation is needed on policy and organization of the enlarged Federal support of cancer proposed in S. 1875.

Speaking as an individual and with general agreement of the fund I represent, I wish to record the following comments and recommendations:

1. The Jane Coffin Childs Memorial Fund for Medical Research is in favor of the purposes and principles of S. 1875, and the appropriation of Federal funds for research on the causes, origins, treatment, and prevention of cancer.

2. The boards of the funds have not reached conclusions on recommendations for policies and details of organization and administration of Federal support of cancer research under this bill. Therefore, the following personal opinions are presented:

- (a) That this type of Federal support of cancer research be organized and administered as a distinct agency.

- (b) That the direction of the agency be under a commission of high-ranking scientists and laymen appointed by the President on the basis of their competence, and without regard to other agency, geographical, or political representation.

- (c) That in the management of Federal support of cancer research under this bill, support be given to qualified public and private laboratories, hospitals, universities, and institutions engaged in cancer research.

- (d) That sufficient funds be provided to erect, equip, and staff new laboratories and institutes for cancer research in several places in this country.

- (e) That provision be made for wise coordination and direction of research, leaving maximum possible freedom to investigators and their institutions, and preserving and fostering freedom of exchange of information. This should include use of and cooperative relations with the best existing institutions, societies, and organizations concerned with cancer research.

- (f) That provision be made for use of funds in a continuous long-term support of cancer research, providing for adequate salaries and tenure, sufficient to attract and hold the best men and women in the field, and with provision for training men and women for work in this field.

DR. BAYNE-JONES. Senator Pepper, I am speaking, in part, as the director of the board of scientific advisers of the Jane Coffin Childs Memorial Fund for Medical Research, and, in part, as an individual, because there are many phases of this problem that our boards have not yet discussed.

I also would like at the start to make it plain that in making this statement I am doing so as an individual citizen, and in what I say it has nothing to do with War Department policy. I have to say that, sir, because I am on terminal leave as a brigadier general at present, and I want that plain.

In my statement I have pointed out some of the experiences of the Jane Coffin Childs Memorial Fund for Medical Research, which since 1937 have been primarily concerned with the supporting investigations into the causes and the origin and the treatment of cancer. We have functioned as an organization by grants-in-aid, and have been able to appropriate something like \$140,000 a year for cancer research.

In doing this work we are constantly impressed with the tremendous and vast extent of this problem of cancer, and have viewed it as others have pointed out, as fundamentally a problem of growth of cells and of individuals, and realize that all phases of medical and scientific knowledge have something to contribute to the solution of the cancer problem, and that many of those fields of knowledge really have not been adequately tapped and are not at present in a state to provide the knowledge needed for successfully attacking the causes and origin of cancer.

Much reference has been made to the atomic-bomb project, and the success in the organized endeavor that brought about the practical use of atomic energy; but I think, as we will all agree, that we knew far more about the nucleus of the atom than we know now about the nucleus of the cell of the cancer or the cell in the body. This indicates that there must be vastly more fundamental research done before even we would be in a position to apply the basic knowledge, as it was applied in the solution of the bomb and the atomic-energy problem.

I think that I can say that our boards are in favor, heartily in favor, of the principles and objectives of this bill. They realize also that the problem is so vast that in my opinion, and in the opinion of others, the Federal Government is the only agency in this country large enough to undertake it. The support that the Federal Government could give to this program of investigation would be large enough in view of the generous attitude which has been taken toward it, to supply the funds needed for a supreme effort in the attack on the causes, origins, prevention, and treatment of cancer.

As Dr. Weed has pointed out, there is a tremendous need for co-ordination of research in this problem, both among workers in this country and the investigators in cancer abroad. It is a world-wide problem. Cancer makes the whole world akin, as nearly every other disease does, and we are concerned with the same processes in remote lands as we are in this country. There are good workers in all parts of the world who ought to be brought together on this.

Senator PEPPER. You will notice, Doctor, that we have approached it from that point of view, here.

Dr. BAYNE-JONES. I noticed that.

Senator PEPPER. You will notice it is not coming through one of the other committees. This comes through the Foreign Relations Committee, and we have tied it into the whole world picture just as well as possible.

Dr. BAYNE-JONES. I would like to say, sir, that I heartily subscribe to the statement you made in your opening remarks on the broad outlook and the approach to this problem. It must be realized that this is

not a simple, short-term affair, that it is going to take a long time to solve these problems, and therefore in the provisions for the work on it, it is essential that something be done to give the investigators in cancer an outlook toward a career. They have a haphazard kind of existence now. They go from grant to grant. They are inadequately supported, and it is rare that some man can spend his life in cancer research. A long-term support of institutions and individuals seems to me to be absolutely essential in the structure and function that will come about under this bill.

Dr. Ruskin has pointed out the need for training the people that come on for new work in this field. It is absolutely essential. That will take time. It will take money, and it will take a new outlook on the basic training of the biologists who will deal with the physicists, and the physicists who will approach this from the biological point of view.

In the organization and planning I would agree that support should be given to private institutions and the best-organized, best-operating centers of cancer research in the country, but I think there is need also for the construction of new institutes and new facilities for the investigation of cancer, which would require also the collection in those places of specially trained staffs. The simple enlargement of facilities as they now exist would seem to me inadequate. There should in my opinion be a number of new institutes for cancer research built up, preferably in connection with universities or centers where the men working in those places would have an opportunity to draw on all the available knowledge from medicine through biology and physics, to include also the economic and social aspects of the disease.

For the organization of the project I would suggest as an individual the necessity, it seems to me, for an amendment of the bill as it now stands to provide at least in outline a scheme of how it may be operated. There has not been time enough, sir, for people to clear their minds on just what the best type of organization should be. In my own opinion, I think it ought to be established under the President, as a distinct agency for cancer research. I think it would be inadvisable to put it under any existing governmental agency, or quasi-governmental agency. I think that it should be, as you, I think, used the expression, a commission type of central organization, and have provisions for drawing on all the best advice that it could obtain from this country and abroad, to have provision for thorough relationship with the National Academy of Sciences, the National Research Council, the United States Public Health Service, the universities and private organizations working in this field.

But I must say that I have no definite program of organization to present.

Senator PEPPER. Do you feel that a majority of the Commission, if there should be a special commission set up, should be non-Government people appointed by the President?

Dr. BAYNE-JONES. Yes, sir. I said in my statement that I felt that the direction of the agency should be under a commission of high-ranking scientists appointed by the President. I think it ought to be designed for an allout straightforward attack on the problem, and without regard to any other considerations. Pick the best people.

Senator PEPPER. And people who have the utmost confidence and good will from the public?

Dr. BAYNE-JONES. Yes, sir.

Senator PEPPER. This idea is just forming in my mind, because I do not have any clear idea as to how this thing should be done, but I am speaking in terms of all that you have said and what I have heard from others since this matter has been discussed. First, having a commission appointed by the President, consisting, roughly, of nine people, I started to say nine men, but I certainly do not want to exclude the ladies from membership. So I will say, nine people, possibly five from outside the Government and maybe four from appropriate Government agencies; and lay down the duty and the authority of the Commission as to doing everything that can be done reasonably, with almost unlimited funds, to promote research in the field of cancer, and also the scientific application of the knowledge that we have in the way that we used the knowledge that we had about the atomic bomb. Let Congress authorize \$100,000,000 a year and, as far as we can morally bind each succeeding Congress, let it be known that we are going to make available every year \$100,000,000, or any part of it that may be needed to carry on this great work, having the special interest and attention of the President of the United States, and let the Commission decide how much of that \$100,000,000 that Congress authorizes it should apply for and can use. Then convey that information to the President and let the President, always, of course, using his Bureau of the Budget as he cares to use it, decide whether or not that amount is all right, and then request Congress to appropriate that amount.

If they think they can use \$25,000,000 as they get under way, and should find a little later that they need \$35,000,000, \$50,000,000, or \$75,000,000, since there are deficiency appropriations coming through all the time, all they would have to do would be to apply to the Bureau of the Budget or the President, saying, "We think we need more money than we asked for. Would it be possible to get some more?" I would suggest that any President, having such a recommendation, would transmit to Congress another request for an additional appropriation—not an authorization, but an appropriation. In that way Congress would leave the matter to the President, to the Bureau of the Budget, and to this Commission largely to initiate requests. Then, of course, somebody would have to come down before the Appropriations Committees and request that we make available \$50,000,000 or \$75,000,000 of the authorized \$100,000,000, and they could give as the reasons that "We have a great program under way, and if we are going to expand a great many of our institutions we have got to recruit special staffs and staff them up; we have got to train more people. There are not enough people working in this field, and we have got to train more. These are some of the general plans now, and that is the reason that we have requested the President to ask you for this sum of money; and this is the way we expect to spend it."

That is the sort of showing you would present, you understand, to the Appropriations Committees. What would you think of such a general plan as that?

Dr. BAYNE-JONES. Well, Senator Pepper, if I understand you rightly, you would have annual appropriations in connection with this fund. I think that unless you start off with a long-term view and have money in hand to be spent over a number of years, you will not get far with it, or get people to come into it.

Senator PEPPER. I thoroughly agree with that. That is the reason I say that we want to make it a continuing appropriation; but under the law we have to appropriate money every year. We could just outright appropriate \$100,000,000, but if you did not spend it all in that year it would revert to the Treasury of the United States.

Dr. BAYNE-JONES. Would there not be some way of committing it for a number of years in advance? It is essential, it seems to me, that we start off with a fund that will be spent over a number of years, or you will not get people to put their lives into this thing.

Senator PEPPER. I do not recall whether it is 1 year or 2 years, but I think we cannot actually appropriate the money and let it lie there subject to your need, indefinitely. It might be possible. If it is possible, you would suggest that that be done, that we appropriate \$100,000,000 and let you draw it out as fast as you need it?

Dr. BAYNE-JONES. Under the guidance of whatever commission is set up. It seems to me that this is such a continuing problem of the people of this country that the original arrangement should place itself beyond changes of administration, political changes, or even changes in the philosophy of the Budget. The Budget Bureau has an extraordinary power over policy, of course, as well as over activities; and I urge that the fundamental establishment be so safeguarded against temporary changes that we can attack the cancer problem over a long time.

Senator PEPPER. I will have to check with the legislative counsel as to how far we can go in setting aside money for long-range use. You understand that in the case of the atomic bomb that money was appropriated from time to time and was made available.

Dr. BAYNE-JONES. Yes, sir.

Senator PEPPER. There are instances, of course, of where Government corporations can have money. It may be that this could be made a body corporate and money could be appropriated to be drawn on, with the approval of the President. We will look into that possibility. But I thoroughly agree with you that we have got to make a great amount of money available and you have got to be able to make your plans so as to continue year in and year out, if you are going to get anywhere.

Thank you very much, Doctor. We appreciate your coming and helping us. If there are any other suggestions that you have, just write them to me or to the committee. We would like to have them. Thank you very much.

The next gentleman is Mr. Julius Jay Perlmutter, chairman, Sponsors of Government Action Against Cancer, New York City.

#### STATEMENT OF JULIUS JAY PERLMUTTER, CHAIRMAN, SPONSORS OF GOVERNMENT ACTION AGAINST CANCER, NEW YORK, N. Y.

Senator PEPPER. Can you do as these other gentlemen have been doing—submit your paper and comment on it?

Mr. PERLMUTTER. I would much prefer to read it.

Senator PEPPER. How long will it take you?

Mr. PERLMUTTER. About 10 minutes.

Senator PEPPER. If you prefer it that way, all right.

Mr. PERLMUTTER. Mine is, necessarily, the business approach. I do not hesitate to protect my employees and my property from the



threat of damage or destruction. What I have to protect are my only assets. There is no law that forces me to go beyond ordinary precautions and to give my fellow workers reasonable protections from known hazards. Whatever is done beyond that is what I see should be done to protect everyone against the unseen and the unexpected. I do not consider that doing these things entitles me to compliments or any special praise.

The major asset this Government has is its citizenry. It protects it in the orthodox way all governments should. This is a Government of and for the people. It is, in theory, watchful of their interests and their safety from the cradle to the grave. It would be a sad commentary indeed if this Government of the people should hesitate one minute to set up a fund to save the lives of 17,000,000 people who, by scientific estimate, will die in our lifetime, of cancer. I organized the Sponsors of Government Action Against Cancer because I was convinced that only the Government is big enough and rich enough to afford the money needed so quickly and so urgently.

It has not been possible to get enough money from private sources. It has been tried for years in scattered fund-raising efforts and even in federated drives by the American Cancer Society. The greatest amount raised by private means to date is the \$12,000,000 which this last organization sought recently. I don't know if they reached their goal. But even if they did, some very good scientists might have, from this fund, only a paltry few hundred dollars on which to struggle and starve for another year. The business of the Government, the protection of its citizens, is not advanced in this way. It is retarded.

We can go on having private fund-raising drives for years with the same results. To date, these results have not counted greatly in the sum of advanced knowledge of cancer treatment or, worse still, cancer elimination.

By way of illustration: The only thoroughly organized, recognized cancer action group for the past 35 years has been the American Society for the Control of Cancer, now better known as the American Cancer Society. This group's major activity and concern as well as reason for public fund raising has been its campaign of educating the public and the doctors. It has been a hard-fought well-intentioned effort, but far too few doctors have been educated or persons alarmed into early enough action.

During the 35 years of American Cancer Society education campaigning over 100,000 people died each and every one of those 35 years. A total in excess of 4,000,000 people that education has failed to save in the United States alone. The only salvation is research, quick and effective research.

To get quick research planned and under way we need to have the greatest sum of money at the start of planning. This can only come from a Government appropriation such as we are here advocating. To create and carry on an effective research program, it must be coordinated and all-inclusive, which only Government authority, such as we seek here, can assure.

There is another way that the necessary \$100,000,000 fund can be raised to launch such a research project, but it of necessity calls for an important decision to be made by you the members of this commit-

tee and the Congress. It is to pursue the present methods as currently in use by the American Cancer Society, a voluntary agency.

This organization last year raised \$4,000,000. Of this, approximately \$800,000 has been set aside for cancer research nationally.

In its present campaign for \$12,000,000 of voluntary contributions it will set aside \$3,000,000 for cancer research nationally. At that rate it would take over 33 years to set aside and accumulate the necessary \$100,000,000 research fund. And during each and every one of those 33 years at least 175,000 Americans will die of cancer.

Will you make a decision that will thus send 6,000,000 people to their grave?

I make a point of this because it is the background of the thinking I have lived with for the past 9 years, seeing "too little being done for only a few and always too late."

Cancer is a national emergency—a governmental responsibility—Congress' challenge—this committee's opportunity.

The Nation's citizens have banded together as "sponsors of Government action against cancer," and have sought the introduction and now the passage of this, the only visible means to a positive end, the Pepper-Neely cancer research bill.

We have been splitting atoms for years, but it took the Manhattan project, a mobilization of the world's greatest scientists in one co-ordinated effort, to produce the atom bomb. Can anyone doubt that the same kind of attention might not save the lives of the millions who will die of cancer in our lifetime? The good that will come from atom research will be made available to the whole world. Equal or greater good will come from a work that seeks the means for saving mankind, all the world's people from the terrors of death by cancer.

What is \$100,000,000 in relation to the lives of 17,000,000 Americans in just one lifetime and countless millions throughout the world who will surely die if this puzzle of cancer is not solved? It is less than \$6 per life. It represents a cost, for one tax year only, of less than 60 cents per person in the United States. What a small sum to spend to save so many and what a dreadful thing it is to think that some legislators might vote against it. This is not political. It is just plain humanitarian.

I speak with such feeling because I watched my mother and father both die of this terrifying disease. I have been fighting and begging for a cure to be found ever since. I have been trying to find hospitals to set aside beds for men, women, and children who were in advanced stages of this disease, who had no place to go to die, except at home in the presence of those who loved them and could merely look on with hopelessness and a heart-breaking sense of the futility of their poor efforts to ease pain or to bring comfort, to say nothing of the loss to science from being unable to treat and care for and record the case histories of these patients in their final stages, thus perhaps allowing cancer to take to the grave with it the possible cause and cure.

I want the Pepper-Neely bill to pass at this session of Congress. I have worked as hard as a private citizen could for it. Many men and women of prominence and good will have joined me and endorse what I have said here.

I beg the privilege of submitting some of their names for the record. These names represent a mere sampling of opinion on my

part—a very confined effort, I admit. But here is the result of a Gallup poll which I beg also to submit for the guidance of this committee and the Congress who will soon vote on this bill. Here is a mass expression of public opinion—nearly 90 percent in favor of this action, even if they were called upon to pay additional taxes for this purpose. Well, who wouldn't be for anything that can humanly be done?

The scientists, doctors, and leaders are available, the knowledge—know-how, experience, and case histories are sufficient. What is needed is coordination, leadership, authority, and the necessary funds to permit long-range planning and assurance of continuity. This you are being asked to provide through the enactment of this bill. I trust you, too, will favor and act on it in accordance with these, my summary views:

1. I favor Government action against cancer.
2. I favor the quick and favorable enactment of S. 1875 in its present simple form; during this session of Congress.
3. I am unequivocally in favor of the \$100,000,000 appropriation as an absolute and unrestricted minimum fund for this purpose to be set aside until spent.
4. I advocate that the President of the United States appoint a new and independent commission to program, plan, and carry out the considered integrated cancer research project called for in this bill.
5. I urge only that such a commission consist of a cross section of scientists, doctors, and lay leaders of all groups truly representative of all types of thinking to implement a new and broader approach to this problem than has ever been undertaken or blueprinted heretofore.
6. I urge that no clique, particular group, society, laboratory, or university, be permitted to control exclusively the intent or purposes here-in sought to be accomplished.

Such a commission should be charged with the responsibility to survey, assay, and judge the merits of a plan, idea, or project and make or refuse appropriations therefor.

The adoption of the Pepper-Neely bill is nothing for which anyone should need to plead. It just makes common sense.

Finally, I wish to go on record with the fact that on behalf of Sponsors of Government Action Against Cancer I recommended to the International Health Council of the United Nations that the respective delegates each request of their respective governments such similar government action against cancer.

Thus we suggest will be created the greatest massing of funds, facilities, and knowledge the world has ever seen gathered to combat the greatest evil of peacetime—cancer.

I am happy to record that I have received an acknowledgment of this recommendation from the United Nations and assurances that this will receive the attention and action of the delegates and the International Health Conference as such. America thus leads the way once again in a new aspect of peace. Peace through war on man's major disease—cancer. This committee must declare this war by enacting this bill.

I ask at this time for permission to submit as further support of this bill the complete record of all of the testimony submitted to the Foreign Affairs Committee hearing No. 4502, of May 7, 8, 1946. Also a

copy of the Gallup poll, a copy of a list of some of the members of Sponsors of Government Action Against Cancer, letters and telegrams sent to us to be included in the record. Also, an official statement on behalf of the National Citizens Committee, Sponsors of Government Action Against Cancer.

For some of the members of our organization see testimony at hearings on H. R. 4502.

Senator PEPPER. We will be glad to have for the record all the material which you have suggested except the hearings before the House committee. They are already published and are available.

(The documents referred to and submitted by the witness are as follows:)

OFFICIAL STATEMENT OF SPONSORS OF GOVERNMENT ACTION AGAINST CANCER,  
GRIFFIN BUILDING, NEW YORK 13, N. Y.

These are the official and unanimous views of our organization on the intent and purposes of this bill for which we have been actively engaged in initiating public interest and support.

1. We favor Government action against cancer.  
2. We favor quick and favorable action by the Congress, during this session, on bill S. 1875.

3. We favor the appropriation requested in the said bill, namely, a one hundred million dollar fund for this purpose, to be set up as a capital fund until spent.

4. We favor the intent, inherent in the proposal, that the President have full, complete discretionary privileges to convene world scientists and leaders, to plan, program, and carry out an all-out attack on our Nation's and the world's greatest peacetime killer—cancer.

5. We favor enactment of bill, S. 1875, in its exact present language, without any amend or interpreting language. We desire that the bill clearly, simply, and completely convey unrestricted authority to the President of the United States, so that he can proceed in whatever way he and any selected group of advisers he may use, deem necessary to undertake, for the first time in our country and in the world, those steps that may be aimed at defeating this great curse of humanity.

We feel that the very simplicity of the bill will and should avoid political debate, issues, proposals, and counter-proposals which might tend to emasculate the bill and its intended purposes or otherwise result in failure to report it out or hamper the necessary quick, decisive action to assure favorable and unanimous enactment of this bill for the benefit of the people during this session of Congress.

We know that the President will not endeavor personally to detail the program necessary to carry out the intent of this bill.

We feel that he will appoint a commission or an administrator to program the necessary plans.

We feel therefore that no amendments be made to the bill as originally presented, which would have as its purpose the directing or designating of how or who shall be employed by the President for this purpose.

We feel strongly that such amendments, no matter how simple, will hamper the program as we see it and as we know the President of the United States, as leader of, and concerned with, the welfare of the people, sees it.

We urge again that no language be inserted into the bill which would tend to affect the free and complete opportunity for the President to exercise his judgment in approaching the seeking of a solution to this international problem.

We believe the greatest good can come out of this proposed endeavor to conquer cancer only by the enactment of the bill as it was originally written.

We are opposed to any and all proposals submitted to make this undertaking a part of any presently existing Government agency or department.

We are opposed to any and all proposals submitted that the bill contain a specific commission set-up or a commission specifically set up which would make it mandatory for the President to pursue this undertaking according to any

blueprint included in the bill or able to be spelled out as the only way the President shall or shall not do this.

Finally we are unalterably opposed to the 14-man commission as proposed by the three groups who in the first instance, at the time of the House of Representatives hearings on the original bill, H. R. 4502, as submitted by Congressman Matthew M. Neely, of West Virginia, were individually opposed to the very method of handling this problem that they are now jointly advocating. We feel this would narrow any present or future undertaking inherent in this bill to the same type of limited thinking, research, and planning that has too long been prevalent where the cancer problem of this Nation has been concerned.

Primarily, we oppose this type of commission set-up for the above reasons; but principally we oppose it on the same grounds we would also oppose any specific proposal from being written into the bill as a directive or method which must be followed by the President.

However, we propose that if the Congress in its considered wisdom should feel the necessity for specifying an administrative blueprint, then, and then only, do we propose that the following be included in preference to any other proposal for the reasons that it would at least implement and not obstruct the President in this great and necessary undertaking.

(A) That the administration of this fund and the planning of a program as is intended by S. 1875 be carried out by one administrator who shall be appointed by and shall be accountable only to the President of the United States.

(B) That the administrator may appoint, in cooperation with and subject to the approval of the President, such a board of trustees consisting of scientists and lay leaders as he shall deem to be necessary and incidental to the carrying out of the intent of the bill.

(C) That the President and/or the administrator shall have the authority to correlate and coordinate all present Government and private cancer research activities and shall have the authority to call upon or otherwise supplement or implement the existing Government departments and agencies now doing cancer research work.

If the appointment of a single administrator by the President for the purposes herein set forth and more fully proposed by bill S. 1875 is not considered to be a satisfactory and expeditious formula, then we earnestly propose that the bill be passed in its present form authorizing the President to pursue the problem of this project in whatever manner he deems necessary.

We trust that our views will aid in your consideration of this vital matter and that your decisions and judgment will include our considerations and concern with this grave problem. For we, too, have the interest of all of the people at heart.

We respectfully recall the saying of Jules Ormont, "A ship, to run a straight course, can have but one pilot and one steering wheel. The same applies to the successful operation of any project—there cannot be a steering wheel at every seat in an organization."

JULIUS JAY PERLMUTTER,  
*Chairman, Sponsors of Government Action Against Cancer.*

[From the New York World-Telegram, Wednesday, June 12, 1946]

### The Gallup Poll

CANCER RESEARCH FAVORED—87 PERCENT FOR \$100,000,000 TAX FUND

(By George Gallup, Director, American Institute of Public Opinion)

A substantial appropriation by Congress for cancer research, as provided in the Neely-Pepper bills, would have very wide support from the general public, which is even willing to see taxes increased for the purpose.

The fact is disclosed in coast-to-coast questioning of voters by interviewers for the institute.

The Neely-Pepper program calls for an appropriation of \$100,000,000 for research on the disease. Public reaction to this plan was tested in the following manner in the poll:

"Do you approve or disapprove of having the Government spend \$100,000,000 to find possible ways of preventing or curing cancer in this country?"

The vote:

	<i>Percent</i>
Approve -----	87
Disapprove -----	9
No opinion -----	4

'Would you be willing to pay more taxes to provide this money?'

	<i>Percent</i>
Yes -----	72
No -----	27
No opinion -----	1

Those unwilling to pay more taxes include the 9 percent who disapprove the whole program.

Approval of the program was found among all major groups in the population. Men and women of all ages and in all levels of society favor the appropriation by majorities ranging from 82 to 91 percent, and more than two out of three in all groups indicate their willingness to pay higher taxes for the purpose.

As a matter of fact, the country would be willing to see a cancer appropriation double the size of that proposed by Senator Claude Pepper (Democrat, Florida) and Representative Matthew M. Neely (Democrat, West Virginia).

A year ago the institute polled the Nation on the idea of a \$200,000,000 congressional appropriation for both research and treatment of cancer, the money to be raised by additional taxation. It found a very high vote in favor. That vote remains high today, as a new poll shows, although the number willing to pay additional taxes to make such a fund possible is somewhat smaller.

"Should Congress pass a law which would provide \$200,000,000 for the study and treatment of cancer in this country?"

The vote:

		<i>Today</i>	<i>Last July</i>
Yes ----- percent		82	81
No ----- do		11	10
No opinion ----- do		7	9

"Would you be willing to pay more taxes to provide this money?'

		<i>Today</i>	<i>Last July</i>
Yes ----- percent		69	75
No ----- do		27	20
No opinion ----- do		4	5

STATE OF WEST VIRGINIA,  
EXECUTIVE DEPARTMENT,  
Charleston 5, July 2, 1946.

HON. JULIUS JAY PERLMUTTER,  
New York, N. Y.

DEAR MR. PERLMUTTER: I find that it is impossible for me to appear and testify in support of the Neely-Pepper cancer bill at a meeting arranged by the subcommittee of the Senate Foreign Affairs Committee, for July 1-3, in Washington. However, I wish to go on record as being unqualifiedly in favor of this legislation.

I believe that the full amount of the appropriation asked is needed if we are to make any headway in this fight against cancer. Particularly am I impressed with the brevity and simplicity of the bill, and I wholeheartedly endorse the appointment by the President of an independent commission charged with the responsibility of planning and carrying out a program designed ultimately to provide a means of control and cure of this insidious disease.

The good work done by the division of cancer control of the State health department in this State has convinced me that no efforts should be spared to win this fight against cancer, and I urge that the Neely-Pepper bill be reported out favorably during the present session of Congress and passed without complicating amendments in order that the President may appoint a commission to undertake the work outlined without delay.

I am pleased to give you full permission to submit this letter to the Senate Foreign Affairs Subcommittee at its hearings on this bill as my statement concerning my position on same!

Sincerely yours,

CLARENCE W. MEADOWS, Governor.

NEW YORK, N. Y., June 29, 1946.

**JULIUS JAY PERLMUTTER,**

*Chairman, Sponsors of Government Action Against Cancer,  
Shorcham Hotel, Washington, D. C.:*

I regret that I am unable to appear at the hearings being conducted on the Neeley-Pepper cancer bill. Press of work makes that impossible, but the aims of this legislation are so important and urgent that I can assure you that our organization fully supports those aims and purposes. We particularly favor the size of the appropriation as a minimum. We feel this is such important work the sum will not be enough, but will be a start. We favor the bill because of its simplicity and the fact that it allows the President to appoint an independent commission fully representative of all groups to carry out purposes of the bill. The importance of solving the cancer problem makes it necessary for all to advocate passage of this legislation as rapidly as possible without any confusing or crippling amendments. You may be assured of our continued support in every way possible for the passage of this very excellent legislation.

**JOSEPH CURRAN,**

*President, National Maritime Union.*

BEVERLY HILLS, CALIF., June 26, 1946.

**Mr. JULIUS JAY PERLMUTTER,**

*New York, N. Y.*

DEAR MR. PERLMUTTER: Replying to your telegram of June 24, 1946, regarding the Neely-Pepper cancer bill. I wish to state that prevention and cure of cancer can be accomplished if sufficient funds can be appropriated so that the best investigative minds can be employed for its study.

I am in favor of a bill such as the Neely-Pepper cancer bill if funds can be appropriated for research and study. I favor the appointment by the President of the United States of a new and independent commission representative of all interested groups and individuals to plan such an undertaking and to its completion. I also favor that the bill be reported out quickly and favorably.

The study of cancer should be undertaken by pathologists, biochemists of scientific integrity and judgment, and should not be hampered by financial limitations.

I regret that it is impossible for me to accept your invitation to personally appear before the Senate Foreign Affairs Subcommittee hearing on the Neely-Pepper cancer bill.

Yours very truly,

**MAURICE A. BERNSTEIN, M. D.**

NEW YORK, N. Y., June 27, 1946.

**JULIUS J. PERLMUTTER,**

*Chairman, Sponsors of Government Action Against Cancer,  
New York, N. Y.:*

Illness prevents my making the trip to Washington to testify in favor of immediate passage of Pepper-Neely bill. May I, as a member of Sponsors of Government Action Against Cancer, ask you to state on my behalf for the record (1) that I favor the appropriation of 100,000,000 as a minimum fund cancer research; (2) that I favor the enactment of the bill in its present simple form without complicating amendment; (3) that the intent of the bill be clear in its authorization to the President of the United States to appoint a new and independent commission representative of all interested persons and groups. I personally feel that when such a method of research is adopted we are certain to make more progress in a few years than we can now in 20 or even 50 years.

**LADY MARGARET ARMSTRONG,**

*President of Ladies of Catholic Charities, New York City.*

STATEMENT ON THE NEELY-PEPPER CANCER BILL BY JOHN W. WINGATE, HEAD OF THE DEPARTMENT OF RETAILING, WASHINGTON UNIVERSITY, ST. LOUIS, AND NEWLY APPOINTED PROFESSOR OF BUSINESS ADMINISTRATION, COLLEGE OF THE CITY OF NEW YORK

May I add my voice in urging that the Neely-Pepper cancer bill be reported favorably to the Senate, immediately and unanimously. The cost of less than \$1 per capita is the minimum that should be appropriated for this organized fight on a disease that has caused much more misery than war.

Our success in solving the problem of the atomic bomb, when the entire resources of science and industry were mobilized under national leadership, gives good reason to believe that the cancer problem can also be solved, if similarly attacked.

The simplicity of the present bill is to be especially recommended, in that the details of administration and execution will be in the hands of an independent commission, representative of all interested groups. Complicating amendments should be avoided so that the commission may not be handicapped in taking any action that in its judgment may lead to a solution of this major social problem.

There is no matter involving the public interest that will bring more lasting recognition and acclaim to the Congress than the application to this major problem of the biological sciences the same techniques used in solving the major problem of the physical sciences.

The country not only wants this program but as the Gallup poll reveals is also willing to pay the cost for an all-out fight against cancer now.

WRITTEN EXPRESSIONS ON THE S. 1875 BILL BY IRA I. KAPLAN, M. D., DIRECTOR, RADIATION THERAPY DEPARTMENT, BELLEVUE HOSPITAL; CLINICAL PROFESSOR OF SURGERY, NEW YORK UNIVERSITY MEDICAL COLLEGE, NEW YORK, N. Y.

I am a clinician actively engaged for the past quarter of a century in caring for and treating cancer patients, therefore, my recommendations are not based on hearsay or theory but upon solid facts experienced in my daily work. The cancer section of Bellevue Hospital, the largest municipal hospital in the world, has been under my jurisdiction for over 20 years. This has permitted me to see patients previously treated or cared for in practically every hospital of the city or by physicians throughout the country. Several thousand patients pass through our service yearly and based on the knowledge acquired from caring for them I have formed the following conclusions:

Cancer is no longer a local, private, or municipal responsibility; it is a national burden. Funds available for cancer have always been inadequate and divided in such manner as to inhibit coordinated effort. As a remedy the proposed national cancer bill offers a beginning toward a real effort proposing the greatest possibility of producing results. I do believe if a group of trained scientists are mobilized in a coordinated effort to attack the cancer problem, we will see the achievement we have all been looking forward to.

As I already stated, I am a practical clinician mainly interested in practical matters associated with the active care and treatment of cancer and so I am anxious that certain conditions be provided for in the implementing of the cancer bill.

Millions of our citizens are preyed upon by medical quacks of all sorts, but in no field of disease is their activity so pitifully scandalous as in cancer. But how are the poor victims to know whether a supposed cancer remedy is safe and effective. I suggest that under the cancer bill there be set up an organization that shall investigate proposed cancer cures and to make definite pronouncements as to the worth of all remedial methods to the public for cure of cancer and to have the power to ban all fraudulent propositions. All too often because of the blandishments of quacks proper care is delayed and even avoided beyond the time when acknowledged therapeutic measures are possible and in some instances this has been the direct cause of the victims death.

One of our most difficult problems is the caring for chronic cancer patients, especially those in the middle-class economic level. With few exceptions the homes and institutions under voluntary auspices refuse admissions to applicants suffering from chronic illness such as cancer. Over one-third of all chronically ill cancer cases are receiving totally inadequate care, and only about one-fifth receive a modicum of efficient care. The governmental agencies as at present



constituted offer little more. I propose that under this bill provision be made to care for in a proper manner the chronically ill cancer patient in centers especially established for this purpose throughout the country, the cost to the patient to depend upon his economic ability to pay. Cancer care and treatment is costly and uses up no matter what accumulated savings a victim and his family have. Only under a sympathetic Government agency can hopeless cancer victims receive humane and hygienic care until the Lord sees fit to end their misery.

One further point. To seek the cure of cancer we should know its cause. This requires intensive research by trained scientists and clinicians whose coordinated efforts are left untrammled by the absence of worry about economic security.

As you also no doubt know, cancer is best controllable in its early stage. If we can have some means of early diagnosis, some test that will enable us to recognize the earliest signs of cancer or the possibility of cancer development, then we can defeat cancer. Combined concentrated efforts of a group of trained scientists unworried by economic factors under Government auspices will provide the certainty of such achievement.

In this care and treatment aspect of cancer social service is a real necessity. Providing for a national social service and visiting nurse department, covering the care of patients and their families throughout the Nation, will be of immeasurable aid in relieving the misery usually associated with cancer. Supplies and dressings are costly where cancer is concerned. National provision for the victims worthy of charitable assistance is necessary. This, too, should be included in the provisions of this bill. To sum it all up, if we are to succeed in conquering this dreadful cancer scourge a coordinated effort is necessary under national auspices.

The appropriations should be made without restrictions so that actual work can be carried on unrestrained by rules and regulations, aid given unstintingly—used when and if needed—at once or over a period of time, depending on the exigencies of conditions determined by a group of selected scientists chosen for their knowledge and experience in cancer.

I trust this explains to you my thoughts in this worthy matter. It is along the lines of action proposed by the Sponsors of Government Action Against Cancer, with whom I associate myself for support of the cancer bill now before your committee.

I hope that this data will help you decide to act favorably on the S. 1875 bill, which I am convinced is one of the most worth-while life-saving acts possible for the Government to carry through.

The objectives of any cancer-control program are the cure of existing cancer and the prevention of cancer. To realize these objectives, a completely integrated program including hospitalization facilities, approved tumor clinics, tumor diagnosis service, detection clinics, an educational program, research into the causes of the disease, improvement of methods of diagnosis and treatment, and statistical studies is necessary.

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STATEMENT ON THE NEELY-PEPPER BILL SUBMITTED BY WALTER P. REUTHER,  
PRESIDENT OF THE UAW-CIO

I should like to express my appreciation, on behalf of the organization which I represent, the UAW-CIO, for the opportunity to record our approval of the Neely-Pepper bill. The objective of this bill, the establishment of a centralized investigative agency for the study of the prevention and cure of cancer, merits the support of every serious-minded individual.

The United States today is scientifically the most advanced country in the world and our technologic proclivities have culminated in the development of the atomic bomb, the most destructive weapon known to man. It is only fitting that we direct our scientific genius now against the nonhuman enemies of mankind. Cancer is second only to heart disease as a cause of death in the United States, being responsible for the deaths of more than 150,000 Americans annually. The UAW-CIO, being a progressive and democratic organization, desires to lend its support to this bill, primarily because of its potential benefits to the health and welfare of the world at large, and secondarily for reasons that affect our membership more directly. The vast majority of cancer deaths occur in people beyond

45 years of age, and the average age of the industrial worker today is much greater than in past generations, because of two factors:

1. The increased life span made possible by advances in preventive medicine and hygiene, as well as new therapeutic discoveries; and
2. The influx of older men into industry to replace the men who were required for our armed forces.

Another aspect of particular interest to us working in industry is the occurrence of occupational cancers due to exposure to carcinogenic chemical or physical agents. However, such exposures are relatively rare in the automobile industry, and the major reason for our desire to lend our support to this bill is, as I said, the potential promise it holds for the good of mankind. Man is an ambitious and a reasoning animal and the fatalistic philosophy of the inevitability of disease, degeneration, and destruction is abhorrent to most of us. The unprecedented advances in medical and allied sciences made during this century in the prevention and treatment of infectious diseases, and in noninfectious disorders such as pernicious anemia and diabetes hold forth promise of still further progress in the years to come.

There have been unverified news reports of the development of sera which may increase the human life span to 150 years. Such reports may seem fantastic today, yet our present life span and scientific advances would have seemed just as fantastic to the medieval mind, and it is encouraging to us that science is not dismayed by the mysteries of the degenerative diseases or of cancer.

During the past few decades, we of the general public have been extensively educated with respect to the recognition and dangers of tuberculosis, yet, in our own State of Michigan, there are 35 deaths from cancer for every 10 deaths from tuberculosis. During the past few years, public health agencies and other community-minded groups have attacked the problem of cancer control by (1) a program of education of the public and of the medical profession with respect to the early recognition and nature of cancer and (2) by improving the facilities available for early diagnosis and treatment of cancer. Such an approach, although of great public health value, does not attack the root of the problem, which is to find the cause and/or the adequate treatment for cancer. The words "and/or" are used advisedly, for if the cause can be found, then perhaps cancer may be prevented; however, the determination of the cause is not necessarily a prerequisite for finding a cure, as we may see by analogy with diabetes, where medical science has found an adequate treatment (insulin) although the cause is as yet uncertain.

There are several features of the Neely-Pepper bill that we believe are particularly meritorious. The first is the simplicity of its wording, permitting the President to use his discretion in choosing capable experts to organize and administer efficiently the program proposed.

The second feature is the provision for Federal support of research. We believe that the Government should subsidize research in scientific problems which are relevant to the national health and welfare, and certainly cancer is such a problem. No one will deny the valuable work in cancer research performed by such agencies as the National Cancer Institute in Washington, the Memorial Hospital in New York, and others, but such research is not centralized except within the confines of the institution from which it emanates, and there is naturally a great deal of duplication of equipment and work, much of which is probably unnecessary. Then, too, scientists are subject to the same failings as the rest of humanity, and progress in research may be impeded by almost chauvinistic adherence to the tenets of their particular university, or hospital, or group. The scope of the cancer problem is so tremendous that a solution must be approached with the same magnitude of efficiency and organization which produced the atomic bomb. The mobilization of the world's outstanding experts on cancer for an independent coordinated attack in the problem is a proper approach. Because of the pyramiding of technical knowledge, collaboration will be necessary among clinicians, surgeons, biologists, chemists, physicists, statisticians, and technicians. Under expert guidance, the various facets of the cancer problem could be studied with the efficiency which permitted the development of the atomic bomb, and at a mere fraction of the cost. The appropriation of \$100,000,000 which the Neely-Pepper bill calls for is an inexpensive price to pay for the invaluable results which may follow.

It is unfortunate that in the social amnesia which has afflicted civilization since the conclusion of the recent war, the demonstration of the feasibility of

atomic energy sources has assumed more the threatening aspect of a Damoclean sword to the nations of the world than the aspect of promise for the welfare of the world which is inherent in the discovery. The solution of the cancer problem would have no such political reverberations, and the entire world would benefit thereby.

In summary, then, the UAW-CIO favors the provisions of the Neely-Pepper bill, particularly its simplicity and the relatively small size of the initial appropriation. It is our hope that the committee will act on the bill favorably as soon as possible, without complicating amendments, to permit the President in the near future to establish an independent commission of experts to solve the cancer problem.

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STATEMENT FOR THE UNITED STATES SENATE FOREIGN AFFAIRS SUBCOMMITTEE  
HEARINGS ON THE NEELY-PEPPER CANCER BILL, SUBMITTED BY VERN O. KNUDSEN,  
PROFESSOR OF PHYSICS AND DEAN OF THE GRADUATE DIVISION, UNIVERSITY OF  
CALIFORNIA, LOS ANGELES

"And ye shall seek the truth, and the truth will make you free." This is one of the eternal verities—in religion, in government, in science, in all the ills that plague mankind. To seek, and find, the truth about cancer is our only hope for becoming free from this malignant disease. Fragments of that truth already have been found—the clinical and anatomical investigations of Virchow gave us our first accurate descriptions of the cellular pathology of cancer, and led to the classification of different types of cancer; the life-long and epochal studies of Maud Slye on the heredity of cancer in mice have given us a glimpse of the hereditary characteristics of cancer; cancer research laboratories in New York, Boston, London, Manchester, Heidelberg and Buenos Aires, and many smaller research groups or individuals, have revealed fragmentary elements of the truth about cancer. But, although we are on the way to the truth, we are yet a long way from the whole truth.

The past and present progress in cancer research is calamitously slow and deplorably inarticulate. Coordinated team research, on a large scale, offers the surest and fastest means for finding the whole truth. The extraordinary success of this method recently was demonstrated in scores of difficult problems which were submitted by the Army or Navy to the Office of Scientific Research and Development. At one time, nearly 3,000 scientists, engineers, and technicians in the OSRD, together with other large United States and British Navy groups, were working unitedly on one big problem—how to detect and destroy U-boats. Some 996 U-boats on the bottom of the Atlantic, according to a recent Navy announcement, are mute but potent evidence of the efficacy of large-scale, coordinated, team research.

In the fiscal year 1943-44, the United States expended some \$646,000,000 on war research, exclusive of a comparable amount expended for the atomic bomb. But this expenditure shortened the war, saved many lives, and was the best possible investment for making victory secure.

How much worthier it would be to launch, whole-heartedly and on a similar scale, our research resources on the conquest disease.

If you inquire respecting the peacetime benefits of the large research program during the war, you will find, no doubt, that, apart from the winning of the war, more benefits are likely to come from the researches in the life and medical sciences than from those in the physical sciences. The efforts of physicists, chemists, and engineers have been largely directed toward the development of destructive weapons; the efforts of biological and medical scientists, on the other hand, have been devoted to such life-saving discoveries as blood plasma, penicillin, DDT, antimalarial drugs, means for controlling infectious diseases, new surgical techniques, improved artificial arms and legs, and scores of other discoveries or improvements that will save lives, alleviate pain, and promote better health and happiness. I believe it is no exaggeration to say that at the end of this war, and as a result of these extraordinary discoveries, hundreds of thousands of our fighting forces are alive and restored to normal health who otherwise would have died from wounds or infectious diseases, or would have been maimed, deaf, blind, or otherwise permanently disabled. It is not improbable that in 5 years from now, as a result of these researches and developments, which were greatly accelerated by reason of the war (which offered for the first time generous sup-

port of such research activities), there will be more Americans living than there would have been if there had been no war. In other words, the number of American lives saved as a result of these new medical discoveries will in a few years exceed the number of our boys killed in the war. This is not to imply that the war is a blessing in disguise. I agree with Franklin that there never was a good war or a poor peace. But I do wish to imply, and with the greatest possible emphasis, that intelligent research in biology, medicine, and public health, reinforced by the efforts of physicists, chemists, and other pure scientists, is immensely worth while and deserves much more support than it received in the prewar era.

In the prewar years medical research in this country was supported by the foundations and Federal Government to the extent of about \$5,000,000 a year. To this must be added the regular research appropriations to medical schools and to State, county, and city health institutions—possibly \$10,000,000. Thus, \$15,000,000 is the approximate amount we contribute each year in support of medical research; that is, about 11 cents per person per year. During the war the annual Federal expenditure for medical research has been about \$30,000,000. It could and should have been much more, except for the urgent necessity for diverting most of our physical scientists to the more urgent problems of devising destructive and protective weapons for winning the war. Our total annual expenditure for industrial research is about \$275,000,000, and for the peak year of war, we spent considerably more than \$1,000,000,000 for research on the weapons, devices, and techniques of war. We should not decry these large expenditures for industry and war. We should, and probably shall, double the prewar support of industrial research. But it is vastly more important that we increase Federal support of biological, medical, and public health research—indeed, that we really undertake such research on a magnificent scale.

The victims of cancer, and their friends and relatives, cry aloud from all parts of the world for a mass attack upon the scourge of cancer. The United States has the scientific and financial resources to undertake a comprehensive research program for the conquest of this dread disease. This conquest may require a long and costly campaign.

Even if the campaign costs as much as a modern battleship and is only partially successful, such that the victims of cancer will be reduced by only a few percent, it will be thoroughly justified. The record of research in conquering or mitigating diphtheria, smallpox, yellow fever, diabetes, and scores of other human maladies would lead us to hope for, or even expect, a much greater reward.

In view of the probable magnitude of the cancer research project, involving all phases of fundamental and clinical research relevant to the problem, and in view, also, of the probable beneficent results which would come from such a project, the proposed amount of the appropriation in the Neely-Pepper cancer bill, namely \$100,000,000, is not excessive; it probably would support an adequate research program over a period of 10 years. Less than this would be penurious and might prove to be only a half measure.

I favor the simple form of the bill, authorizing the President to appoint an independent commission, representative of all interested groups to plan and carry out the purposes and intent of the bill.

The present situation calls for prompt and positive action. The public is now overwhelmingly in favor of the bill; it may lose interest if it is long delayed. I urge therefore that the bill be reported out promptly, favorably and, I hope, unanimously. The bill should be passed without complicating amendments so that the President and the commission can undertake the problem in a manner similar to that which the OSRD employed so effectively in solving quickly and magnificently numerous war research problems in such diverse fields as blood plasma, radar, and the atomic bomb.

OLYMPIA, WASH., June 28, 1946.

JULIUS JAY PERLMUTTER,

*Chairman, Cancer Committee, New York, N. Y.:*

Re Neely-Pepper cancer bill. Urge full appropriation and that bill be reported out quickly and favorably in present form.

MON C. WALLGREN, *Governor.*

NEW YORK, N. Y., June 25, 1946.

Senator CLAUDE PEPPER,

*Senate Office Building, Washington, D. C.*

MY DEAR SENATOR: It was my pleasure to receive an invitation to attend your hearings on the Pepper cancer research bill from our good friend, Julius Perlmutter, of Sponsors of Government Action Against Cancer.

In view of the fact that my son is to be married on July 2, I shall be unable to attend any of the hearings. However, I shall appreciate your expressing my views for the record.

1. I am definitely and unequivocally in favor of Government action against cancer.

2. I am in favor of the size of the appropriation—\$100,000,000—as requested in your bill as the minimum amount necessary to undertake to find the solution to this grave problem.

3. I am in favor of the bill's being acted upon in its present simple language, unencumbered by amendments for specific obligations, appointments, or commitments.

4. I am unequivocally in favor of the President's appointment of a new and independent commission to program, plan, and carry out the purposes and intent of the Pepper bill. I would not like to see this new fund turned over to any present existing governmental agency.

I should like to implore the committee through you to give this bill its prompt and unanimous action and support so that a great service can be rendered to all humanity.

Respectfully,

MORRIS W. HAFT.

INDIANAPOLIS, IND., June 26, 1946.

JULIUS JAY PERLMUTTER,

*Chairman, Sponsors of Government Action Against Cancer,*

*New York, N. Y.:*

Impossible for me to attend committee meeting on cancer drive. You may quote me as favoring any legislation which will assist in the fight against cancer.

RALPH F. GATES,  
*Governor of Indiana.*

Senator PEPPER. Our next witness is Dr. Harry B. Friedgood, president, Cancer Research Foundation of California, Beverly Hills, Calif.

**STATEMENT OF DR. HARRY B. FRIEDGOOD, PRESIDENT, CANCER RESEARCH FOUNDATION OF CALIFORNIA, BEVERLY HILLS, CALIF.**

Senator PEPPER. Doctor, you have heard what I have said about the statements of the other witnesses. Insofar as you can conserve time by filing any written statement that you have, I should be glad to have you do it, because I am particularly anxious to hear the personal views of you distinguished gentlemen who have come here today, and some of the details that we do not need to concentrate upon at this time can well appear in the written statement. I am vitally interested in what you have to say about the general objectives of the bill, how much money should be appropriated and how much should be made available from time to time, and what you think the nature and character of the organization should be to carry on this research. Those, it seems to me, are the three essential questions that we have to answer. I have been encouraged by the comment that some of the members of the committee generally, such as Senator George and others, have made; and those three things are the things that we have to formulate before we get a bill. I do want to get your

views on those three things and anything else that you would like to tell us.

Dr. FRIEDGOOD. I made a few notes on the plane en route to Washington, because I did not think, until yesterday, that I would be able to attend these hearings. I have no statement to file, but, with your permission, will mail one as soon as I return to California.

Senator PEPPER. We will be glad to have you do that.

Dr. FRIEDGOOD. Relatively recent scientific discoveries have brought under therapeutic control such diseases as pneumonia, which used to outrank cancer as a killer. What I am wondering about is this: Are the countermeasures against cancer commensurate with the magnitude of the disaster which confronts one out of every eight of us? If our people were confronted with a similar national emergency by such diseases as smallpox or leprosy, just imagine what their reactions would be. As a matter of fact, several months ago one or two cases of smallpox appeared in a west coast city. Within a matter of a few hours hundreds of thousands of frantic citizens were lined up to receive the protection of vaccination, not only within the city limits, but in coastal communities a thousand miles away.

If 17,000,000 Americans were earmarked to die of leprosy or smallpox, would we accept the fearful news with national complacency, or would we mobilize our scientific forces for an all-out attack? Those who die of cancer are just as dead as those who succumb to smallpox or leprosy.

A recent Gallup Poll has disclosed there are encouraging signs that public indifference to the cancer problem has vanished.

For some unknown reason the public has heretofore accepted cancer as an inevitable curse of mankind. This hopelessness, born of superstition, is now in the process of being dispelled. When the public learns that in certain instances cancer is a contagious, transmissible disease in animals, it will demand to know whether human cancers can be similarly contracted. When the public learns that a high calorie, high carbohydrate diet predisposes mice to the development of certain types of cancer, it will show a strong interest in the investigation of this point in human beings, especially when it becomes aware of the fact that cancer is more prevalent among obese people than those of normal weight, and that the incidence of cancer among diabetics, who are notoriously overweight, is much higher than in the population at large. When the public learns that animals are being immunized successfully against cancer, I suspect that its reaction will be much the same as that which it has shown in the case of smallpox.

These avenues of approach to the solution of the cancer problem have just been opened. They are yet to be explored.

It might be worth while to survey some of the general problems which confront scientists who are engaged in, or would like to devote their lives to, research in cancer. These are three in number:

First and foremost is the complexity of the research problem on the nature of cancer growth. We must think of cancer research in the broadest sense; that is, an investigation of the fundamental nature of normal and abnormal cellular growth. Nothing is to be gained and much to be lost by underestimating the magnitude of the cancer problem. The problem presented by cancer growth is the

problem at the core of the enigma of life itself. It is through a knowledge of the development, growth, and function of normal cells that we shall find the answer to the way in which abnormal cells victimize and kill a human being.

There has been a good deal of talk about mobilizing cancer research in the way that the atomic bomb project was mobilized. I think most of us would agree that the comparison is not exactly parallel. Most of the information about the nucleus of the atom and what led to the eventual solution of the problem was known by 1940. The atomic bomb presented an engineering problem that required great skill and a great deal of money. The job was done magnificently. But the cancer problem does not present a similar situation at all. We do not know anything about the nucleus of the cancer cell, as Dr. Bayne-Jones pointed out. We have a long way to go.

The complexity of the problems of normal and abnormal cellular growth demand the closest collaboration between biologists, biochemists, biophysicists, and other highly specialized scientists who have much to contribute to the study of living protoplasm.

In general, there are two types of research which should be organized—fundamental research and applied research. Provision should be made for both, because they are interdependent. Fundamental research is aimed at an understanding of natural biological, biophysical, and biochemical phenomena without reference to any immediate practical benefits to mankind. The main objective of fundamental research is to foster and develop new concepts and ideas which can be used intelligently by those who are trained in applied research. Applied research has as its goal the specific solution of a given problem through the practical application of existing or newly developed knowledge. It may look like wasted effort to spend a lot of time and money on research which has no immediate practical application, but a moment's consideration discloses that applied research, by definition, depends upon the success of fundamental research. An excellent example of the point I am making is to be found in the cancer research field already. The X-rays were discovered and studied by physicists who were not originally concerned with the cancer problem; yet years later the X-rays became an important therapeutic weapon against cancer.

Another way of stating what I have in mind is that the problem of cancer should not be considered the exclusive property of those who quite properly consider themselves cancer specialists. There are still too many unknown fundamental questions which must be answered by highly specialized scientists, who may never have seen a cancer patient.

The third problem of which I wish to speak enjoys a high priority among investigators of cancer. The development of diagnostic methods for the earliest possible detection of cancer is of the utmost importance today because of the limitations of present forms of therapy, which must be instituted early in the game if they are to be effective at all. As a matter of fact, the early diagnosis of cancer will continue to be essential even after the nature of this disease is thoroughly understood. It will always be necessary to make the diagnosis

as early as possible in order to treat it effectively before it spreads throughout the body and gets beyond control.

In recognition of the importance of this aspect of the cancer problem, and because there was a dearth of organized cancer research on the west coast, a group of public-spirited citizens and research-minded physicians organized the Cancer Research Foundation of California on April 26, 1945, when Frank M. Jordan, secretary of state of the State of California, endorsed its articles of incorporation.

An important body of knowledge is being accumulated from these investigations and particularly from those that have flourished independently at other medical centers, such as the Memorial Hospital in New York City. It is now known that one type of cancer growth may, in certain circumstances, be detected long before it becomes obvious to the physician who examines a suspected case by the most careful clinical procedures. In the case of cancer of the cortex of the adrenal glands one may make the diagnosis in most cases by quantitative and qualitative analysis of certain fatty substances, called ketosteroids, which are excreted into the urine of normal, as well as afflicted, individuals. In the case of cancer of the adrenal glands, these steroid substances often change quantitatively in a characteristic fashion which can be recognized chemically. Laboratory evidence indicates furthermore that there may also be a shift from the normal in the urinary steroid pattern in other forms of cancer. The nature and extent of these changes are in the process of being explored experimentally. Our studies along this line are at a standstill because we do not have adequate financial assistance.

That which is already known about methods for the early diagnosis of cancer is a mere drop in the bucket compared with what remains to be learned.

The challenge is there, but it cannot be accepted because the physical facilities and money, which are necessary, are not available.

How can this situation be remedied?

If we are to achieve our ultimate aim, the control and cure of cancer, our scientific forces must be mobilized, they must be organized and co-ordinated effectively, and they must be given enough money to do what has to be done without restraint. We must save lives, not money; we must spare suffering, not expense.

This vision must be translated into action on much the same scale as that which served so successfully in solving the know-how of the atomic bomb, although the problems are significantly different fundamentally. There is only one agency which can undertake such a gigantic project, and that agency is the Government of the United States.

The officers and directors of the Cancer Research Foundation of California have instructed me to place them on record to the effect, that they are wholeheartedly in favor of the avowed and expressed purposes of the Pepper-Neely bills.

The sponsors of Government action against cancer are proposing that the Government of the United States create an agency, which will be empowered to go about its business with the grim intent of killing cancer before cancer kills 17,000,000 of us who are now living.

How are we to go about implementing an organization on the vast scale that the cancer problem demands?



Others who have been heard at these hearings are in a better position than I to testify concerning the type of agency which should be set up to administer and distribute the funds that are asked for in this bill.

I cannot refrain, however, from adding a footnote to their more seasoned opinions. It is my impression that the purposes of the American people would be served best by concentrating cancer research in a few strongholds of science, rather than in diluting the effective force which \$100,000,000 could exert in the fight against cancer. A sum of \$1,500,000 might be allocated during the first year to each of 10 academic institutions or scientific organizations that are in a position to extend existing facilities to undertake this gigantic task. This money could be spent for setting up the proper physical facilities and scientific equipment and for engaging the well-paid services of competent research workers in biophysics, biochemistry, biology, bacteriology, immunology, and the neighboring sciences that have a bearing on this problem.

Funds amounting to \$850,000 a year for a period of 10 years might then be allocated to each of these institutions in order to finance their projects on the gigantic scale that the situation demands. This action would have the effect of striking hard and often in a coordinated fashion at the very heart of the cancer problem.

There is an urgent need for taking action on the Pepper-Neely bills at this session of Congress. The history of the evolution of the Kilgore-Magnuson bill, which has our complete support, suggests the desirability of avoiding the many vicissitudes to which the various initial legislative efforts were subjected.

Senator Kilgore first introduced a bill for the mobilization of science in the fall of 1942. It appeared during a period of unprecedented national emergency. For this reason, as well as others which are now well known, the bill did not survive. It was not until 1945 that a number of other bills, S. 825, S. 1248, S. 1285, and S. 1297 were proposed in rapid succession for the same general purpose. The overlapping objectives of these four Senate bills necessitated their further study and coordination. It then took about 7 months or more to compose a bill that met with the approval of scientists, Government agencies, and a group of Senators actively interested in science legislation, and to get this bill, S. 1850, through committee. And now H. R. 6448 is delaying favorable action on S. 1850.

For similar reasons there could be comparable delays in the consideration of the Pepper-Neely bills. The experience which has been gained in preparing and perfecting S. 1850 should stand us in good stead now. A delay in acting on the Pepper-Neely bills must be avoided, if it is at all possible, because the need for legislation is imperative. Time passes all too quickly for those who feel the heavy hand of cancer.

It is well for us to think of death at the hands of cancer in terms of murder—not in the abstract as a disease which is fatal.

Cancer differs from all other afflictions of men. Cancer is a dynamic living force that grows at the expense of the man, woman, or child of which it becomes a part. The only thing it lacks is the brain with which to plan its deadly advance. That is the edge we have on cancer,

if we will but use that brain without the handicaps that have fettered it heretofore.

In conclusion may I say that the foregoing is a summary of the formal statement which I have in mind. I shall be glad to answer any questions.

Senator PEPPER. Have you anything more to say about the exact organization? Have you any impressions of your own as to whether it should be a commission, the majority of which should be non-Government people, or the National Academy of Sciences functioning through its Research Council, or what?

Dr. FRIEDGOOD. I have given considerable thought to that particular matter.

Senator PEPPER. Or should it be under the Public Health Service or the National Cancer Institute?

Dr. FRIEDGOOD. All of us, of course, have given a great deal of thought to that particular point, because the way the bill is administered, if and when it is passed, will mean the difference between success and failure. I hesitated to say anything about it during my statement, because this is a problem that requires a great deal of deliberation. I do not think any of us have thought that through adequately enough to make a final statement. But informally I would be very happy to tell you what I have been thinking, for what it is worth.

I certainly agree with General Bayne-Jones that it should not be put into the hands of any organization or group which now has a "monopoly" on scientific research. I think its purpose would be best served by arranging it so that the President can appoint a full-time administrator, preferably a layman, and the President should also appoint a board of 8 or 10 full-time leading scientists from all branches of science, and not be limited to cancer specialists, who would act as an advisory board. I am emphasizing the other deliberately, because the problem that we face is not one which will be solved by those who are entitled to call themselves cancer specialists. The problem will probably be solved by fundamental research scientists.

The chief administrator and this board of 8 or 10 scientists might then select a commission of approximately 60 specialists from all branches of science having to do with the various aspects of the growth problem. It might be well to point out that there are a great many capable scientists who would be especially qualified for those posts and who are not now in charge of the distribution of research funds from a variety of organizations who now control such matters.

I would personally vote against putting it under the National Research Council, for the reason that I have already stated.

Senator PEPPER. You will send in a more complete statement?

Dr. FRIEDGOOD. Yes, sir.

Senator PEPPER. If there is anything further on that particular point or on any other point, we would like to have it.

Dr. FRIEDGOOD. Thank you, sir.

Senator PEPPER. Dr. G. Failla, director of Radiological Research Laboratory, College of Physicians and Surgeons, Columbia University, New York.

**STATEMENT OF DR. G. FAILLA, DIRECTOR OF RADIOLOGICAL RESEARCH LABORATORY, COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY, NEW YORK, N. Y.**

Senator PEPPER. Doctor, you have heard the discussion here this morning. Will you give us your views, please?

Dr. FAILLA. I have not had time to prepare a written statement. Perhaps I will do that later, with your permission.

I have heard the discussion this morning, and it seems to me that you are interested in finding out what sort of organization we might suggest.

I think that the bill itself should be worded as broadly as possible in order to take care of changes in conditions which unquestionably will take place.

With reference to the establishment of one cancer research center, I would avoid that and state specifically that there should be more than one; in other words, a number of cancer research centers, and not say "one or more," because that leaves the question open as to whether there should be one or more. I would say specifically in the bill that there should be a number of cancer centers established in the country.

Then I would also put into the bill that the President is empowered to appoint a cancer research commission consisting of a certain number of men. In other words, I would state the number in the bill. The number should be large enough to include men of different experience and training in cancer research as it is understood today, and also and particularly men prominent in research in basic sciences so as to make it representative of all the different aspects of a broader field of cancer research. For that reason I would want to see the number made, say, 9 or 11 or 15, but not so large as to make it cumbersome.

Senator PEPPER. Let me ask this, not only of Dr. Failla but of you other gentlemen who have testified here. What would be your reaction to the appointment by the President of a director of this whole organization, and then the appointment by the President of an advisory council who could be the advisers and counselors of this director, and, on the council, name an eminent group of authorities, some in public and some in nonpublic places?

What I have in mind is this, that by naming a director you would leave it to the President to select some outstanding man, maybe some outstanding businessman, say, for example, a man such as Mr. Bernard Baruch, some man who would be willing to give his organizational ability to it. Or would it be better to let the council select its own executive director and let him be a paid person who would function as executive director? In other words, should the executive director be appointed by the President or be appointed by the board; and should the board have an advisory council with the central figure a director, or should authority be vested in the board or commission and the director be the agency to carry out the will of the other group?

What is your answer to that question?

Dr. FAILLA. I would say that it would be better not to have a scientific director. Also, I think that this board or commission should be limited in power. It should be a coordinating body rather than a committee or a commission that would tell the centers what to do and

within what field they should operate and what should be excluded from their activities, and so on, because, so far as we can see now, we do not know in what field cancer research will be most profitable. So, I would not attach any limitation on any of these cancer centers as to the problems they would attack. If you have someone that you call a scientific director, whether he has that power or not, he may use his influence to decide that a cancer research center in California, for instance, should devote itself to a certain phase of the problem, and one in Minnesota to another phase. I think that would be fatal.

S., I would say that the members of this advisory commission, or whatever name you may give to it, should perhaps appoint their own executive officer each year; and also that the members of this commission should serve for a limited number of years.

Senator PEPPER. Would it burden you to send us, after you have had time to reflect upon it more, a prepared statement for the record?

Dr. FAILLA. I will be glad to do that.

Senator PEPPER. We will appreciate it immensely.

Dr. FAILLA. The other question that I wanted to mention was that these funds should not be given for the treatment of patients or care of patients, but for experimental work, and that perhaps the universities or institutions to which funds are given for this purpose should provide facilities for the care of patients to be used in conjunction with cancer research conducted along that line.

Senator PEPPER. Thank you very much.

(Additional statement of Dr. Failla):

In compliance with Senator Pepper's request, I should like to discuss more in detail the matter of organization. I have already touched upon this question in my testimony before the Committee on Foreign Relations of the House.

The type of organization we should aim for is one that will bring about the solution of the problem in the shortest time, other things being equal. To those unfamiliar with the problem it seems obvious that one all-powerful scientific director is the sine qua non of such an organization. The director, together with a small planning board, would map out the attack and would supervise its execution. This type of organization can be successful only when there is already sufficient information about a given problem to permit the formulation of a sure plan of attack. This is not the case in the present state of cancer research. Therefore, no tactical attack can be planned and we must rely on the strategy of general attack to advance the frontiers of all basic sciences.

To make the general attack effective we must draw into the field the best minds of diverse types and interests and we must attract thousands of young men and women of promise. Good research workers are not common, but they are not limited to any particular locality. By having a number of cancer research centers distributed throughout the country we would be able to get the best from the entire population.

It seems to be the consensus of opinion of those whose testimony I have heard that a number of cancer research centers should be set up. Therefore, the bill might well specify the number within certain limits, for instance, not less than 6 nor more than 12. (I have suggested 10 in my previous testimony.) Others could be set up later by subsequent appropriations. Each center should not be too small nor too large. In my opinion a yearly budget of \$600,000 for each center is about right. If the staff of a laboratory becomes too large, it is difficult to maintain the personal contacts that are so valuable to the research worker.

Now, if there are to be several cancer research centers, the director of each should have complete independence of action. It is for this reason that I do not think there should be an over-all scientific director of the whole project. The success of the project depends very largely on the freedom of choice of the problems to be investigated in each center. Therefore, the bill should

provide specifically for complete independence on the part of the director of each center.

Least there be any misunderstanding, I should like to state that I am not advocating "helter skelter" research. There must be organization and competent direction in each cancer research center. However, if the director of each center is subservient to a higher scientific authority his freedom of action is seriously impaired, to the detriment of progress.

Of the organizational plans mentioned in broad outline by Senator Pepper I would like to choose the following: The President should appoint one outstanding businessman, such as Mr. Bernard Baruch, as chairman of the Cancer Research Commission. The President would appoint the members of the Commission, which should consist of eminent scientific authorities and businessmen. The Commission would appoint a paid executive secretary. The Commission would appoint also an advisory board of scientific specialists, including the directors of the several cancer research centers after they have become established.

The functions of the Commission should be to allocate the funds made available by Congress, to serve as a central clearing house of pertinent scientific information, to publish books or periodicals, to arrange scientific meetings, etc., but not to direct cancer research.

In my previous testimony I indicated that the cancer research centers should be located in the medical schools of first-class universities. I also stated that the funds allocated to each center should be turned over to the university without imposing too many detailed restrictions. The university should pledge itself to spend the funds only for the purpose intended and with as much care as in the case of its own funds. The procedure might be similar to that followed by a private individual in making a gift to a university for a special purpose. This is perhaps the simplest procedure, but it may not be in accordance with Government regulations. At any rate, the thing that should be avoided is indirect control by the Cancer Research Commission of the activities of the various cancer research centers, through control of funds. Once a center is established in a university, the funds should be automatically available, either in a lump sum or on a yearly basis until the money appropriated by Congress is exhausted.

The next witness is Dr. Alfred G. Levin, of Miami, Fla.

#### **STATEMENT OF DR. ALFRED G. LEVIN, MIAMI, FLA.**

Dr. LEVIN. I am heartily in favor of the Pepper-Neely cancer research bill, S. 1875, and wish to strongly urge its passage in its present uncomplicated form. I feel that the size of the appropriation suggested is none too large and that certainly no reduction in this amount should be considered. Cancer is the greatest scourge of mankind today. Each year it kills 175,000 Americans. Cancer killed 607,000 of our people between Pearl Harbor and VJ-day, more than twice as many as were killed by the Germans and Japs combined. Well over half a million persons in this country are suffering from cancer today. This terrible scourge attacks all ages and kills more children each year than does infantile paralysis. It is the most common cause of death in women of middle age and is second only to heart disease as the greatest killer of American men of all ages. Among all individuals between the ages of 35 and 55 (the years of greatest productivity) one death in every six is due to cancer. This group includes thousands of fathers and mothers with dependent children, business executives, technical experts, teachers, statesmen, and countless others whose places are not easily filled.

Many cancers cause great disability and much long-drawn-out suffering. But besides the humanitarian angle, which merits first consideration, the tremendous financial losses resulting directly from cancer must also be borne in mind. It has been conservatively estimated by the American Cancer Society that the annual medical costs

of cancer deaths is \$220,000,000 and that the annual economic loss to the families of cancer victims is \$900,000,000. Thus this disease is costing us approximately 11 times as much yearly as the total amount the Government is considering spending on an all-out cancer program.

During the past quarter century great strides in solving the cancer problem have been made by scattered individuals and by various organized groups. Practically none of these have had adequate financial backing and many of the advances have been made by unselfish scientists working on extremely small budgets or even without payment of any kind.

The time has come when sufficient funds must be supplied to attack the cancer problem on a far-reaching scale such as resulted in the production of the atomic bomb. The dramatic success of the Manhattan project has been a revelation in demonstrating the unlimited possibilities of adequately financed and properly coordinated research. Modern medical science has now advanced to a stage where the cancer problem can be efficiently approached in a similar manner and without further delay if sufficient funds are made available. We cannot ignore this opportunity to benefit all of mankind.

Like the development of the atomic bomb, the solution of the cancer problem is fundamentally the province of men with highly specialized abilities. Therefore the greatest intellects available should be mobilized to map a course of attack against this disease. When this group is formed it should be implemented with full authority to proceed as they see fit in accomplishing the desired purpose.

#### GENERAL ASPECTS OF THE CANCER PROBLEM

At the present time certain cancers can be very effectively treated with surgery, X-rays, radium, and certain chemicals. Thousands of proven cures are being recorded each year but the over-all cure rate is still considered to be less than 20 percent. This figure could be raised to 40 percent or perhaps 50 percent if all the present available knowledge was applied to each individual cancer case. For example, if the extreme importance of early diagnosis and the danger of procrastination were generally known there would be far less delay in consulting the family physician. If, then, the family physician was properly cognizant of the early signs and symptoms of cancer and the absolute urgency of immediate action, one of the greatest handicaps would be immediately overcome. The proof of this concept is shown in recent statistics of one of our largest life insurance companies which has been bombarding its policyholders with educational cancer propaganda over a period of years with the result that in the past 10 years cancer deaths in this group have diminished approximately 9 percent. There is every reason to assume that this same, or even greater, improvement may be obtained by general education—but here again the limiting factor has been insufficient funds.

Another, and perhaps even greater factor, is the lack of sufficient physicians specialized as cancer surgeons or radiation therapists. The great majority of patients are necessarily treated by doctors whose wide range of activities make it physically impossible for them to obtain superior competence in this complex and highly specialized field. It is conservatively estimated that the properly trained cancer

specialist is able to cure twice as many cases as the unspecialized physician. Thus it follows that many, if not the majority, of cancer patients are scheduled to die instead of being given a fair chance to live. Once more we run into the brick wall of inadequate funds and facilities to train these urgently needed specialists. It is appalling to consider that present authoritative figures indicate that 30,000 to 60,000 Americans are needlessly dying from cancer each year.

From these considerations we proceed logically to the fact that the finest lay and professional educational programs will be futilely wasted if the patient has no place to go in seeking aid or if the physician has not a place to work. We must answer this challenge by establishment of more cancer clinics and hospitals and we must provide aid to existing facilities which are overburdened and underfinanced.

The various avenues of cancer research compose a very complicated topic which I presume will be adequately covered by various authorities during these hearings. You will hear a great deal about the chemical, biological, and physical approaches to the problem. Animal investigation will, no doubt, be discussed including the studies of heredity and genetics in mice, the role of hormones and enzymes, the influence of diet and vitamins and the actions of carcinogenic substances. These and other phases of laboratory research are tremendously important and may form the groundwork in the discovery of the ultimate causes of cancer, as well as the preventative measures. However, it is significant that some of the greatest theoretical and practical advances in this problem have resulted, not from laboratory experiments, but from "clinical" research in which cancer is considered as it affects the human patient. This phase has tended to be overshadowed by the more dramatic cancer research laboratory and merits much more attention and support than it has received in the past.

That great strides in this practical approach are possible has been proven by experiences at the Walter Reed General Hospital. This institution has been designated as the cancer center for the United States Army and under the direction of an exceptionally competent cancer specialist, serving as chief of the radiation therapy section, many significant advances and new concepts have been developed. Here extensive studies are being conducted in the mechanism whereby X-rays are able to destroy cancer cells more readily than normal cells; the effect of very high voltages on cancer with a million-volt X-ray machine; the role of genetic abnormalities in the production of germinal cancers such as occur in the male gonad. Further elaboration of such clinical problems should be encouraged and if necessary similar efforts should be subsidized in other institutions.

#### LOCAL PROBLEMS

At the time the writer entered military service in 1942 he was serving as the chairman of the cancer control committee of the Florida State Medical Association and as director of the tumor clinic of the Jackson Memorial Hospital in Miami. He believes that the local problems in that area may be similar to those encountered elsewhere and merit brief comment.

In 1936 the Miami area, with a population around 200,000 represented a moderately large community with a relative preponderance

of older-age groups. The city government operated a hospital of 500 beds with combined private and charity services and with a large out-patient dispensary. However, there were no facilities in the entire community for proper diagnosis and treatment of indigent cancer patients. No funds for such a purpose were available in the city treasury and it was necessary to raise money through public appeal in order to set up a small tumor clinic and to purchase X-ray machines and other essential equipment. The great need of such a clinic was quickly proven by a heavy influx of patients, numbering about 1,500 annually. The cancer death rate dropped sharply. However, the project remained a financial "orphan" for many years and is still struggling along with inadequate support—in spite of the fact that it remains to this day the only approved cancer clinic in the entire State.

It would be unfortunate indeed if other communities should be forced into similar painful experiences which could so easily be obviated by Federal or State aid.

The need for long-term and "all out" research in the causes and prevention of cancer is obvious and unquestioned. In the meanwhile, however, we must not penalize the cancer victim of today by denying him the benefits of our present knowledge.

In my statement I have included some of the generally known facts that have already been brought out here, and I will not take any further time to go through the statistics and the recommendations as to coordinating effort and that sort of thing. I agree perfectly with the comments that have been made as to the great necessity and importance of studies in the basic sciences.

I would like to take this opportunity to express my opinion, more or less as a middleman, however.

I see that most of the witnesses that have appeared here are distinguished scientists and national figures, and you might be interested in having the reaction of an individual like myself who sees cancer patients.

Up until 48 hours ago I was lieutenant colonel in the United States Army. Now I am a private citizen and can speak freely.

At the time I entered the service in 1942, I was acting as chairman of the cancer control committee of Florida State Medical Association and served as chairman of a tumor clinic in the city hospital in Miami.

I disagree with Dr. Failla in his statement that none of this money should be spent for the cancer patient.

Senator PEPPER. I understand that. What is the next point?

Dr. LEVIN. I know, and everyone in the cancer problem knows, that not all the patients that are suffering from cancer today are being cured, simply because of lack of facilities and lack of attention. It is generally agreed that 30,000 to 60,000 Americans are dying just because of lack of facilities, and that is needless. In spite of the fact that all this money is needed for research, I do not think we are fair in denying the cancer patient today the chance to live. I think that there should be enough of this money available to help existing clinics and to create more clinics. We have got to help train the so-called cancer specialists, because we have already shown that the cancer specialist has almost twice as much chance to cure an individual cancer patient as the general practitioner. We cannot neglect that.



We have got to encourage what we call clinical research as well as laboratory research. There are certain cancers that cannot be reproduced in laboratory experiments.

At Walter Reed Hospital—I served there on my last assignment in the Army—we saw 300 cases of testicular tumors in young males. That was a wonderful opportunity, and it was not neglected, and just by carefully studying these cases and seeing the effect of X-ray on the cancer cells, as compared with the normal, a great deal has been learned.

I simply want to urge that along with all the experimental experts there should be some clinicians incorporated in this bill—men who have seen cancer as it occurs in the patient and can advise as to how best to approach that end of the problem.

The only other thing I want to add is that in a local community like Miami, where we have a quarter of a million people, just 10 years ago there was not a single facility for treating an indigent cancer patient. We had to go out and beg money from the race tracks and from independent citizens to get a few thousand dollars to set up a tumor clinic for the benefit of indigents in that community. To this day we have to go out and get help; and, incidentally, it is still the only approved cancer clinic in Florida.

I have nothing further to add, no suggestion as to the organization, but I would like to urge that the cancer victim of today be not neglected.

Senator PEPPER. In other words, you do think that some of the money that might be appropriated under this bill should be made available for the application of the knowledge that we have?

Dr. LEVIN. Yes; very heartily.

Senator PEPPER. Thank you very much.

The hearing will be resumed at 10 o'clock tomorrow morning in this room. There will also be a hearing on Wednesday on this bill.

(Whereupon, at 11:45 a. m., the subcommittee adjourned until tomorrow, Tuesday, July 2, 1946, at 10 a. m.)

## CANCER RESEARCH

TUESDAY, JULY 2, 1946

UNITED STATES SENATE,  
A SUBCOMMITTEE OF THE COMMITTEE ON FOREIGN RELATIONS,  
*Washington, D. C.*

The hearing was resumed, pursuant to adjournment, at 10 a. m., in room 424-B of the Senate Office Building, Senator Claude Pepper (chairman) presiding.

Present: Senator Pepper (chairman).

Also present: Representative Matthew M. Neely, of West Virginia.

Senator PEPPER (chairman of subcommittee). The hearing will be resumed on the cancer-research bill.

We are fortunate to have with us this morning Hon. Fiorello H. LaGuardia.

### STATEMENT OF FIORELLO H. LaGUARDIA, DIRECTOR GENERAL, UNRRA, NEW YORK, N. Y.

Senator PEPPER. I do not know what title you prefer, Mr. Mayor. Whatever your title, you are your own inimitable and distinguished self.

Mr. LaGUARDIA. In the last few days they have been calling me all sorts of things on the Hill.

Senator PEPPER. You are one of those who are complimented when they are called names.

Would you give us your views on either this legislation or legislation on this subject which you would recommend?

Mr. LaGUARDIA. Mr. Chairman, S. 1875 I consider one of the most important bills before the American Congress. The subject should receive full and complete discussion.

Cancer is something that has been "hush, hush" for so long that I think these hearings will serve a most useful purpose. I speak from my experience of 12 years as mayor of the city of New York, when this subject was constantly before me, and I can say without any fear of contradiction that there is not a city or State in this country that can afford to provide proper and sufficient treatment for people suffering from cancer. There is not a country in the world that can afford the cost of creating a world study of this subject, except the United States. Perhaps Canada or some other country might afford the money, but they would not have the material for the clinical studies. Fortunately, we have both.

As a conservative estimate, we lose in our country about 200,000 people from cancer. Mark you, these are the recorded cases. I would add that an equal number of people die who have not had proper or accurate diagnosis. That is true of the smaller cities and in the rural

districts, where people die having had wrong diagnoses or no diagnoses at all. But it is really cancer. I would say that perhaps 20 percent of the people who are afflicted with cancer can afford such treatment and care as are now available. I would say that 20 percent of the lowest economic group in cities can get that same care free. That leaves 60 percent who just cannot afford to get any sort of treatment, and certainly cannot get treatment in the advanced and chronic stages to alleviate their suffering.

As mayor, I did what I could to advance research work on cancer. I obtained appropriations for a cancer-research institute. The Nightingale Hospital, which was in the course of construction, the foundations having been completed and the superstructure in the course of building, was stopped when the war came along. We resumed construction on that building.

I entered into an agreement with Presbyterian Hospital and Columbia University Medical School to provide the research staff for this hospital. It will have 300 beds, a complete laboratory, and the tripartite agreement provides for a joint research operation through the city, the Presbyterian Hospital, and the Columbia University Medical School.

That as a city we were able to do.

The next step was how to provide for chronic cases and to afford some alleviation of their suffering. I entered into an agreement with Memorial Hospital, an excellent cancer institute, in New York City, and the city authorized—and I hope the politicians will not kill this project of mine—a custodial hospital in conjunction with Memorial Hospital.

We could thus relieve our general hospitals from these cases so that they may have beds for active cases and, at the same time, afford additional material for study at Memorial and give some measure of relief to these unfortunate people.

Now, that is just a drop in the bucket.

The cause and origin of cancer are not known. Years and years of study have been put in; research has continued.

I suppose, Senator, that someone on the floor of the Senate will ask you, "Well, Senator, how long will this be continued?" You do not know, and nobody knows. They may hit upon it soon, or they may continue for years. But it is solvable, like everything else is.

The world was electrified when, one morning, it woke up to read in the morning papers that the physicists and the scientists of the world had been marshaled in our country and put to work to develop the energy of the atom. Had it not been for the war, I suppose that if any Member of the House or Senate should have suggested such a project he would have been laughed at. It was a necessity of war that made it possible.

Next to the scientists who developed what was then known, great credit is due to President Roosevelt and to the War Department for having the courage to take that on. If it had failed, they and their children's children would never have heard the end of it.

The study of cancer is very expensive and tedious. It requires a large expenditure of money and patience. There is material all over the world, and this bill provides that all this material should be marshaled and brought to the United States. Whether or not, if this bill becomes a law and gets into the hands of lawyers, they will start look-

ing for flyspecks in it I do not know. But I would suggest using the words "to mobilize at such convenient places," because you will have your main laboratory somewhere; then you will have your research groups wherever you have your material, like the Nightingale, the Memorial, and other large institutions where they have a large number of cases.

We must provide economic security for those people that we call here. They should not be subject to limitations in future appropriations. They should not be confronted with, "No part of the funds herein appropriated shall be used to defray the expenses or salary of any scientist who may be a national of a country that we like to make faces at."

You may be confronted with that, Senator.

What we did in the New York City Health Research Institute that I established was this. The institute was established by act of the legislature. Then we entered into a contract between the institute and the city for a specific sum each year. Then the institute, in turn, contracted with scientists that they picked up from all over the country. So they were not at the mercy of subsequent city councils or even subsequent laws.

The man who devotes his time to scientific research gives his life to that cause. He knows he is not going to get rich on it. As compensation for that he should have economic security for himself and his family, so that he has no other worry, but can give all of his time, thought, and energy to that one job that he has before him.

I would stress that and separate the administration of this institute from all control whatsoever once the bill is enacted. I do not know whether I make myself clear or not.

I think the blanket appropriation is wholesome. Do not let anyone become scared at \$100,000,000. That is nothing, because the result of this will last for centuries.

I would say, "The President is authorized to establish a cancer institute." And then a good deal would depend upon how this institute is started. From that point on I would provide that the institute is self-perpetuating, so that as young scientists develop in different countries and demonstrate their promise they could be given fellowships in this Institute. It would not be safe to leave it open or subject to change of policy. Once the Government has appropriated money and provided the facilities, laboratory and clinical, that is really all it can do except to await results.

You can be sure of one thing, and that is that results will not be held back. Scientists, particularly in medicine, are very cautious, and they will not talk or start to shout unless they are absolutely sure. Hundreds of thousands of people in this and other countries have died because someone happened to cure an individual case which in all likelihood might have responded to cure, and they have believed that a cure for cancer had been found.

The medical professions has rendered great service along those lines and has established a policy that is sound and that prevents people from being misguided or misled. Relatives and families of course become desperate. There are people who can recognize these conditions, and yet when the disease hits someone in their own family they will resort to anything. I have had that personal experience myself. That is why the ethical medical profession is always very careful not

to announce anything that is in the way of being solved so as not to create false hope.

You will remember, Senator, when Dr. Lorenz came to this country, I think he operated on a child of someone in Chicago. He received tens of thousands of applications for treatment of cases that were not susceptible to his treatment at all.

Some 30 years ago someone came here who had a cure for tuberculosis. It was pathetic, the number of people who would run to him thinking that they could be cured.

A great deal of care would have to be taken in this case that once the institute is started it is a research institute and not one for treatment and care. Once we get that idea over I think we will not be bothered from that side any more.

Everything possible should be done to get over to the American people the fact that cancer is a disease that comes and nothing can be done to prevent it at this stage; that it does not come from any misconduct or negligence on the part of the individual. It is almost unbelievable, Senator, how families and relatives will hide the fact that a member of the family has cancer or has died from cancer. I just cannot understand it. Even in our public hospitals we have to be very careful to camouflage in order not to identify any particular ward of a hospital with the name of cancer.

That used to be true of tuberculosis in this country. I remember when I was a boy, out in Arizona—this was about 55 years ago—one day there was a whispered conversation between my father and mother, and at the end of it I was told to keep away from the vicinity of the post hospital. If they had said nothing, in all likelihood I would not have gone; but the mere fact that they mentioned it caused me to beat it over there as soon as I could get away from the house. On the rear porch of the post hospital there were two or three soldiers sitting down in chairs. I got to talking to them. It seemed that our post was selected to receive soldiers who had become afflicted with tuberculosis; and why our post should have been selected was the subject of talk. When I told my mother that I had been there and talked to them she was so frightened that she became hysterical about it.

That attitude has broken down. People will talk about TB sensibly. They understand that if it is caught in its incipiency it can be arrested. We have made great strides in surgery relating to tuberculosis, and we know it can be prevented as soon as this country wakes up to the fact. We have two organizations in this country, the National Association of Manufacturers and the American Medical Association. They are a couple of twin brothers. They always oppose anything that means progress. As soon as we can get going in this country to provide proper housing and proper nourishment and proper prenatal care and child care we should not have any tuberculosis in this country in 25 years. We do not need a research institute for that as we do for cancer. If we pass the Wagner-Ellender-Taft housing bill, if we pass the full-employment bill without cutting it to pieces, and if we establish any kind of economic security in this country, we will get good results. There is no question about it. That will leave, then, this challenging problem.

I think we owe it to the world to do this. We have the resources. Our country has not been invaded. We have none of the scars of

the war, and we should embark upon this program as our contribution to mankind, to humanity.

I cannot see how anyone can conscientiously oppose this bill. I would suggest that it might be perfected, since it is a bill to provide for the establishment of an institute, by creating that institute in the bill itself, to give it permanency; and then I would provide that the Congress shall appropriate each year an amount sufficient to carry out the administration and operation of this institute. In other words, I would make it a binding contract, so that it cannot be "messed up," because it would be disastrous, once we got started, if something happened to it by limitation or failure to appropriate. This will do a great deal to stimulate scientific research, and it will do a great deal, I think, to bring all nations together.

Here is one place that we will not have to worry about unanimous consent or majority rule. Science is facts; and if the facts are there, there is nothing to worry about. Scientific men do not differ on facts.

I want to congratulate you, Senator, for taking this initiative. It is a great step forward. It is very hopeful in these days of bickering and face-making and disagreements. It is really looking to the future. It is part of the "new world" that we all talk about, and it is a contribution to making life better and happier in this world.

Senator PEPPER. Thank you. I am sure you know that former Senator Neely introduced a bill in the House with the same objectives, and the credit for the initiation of the idea goes to him. I am just one of the helpers on the team.

We thank you very much. We are always glad to see you and hear you.

Dr. Dyer and Dr. Scheele, will you come up together, please?

**STATEMENT OF DR. ROLLA E. DYER, ASSISTANT SURGEON GENERAL, UNITED STATES PUBLIC HEALTH SERVICE, DIRECTOR OF NATIONAL INSTITUTE OF HEALTH, ACCOMPANIED BY DR. LEONARD A. SCHEELE, ASSISTANT CHIEF, NATIONAL CANCER INSTITUTE, UNITED STATES PUBLIC HEALTH SERVICE**

Senator PEPPER. Dr. Dyer, you are Assistant Surgeon General, United States Public Health Service, Director of the National Institute of Health. We will thank you, Doctor, to make any statement about this matter that you care to make.

Dr. DYER. Mr. Chairman, I have a very brief statement that I would like to submit for the record, and I can run through it rather hurriedly.

I represent Dr. Thomas Parran, the Surgeon General, who is unable to be present because he is in New York City serving as president of the Health Conference of the Economic and Social Council of the United Nations.

I welcome the opportunity to appear in support of the purposes and principles embodied in S. 1875.

The Congress has for many years taken enlightened action in matters dealing with the health of the people. In research, it consistently supported the research program of the National Institute of Health of the United States Public Health Service and in the cancer field has demonstrated its farseeing desire to help wipe out

this scourge by the unanimous passage in 1937 of the National Cancer Institute Act. That act provided for a modest National Cancer Institute and for a small grant-in-aid program to support outside scientists with appropriations limited to \$700,000 a year. That ceiling was lifted in 1944.

I interpret the purposes of S. 1875 as a reiteration of national policy in respect to cancer, the second greatest killer of our people, and as an expression of willingness by Congress to support the attack against cancer on a broader scale than has been possible in the past.

The Public Health Service has great interest in the cancer problem. This interest long antedates the establishment of the National Cancer Institute Act of 1937. With the passage of the act, our research program was expanded.

We have approached the cancer problem in the following ways under the authority of the National Cancer Act and under the broad authority of the basic Public Health Service law :

(a) Conducting an intensive program of research in fundamental fields carried out at the National Cancer Institute;

(b) Giving grants-in-aid to universities and other nonprofit research institutions to enable such institutions to extend researches into those fields related to the cancer problem and in which the institutions have special competence;

(c) Providing fellowships for young scientists of promise to enable them to develop further their skills and abilities in cancer research;

(d) Providing fellowships for training selected young physicians who have expressed a desire to devote their career to work in cancer; and

(e) Loaning of radium for use by accredited cancer hospitals and clinics.

During the war the research program of the Cancer Institute and of other institutions doing cancer research was curtailed considerably, not because of any change in the problem, but because many pressing war problems had first call on the trained personnel and facilities then available. For example, in the Cancer Institute, several biophysicists, pathologists, geneticists, and others devoted most of their time to the study of biological problems related to the development of the atom bomb and the use of nuclear energy.

At the conclusion of the war immediate steps were taken by us designed to intensify our program by the addition of badly needed laboratory and clinical research facilities, by expanding our research staff and by requesting an increase in funds for our grant-in-aid program. Unfortunately, the building program has been held in abeyance because of limited funds appropriated to the Public Buildings Administration for its postwar building program. This will handicap us severely for some time to come. The Senate and House appropriations bills include a total of \$1,772,000 for the program of the National Cancer Institute for this fiscal year. Of this amount, at least \$500,000 will be spent for grants-in-aid to universities and other non-Government laboratories. Projects which have been considered tentatively so far and have been tentatively approved by the National Advisory Cancer Council are of such magnitude as to require at least a half million dollars during this fiscal year.

Communications from some grantees indicate that additional facilities must be financed and built to enable them to step up their cancer

research. The present Public Health Service law does not authorize grants for acquisition of land or construction of laboratory facilities. We have asked for modification of our law to authorize such grants and the Bureau of the Budget has approved that request.

Mr. Chairman, I have gone into some detail in connection with the work of the Public Health Service in the cancer field for the purpose of pointing out that we in the Public Health Service have had a rather extensive experience over a considerable time period both in the performance of cancer research and the giving of grants for research to others. We have had the benefit of the guidance of a six-man National Advisory Cancer Council on which have served many of the Nation's outstanding cancer research workers and clinicians.

In the light of our experience, Mr. Chairman, I would like to suggest that certain specific provisions be considered by the committee for inclusion in this bill.

From the technical standpoint, the cancer problem is extraordinary complex. Barring some unusual and unforeseen combination of circumstance, a vast amount of knowledge of fundamental biological processes and cell behavior must be acquired in order to solve the problem. There is a severe shortage of scientists, hence an intensified program of training must be embarked on.

Cancer researches must, if they are to be productive, be planned on a long-term basis and every reasonable assurance must be given research workers that their programs will have continued support. It is our experience, Mr. Chairman, that one of the chief difficulties in developing the fullest opportunities through grants to universities and other outside research institutions is the uncertainty of continued support which arises out of the fact that our own funds are appropriated on a yearly basis only. We have encountered repeated instances where a university or other research institution expressed the greatest reluctance to invest its appropriate share of resources in a cancer project which was inherently long range, because there could be no guaranty that Federal support would be forthcoming beyond the immediate fiscal year.

Another great, fundamental need is for a much wider extension of physical facilities in which the needed skills can be brought to bear on the problem. We need to expand the facilities, the laboratories, and hospital beds for clinical studies in order for this problem to be undertaken. At the moment every university is crowded. They do not have the housing in which to house an expanded research program. It has facets which require the employment of practically every known scientific discipline. It's the most exceptional, rather than usual, institution that today in this country has the physical facilities that are in fact prerequisite to the really promising types of research projects in cancer. I would say offhand that, among other useful purposes for which money appropriated under this bill could be spent would be assistance in the establishment of 8 to 12 centers in various parts of the country where comprehensive fundamental and clinical research studies could be carried out. With such a program, which is urgently required, a \$100,000,000 appropriation is modest. Considered in the light of loss of over 175,000 lives a year and over a half million persons having the disease in any given year, the economic and social loss entailed in that vast recurring tragedy also throws a \$100,000,000 appropria-



tion into bold relief as an exceedingly small price to pay to intensify our anticancer campaign.

In the light of these considerations, I recommend most urgently, Mr. Chairman, that the language in the bill having to do with the appropriation be clear in the intent that, first, appropriations be available for use until spent and second, that funds appropriated may be used for such purposes as may be necessary to carry out the provisions of the act, including the provision of necessary physical facilities and land and assistance in the maintenance of patients where clinical facilities are required in connection with either research or training.

My final recommendation is that the bill be amended to place responsibility for administration of the program in the Surgeon General of the United States Public Health Service by reason of the basic organization of the Service and its existing cancer research program which is now substantially complete in program content, but is not adequate in scope of financial assistance available for universities and other laboratories.

Let me say in conclusion, Mr. Chairman, that I favor strongly the purposes expressed in S. 1875. The specific suggestions that I have made arise out of our sincere conviction, that if adopted, they would greatly enhance the achievement of such purposes.

May I read certain specific suggestions for amendment to S. 1875.

1. The President to be authorized to appoint a national cancer commission, with or without confirmation by the Senate.

2. No funds to be made available under this act shall be expended except with the approval of the commission.

3. The commission shall consist of 14 members as follows:

One full-time paid chairman.

One representative of the Veterans' Administration.

Six medical or scientific authorities who are outstanding in the United States as concerns the study of cancer and/or related fields.

Six outstanding citizens who have experience, interest, and competence in scientific matters.

Senator PEPPER. A total of how many?

Dr. DYER. Fourteen.

Senator PEPPER. A paid chairman, and then 6 experts and 6 outstanding citizens. That is 13.

Dr. DYER. And one representative of the Veterans' Administration. The reason for that is quite apparent.

Senator PEPPER. I understand.

Dr. DYER. 4. The cancer commission would operate in the administrative framework of the United States Public Health Service, administratively responsible in the first instance to the Surgeon General.

5. The National Cancer Advisory Council shall be abolished and its functions transferred to the national cancer commission.

6. The National Cancer Institute would operate under the cognizance and under the general direction of the commission.

7. Provisions of Public Law 410 in respect of cancer would be operated by the Surgeon General through the national cancer commission.

8. Future estimates of appropriations for operation of the National Cancer Institute to be included in the estimate of the national cancer commission.

9. The commission to be empowered to establish new institutions or make appropriations to existing institutions in addition to the authority now contained in title 5 of Public Law 410.

10. The cancer commission should be authorized to give grants to existing scientific institutions or to create new ones in order to enable them to provide facilities—laboratory, clinical and hospital—for purposes of cancer research.

11. The commission shall promote the coordination of researches conducted by the Cancer Institute and similar researches conducted by other agencies, organizations, and individuals—public and necessary private ones.

12. The appropriation authorized under bill 1875 to be available until expended.

13. The commission is authorized to employ scientific experts and consultants without reference to civil service.

Thank you, Mr. Chairman.

Senator PEPPER. Those are very interesting and very thoughtful suggestions, and we certainly appreciate the fine spirit in which you have approached the matter.

May I ask you, just for the record and to clarify my own mind, what is the appropriation that is now available for cancer research?

Dr. DYER. Last year's appropriation, that is, the fiscal year that has just closed, was \$490,000, and it was held to that sum. There was no disposition on the part of Congress or anyone else to cut us down. For this next year there is an appropriation of \$1,772,000. The estimate was based on the work of the National Cancer Institute, keeping in mind the fact that the clinical facilities, the hospital construction, and expanded laboratory construction had been disapproved. Clinical facilities and expanded laboratory construction were approved by the Bureau of the Budget and were a part of the Public Building Administration's program. It was not disapproved by Congress as a cancer program, but it was part of the whole Federal building program. If the cancer construction had been in, we would have asked for larger appropriations, frankly.

Senator PEPPER. Your idea is that there should be this national cancer commission constituted as you have suggested, and that that should be the final responsible authority for the direction of all the research to be carried on under this bill if it is enacted, and that the commission shall use as its administrative agent the Public Health Service?

Dr. DYER. That is true.

Senator PEPPER. Headed up by the Surgeon General?

Dr. DYER. Yes, sir.

Senator PEPPER. And you contemplate that the principal function of this commission would be the coordination of all research, both public and private, into a program that would strive for the best results?

Dr. DYER. Yes. Senator Pepper, when it comes to research I do not like the word "coordination." I would rather use the word "correlation." One of the functions of the commission would be to look over the field and plug the holes that needed to be filled; and?

one of the chief functions would be to activate and encourage the young man who wants to go into the research field, particularly in cancer.

Senator PEPPER. You contemplate also that this commission would have complete authority to cooperate with similar agencies in any part of the world?

Dr. DYER. Oh, surely.

Senator PEPPER. And to bring scientists from any part of the world that they can get them, or give them to cancer research in any part of the world?

Dr. DYER. Yes. The idea, so far as I am concerned, and I am sure that it is true so far as Surgeon General Parran is concerned, is to promote cancer research and solve the problem, whether it be in this country or wherever it is, or wherever the scientists come from.

Senator PEPPER. Will you tell us just a word about the National Cancer Institute and the facilities that you have?

Dr. DYER. At present we have laboratory facilities, a building of, I do not know how many square feet—

Senator PEPPER. Do you have a clinical building?

Dr. DYER. No; at Bethesda, our building is used for laboratory research work.

Senator PEPPER. How many stories in the building?

Dr. DYER. It is a three-story building with a basement that is quite usable, too.

Senator PEPPER. How many people are employed at the Cancer Institute?

Commander SCHEELE. There are 35 scientists, approximately a hundred assistants, and then some 8 or 9 people on the administrative staff.

Dr. DYER. Dr. Scheele is Assistant Chief of the National Cancer Institute.

In addition to the facilities that we have there, we have a tumor clinic in connection with the study of cancer. It is operated in a section of our Marine Hospital over in Baltimore. We had looked to the enlargement of the clinic and the full development of it into a research hospital on the ground at Bethesda, Md. It was in the Public Buildings appropriation bill, as I stated previously.

Senator PEPPER. You have given us the amount of the appropriation now being made. Have you ever made any compilation or estimate as to the total amount of money being spent yearly in the United States, from all sources, public and private, with respect to cancer research?

Dr. DYER. No; I have not, Senator.

Dr. SCHEELE. It is almost impossible to make such an estimate.

FEDERAL SECURITY AGENCY,  
UNITED STATES PUBLIC HEALTH SERVICE.  
*Washington 14, Bethesda Station, July 12, 1946*

HON. CLAUDE H. PEPPER,  
*United States Senate, Washington 25, D. C.*

DEAR SENATOR PEPPER: During the course of the hearings on S. 1875 last week, you asked Dr. E. E. Dyer, Director of the National Institute of Health, at the conclusion of his testimony to prepare for you a draft of language that would embody the general principles which he enumerated in his testimony as desirable

for incorporation in legislation designed to meet the expressed purposes of S. 1875.

This communication with attachments is in response to that request.

The basic principles to which Dr. Dyer's testimony was directed would be satisfied through provisions in the bill, which, in brief summary are as follows:

1. Authorized appropriations, when made, be available until spent, thereby insuring a continuity of support of undertakings that by their nature must be long ranged.

2. Funds when appropriated be available for whatever purposes may be necessary to further the aims of the act.

3. The creation of a Cancer Commission represented by persons of the highest scientific attainments, to exercise general leadership and direction over the national effort to solve the problem of cancer.

4. Placing the Cancer Commission for purposes of administration within the framework of an existing health agency of the Government, but providing within this framework the widest possible freedom of action and administrative discretion on the part of the Commission.

5. Utilizing the authority of existing law and the facilities existing as a result thereof to the fullest possible extent to the end that all available resources of the Federal Government be brought to bear on the problem in an intelligent coordinated manner.

We believe these essential provisions are contained in the draft, attached hereto.

In the testimony of Dr. Dyer as well as several other witnesses, great importance was attached to the independence and freedom of action of the Commission. In this regard, I invite your attention to subsections (b) and (c) of section 2 of the attached draft and more especially to the amended section 402 of title IV of the Public Health Service Act (see attached draft). These provisions, we believe, make it clear that the Cancer Commission would have the widest possible latitude consistent with any reasonable concept of administrative relationships within an existing agency of Government.

I am sure you appreciate, as we do, that the draft as here proposed, which is in the form of an amendment to the Public Health Service Act, will be less impressive and thus, perhaps, less appealing to persons unfamiliar with the Act, than a draft containing the same basic provisions but drawn without reference to the Act. On the other hand it seems to us that the long-range advantages of associating the purposes and statutory provisions of your bill with those of the original National Cancer Act so far outweigh the disadvantages as to make them of almost impelling consideration.

With warmest regards,

Sincerely,

JAMES A. CRABTREE,  
*Assistant to the Surgeon General.*

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Cancer Commission Act."*

SEC. 2. (a) The purpose of this Act is to mobilize the world's outstanding experts for a supreme effort to discover means of preventing and curing cancer. In order to carry out this purpose there is authorized to be appropriated the sum of \$100,000,000, to remain available until expended.

(b) Appropriations pursuant to this section shall be expended by the National Cancer Commission for the purposes and in accordance with provisions of this Act.

(c) Appointment of such personnel on the staff of the National Cancer Commission or in the National Cancer Institute as may, upon recommendation of the Commission, be found necessary to carry out the purposes of this Act may be made without regard to any limitation, contained in or prescribed under authority of the Federal Employees Pay Act of 1945, as amended by the Federal Employees Pay Act of 1946, or any other act, upon the number of persons who may be employed by the Commission or in the Institute (and such appointments shall not reduce the number of persons who may be employed in any agency, or in any part of any agency, of the Government); and in the case of technical and scientific personnel, may be made without regard to the civil-service laws and the compensation fixed without regard to the Classification Act of 1923, as amended.

SEC. 3. Title IV of the Public Health Service Act is amended to read as follows:

## "TITLE IV—NATIONAL CANCER COMMISSION

## "COMPOSITION AND ORGANIZATION OF COMMISSION

"SEC. 401. (a) There is hereby established within the Office of the Surgeon General of the Public Health Service a National Cancer Commission (hereinafter in this title referred to as the 'Commission'), to consist of fourteen members to be appointed by the President. Twelve of the members shall be outstanding persons who have wide experience and demonstrated competence in scientific matters, and six of such twelve shall be selected from leading authorities in the study, diagnosis, or treatment of cancer. Such twelve persons shall be selected without regard to their political affiliations and solely on the basis of their demonstrated capacity to carry out the functions of the Commission. Of the other two members of the Commission one shall serve as its executive officer and one shall be a representative of the Veterans' Administration.

"(b) Each member of the Commission, other than the executive officer and the representative of the Veterans' Administration, shall hold office for a term of three years, except that 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 except that of the members first appointed four shall hold office for a term of two years and four for a term of one year, as designated by the President. None of such twelve members shall be eligible for reappointment until a year has elapsed since the end of his preceding term, and none of such members shall be eligible for more than one reappointment. The executive officer and the representative of the Veterans' Administration shall each hold office at the will of the President.

"(c) The Commission shall annually elect a chairman from among its members. The Commission is authorized to adopt rules governing the calling and the conduct of its meetings, and to create such committees from among its members as it shall see fit. The Commission is authorized to delegate to an executive committee, or to the executive officer, such of its powers, duties, and functions as it shall see fit; and, with the approval of the Surgeon General, to delegate administrative functions to officers of the Service. The executive officer shall not be entitled to vote at meetings of the Commission.

"(d) In discharging its functions under this title the Commission shall be responsible directly to the Surgeon General. The National Cancer Institute shall be administered under the direction of the Commission; and the Commission may utilize the Institute in such manner, and may delegate to the Institute such powers, duties, and functions as the Commission may see fit.

"SEC. 402. Subject to the provisions of section 401 (d), the National Cancer Commission shall have all the authority granted to the Surgeon General under section 301 with respect to cancer and such Commission is authorized to—

"(a) conduct, assist, and foster researches, investigations, experiments, and studies, in the United States or other countries, relating to the cause, prevention, and methods of diagnosis and treatment of cancer;

"(b) make grants-in-aid to individuals in the United States or other countries, and to universities, hospitals, laboratories, and other public or private institutions for research projects relating to the cause, prevention, and methods of diagnosis and treatment of cancer, including grants to such institutions, to the extent necessary for such research projects, for the construction, acquisition, and leasing of hospital, clinic, laboratory, and related facilities, including the purchase of land necessary therefor;

"(c) collect information as to studies being carried on in the United States and in other countries in the field of cancer and, with the approval of the Surgeon General, make available such information through appropriate publications for the benefit of health and welfare agencies or organizations (public or private), physicians, or any other scientists, and for the information of the general public;

"(d) promote the coordination of researches conducted by it and similar researches conducted by other agencies, organizations, and individuals;

"(e) (1) provide training and instructions, in matters relating to the cause, prevention, and methods of diagnosis and treatment of cancer, to persons from the United States and from other countries, found by it to have proper qualifications, and fix and pay to any of such persons as it may designate a per diem allowance during such training and instruction of not to exceed \$10; and (2) provide such training and instruction through grants to public and other non-

profit institutions, including grants to such institutions for the construction, acquisition, and leasing of hospital, clinic, laboratory, and related facilities, to the extent necessary for the purposes of such training and instructions;

"(f) provide fellowships in the Public Health Service for work in the field of cancer;

"(g) secure the services and advice of cancer experts from the United States and abroad;

"(h) recommend to the Surgeon General for acceptance conditional gifts pursuant to section 501 of this Act.

"Sec. 403. The Surgeon General shall recommend acceptance of conditional gifts pursuant to section 501 of this Act, 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, or maintenance of premises, buildings, or equipment of the Institute, only upon the recommendation of the National Cancer Commission. Donations of \$50,000 or over in aid of research under this title may be acknowledged by the establishment within the Service of suitable memorials to the donors.

"Sec. 404. All appropriations to carry out the purposes of this title shall be available for the acquisition of land and the erection of buildings, personal services in the District of Columbia, 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 Commission); 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 title."

Sec. 4. (a) Section 209 (c) of the Public Health Service Act, as amended, is amended to read as follows:

"(c) Members of the National Advisory Health Council, members of the National Advisory Mental Health Council, and members of the National Cancer Commission, other than members who are officers and employees of the United States, shall be entitled, while attending conferences or meetings of the respective bodies or while otherwise serving at the request of the Surgeon General, to receive compensation at a rate to be fixed by the Administrator, but not exceeding \$25 per diem in the case of members of either of the Councils and not exceeding \$50 per diem in the case of members of the Commission. All members of either of such Councils and all members of such Commission whether or not they are in the employ of the United States, shall also be entitled, while so serving away from their places of residence, to receive an allowance for actual and necessary traveling and subsistence expenses."

(b) Section 217 of such Act is amended by amending the caption thereof to read "NATIONAL ADVISORY HEALTH AND MENTAL HEALTH COUNCILS"; by striking out in subsection (f) "of the National Advisory Cancer Council or"; and by striking out subsection (c). The National Advisory Cancer Council is abolished.

(c) Section 301 of such Act is amended by striking out in subsection (d) "or, with respect to cancer, recommended by the National Advisory Cancer Council."; and by striking out in subsection (g) "or, with respect to cancer, upon recommendation of the National Advisory Cancer Council."

(d) This section shall be effective on October 1, 1946. The original members of the National Cancer Commission shall take office on October 1, 1946, but may be appointed before that date.

SEC. 5. The authorization, contained in section 2 of this Act, of appropriations to carry out the purposes of this Act shall not be construed to repeal or to limit any other authorization, express or implied, of appropriations to carry out the functions of the Public Health Service; but no appropriation to carry out the purposes of Title IV of the Public Health Service Act, as amended, other than an appropriation pursuant to section 2 of this Act, shall be recommended by the Surgeon General or the Federal Security Administrator except with the approval of the National Cancer Commission.

Senator PEPPER. Thank you very much.

The next witness is Dr. Halsey J. Bagg, of Memorial Hospital, New York City.

**STATEMENT OF DR. HALSEY J. BAGG, DIRECTOR, BAGG RESEARCH LABORATORY, YORKTOWN HEIGHTS, N. Y.**

Dr. BAGG. I would like to make a correction of the program, Senator. I am not with the Memorial Hospital now. I am director of my own research laboratory, the Bagg Research Laboratory, at Yorktown Heights, N. Y.

Senator PEPPER. I want to say to the witnesses that we will be obliged if those of you who have prepared statements will file them for the record and summarize your principal recommendations in this matter, because we have a full list of witnesses here today and I am afraid that we are going to have to adjourn before long.

Dr. BAGG. This is a brief summary of my remarks, Mr. Chairman. I welcome the opportunity to appear in support of the cancer research bill, S. 1875.

I feel that the need for Government support of aid for the cancer patient is of vital importance and warrants the approval of Congress to as full an extent as is possible. The present bill meets these requirements and has my fullest recommendation.

We all know the importance of the tremendous problem that cancer presents to our people. The problem is too large to be undertaken by private effort alone, and we must look to the Government for aid.

Workers in the field of cancer research have been greatly handicapped by the lack of funds to insure a reasonable continuity of their efforts. The bill you have under consideration will meet those requirements and encourage younger scientists to enter this special field.

In my judgment, advancement in cancer research can be insured by training of medical men—first, to observe the life history of the various types of cancer, and, second, to be able to evaluate and put to the test any clinical suggestions that the work of the laboratory may give.

I feel that the establishment of cancer centers is the best way to bring about these results. In such centers the work of the clinician can be supplemented or led by the results of the research of the biologist, chemist, physicist, or others who may be working in the field.

I realize that the bill, S. 1875, was not drawn with a view to provide funds for treating all cancer patients. However, I feel that it is of importance to stress the fact that funds should be available under the provisions of the bill to provide for the treatment and care of certain selected types of cancer in patients insofar as their study may lead to advance in clinical cancer research.

If the bill under consideration is voted upon favorably it is my personal opinion that the United States Public Health Service might very well act as the center around which the entire program could be expanded.

As a biologist who has worked in the field of cancer research for many years, I feel that the problem of malignant growth presents perhaps the most difficult medical problem of our day; a problem as complicated as life itself.

Senator PEPPER. Thank you very much, Doctor, for coming and giving us the benefit of your views.

Our next witness is Dr. C. P. Rhoads, director, Memorial Hospital, New York City.

**STATEMENT OF DR. C. P. RHOADS, DIRECTOR OF MEMORIAL HOSPITAL FOR CANCER AND ALLIED DISEASES, NEW YORK, N. Y.; PROFESSOR OF PATHOLOGY, CORNELL UNIVERSITY MEDICAL COLLEGE; DIRECTOR OF SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH, NEW YORK CITY**

Senator PEPPER. Dr. Rhoads, we all know of your distinguished service, and we are glad to have you here today.

Dr. RHOADS. Thank you, Mr. Chairman.

The bill under consideration today proposes the expenditure of \$100,000,000 to support a comprehensive international attack, through research, on the cancer problem. If this were done it is almost certain that advances would follow which would expedite the eventual solution.

To expand effectively a sum as large as the one specified is not easy, however. Productive research requires experience, organization, equipment, and personnel; needs which cannot be emphasized too strongly.

The public now has learned, through the revolutionary achievements of wartime research, that money can be so spent as to expedite the solution of important problems, many of them previously thought to be insoluble. Unfortunately, the factor of money has been so over-emphasized that many have come to believe that it is the only important one. We tend to forget that money without the qualified and devoted scientific men and women, working in a proper organization, is worse than useless. Without personnel, equipment, and policy based on scientific experience only bitter disillusionment can result from an effort as extensive as the one proposed.

Recall that there exist at this moment upward of 500,000 individuals who actually have cancer, and think of those who are near and dear to them who are awaiting with vital interest the course of this bill. I do not believe we can dismiss these responsibilities lightly.

The problem of expending wisely and productively public funds to meet an emergency in research has been faced repeatedly by the Government of this country. Eighty years ago Congress created the National Academy of Sciences to mobilize scientific talent in the aid of the Government. This body functioned with distinction. It later became a great honorary scientific organization, electing to membership accomplished men on the basis of merit without regard to organization or geographic affiliation. It is now the great impartial reference source of scientific advice and information.

In 1916, with World War I, there came again the need, more acute because of the rapidly widening application of science, for the mobilization of the wisdom of the great research workers of the country. To meet this need required an agency of a more comprehensive type than the one provided by a purely honorary organization, the National Academy. There was created, therefore, under the Academy, the National Research Council, composed of representatives of almost every scientific organization in the country. The Council organized the research for our First World War Army and left a distinguished record in every learned field, including the medical.

With World War II the need for scientific aid was obviously pre-eminent. This country, like our allies, clearly would stand or fall



on the basis of the technical competence of its professional research workers. Once more the aid of the National Research Council of the National Academy of Sciences was invoked. Once more its record is a notable one. Over 70 committees composed of the most distinguished specialists, were created. The knowledge possessed by these individuals was brought to bear vitally on every aspect of our military activity. The advice provided by them defined our policies, civil as well as military, concerning blood plasma and blood transfusion, control of infectious disease, adequate nutrition for troops, the eradication of those disease-bearing insects which threatened our ability to carry on in the tropics, and, perhaps the most notable accomplishment, our development of adequate measures for the cure of malaria and the rehabilitation of the wounded. The record speaks for itself.

Toward the end of the war those interested in maintaining, for the solution of peacetime scientific problems, the type of organizational research pattern proved to be so effective during the war, turned again to the National Research Council. Cancer was deemed to be a problem of prime importance, and the public was already demanding that an all-out effort be undertaken. Money was being made available and the donors were properly insistent that action be instituted. The American Cancer Society raised \$4,000,000 in 1945, during the war, and this year during the past few months an estimated \$12,000,000. Of these sums 30 percent must, by the public commitment, be expended in support of cancer research.

The American Cancer Society has a vital obligation to the public. It was essential that the most effective and responsible mechanism be evoked to expend the funds collected for the support of research. It turned logically to the National Research Council, the organization proved by the trying experience of wartime to be the most effective.

By contract between the society and the National Academy of Sciences there was created in June 1945, under the National Research Council a committee to advise the society on the spending of its research funds. This committee has been in operation for a year and its record is appended to this testimony. It has mobilized over 90 scientific specialists of the highest reputation. It has surveyed meticulously every activity in the field of cancer research. It has recommended the assignment of \$805,000 in support of 95 research projects in the best institutions of the country. The grants have been made. The committee is a going, proved operation which can serve as a model. On the basis of its experience in the investigation and support of cancer research the following recommendations are justified:

1. The principles incorporated in S. 1875 which makes available Federal funds for the support of cancer research should be endorsed.
2. The funds for cancer research made available under S. 1875 or from any other public or private source should be expended under the direction of a commission composed of outstanding scientists and laymen appointed by the President.
3. This commission should be composed of 14 members, as follows:  
One full-time, paid chairman.

One representative of the Veterans' Administration.

Six medical or scientific individuals distinguished for their contributions to cancer and/or other research.

Six laymen of proven experience and competence in the field of scientific endeavor.

4. The commission should be assigned for administrative purposes to one of the duly constituted Government agencies.

5. The advice of the National Research Council of the National Academy of Sciences should be sought in naming the commission and in guiding its work.

6. All Government activity in the field of cancer research, including that set up under the National Cancer Act should be placed under this commission, including the National Cancer Institute. The existing National Advisory Cancer Council should be replaced by the commission.

7. The scientific and technical consultant personnel employed under this instrument should be not liable to civil service.

8. All money appropriated under the authorization provided in this instrument should be available until expended.

9. All Federal funds for cancer research should be expended in the support and enlargement of existing public and private institutions as well as in the creation of needed new institutions and in coordination of the work of public and private agencies in such a way as to encourage continued voluntary contributions.

10. Attention is invited to the document appended entitled "The Research Attack on Cancer" in which is described the work of the National Research Council by contract with the American Cancer Society.

(The document referred to is as follows:)

#### THE RESEARCH ATTACK ON CANCER, 1946

A REPORT ON THE AMERICAN CANCER SOCIETY RESEARCH PROGRAM

(By the Committee on Growth, of the National Research Council)

#### FOREWORD

It is with great pleasure that the American Cancer Society publishes the first formal report of the committee on growth of the National Research Council. The committee was organized by the Council to develop a comprehensive program for the research attack on cancer, to be supported by funds raised by the American Cancer Society.

The report tells the story of the great work which has been begun with funds raised by the society this year, and which we hope to expand with at least \$3,000,000 of the funds which the society is seeking this year.

This report will, I know, be a great source of satisfaction to all those who have already contributed to this program. By so doing they have helped to launch what may well become the most notable undertaking in the whole history of the attack on cancer. It is our hope that this report will also be a means of enlisting the far greater support which is needed to enlarge the scope of the attack against this most dreaded disease.

ERIC A. JOHNSTON,  
*Chairman of the Board,*  
*The American Cancer Society.*

## COMMITTEE ON GROWTH, NATIONAL RESEARCH COUNCIL

## A REPORT TO THE AMERICAN CANCER SOCIETY .

## INTRODUCTION

Nine months have elapsed since, in June 1945, the American Cancer Society designated the National Research Council of the National Academy of Sciences as its advisory agent for research, and the council appointed, within its division of medical sciences, the committee on growth, with a membership of 14, representing the major disciplines in medicine and the sciences basic to medical research.

To fulfill the obligations assumed by the council, the committee on growth was charged broadly with the task of analyzing in all its aspects the field of cancer research, of inviting and initiating necessary investigations, and of developing coordinated programs for the implementation of the general aims and purposes to which the committee and the society are dedicated.

The problem of cancer has been well described as the problem of ceaseless, profitless, and often uncontrollable growth. The committee, at its inception, therefore, recognized and has proceeded on the premise that the researches necessary to achieve understanding of the abnormal mechanisms of malignant growth can have a firm basis only in a far deeper insight into the fundamental mechanisms of normal cellular growth than science and human ingenuity have thus far been able to disclose.

The initial effort then has been made along these lines: (1) A survey of existing activities in cancer research; (2) the appointment of 19 advisory panels of experts in specialized areas of research and, under the leadership of these panels, the holding of conferences for the prompt exchange of information and for determining and giving direction to needed programs of investigation; (3) the support of investigations, both basic and clinical, directed toward the uncovering of essential new information not only in the specific field of cancer but also in the field of the phenomena of growth fundamental to it; (4) the encouragement of young scientists of ability, through the award of fellowships in investigative medicine and the basic sciences, to enter the complex and difficult field of cancer research; and (5) the formulation of strategies for the ultimate assault on the problem of human cancer.

## SURVEY OF CANCER RESEARCH

Returns from questionnaires mailed to approximately 500 institutions and hospitals in the United States made clear the fact that many highly qualified laboratories, if given further support, would greatly expand their interest and activities in the field of cancer research. Forty-two of these institutions (Federal institutions not included) indicated that they had together \$560,051 available for cancer research and could put to immediate use an additional \$1,469,302. This sum is hardly indicative of the real need as many institutions known to be conducting, or well qualified to conduct competent cancer research, did not reply; and it is evident from applications for research grants subsequently received that many institutions that did reply had underestimated the needs and desires of competent workers in their laboratories.

## ORGANIZATION

*Divisions and Panels: Committee on fellowships and central office*

It was early evident to the committee that a gigantic task lay ahead and that successfully to attack it the wisest minds in American scientific research would be needed. Therefore, experts in special fields from all parts of the United States were invited to serve on advisory panels. These panels, 19 in number, were organized into the broad divisional groupings of physics, chemistry, biology, and clinical investigations. A committee on fellowships was appointed, consisting of the chairmen of these four divisions acting under the general chairmanship of a designated member of the main committee. Finally, a central office was established in the National Academy of Sciences—National Research Council Building in Washington through which the fast ramifying business of the committee could be channeled, and competent professional assistants were employed to devote their time in whole or in part to forwarding the purposes and expediting the plans of the committee, its divisions, and its panels.

With this organization established, funds made available for the program (a total of \$800,000 to date) have been provisionally allocated as follows:

(1) Division of chemistry research fund.....	\$150,000
(2) Division of physics research fund.....	100,000
(3) Division of biology research fund.....	150,000
(4) Division of clinical investigations research fund.....	100,000
(5) Fellowships.....	75,000
(6) Central research fund.....	146,000
(7) Central office budget.....	79,000

Total..... 800,000

Divisional allocations were earmarked for the support of research. Grants in the amount of \$320,020 and fellowships in the amount of \$50,225 have already been recommended to the American Cancer Society from these funds as follows:

Chemistry.....	\$81,700
Physics.....	80,350
Biology.....	69,670
Clinical investigations.....	9,925
Central research fund.....	78,375
Fellowships.....	50,225

Total..... 370,245

Research programs are well advanced in the process of development which will soon exhaust the remaining allocations and many desirable applications for fellowships and research grants will, of necessity, be refused or deferred for want of immediate additional funds.

The central office budget supports not only the necessary office supplies, personnel, and the reproduction and distribution of minutes and reports, but also the salaries and travel expenses of professional assistants and all the expenses incidental to the meetings of the main committee, its divisions and panels and for the holding of conferences in specific fields of immediate importance to the committee's program.

It is only appropriate to call attention here to the fact that, like the members of the committee on growth, panel members serve without compensation and are reimbursed only for actual expenses incurred incident to attendance at meetings and conferences and to other committee business. They have given unstintingly of their time, energy, enthusiasm, and wisdom. If the research program of the American Cancer Society contributes to the advance of human welfare, it will in great measure be due to the contribution of these unselfish individuals.

#### *Activities of the divisions and panels*

The four divisions—chemistry, physics, biology, and clinical investigations—have developed their own programs according to their special interests and competence. Integration of these programs and mutual exchange of information of common interest has been provided by joint meetings of panels and divisions and of panel and division chairmen; by the activities of the professional assistants to the divisions and through the medium of the central office.

#### *Division of chemistry*

The division of chemistry is composed of the panels of cytochemistry, nutrition, enzymes, proteins, synthesis and metabolism of steroids, and endocrine experimental physiology. To each of these panels were allocated \$25,000 for the support of research applications considered especially promising. Cooperation among panels has been intimate and in many instances, two or more panels have recommended contribution from their funds for the common support of a single grant application. Intimate liaison between the division of chemistry and the division of physics has also been assured by the fact that the panel on isotopes of the latter division acts for the former in the capacity of a panel on intermediary metabolism.

The panel on cytochemistry has had an especially active interest in the exploration of new and the refinement of old techniques applicable to the study of minute quantities of biological material—the single cell and its component parts. It has defined its field of interest as that “concerned with the detection, localization, quantitative determination and characterization of chemical constituents of plant, animal and microbial cells and their immediate environment (tissues, tissue

spaces, etc.) together with the role of such substances in the organization of the cell and in alterations associated with normal and pathological function." The panel has prepared and distributed to interested cytochemists and others a survey of cytochemistry which represents a summary of techniques—physical, chemical, and immunological—now available, with suggestions for their further development and exploitation, for the microanalysis of biologic material and biologic processes. This survey should prove of great interest and service to all investigators concerned with or contemplating studies on the chemical, morphological, and kinetic aspects of microbiological material. The panel has furthermore sponsored two regional conferences, one held in Atlantic City March 11, 1946, and another in St. Louis, March 27, 1946, on cytochemistry to which were invited the leading exponents of cytochemical methods to discuss ways and means in which the ideas and techniques presented may be extended to their maximum usefulness in the program of the committee on growth. The panel has recommended to the committee support in the amount to date of \$26,500 of particular researches, solicited and unsolicited, which it feels will contribute materially to the extension of knowledge in the field of growth in general and of cancer in particular. And finally, the panel has explored and potentialities of research in cytochemistry in the United States and has estimated that this field alone could profitably utilize the sum of \$150,000 in the year 1946-47 and \$500,000 yearly thereafter to support promising research in existing laboratories as a means of forwarding the work of the committee and of the society.

The panel on nutrition solicited applications for research grants from 20 prominent investigators in the field. Of the resultant 10 received, the panel recommended support of four. It has expressed a special interest in the effect on malignant growth of such factors as the oversupply of calories, of dietary fat, of vitamin B complex deficiencies, of sterole and amino acid intake. With the panel of cytochemistry, the panel is interested in exploring further the approach to the study of normal and malignant cells by the techniques of tissue culture, especially by identification of essential components of the nutrient media.

The panel on enzymes has felt that its most immediate contributions to the program can be made by fostering research directed toward the isolation and characterization of enzyme systems in both normal and malignant tissues and the exploration of the effects of hormones, nucleotides and nucleic acid on enzyme action and syntheses. The important of nucleotides in intracellular metabolic processes was especially recognized and a conference on the subject was tentatively recommended.

The panel on proteins has concluded that it can contribute most usefully to the program of the committee on growth by performing the following service functions: (1) Encouraging the production and distribution of standardized proteins; (2) developing a monograph on the design and use of electrophoretic equipment; and (3) determining the physical constants of purified proteins. In conjunction with the latter, the panel proposes to support developmental research toward improved optical systems of electrophoretic apparatus and to call a conference of experts in this field.

The panel on synthesis and metabolism of steroids proposes to act in a service capacity to other panels of the committee on growth and to investigators working under American Cancer Society grants by seeking means of obtaining rare or now unavailable steroids; by encouraging partial or full synthesis of new steroid compounds and by bringing to the attention of other investigators compounds which should be tested biologically. The panel has invited submission of applications for research grants by outstanding investigators in the field and is selecting the most promising of these to recommend for support. Under the auspices of this panel, in cooperation with the panels on clinical investigation in endocrinology and on experimental endocrine physiology, a conference on steroids, designed to take advantage of the presence in the United States of the distinguished Swiss steroid chemists, Profs. Leopold Ruzicka and Tadeus Reichstein, was held on March 18 and 19, 1946, at the National Research Council. To this conference came outstanding investigators in the field of the chemistry and physiology of the steroid compounds and a felicitous renewal of international scientific relations, interrupted by war, was established.

The panel on experimental endocrine physiology has expressed the view that its most valuable contribution to the program would be to encourage in every way possible research into the fundamental endocrinological mechanisms underlying the phenomena of normal growth, especially: (1) The metabolism of hormones, particularly those of a steroid character; (2) the chemical changes in endocrine organs associated with their secretory activity; (3) the discovery

of agents capable of inhibiting the secretory activity of endocrine glands; (4) the manner of control of the secretion of the hormones of the anterior pituitary; (5) the intermediary metabolism of mammary tissue, with particular reference to the synthesis of the characteristic components of milk and the manner in which this secretion is influenced by certain hormones; and (6) the nature of the growth-promoting action of hormones, with particular reference to the mode of action of the anterior pituitary growth hormone.

The panel has also recommended a clearinghouse for the preparation, securing and distributing to qualified investigators of rare hormones and other biological materials be provided through the medium of the committee on growth. With the panels on clinical endocrinology and on steroids, the panel participated in sponsorship of a conference on steroids held March 18 and 19, 1946, at the National Research Council.

#### *Division of biology*

Within the division of biology are the panels on laboratory genetics, human genetics, mutations, cellular biology, milk factor, virus, and botany and to this division have been referred applications for grants falling within the general broad field of biological phenomena. A community of interest, however, exists with panels of other divisions, notably the panels on cytochemistry and on laboratory endocrine physiology.

The panel on laboratory genetics has emphasized its concern with the interaction of genetic and environmental factors in the production of cancer, the correlation of genetic background with developmental differences and the identification of transmissible parental factors, such as the "milk factor," other than genetic. The panel has also stressed the importance of the maintenance of inbred strains, fundamental to genetic research, and has volunteered cooperation with the United Nations Food and Agricultural Organization in which a commission for the preservation of genetic stocks for plant and animal breeding has been proposed. Finally, the panel has offered to provide the services of a consultant geneticist for laboratories requesting advice in this field.

The panel on human genetics, operating in a field in which investigations, to be productive, must largely be long-term in duration, has recommended support of a cooperative study of the factor of inheritance in cancer of the human breast to be jointly carried on at the University of Ohio and the University of Minnesota, and the services of a competent human geneticist were secured to devote full time to this study.

The panel on mutations has emphasized a need, common to all the panels, for basic information concerning normal processes. It has pointed out that the approach offering greatest promise of ultimate value to cancer research is one directed toward a fundamental analysis of the phenomenon of gene mutation and that the possibilities of a direct study, at this time, of the relation of cancer to mutation are limited by the inadequacy of knowledge of the mechanism of the mutant process itself. This panel, therefore, has recommended especially support of investigations designed to explore first the characteristics of the fundamental process involved. A conference on mutations held in New York, January 26, 27, and 28, under the auspices of the panel, served to bring together leading workers in the field, to provide an exchange of the most recent information and to suggest profitable orientation of new research, which by its fundamental nature, necessarily will contribute, directly or indirectly, background for an understanding of the more specific problem of the mutant cancer cell.

The panel on cellular biology has addressed itself the questions: Is cancer the result of exterior influences affecting the cell? Of influences coming from within the cell itself? Does the cancerous process involve primarily the cell nucleus and if so, what part of the nucleus, or does it involve primarily the cell substance and if so, what part of the cell substance? Again exploration of the mechanisms of normal cell division are an essential counterpart to exploration of the perverted mechanisms of the malignant cell. The panel has recommended support of studies involving both aspects of the problem.

The panel on milk factor has outlined a program calculated to illuminate the character of the so-called "milk factor"—a virus-like agent in mice, transmissible through the milk, and influenced by both factors of heredity and hormonal environment—which produces cancer of the breast in animals susceptible to it. The panel has recommended support of research at the two laboratories where most of the work on this recently discovered cancer-producing virus has been carried out.

The panel on virus has outlined a program of needed research designed to illuminate further not only the nature of specific viruses themselves but also of

the cells in which they reside. By virtue of the fact that much is known already of the chemical nature of some viruses, and that deliberate chemical changes induced in a virus result in changes in the disease that virus produces, the virus itself can be used as a kind of chemical tool with which to study the inner workings of the cell. Further, by introducing isotopic atoms into the virus molecule, an even more powerful tool for following the complex metabolic relation of virus to cell can be made available. The application of these techniques to cancer-producing viruses offers a new approach to the problem of the causes of cancer which should materially advance our knowledge of the basic mechanism involved. These facts the panel has pointed out in a report to the committee on growth. The panel has also recommended support of certain aspects of the program of the panel on the milk factor. And finally, the panel has completed tentative plans for a conference of workers in the field, perhaps jointly sponsored with other interested organizations, to review existing knowledge and to orient future programs of research as they may apply to the problem of the study of cellular growth in general and cancer in particular.

The panel on botany has expressed the view that it can best contribute to the program of the committee on growth by encouraging new approaches to the study of the synthesis of cell substance in both normal and abnormal botanical tissue and of factors that control this synthesis. As an initial approach the panel sponsored a conference on the subject, held at the National Research Council, February 15 and 16, 1946, at which outstanding research workers in the field discussed in detail the problems most urgently needing exploration.

#### *Division of Physics*

The Division of Physics includes the panels on physics, radiology, and isotopes. The latter panel also acts as a panel on intermediary metabolism for the division of chemistry. The panels of the division have operated closely as a unit. The full time of one and part time of two other professional assistants have been made available to the division and have served it with an energy and acumen that has proved of great benefit to the program of the committee on growth.

In the few months since their organization, these panels have devoted a great deal of thought and energy to surveying the needs in their respective fields. These surveys have been of particular importance in determining the kind of long-range policy each panel should initiate and in indicating how each panel may best participate in the general problem of growth. Although these surveys are not yet completed it has been possible to formulate definite programs and make recommendations for their initiation. The division of physics has been able to concur in these and function as a unit in formulating its recommendations.

It was proposed by the division of physics and approved by the committee on growth that a special sum of \$100,000 (\$50,000 immediately and \$50,000 in September 1946) be set aside for the purpose of stimulating, by purchase, the production of stable isotopes for the use of grantees of the American Cancer Society. A committee has been appointed to negotiate the production and purchase of these isotopes.

*Panel on physics.*—Consideration has been given to the holding of a symposium in biophysics and plans are in the formulative state. Plans have been drawn up for the preparation of a monograph on the use of tracers in biological research. Informal arrangements have been made with a publishing firm to print it without subsidy. It is certain that much will be gained by stimulation of such symposia and special monographs by the division.

Recognizing them as among the most potentially valuable tools in biochemical and biophysical research, the panel on physics has concerned itself especially with the procurement and use of isotopic tracer substances.

During the war and in the period immediately preceding, methods were developed for separating the stable isotopes and for making the radioactive isotopes in quantities sufficient for initial biological and medical tracer experiments.

New methods and greatly expanded facilities for making the radioactive isotopes were developed under the auspices of the Manhattan District during the war.

Accordingly, the panel on physics initiated a movement which has resulted in negotiations between the National Academy of Sciences and the Manhattan District for setting up a mechanism to enable the Manhattan District to supply radioactive isotopes, not only to people working under the auspices of the com-

mittee on growth but also for distribution as widely as possible to qualified workers throughout the whole field of medical, biological, and physical investigation.

A survey of the needs for certain basic chemicals containing long-lived and stable tracers in the biological field has been made, and steps have been taken to encourage their production commercially.

A survey of the manufacturers of Geiger-Muller counters and associated equipment for the measuring of radioactivity has been made. Contact has been made with officials of the Bureau of Standards who have expressed great interest in trying to bring order into the somewhat confused field of radioactive measurement. A comprehensive program for measurement and calibration of instruments, collection of existing data, and making available radioactive standards has been outlined. The Bureau has agreed to support this program.

There have been devised a large number of different instruments which should be of great use in attacking the problems of growth. The panel on physics has been looking into the possibility of stimulating the design, production standardization, and possible application of some of these instruments. The division of physics believe it may be able to render valuable aid to the other divisions in their problems of instrumentation and close liaison will be maintained for this purpose.

When radioactive materials or radiation-producing machines are used, there is potential danger to the health of the workers if proper precautions are not observed. The contamination of laboratories by isotopic tracer materials also is an important problem. Therefore, the panel on radiology has emphasized the need for a radiation-hazards group within the growth committee, and the panel on physics has been designated as such a group.

Finally, the panel on physics has energetically pursued the task of interesting able young scientists in the difficult but important field of biophysics. Through the initiative of the panel, five American Cancer Society fellowships have been awarded for training in this field.

*Panel on radiology.*—It is believed that a beam of high-energy electrons would be of great value both in radiation therapy and in biophysics. A number of applications for grants have been received by the panel on radiology for funds to cover the construction of a betatron, or other devices for the production of electron beams of energies up to 20,000,000 electron volts. It was felt that a proposal for the development of a modified synchrotron would be the most likely to produce an emergent beam of electrons, and a grant was recommended. However, Federal funds were subsequently secured for this important project and it is expected that the panel will recommend another grant at a later date to support the biological aspects, rather than the developmental, of research with this new apparatus.

The panel has also undertaken a survey, as yet incomplete, of the potential facilities for cancer research in the departments of radiology of university and other hospitals throughout the country.

*Panel on isotopes.*—The panel on isotopes has worked closely with the other panels of the division and has also acted as a panel on intermediary metabolism for the division of chemistry. It has prepared and, through the committee on growth, forwarded to the appropriate authorities in Manhattan District, an estimate of the amounts of certain radioactive isotopes that could be put to immediate and profitable use in medical and biological research falling within the scope of the program of the committee on growth. Through the panel will be distributed to investigators the isotopes made available by purchase from a grant of the American Cancer Society made to the National Academy of Sciences on the recommendation of the division of physics.

#### *Division of clinical investigations*

The panels on clinical investigations in endocrinology, clinical physiology of the blood and blood-forming organs, and the clinical physiology of the female reproductive tract comprise the division of clinical investigations. In addition to the division as a whole are referred matters concerned with any aspect of clinical medicine not specifically covered by panel designation; and a liberal use of ad hoc consultants in special fields is authorized.

The problems encountered by the division point up acutely a fundamental weakness in clinical cancer research. Too long has cancer, not only in the mind of the layman, but in that of many able physicians as well, been a disease, susceptible sometimes to surgery, sometimes to radiotherapy, but more often merely a discouraging problem in terminal care. As a result, for the most part,



the ablest minds in clinical investigative medicine have been attracted to other areas of clinical research, where the possibilities for immediate results appear to them to be more immediate; and it has been left to a relatively few distinguished, courageous but somewhat lonely investigators in a few forward-looking centers of investigation to carry on work deserving of all the hands and all the brains that it can get.

There has been no lack of well-conceived applications for research grants in the basic sciences appertaining to cancer or to the normal biological phenomena of growth of which malignancy is an aberration. In the clinical field no such plethora has been yet evident. It will be a major, even primary, responsibility of the division of clinical investigations and the committee on growth to lead into the field not only clinical investigators of established reputation but also, and perhaps more important, young physicians of ability and an inquiring turn of mind who may mature as leaders in the field—future professors of oncology who will not only take the pioneering work of the chemists, the physicists, and the biologists to the bedside but who will themselves contribute new direction and new ideas to the problems of clinical cancer.

*Panel on clinical investigations in endocrinology.*—In addition to reviewing applications for research grants falling within its general purview, the panel has offered, in conjunction with those of the panel on endocrine experimental physiology, its services in an advisory capacity to producers, commercial or academic, of various biologically significant materials, who may wish to learn in what laboratories these materials can receive adequate experimental testing. The panel is undertaking a survey of the needs of clinical investigators for rare steroid and other endocrine compounds and will seek means of procuring them.

*The panel on the clinical physiology of the blood and blood-forming organs.*—During the war, under a heavy veil of secrecy, extensive investigations into the biochemical and physiological properties of a series of poisonous substances known as the nitrogen-mustard gases were conducted under the auspices of the Chemical Warfare Service of the Army. It was found that an outstanding characteristic of these substances is their ability to destroy the white corpuscles of the blood and the lymphoid tissues of the animal body. This discovery suggested their cautious use in those human diseases of the blood and lymphoid tissues in which there is a malignant overgrowth of the cells concerned. A series of carefully conducted experiments indicated that under some circumstances the nitrogen-mustard compounds, though not curative, may be a useful adjunct to X-ray treatment—heretofore standard therapy—in the amelioration of these diseases. The potentialities, from the point of view of the clinical investigator, of the substances have not been fully explored and this panel will undertake their further investigation, with especial inquiry into the fundamental mechanisms of their actions in man.

*Panel on the clinical physiology of the female reproductive tract.*—Intensive studies of the mechanism of action, general physiological effects and excretion rates of the various steroid—male sex—compounds in health and disease have been made in various laboratories in this country. No such extensive or searching studies have been made into the physiological properties or metabolic characteristics of the estrogenic—female sex—compounds, although both varieties of compounds are known to have profound effect not only on certain phenomena of normal cellular growth in the body but also have been demonstrated to have the ability to modify some varieties of malignant growth. It is the recommendation of this panel, therefore, that studies be undertaken in the metabolism of the estrogenic compounds on a scale comparable with that with which the steroid substances have been investigated. The panel is now exploring means of accomplishing this necessary research.

#### FELLOWSHIPS

It has been the unanimous opinion of the panels of committee on growth that one of the greatest contributions that can be made to the cause of cancer research by the committee and by the American Cancer Society lies in the support of promising young investigators in the basic sciences and in clinical investigative medicine. In behalf of the society, therefore, the committee has offered fellowships in cancer research of the American Cancer Society in three grades for potential research workers of varying degrees of maturity and accomplishment. These are senior fellowships, fellowships, and predoctoral fellowships. The first two grades have been widely publicized; the latter have been offered only after recommendation of the potential predoctoral fellow by a well-qualified investi-

gator known to the committee or its panels. Thirty-nine applications have been received; of these nine have been recommended to and granted by the society; four have been rejected; two withdrawn; and twenty-four are under consideration by the committee on fellowships. It is the intention of the committee to continue to recommend generous support of the fellowship program as fundamental to continued progress in the field of cancer research.

GRANTS RECOMMENDED AND PENDING

The committee on growth has received a total of 178 applications for grants in cancer research totaling \$1,957,041. Of these, the committee has recommended 44, in the amount of \$366,070, for 1-year period, to the American Cancer Society; 13 have been rejected; and 121, totaling \$1,473,999, for a 1-year period, are now pending review by the appropriate panels.

SUMMARY

A review of the activities of the committee on growth of the National Research Council, acting in an advisory capacity to the American Cancer Society, for the period June 15, 1945–March 15, 1946, is presented.

A roster of membership of the committee on growth and its advisory panels and a list of grants in cancer research and fellowships in cancer research recommended to the American Cancer Society by the committee on growth are attached. Respectfully submitted.

PHILIP S. OWEN, M. D.,  
*Executive Secretary,*  
*Committee on Growth.*

*Total number of applications for grants received by the committee on growth through Mar. 27, 1946*

Total amount requested for 1 year.....	\$1, 957, 041
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Number of grants applications received, 178:	
Approved (41).....	320, 020
Pending (120).....	1, 490, 049
Rejected (13).....	146, 972
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Total.....	1, 957, 041

*Total number of applications for fellowships received by the committee on growth through Mar. 27, 1946*

Total amount requested for 3-year period.....	\$349, 600
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Number of fellowship applications received, 39:	
Approved (9).....	50, 225
Pending (26).....	244, 175
Rejected (4).....	55, 200
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Total.....	349, 600

*List of research projects recommended to the American Cancer Society by the committee on growth*

DIVISION OF BIOLOGY

Panel on botany:

- Investigator: Beadle, G. W., Ph. D.
- Institution: Stanford University, Stanford, Calif.
- Title of project: "A Proposed Study of Adaptation in the Bread Mold *Neurospora Crassa*."
- Period of grant: Jan. 1, 1946, to June 30, 1947..... \$4, 500
- Investigator: Robbins, W. J., Ph. D.
- Institution: New York Botanical Gardens, New York City.
- Title of project: "Growth Substance Deficiencies and Growth Inhibitors in Fungi."

*List of research projects recommended to the American Cancer Society by the committee on growth—Continued*

DIVISION OF BIOLOGY—continued

Panel on botany—Continued

Period of grant: Jan. 1, 1946, to June 30, 1947-----	\$11,200
Investigator: Sinnott, E. W., Ph. D.	
Institution: Yale University.	
Title of project: "Biochemical Study of Growth in Plants."	
Period of grant: Jan. 1, 1946, to June 30, 1947-----	4,350
Investigators: Went, F. W., Ph. D., Bonner, James, Ph. D.	
Institution: California Institute of Technology.	
Title of project: "Study of Plant Growth and Differentiation With Special Emphasis on Plant Tumors"-----	
	7,000
Total-----	<u>27,050</u>

Panel on cellular biology:

Investigators: Demerec, M., Ph. D.—Claude, A., M. D.	
Institution: Carnegie Institution of Washington.	
Title of project: "Study of Morphological Constituents of Bacterial Cells by Means of Mechanical Fractionation, Sectioning, and Electron Microscopy."	
Period of grant: Mar. 1, 1946, to June 30, 1947-----	3,200
Investigator: Lewis, Warren.	
Institution: Wistar Institute, Philadelphia.	
Title of project: "Mitosis of Normal and Malignant Fibroblasts."	
Period of grant: January 1, 1946, to January 1, 1947-----	1,800
Investigator: Rock, John, M. D.	
Institution: Free Hospital for Women, Brookline, Mass.	
Title of project: "Study of Trophoblast Formation in Early Human Embryos."	
Period of grant: July 1, 1946, to June 30, 1947-----	3,000
Total-----	<u>8,000</u>

Panel on human genetics:

Investigator: Oliver, C. P., Ph. D.	
Institution: University of Minnesota.	
Title of project: "The Genetics of Human Cancer—A Collaborative Study with Dr. L. H. Snyder, Ohio State University."	
Period of grant: July 1, 1946, to June 30, 1947-----	8,000
Investigator: Snyder, L. H., Sc. D.	
Institution: Ohio State University.	
Title of project: "Collaborative Study of Genetics of Human Cancer" (with C. P. Oliver, Univ. of Minn.).	
Period of grant: July 1, 1946, to June 30, 1947-----	2,000
Investigator: Snyder, L. H., Sc. D.	
Institution: Ohio State University.	
Title of project: For the services of Dr. Madge Macklin.	
Period of grant: January 1, 1946, to June 30, 1947-----	6,000
Total-----	<u>16,000</u>

Panel on laboratory genetics:

Investigator: Landauer, Walter, Ph. D.	
Institution: University of Connecticut.	
Title of project: "Study of Abnormal Skeletal Growth in Ancon Sheep."	
Period of grant: July 1, 1946, to June 30, 1947-----	2,050
Investigator: Sawin, Paul B., Sc. D.	
Institution: Brown University, Providence, R. I.	
Title of project: "Inheritance of Normal and Abnormal Variations and Their Use as Landmarks of the Normal Growth Process of the Rabbit."	
Period of grant: March 1, 1946, to June 30, 1947-----	4,650
Total-----	<u>6,700</u>

List of research projects recommended to the American Cancer Society by the committee on growth—Continued

DIVISION OF BIOLOGY—continued

Panel on mutations:

Investigator: Demerec, M., Ph. D. Institution: Carnegie Institution, department of genetics. Title of project: "Studies of Bacterial Genetics" Period of grant: Jan. 1, 1946, to June 30, 1946-----	\$750
Investigator: Emerson, Sterling, Ph. D. Institution: California Institute of Technology. Title of project: "Determination of Environmental Conditions Favoring Mutation from Sulfamidamide Tolerance to a 'reverted' Wild-type State in Neurospora Crassa and Investigation of the Nature of the Gene Change Involved." Period of grant: Jan. 1, 1946, to June 30, 1946-----	2, 250
Investigator: Griffin, A. B., Ph. D. Institution: University of Missouri, Columbia Title of project: "Position Effect or Gene Mutations Influenced by Changes in Gene Position and Gene Association in Drosophila Melanogaster". Period of grant: Jan. 1, 1946, to June 30, 1946-----	910
Investigators: Kamen, Martin D., Ph. D.—Spiegelmen, S. Institution: Washington University, St. Louis. Title of project: "Mechanism of Synthesis and Maintenance of Enzymes in Cells." Period of grant: July 1, 1946, to June 30, 1947-----	1 3, 500
Investigator: Kimball, R. F., Ph. D. Institution: Johns Hopkins University. Title of project: "Production of Resistance to Antiserum Against Paramecium in Stocks of Paramecium Aurelia." Period of grant: March 1, 1946, to June 30, 1947-----	2, 860
Investigator: Muller, H. J., Ph. D. Institution: Indiana University, Bloomington, Ind. Title of project: "The Proportion of Detectable Deficiencies on Mutant Clusters Among Mutations Affecting Given Loci of Drosophila that Follow from Different Types of Treatment." Period of grant: March 1, 1946, to June 30, 1947-----	900
Investigator: Tatum, E. L., Ph. D. Institution: Yale University. Title of project: "The Production of Mutant Strains of Neurospora Through the Action of Carcinogenic and Other Chemicals." Period of grant: Jan. 1, 1946, to June 30, 1946-----	750
Total-----	11, 920
Division total-----	69, 670

Funds pooled by:

Panel on mutations-----	\$3, 500
Panel on enzymes-----	8, 000
Panel on physics-----	5, 000
Committee on growth-----	5, 500
Total-----	20, 000

DIVISION OF CHEMISTRY

Panel on cytochemistry:

Investigator: Wislocki, G. B., M. D. Institution: Harvard University. Title of project: "Histolochemical Analysis of Tissues and Organs Having Functional Cycles." Period of grant: July 1, 1946, to June 30, 1947-----	\$15, 000
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Panel on enzymes:

Investigator: Barron, E. S. Guzman. Institution: University of Chicago. Title of project: "Study of Cell Division Under the Action of X-rays and Enzyme Studies in Fast Multiplying Cells."	
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List of research projects recommended to the American Cancer Society by the committee on growth—Continued

DIVISION OF CHEMISTRY—continued

Panel on enzymes—Continued

Period of grant : July 1, 1946, to June 30, 1947-----	\$5, 000
Investigator : Cannan, R. Keith, D. Sc.	
Institution : New York University Medical College.	
Title of project : "The Isolation and Characterization of Tissue Proteins."	
Period of grant : January 1, 1946, to June 30, 1947-----	2, 500
Investigators : Graff, S., Ph. D.—Haagensen, C. D., M. D.	
Institution : Columbia University.	
Title of project : "Nucleic Acid of Normal and Cancer Tissue."	
Period of grant : January 1, 1946, to June 30, 1947-----	6, 000
Investigators : Kamen, Martin D., Ph. D.—Spiegelmen, S., Ph. D.	
Institution : Washington University, St. Louis.	
Title of project : "Mechanism of Synthesis and Maintenance of Enzymes in Cells."	
Period of grant : July 1, 1946, to June 30, 1947-----	6, 000
Investigator : Mazia, Daniel, Ph. D.	
Institution : University of Missouri, Columbia.	
Title of project : "Enzyme Chemistry of Chromosomes."	
Period of grant : January 1, 1946, to June 30, 1947-----	5, 000
Investigator : Potter, Van R., Ph. D.	
Institution : University of Wisconsin.	
Title of project : "An Investigation of the Phosphorylated Metabolites of Tumor Cells Using the <i>in situ</i> Freezing Technique."	
Period of grant : July 1, 1946, to June 30, 1947-----	4, 000

Total ----- 28, 500

\* Funds pooled by :

Panel on enzymes-----	\$2, 500
Panel on proteins-----	4, 500
Total-----	7, 000

Panel on nutrition :

Investigator : Cowgill, George R., Ph. D.	
Institution : Yale University.	
Title of project : "Nutritive Requirements of Mice."	
Period of grant : July 1, 1946, to June 30, 1947-----	7, 200
Investigators : Hofman, Klaus, Ph. D.—Axelrod, A. E., Ph. D.	
Institution : University of Pittsburgh.	
Title of project : "Mechanism of Action of Some of the Newer Members of Vitamin B Complex."	
Period of grant : July 1, 1946, to June 30, 1947-----	6, 300
Investigator : Rusch, Harold P., M. D.	
Institution : University of Wisconsin.	
Title of project : "Dietary Factors That Effect Tumor Formulations" (C. A. Baumann).	
"The Effect of Caloric Restriction on Cancer Formations" (H. P. Rusch).	
Period of grant : July 1, 1946, to June 30, 1947-----	7, 200

Total ----- 20, 700

Panel on proteins :

Investigator : Cannan, R. Keith, D. Sc.	
Institution : New York University Medical College.	
Title of project : "The Isolation and Characterization of Tissue Proteins."	
Period of grant : July 1, 1946, to June 30, 1947-----	4, 500
Investigator : Chargaff, E., Ph. D.	
Institution : Columbia University.	
Title of project : "An Investigation of Lipoproteins."	
Period of grant : July 1, 1946, to June 30, 1947-----	7, 000

*List of research projects recommended to the American Cancer Society by the committee on growth—Continued*

DIVISION OF CHEMISTRY—continued

Panel on proteins—Continued

Investigator: Luck, J. Murray, Ph. D.	
Institution: Stanford University.	
Title of project: "The Fractionation of the Proteins of the Liver."	
Period of grant: July 1, 1946, to June 30, 1947	\$6,000
Total	17,500
Division total	81,700

DIVISION OF PHYSICS

Panel on isotopes:

Investigator: Rittenberg, D., Ph. D.	
Institution: Columbia University.	
Title of project: "Role of Metabolic Reactions in Proteins of Normal and Growing Tissues."	
Period of grant: July 1, 1946, to June 30, 1947	6,000
Investigator: Wilson, D. Wright, Ph. D.	
Institution: University of Pennsylvania.	
Title of project: "Intermediary Metabolism of Proteins, Fats, and Carbohydrates Studied by Means of Carbon Isotopes."	
Period of grant: July 1, 1946, to June 30, 1947	12,400
Investigator: Wood, Harland G., Ph. D.	
Institution: University of Minnesota Medical School.	
Title of project: "Isotopic Tracer Studies of Biochemical Problems Basic to the Physiology of Normal and Malignant Cells."	
Period of grant: July 1, 1946, to June 30, 1947	13,800
Total	32,200

Panel on physics:

Investigator: Bronk, Detlev W., Ph. D.	
Institution: University of Pennsylvania.	
Title of project: "Development and Application of Physical Micro-techniques to the Study of Cellular Growth."	
Period of grant: July 1, 1946, to June 30, 1947	13,200
Investigators: Loofbourrow, J. R., Sc. D.; Bear, R. S., Ph. D.	
Institution: Massachusetts Institute of Technology.	
Title of project: Development of Ultraviolet Microscopy as a Technique."	
Period of grant: July 1, 1946, to June 30, 1947	6,500
Investigator: Williams, Robley C., Ph. D.	
Institution: University of Michigan.	
Title of project: "Electron Microscopic Study of the Physical Properties and Growth Phenomena of Protein Macromolecules."	
Period of grant: July 1, 1946, to June 30, 1947	7,000
Investigators: Kamen, Martin D., Ph. D.—Spiegelman, S.	
Institution: Washington University, St. Louis.	
Title of project: "Mechanism of Synthesis and Maintenance of Enzymes in Cells."	
Period of grant: July 1, 1946, to June 30, 1947	5,000
Investigator: Nier, Alfred O., Ph. D.	
Institution: University of Minnesota.	
Title of project: "Development of Mass Spectrometer."	
Period of grant: Jan. 1, 1946, to Jan. 1, 1947	16,450
Total	48,150
Division total	80,350

*List of research projects recommended to the American Cancer Society by the committee on growth—Continued*

**DIVISION OF CLINICAL INVESTIGATIONS**

**Panel on clinical investigation in endocrinology:**

Investigator: Means, J. H., M. D.

Institution: Harvard University.

Title of project: "A Study of Cancer of the Thyroid."

Period of grant: July 1, 1946, to June 30, 1947----- \$9, 925

**GENERAL GRANTS**

**Institution: National Academy of Sciences.**

For support of an existing central office (now under the jurisdiction of the Committee on Insect and Rodent Control) for the correlation of chemical structure with the biological activities of compounds, in order that the Committee on Growth may have free access to records already assembled and share in the costs of assembling additional biochemical data of particular interest in cancer research.

Period of grant: Feb. 1, 1946, to July 1, 1946----- 5, 000

Institution: National Academy of Sciences.

For purchase of stable isotropic tracers, including carbon 13, nitrogen 15, sulfur 34, oxygen 18, and others as appear appropriate for the support of research of the grantees of The American Cancer Society.

Period of grant: Mar. 1, 1946, to June 30, 1947----- 50, 000

Institution: University of Rochester School of Medicine.

Investigator: Mider, George B. "Studies in Neoplastic Disease."

Period of grant: Sept. 1, 1945, to June 30, 1948----- 17, 875

Institution: Washington University, St. Louis.

Investigators: Kamen, Martin D.—Spiegelman, S. "Mechanism of Synthesis and Maintenance of Enzymes in Cells."

Period of grant: July 1, 1946, to June 30, 1947----- 5, 500

Total----- 78, 375

*Summary of totals*

Biology-----	\$69, 670
Chemistry-----	81, 700
Clinical investigation-----	9, 925
Physics-----	80, 350
General grants-----	78, 375
Total-----	320, 020

**PRELIMINARY GRANTS TO INSTITUTIONS**

Brown University-----	\$4, 650	Minnesota, University of (3)---	\$38, 250
California Institute of Technology (2)-----	9, 250	Missouri, University of (2)---	5, 910
Carnegie Institution of Washington (2)-----	3, 950	National Academy of Sciences (2)-----	55, 000
Chicago, University of-----	5, 000	New York Botanical Gardens--	11, 200
Columbia University (3)-----	19, 000	New York University (2)-----	7, 000
Connecticut, University of----	2, 050	Ohio State University (2)-----	8, 000
Free Hospital for Women, Brookline, Mass-----	3, 000	Pennsylvania, University of (2)-----	25, 600
Harvard University (2)-----	24, 925	Pittsburgh, University of-----	6, 300
Indiana, University of-----	900	Rochester, University of-----	17, 875
Johns Hopkins University-----	2, 860	Stanford University (2)-----	10, 500
Massachusetts Institute of Technology-----	6, 500	Washington University (4)-----	20, 000
Michigan, University of-----	7, 000	Wisconsin, University of (2)---	11, 200
		Wistar Institute-----	1, 800
		Yale University (3)-----	12, 300

In addition to the above grants, 124 additional applications totaling \$1,490,049 are now being considered by the committee, as well as 29 additional requests for 3-year research fellowships totaling \$244,175. These requests, plus many others which leading institutions are known to be formulating, together with the continuation of grants already made, will call for at least an additional \$3,000,000 from the funds which the American Cancer Society is seeking to raise this year.

Since the publication of this report the following grants, recommended by the committee on growth, have been approved by the executive committee of the American Cancer Society:

- Investigators: Hummell, K. P., Ph. D.; Little, C. C., Sc. D.  
 Institution: Roscoe B. Jackson Memorial Laboratory.  
 Title of project: "Quality and Quantity of the Mammary Tumor Inciter as Related to Tumor Incidence."  
 Period of grant: July 1, 1946 to June 30, 1947..... \$5,200
- Investigator: Russell, William L., Ph. D.  
 Institution: Roscoe B. Jackson Memorial Laboratory.  
 Title of project: "Prenatal Environment."  
 Period of grant: July 1, 1946 to June 30, 1947..... 5,600
- Investigator: Snell, George D., Sc. D.  
 Institution: Roscoe B. Jackson Memorial Laboratory.  
 Title of project: "A Study of the Induction of Somatic and Germinal Mutations."  
 Period of grant: January 1, 1946, to June 30, 1947..... 5,250

LIST OF APPROVED FELLOWSHIPS RECOMMENDED TO THE EXECUTIVE COMMITTEE OF THE AMERICAN CANCER SOCIETY BY THE COMMITTEE ON GROWTH AS OF MARCH 25, 1946

*I. Senior fellowships*

- (1) Fellow: Saul Malkiel, A. B., M. A., Ph. D., M. D.  
 Home address: 43 Strathmore Road, Brookline, Mass.  
 Institution: The Rockefeller Institute for Medical Research, Princeton, N. J.  
 Period of fellowship: October 1, 1946, to September 30, 1949.  
 Association with: Dr. W. M. Stanley.
- (2) Fellow: Robert Nieset, A. B., B. S. ed., M. A., Ph. D.  
 Home address: 2375 Jeanne Street, Pittsfield Village, Ann Arbor, Mich.  
 Institution: University of Michigan.  
 Period of fellowship: April 1, 1946, to March 31, 1949.  
 Association with: Dr. H. R. Crane and Dr. R. C. Williams.

*II. Fellowships*

- (3) Fellow: Robert Montgomery Bird, B. S., M. D.  
 Home address: 41 University Place, University, Va.  
 Institution: Cornell University Medical School.  
 Period of fellowship: April 1, 1946, to June 30, 1947.  
 Under direction of: Dr. Charles O. Warren.
- (4) Fellow: Joseph H. Burchenal, M. D.  
 Home address: 210 South Walnut Street, Milford, Del.  
 Institution: Memorial Hospital.  
 Period of fellowship: March 8, 1946, to June 30, 1947.  
 Under direction of: Dr. C. P. Rhoads.
- (5) Fellow: Ivan DeRay Frantz, Jr., A. B., M. D.  
 Home address: 119 Vermont Avenue, Clarksburg, W. Va.  
 Institution: Harvard University.  
 Period of fellowship: February 1, 1946, to June 30, 1947.  
 Under guidance of: Dr. Joseph C. Aub.

*III. Predoctoral fellowships*

- (6) Fellow: Clarence Morley Connelly, A. B.  
 Home address: Care of L. H. Connelly, R. D. 3, Ithaca, N. Y.  
 Institution: Johnson Research Foundation, University of Pennsylvania.  
 Period of fellowship: March 1, 1946, to February 28, 1947.  
 Under direction of: Dr. Detlev W. Bronk.



- (7) Fellow: Edward F. MacNichol, Jr., A. B.  
Home address: Hamilton, Mass.  
Institution: Johnson Research Foundation, University of Pennsylvania.  
Period of fellowship: September 1, 1946, to August 31, 1947.  
Under guidance of: Dr. Detlev W. Bronk.
- (8) Fellow: Robert Louis Sinsheimer, B. S., M. S.  
Home address: 395 Broadway, Cambridge, Mass.  
Institution: Massachusetts Institute of Technology.  
Period of fellowship: March 4, 1946, to March 4, 1947.  
Under guidance of: Dr. J. R. Loufbourow and Dr. F. O. Schmitt.
- (9) Fellow: Wilson Roy Slaunwhite, B. S., M. S.  
Home address: 6 Laurel Path, Winthrop, Mass.  
Institution: Massachusetts Institute of Technology.  
Period of fellowship: March 4, 1946, to March 3, 1947.  
Under guidance of: Dr. I. W. Sizer.

## MEMBERSHIP OF THE COMMITTEE ON GROWTH AND ASSOCIATED RESEARCH PANELS

## COMMITTEE ON GROWTH

- Dr. Cornelius P. Rhoads, chairman, director of the Memorial Hospital, New York City.
- Dr. Florence R. Sabin, Secretary, member emeritus, the Rockefeller Institute for Medical Research.
- Dr. A. R. Dochez, professor of medicine, Columbia University.
- Dr. A. Baird Hastings, professor of biological chemistry, Harvard University Medical School.
- Dr. Charles B. Huggins, professor of surgery, University of Chicago Medical School.
- Dr. Donald F. Jones, director of the department of genetics, the Connecticut Agricultural Experiment Station.
- Dr. C. C. Little, director of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine.
- Dr. Carl R. Moore, professor of zoology, University of Chicago.
- Dr. John Morton, professor of surgery, University of Rochester School of Medicine and Dentistry.
- Dr. James B. Murphy, member in charge of cancer research, the Rockefeller Institute for Medical Research.
- Dr. Eugene P. Pendergrass, professor of radiology, the University of Pennsylvania Medical School.
- Dr. Howard C. Taylor, Jr., chairman of the department of gynecology and obstetrics, New York University Medical College.
- Dr. Merle A. Tuve, physicist, Carnegie Institution of Washington.
- Dr. M. C. Winternitz, professor of pathology, Yale University School of Medicine.

## RESEARCH PANELS

*Division of biology*

Dr. Walter E. Heston, chairman

## Laboratory genetics:

- Dr. Walter E. Heston, chairman, geneticist, National Cancer Institute.
- Dr. Walter Landauer, professor of genetics, University of Connecticut.
- Dr. Clara Lynch, associate, Rockefeller Institute for Medical Research.
- Dr. W. Lawson Russell, research associate, Roscoe B. Jackson Memorial Laboratory.

## Human genetics:

- Dr. Laurence H. Snyder, chairman, professor of medical genetics, Ohio State University.
- Dr. Douglas P. Murphy, assistant professor, obstetrics and gynecology, University of Pennsylvania Medical School.
- Dr. Clarence Paul Oliver, associate professor of genetics, University of Minnesota.

**Mutations:**

- Dr. L. J. Stadler, chairman, principal geneticist, United States Department of Agriculture, University of Missouri.  
 Dr. Millislay Demerec, director, department of genetics, Carnegie Institution of Washington.  
 Dr. Barbara McClintock, investigator, department of genetics, Carnegie Institution of Washington.

**Cellular biology:**

- Dr. George L. Streeter, chairman, director emeritus, department of embryology, Carnegie Institution of Washington.  
 Dr. Albert Claude, associate, Rockefeller Institute for Medical Research.  
 Dr. Edmond V. Cowdry, professor of cytology and anatomy, Washington University Medical School.  
 Dr. Theophilus Painter, professor of zoology and acting president, University of Texas.  
 Dr. George B. Wislocki, professor of anatomy, Harvard Medical School.

**Milk factor:**

- Dr. John J. Bittner, chairman, director, division of cancer biology, University of Minnesota.  
 Dr. Howard B. Andervont, principal biologist, National Cancer Institute.  
 Dr. George W. Woolley, staff member, Roscoe B. Jackson Memorial Laboratory.

**Virus:**

- Dr. George P. Berry, chairman, professor of bacteriology, University of Rochester.  
 Dr. Robert Gladding Green, professor of bacteriology and immunology, University of Minnesota.  
 Dr. Wendell Meredith Stanley, member, Rockefeller Institute for Medical Research.

**Botany:**

- Dr. Orland Emile White, chairman, professor of agriculture and biology, University of Virginia.  
 Dr. George Wells Beadle, professor of biology, Stanford University.  
 Dr. William J. Robbins, director, New York Botanical Gardens.  
 Dr. Philip Rodney White, Institute for Cancer Research, Lankenau Hospital

*Chemistry*

Dr. Eric G. Ball, chairman

**Cytochemistry:**

- Dr. Francis Otto Schmitt, chairman, head of department of biology, Massachusetts Institute of Technology.  
 Dr. Rene J. Dubos, member of Rockefeller Institute for Medical Research.  
 Isidore Gersh, Lieutenant (Medical Corps), United States Naval Reserve, Naval Medical Research Institute.  
 Dr. Oliver H. Lowry, division of physiology and nutrition, Public Health Research Institute.

**Nutrition:**

- Dr. Charles Glen King, chairman, director, Nutrition Foundation.  
 Dr. Conrad Elvehjem, professor of biochemistry, University of Wisconsin.  
 Dr. H. B. Vickery, biochemist in charge of laboratories, Connecticut Agricultural Experiment Station.  
 Dr. Dilworth Wayne Woolley, associate member, Rockefeller Institute for Medical Research.

**Enzymes:**

- Dr. Eric G. Ball, chairman, associate professor of physiological chemistry, Harvard Medical School.  
 Dr. Carl F. Cori, professor of pharmacology and biochemistry, Washington University School of Medicine.  
 Dr. Joseph Fruton, associate professor of biochemistry, Yale University School of Medicine.  
 Dr. Jesse Phillip Greenstein, senior biochemist, United States Public Health Service, National Cancer Institute.

**Proteins:**

- Dr. Robert Keith Cannan, chairman, professor of chemistry, New York University Medical School.  
 Dr. Michael Heidelberger, professor of biochemistry, Presbyterian Hospital, Columbia Medical School.  
 Dr. J. Murray Luck, professor of biochemistry, Stanford University.  
 Dr. John Lawrence Oncley, assistant professor of physical chemistry, Harvard Medical School.

**Synthesis and metabolism of steroids:**

- Dr. Thomas Gallagher, chairman, associate professor of biochemistry, University of Chicago.  
 Dr. Seymour Lieberman, research associate, Memorial Hospital.  
 Dr. Carl Robert Noller, professor of chemistry, Stanford University.  
 Dr. Everett Wallis, professor of organic chemistry, Princeton University.  
 Dr. Wilfred W. Westerfeld, professor of biochemistry, School of Medicine, Syracuse University.

**Endocrine experimental physiology:**

- Dr. Cyril N. Long, chairman, professor and chairman of physiological chemistry, Yale University School of Medicine.  
 Dr. E. B. Astwood, Joseph N. Pratt Diagnostic Hospital, Boston, Mass.  
 Dr. Edward Wheeler Dempsey, assistant professor of anatomy, Harvard Medical School.  
 Dr. F. D. W. Lukens, assistant professor of medicine, University of Pennsylvania Medical School.  
 Dr. H. B. van Dyke, professor of pharmacology, College of Physicians and Surgeons, Columbia University.

*Clinical investigation*

Dr. William B. Castle, chairman

**Clinical investigation in endocrinology:**

- Dr. Allan Kenyon, chairman, professor of medicine, University of Chicago.  
 Dr. Fuller Albright, associate professor of medicine, Massachusetts General Hospital, Harvard Medical School.  
 Dr. Konrad Dobriner, research associate, Memorial Hospital.  
 Dr. Robert Loeb, professor of medicine, Columbia University, Presbyterian Hospital.

**Clinical physiology of the blood and blood-forming organs:**

- Dr. William B. Castle, chairman, professor of medicine, Harvard Medical School.  
 Dr. William Bloom, professor and chairman of anatomy, University of Chicago.  
 Dr. Lloyd F. Craver, assistant professor of clinical medicine, Cornell University Medical School.  
 Dr. Charles Doan, professor of medicine, Ohio State University.

**Clinical physiology of the female reproductive tract:**

- Dr. George Van Sicken Smith, chairman, assistant professor of gynecology, Harvard Medical School.  
 Dr. Earl Engle, professor of anatomy, College of Physicians and Surgeons, Columbia University.  
 Dr. Fred W. Stewart, associate professor of surgical pathology, Cornell University Medical School.  
 Dr. Richard TeLind, professor of gynecology, Johns Hopkins Medical School.

*Physics*

Dr. J. W. Beams, chairman

**Physics:**

- Dr. J. W. Beams, chairman, professor of physics, University of Virginia.  
 Dr. Paul Aebersold, physicist, radiation laboratory, University of California.  
 Dr. L. A. DuBridge, director, radiation laboratory, Massachusetts Institute of Technology.  
 Dr. Harlod C. Urey, professor of chemistry, University of Chicago.

**Radiology :**

- Dr. Andrew Hunter Dowdy, chairman, associate professor of radiology, University of Rochester Medical School.
- Dr. Gioachino Failla, professor of radiology and director of radiology research laboratory, College of Physicians and Surgeons, Columbia University.
- Mr. L. D. Marinelli, physicist, Memorial Hospital.
- Dr. Hugh Wilson, professor of radiology, Yale University School of Medicine.
- Dr. Raymond E. Zirkle, director, Institute of Radiobiology and Biophysics, University of Chicago.

**Isotopes :**

- Dr. David Wright Wilson, chairman, professor of physiological chemistry, University of Pennsylvania Medical School.
- Dr. Earl Allison Evans, jr., professor and chairman of biochemistry, University of Chicago.
- Dr. David Greenberg, professor of biochemistry, University of California.
- Dr. David Rittenberg, assistant professor of biochemistry, Columbia University.
- Dr. Harland G. Wood, associate in physiology, University of Minnesota Medical School.

Senator PEPPER. Did you contemplate the possibility of the national cancer commission using the Public Health Service for administrative purposes?

Dr. RHOADES. Yes, sir.

Senator PEPPER. You think that is all right?

Dr. RHOADES. Yes, sir. That is an administrative matter, as I see it.

Senator PEPPER. We thank you very much, Dr. Rhoades, for giving us your views. There are a lot of questions that I would like to ask you, but since we have so large a list of witnesses here I cannot do it. But I do wish to express appreciation of the obvious fact that both of you gentlemen who are in private research and in private hospitals are thinking along the same lines, from the viewpoint of organization; and maybe you have suggested a pattern which will give us the best results.

Thank you very much.

I am sure that all of you people recognize former Senator Neely, now Representative from the State of West Virginia, who initiated this matter. I am just introducing a companion bill in the Senate.

Mr. NEELY. You are entirely too modest, Senator.

Senator PEPPER. The next witness is Dr. A. W. Oughterson, medical and scientific director, American Cancer Society, New York City.

Doctor, we are glad to have you here and we welcome your statement.

**STATEMENT OF DR. A. W. OUGHTERSON, MEDICAL AND SCIENTIFIC DIRECTOR, AMERICAN CANCER SOCIETY, NEW YORK, N. Y.**

Dr. OUGHTERSON. Senator, I have written a short report which I, unfortunately, have not had time to get typed, but I will have it typed for the record.

The need for funds for cancer research as provided in S. 1875 is indicated by the fact that cancer causes 170,000 deaths a year in the United States and that there are more than a half million cancer cases in our country at all times.

Others have testified regarding this need, and I shall not take up more of your time on that point. It seems to me self-evident.

The interest of the common people in this problem is evidenced by the fact that this year they have already given voluntarily to the American Cancer Society more than \$10,000,000. That will be increased, we believe, by an additional \$2,000,000.

The sum of \$100,000,000 proposed in S. 1875 is none too large and will probably not be enough to accomplish the purposes of the bill. No one knows how much it will cost, any more than the cost of the war or of the atomic bomb could have been predicted. If the purposes of this bill can be accomplished with this sum of money it will be a bargain, since cancer is now costing our Nation several times this amount annually.

However, it would be wrong to lead the American people to believe that this sum can purchase freedom from the fear of cancer. Time will also be needed to expend this sum wisely, as research personnel is limited and must be trained, and facilities for research must be provided. However, the knowledge that such sums of money are available is necessary and will be of great benefit by attracting people into this difficult field of research.

An over-all strategic plan for the attack on cancer requires both short-term and long-term plans. This bill provides for the research necessary for a long-term plan which is so urgently needed.

The short-term plan, using the methods of treatment already available, surgery, X-ray, and radium, and requiring education of the public and the medical profession, may perhaps be best accomplished by a voluntary health agency such as the American Cancer Society. This is so because campaigns in which people participate are in themselves an essential part of the educational process, and this maintains public support and interest for long-term planning for which this bill is devised.

The part played by the American Cancer Society and its views on this bill are given in a letter to the Honorable Sol Bloom when testimony was given on H. R. 4502 before the House Foreign Affairs Committee. That will be submitted to the committee.

AMERICAN CANCER SOCIETY, INC.,  
New York 1, N. Y., July 8, 1946.

The Honorable Senator CLAUDE D. PEPPER,  
United States Senate, Washington, D. C.

DEAR SENATOR PEPPER: I am enclosing two copies of the testimony which I read on Tuesday, July 2, before the Senate Subcommittee on Foreign Relations, at the hearing on the cancer research bill, S. 1875.

The American Cancer Society is most appreciative of the kindness and courtesy which you have extended to its members and for the full and ample opportunity the society has had to express its convictions regarding this bill.

Attached are the enclosures referred to in the testimony.

Sincerely yours,

A. W. OUGHTERSON, M. D.,  
Medical and Scientific Director.

AMERICAN CANCER SOCIETY, INC.,  
New York 1, N. Y., July 2, 1946.

Subject: Cancer Research Bill, S. 1875.

The Honorable Senator CLAUDE PEPPER,  
Senate Subcommittee on Foreign Relations,  
United States Senate, Washington, D. C.:

1. The need for funds for cancer research as provided in this bill is indicated by the fact that cancer causes 170,000 deaths a year in the United States and that there are more than a half million cancer cases in our country at all times.

2. The interest of the American people in this problem is evidenced by the fact that this year they have already given voluntarily to the American Cancer Society more than \$10,000,000. Approximately \$2,500,000 of this sum will be available for research.

3. The \$100,000,000 proposed in S. 1875 is none too much and probably will not be enough to accomplish the purpose of the bill. No one knows how much it will cost any more than the cost of the war or of the atomic bomb could have been predicted. If the purpose of this bill can be accomplished with this sum of money, it will be a bargain since cancer is now costing our Nation several times this amount annually. However, it would be wrong to lead the American people to believe that for this sum they can purchase freedom from fear of cancer. Money alone is not enough. Time will also be needed to expend this sum wisely as research personnel is limited and hence must be trained and facilities for research must be provided. However, the knowledge that such funds are available is necessary and will be of great benefit by attracting able young scientists into this difficult field of research.

4. Over-all strategic planning for the attack on cancer requires both short-term and long-term plans. This bill provides for the research necessary for long-term planning which is so urgently needed. The short-term plan using the methods of treatment already available (surgery, X-ray, and radium) and requiring education of the public and the medical profession may be best accomplished by a voluntary health agency such as the American Cancer Society. This is so because the campaign in which the people participate is in itself an essential part of the educational process and the means of maintaining public support and interest for long-term planning. The part played by the American Cancer Society and its views on this bill are given in a letter to the Honorable Sol Bloom when testimony was given on bill H. R. 4502 before the Foreign Affairs Committee. (See enclosure 1.)

5. The research program of the American Cancer Society is now well developed on a national basis in collaboration with the Committee on Growth of the National Research Council. Further development of cancer research along these lines may well be the most desirable pattern for the future and provides an already existing organization for utilizing the funds authorized under S. 1875. (See enclosure 2.)

6. An amendment is recommended to cancer research bill, S. 1875, in order to provide the President with the assistance needed to accomplish the great task he is requested to undertake.

(a) Cancer research involves such a wide scope of scientific activity and so many different scientific disciplines even beyond those ordinarily associated with medicine that no established department or division of the Government possesses the personnel or information to adequately cope with the problem or to insure a wise expenditure of funds. Cancer is the concern of all the people, and while doctors and scientists must shoulder the responsibilities for the technical problems, the citizens of our country have an equal responsibility in providing the funds and the necessary administrative leadership.

(b) In view of the importance of the problem and the wide variety of interests involved it is recommended that the President be authorized to appoint a National Cancer Commission composed of scientists, doctors, and laymen who may select the key personnel and determine the policies and procedures necessary to accomplish the purposes of this bill. The Commission should have a full-time paid executive and such other assistance as is needed. (The Commission to consist of 14 members as follows: 1 full-time paid executive; 1 representative of the Veterans' Administration; 6 medical or scientific authorities who are outstanding in the United States as concerns the study of cancer and/or related fields; 6 outstanding citizens who have experience, interest and competence in scientific matters.)

(c) Since coordination of over-all planning is necessary, no funds made available under this act should be expended without the approval of this Commission.

(d) An operating agency will be required through established governmental channels and it is recommended that the National Cancer Commission operate in the administrative framework of the United States Public Health Service, administratively responsible in the first instance to the Surgeon General.

(e) Since the National Cancer Institute Act, S. 2067, section 3, provides for a National Advisory Cancer Council, it is recommended that the council be abolished and its functions transferred to the National Cancer Commission. It is further recommended that for purposes of coordination the National Cancer Institute would cooperate administratively under the general direction of the Cancer Commission.

(f) Provisions of Public Law 410 in respect of cancer would be operated by the Surgeon General through the National Cancer Commission. The Commission would be empowered to establish new institutions or make appropriations to existing institutions in addition to the authority now contained in title 5 of Public Law 410.

(g) The Commission would be authorized to give grants to existing scientific institutions or to create new ones in order to enable them to provide facilities—laboratory, clerical, and hospital—for purposes of cancer research.

(h) The Commission would promote the coordination of researches conducted by the Cancer Institute and similar researches conducted by other agencies, organizations, or individuals—public and private ones in or outside of the United States drawing on knowledge and talent throughout the world.

(i) The Commission would be authorized to employ scientific experts and consultants without reference to civil service either in or outside the United States.

(j) The appropriation authorized under bill S. 1875 would be available until expended. Future estimates of appropriations for operation of the National Cancer Institute should be included in the estimate of the National Cancer Commission.

Respectfully submitted.

A. W. OUGHTERSON, M. D.,  
*Medical and Scientific Director  
 and Executive Vice President of  
 American Cancer Society, Inc.,  
 New York 1, N. Y.*

MAY 21, 1946.

Hon. SOL BLOOM,

*Chairman, Foreign Affairs Committee,  
 House of Representatives, Washington, D. C.*

MY DEAR MR. BLOOM: Dr. Cornelius P. Rhoads testified before your committee on behalf of the American Cancer Society and, in conformity with his promise, we are addressing this letter to you to give our views in regard to bill, H. R. 4502, now pending before your committee. We attach hereto the list of officers and directors of the American Cancer Society (exhibit A) and will undertake briefly to give you the facts concerning the society and its operations.

Last year the public responded to the society's appeal by contributing more than \$4,000,000. Considerably more than half of this was retained by the individual States for education and service. The major portion of the money received by the national organization has been used for research. A total of \$500,000 has been devoted to this purpose. Approximately \$700,000 of this has been expended in specific grants. The attached report (exhibit B) describes the research program and the first grants made through it. The attached (exhibit C) lists additional research grants which have been made since the report was printed.

The report explains how our research program is operating and the manner in which funds for research are allocated by the American Cancer Society. The society itself does not initiate grants for research. These are initiated by the Committee on Growth of the National Research Council, which is a branch of the National Academy of Sciences. Thus, the initiation and the recommendations of all research and fellowship grants are directed by this body and the eminent scientists from all fields who serve on its panels. The American Cancer Society can accept or reject any of the recommendations. In our first year under this arrangement, all of the recommendations have been accepted. This method of procedure, whereby the initiation and approval of all grants are in the hands of distinguished, independent scientists, was arrived at after long study. We believe this method constitutes the soundest pattern for the expenditure of similar funds, whether from private sources or from Government.

In the field of education, the society has built up an organization, known as the field army, of more than 600,000, a large proportion of them women. This group is developing into the greatest peacetime Army our Nation has ever known. They conduct year-round activities to educate the public with regard to the importance of recognizing the danger signals of cancer and seeking early medical aid. This is of the greatest importance. From 30 to 50 percent of all cancer

deaths can be prevented if people are aroused to the threat of cancer and the importance of seeking aid in time.

The campaign, which the society conducts annually to raise money, in itself is the greatest contribution that can be made to cancer education. The campaigns last year and this year have done more to awaken and to educate possible cancer victims than could have been done through any other means. In virtually every city and hamlet of the Nation, citizens have been aroused to work for this cause. Until the battle against cancer is finally won, this voluntary effort by the people themselves is absolutely essential.

In every State the society has an independently organized division, which not only conducts educational activities but also promotes better facilities for cancer patients. Up to this year, the society has not had sufficient funds for this work. That is why we increased our 1946 goal to \$12,000,000. Sixty percent of this money will be retained in the States. It will be used for the establishment of prevention clinics, where people may go to determine whether they are free of cancer's danger signals. If not, they are directed to diagnostic and treatment clinics. Additional support is also going to these institutions from this year's funds. Money is also being used for refresher courses and other activities designed to bring the practicing physician abreast of the latest advances in cancer work. The society recognizes that one of the things we need most in the fight against cancer is more able doctors, both in practice and in research.

Indications are that we will approach, if not exceed, this year's goal of \$12,000,000. We are virtually certain of being able to devote at least \$2,500,000 from this year's funds to research, and we hope much more.

With this background, we briefly summarize our reactions to bill H. R. 4502, as follows:

1. The American Cancer Society endorses the principle of making available Federal funds for the support of cancer research. However, the society cannot pass upon the application of this principle until the detailed bill is drawn. In aiding to that end the officers of the society would be happy to be called on for their experience. Experience has taught us that the mere expenditure of sums does not in itself bring us, either in research or in service, to the solution of the grave problems entailed in cancer. While comparatively large sums are imperative if this dread scourge is to be properly fought, large sums spent without the proper planning that long experience and expert scientific judgment can give may fail to accomplish what considerably smaller sums rightly planned can accomplish.

2. The American Cancer Society recommends that Federal funds made available for cancer research under this bill be expended under the direction of a commission composed of outstanding scientists and laymen appointed by the President. We urge that this commission be composed of one representative each from the Army, Navy, Public Health Service, and Veterans' Administration and five representatives from private agencies distinguished for their contributions to cancer research.

3. One of the general purposes of the commission might be ultimately to coordinate private and public cancer research so as to prevent duplication of effort and expenditure in the field of research.

4. The American Cancer Society recommends that the Federal funds for cancer research be primarily expended in the support and enlargement of existing public and private institutions for cancer research, as well as in the possible creation of needed new institutions.

5. As covered in this letter, the American Cancer Society invites attention to the existing organization created by contract between the society and the National Academy of Sciences, by which there has been organized a committee of distinguished scientists under the National Research Council, which has mobilized 90 eminent specialists in various fields to coordinate, initiate, and guide the support of cancer research in the Nation's most outstanding institutions.

America is cancer conscious. The American Cancer Society established that beachhead. The real fight is ahead.

We respectfully request that this letter be entered into the record as testimony relative to H. R. 4502.

Respectfully,

FRANK E. ADAIR, *President.*



AMERICAN CANCER SOCIETY, INC., 350 Fifth Avenue, New York City

## OFFICERS

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The research program of the American Cancer Society is now well developed on a national basis in collaboration with the committee on growth of the National Research Council. Further development of cancer research along these lines may well be the most desirable pattern for the future, to provide an already existing organization for utilization of the funds authorized under S. 1875. This was previously elaborated by Dr. Rhoads, and I will not say more about that.

An amendment is recommended to S. 1875 in order to provide the President with the assistance needed to accomplish the great task to be undertaken.

Cancer research involves such a wide scope of scientific activity and so many different scientific disciplines, different from those ordinarily associated with medicine, that no established department or division of Government possesses the personnel or the information adequately to cope with the problem or to insure a wise expenditure of funds. Cancer is the concern of all the people; and while doctors and scientists must shoulder the responsibilities for the technical problems, the citizens of our country have an equal responsibility in providing funds and the necessary administrative leadership.

In view of the importance of the problem and the wide variety of interest involved, it is recommended that the President be authorized to appoint a National Cancer Commission composed of scientists, doctors, and laymen who may select the key personnel, and determine the policies and procedures necessary to accomplish the purposes of this bill.

The Commission should have a full-time paid executive and such other assistants as are needed; the Commission to consist of 14 members, as follows:

One full-time paid executive; one representative of the Veterans' Administration; six medical and scientific authorities, and six outstanding citizens. In short, exactly as has been previously presented.

Since coordination of over-all planning is necessary, no funds made available should be expended without the approval of this Commission.

The operating agency should be required to work through normal governmental channels, and it is recommended that the National Cancer Commission operate within the administrative framework of the United States Public Health Service, administratively responsible, in the first instance, to the Surgeon General.

Since the National Cancer Institute Act, S. 2067, section 3, provides for a national advisory cancer council, it is recommended that this council be abolished and its functions transferred to the National Cancer Commission.

It is further recommended that for purposes of coordination the National Cancer Institute should operate administratively under the general direction of the Cancer Commission.

Provisions of Public Law 410 in respect of cancer should be operated by the Surgeon General through the National Cancer Commission; the Commission to be empowered to establish new institutions or make appropriations to existing institutions, in addition to the authority now contained in title 5 of Public Law 410.

The Commission should be authorized to give grants to existing scientific institutions or to create new ones in order to enable them

to provide facilities, laboratory, clinical, and hospital, for purposes of cancer research.

The Commission should promote coordination of research conducted by the Cancer Institute and similar research conducted by agencies, organizations, or individuals, public and private.

The Commission should be authorized to employ scientific experts and consultants without reference to civil service.

The appropriations authorized under S. 1875 to be available until expended; future estimates for operation of the Cancer Institute to be included in the estimate to the National Cancer Commission.

Senator PEPPER. You mean you would have just one appropriation, and that would go through the National Cancer Commission and that would handle all cancer research?

Dr. OUGHTERSON. Yes, sir. It would simplify it.

Senator PEPPER. Doctor, I do not believe you have included in there any reference to cooperation with agencies in other countries. I think we should give the Commission authority, don't you, to give grants abroad or to bring scientists here from abroad, or anything that they may find useful to cooperate with research in other parts of the world toward the same end?

Dr. OUGHTERSON. I think that is a good suggestion, sir. That was the original intent of the bill, and I think talent should be obtained wherever in the world it is available.

Senator PEPPER. I want to address this question to the witnesses who testified yesterday. Dr. Weed testified yesterday.

Doctor, are you in agreement with this general form of organization that has been suggested here this morning by Dr. Dyer, Dr. Rhoads, and Dr. Oughterson as to the way the Commission might be organized?

Dr. WEED. I am in agreement with the idea of a commission. I so reported in my statement which I submitted to you yesterday. I feel that the Commission ought to be independent enough so that its relation to any existing governmental department should be merely that of a tenuous administrative body.

Senator PEPPER. I understand that it was contemplated in all these suggestions that the Commission would be the place where the authority was lodged. There is no question about that. I understand that Dr. Dyer had in mind the Public Health Service and the Surgeon General would be the administrative agents of the Commission.

Admiral DYER. Yes, sir.

Dr. WEED. I would put it in the Federal Security Agency, directly under the Administrator. I would put it in the higher echelon.

Senator PEPPER. You mean, you would put the Commission under the Federal Security Agency?

Dr. WEED. No; just for administrative relationship, so that the budget would come through the Federal Security Agency. I would put it on as high an echelon as I could.

Senator PEPPER. Is not that a little modification of your idea of independence?

Dr. WEED. I think from the standpoint of administration you have got to attach such commission to some existing Government agency of a permanent nature, and I feel that properly such a commission should be placed in the Federal Security Agency, and in a very high echelon

in the agency, where it is absolutely essential to the proper functioning of it.

Senator PEPPER. Dr. Bayne-Jones, what would be your reaction to these suggestions of organization?

Dr. BAYNE-JONES. Yesterday I said I thought it should be set up almost as an independent agency under the President. I was very anxious that it be not attached to any other governmental agency.

I have noticed the use of the words "operate within the framework of the United States Public Health Service." I think that needs a great deal of clarification in order to know what it means. I missed the exact meaning of the phraseology of the power of the Surgeon General in the matter.

If it were possible to set this up, as Dr. Weed has said, on the highest governmental level, with the minimum involvement of administration through some other branch of the Government, I should like to see that done.

Senator PEPPER. Of course we do have in the Government illustrations of independent commissions, such as the Federal Security Agency, the Securities and Exchange Commission, the Interstate Commerce Commission. These commissions deal independently. I do not recall whether under the President's reorganization bill they are assessed to anybody or not, but I doubt it. Congress has always exempted most of these quasi-judicial commissions, and I think it might well be that this Commission should have maximum independence by being directly under the President, or, rather, being created as an independent body, and then to use the Public Health Service as its administrative agent. I think that is what Dr. Dyer was generally getting at. The only danger, of course, about putting the Commission within an agency is that if that agency has to do with its budget it always has a practical influence over policy.

I just wanted to get the consensus of opinion on these suggestions. You incline toward the idea of an independent commission?

Dr. BAYNE-JONES. Yes, sir.

Senator PEPPER. Without being under any agency?

Dr. BAYNE-JONES. Yes, sir.

Senator PEPPER. Is there anyone else here who testified yesterday?

Dr. FRIEDGOOD. May I add the following remarks to my testimony of yesterday? All of us who have testified at these hearing are interested in only one thing—the discovery of the cause and cure of cancer in the most expedient and efficient fashion. The Cancer Research Foundation of California, which I am representing, believes that this noble purpose can be accomplished best by creating a new and independent agency to implement the purposes of this bill without any previous commitment to policy which an existing government or non-government agency must have made in the course of its existence. The appointment of a full-time director, preferably an eminent layman, responsible only to the President and the appointment by the President of an advisory board of about 10 members, with whom he could consult, would guarantee the freedom of action and democratic administration which the assault on cancer demands. The advisory board should be selected on a Nation-wide basis, representing in essence the various sections of the country, and should be chosen from university faculties for the most part.

Mr. PERLMUTTER. I feel very much as you do, Senator Pepper, that it should be very definitely an independent commission and not under the jurisdiction of any existing agency.

Senator PEPPER. Thank you, Dr. Oughterson. It was very kind of come.

I would like to ask one other question, however. We are thinking in terms of this \$100,000,000 appropriation, and the suggestion has been well made, I think, that it should be available until expended. Suppose the Commission had this \$100,000,000 at its disposal: Would not the Commission, in the making of its plans, so plan as to contemplate that there would be future appropriations as needed, or do you think it would have to limit itself to \$100,000,000 with the expectation that that was all it was going to get?

What would be your idea about that? Is this sum of money large enough?

What we are getting at in this case is that so far as money is a limitation upon the attack on cancer we want to remove that limitation. I think we have got enough money to make it available. I mean the problem is to make available all the money that can be intelligently and wisely and properly spent. That is what we here in Congress want to do—at least, what the authors of these bills want to do. Now, what is your reaction to that?

Dr. OUGHTERSON. I agree with you. I think you have stated the problem quite well. One of the great factors retarding cancer investigation has been the lack of funds available, and especially funds available over any long period. It should be emphasized, as I presume almost everyone knows, that the type of investigation which is needed in cancer is far more complicated than that ordinarily found in investigating the infectious diseases, for instance, on which so much attention has been focused in the past. When we come to deal with the chronic degenerative diseases and problems such as cancer, requiring long periods of research, before one gets an answer to a problem, many times, 5 years or more, in order to get the type of investigators trained to do that work, we must lay a long-range plan.

Senator PEPPER. That is why I say if you have any suggestions, or if any of you gentlemen have any suggestions about the funds, why then we would like to have it. Of course if this Commission should be set up and start to function, obviously it would have to lay plans over a period of 5 or 10 years, or 20 years, and I just want to know if \$100,000,000 is enough to allow a commission to make the kind of long-range plans that should be made.

Dr. OUGHTERSON. I think it is enough, sir, to make a start. The Commission would very soon have valued the situation and again, a long time ahead, make further requests.

Senator PEPPER. I feel if we had that much of an investment in the subject, with the good work that the Commission would do, I am sure the Congress would respond readily.

Thank you, Dr. Oughterson, very much.

Dr. Gemma Barzilai, of New York.

**STATEMENT OF TESTIMONY OF DR. GEMMA BARZILAI, GYNECOLOGIST AND PATHOLOGIST, NEW YORK CITY, AT THE HEARINGS OF THE SENATE SUBCOMMITTEE ON FOREIGN RELATIONS ON JULY 2, 1946, IN CONNECTION WITH BILL S. 1875**

Dr. BORZILAI. Mr. Chairman, while I should like to express my gratitude for having been given the opportunity of reiterating my whole-hearted support of bill S. 1875, I do not believe there is much need for further detailed testimony enumerating facts about the actual cancer situation in America and in the world at large.

The statements we have had the benefit of listening to yesterday and today, added to those delivered to the Committee on Foreign Affairs of the House of Representatives on May 7 and 8, 1946, have contributed I believe a sufficient amount of knowledge on cancer facts for the Senate to consider for a final decision on bill S. 1875.

There has been, furthermore, in our statements such a pleasant and unequivocal agreement regarding the basic principles of bill S. 1875, that there is little, if any, doubt whatsoever about the necessity of Federal assistance in the fight against cancer.

As a matter of fact everyone has agreed, first, that the world scientists must be mobilized for the purpose of an all-out fight against cancer and, second, that this mobilization can adequately be done by no lesser an agency than the United States Government; that the size of the proposed appropriation is an absolute prerequisite to the success of this first mobilization; and that it is obvious that the scope of further appropriations, if and when they are needed, will depend to a large extent upon how soon and how completely the first group of scientists mobilized will have been able to win the war against cancer.

Incidentally, I might say that the Senators will find in our testimonies delivered before the House committee, which have already been printed, detailed information as to how and why the absence of adequate funds at the disposal of cancer-research workers has been a handicap in the pursuit of their work. In my own testimony before the House committee, I have outlined the financial aspects of surgical and pathological cancer-research work.

It has furthermore been explained by many of us that the cancer problem cannot be approached in the same manner as was the project of the atom bomb. We know much less about cancer today than we knew about atomic energy when the atom-bomb project was put to work. There is, however, a relationship between the cancer problem and the atom bomb. Radioactive substances, which are byproducts of the latter, may prove exceedingly helpful in the treatment of cancer.

We all agreed that the rapidly increasing incidence of cancer stops the mobilization of cancer experts, an emergency where action must be taken under pressure, making little allowance for the element of time to argue things out. This emergency aspect of the cancer problem involves the granting to the President of major powers such as the power of allotting appropriate funds as most fittingly required. To this end, a board of highly specialized technical advisers to the President must be provided.

In answer to the question, "Whether an independent committee ought to be set up, or whether an already established Government



agency should assume the task," in my opinion the advisory committee should be composed of independent, unselfish scientists and administrators.

The spirit of the bill is to make this cancer mobilization an international and not an inter-Governmental body.

The selection of the proposed group of advisers is a crucial point. It is hard to select a group of people with the necessary background to fulfill such work in a satisfactory way. It is relatively easy, however, to establish the various categories of specialists and people who should be represented. I would include the following:

1. Surgeons, X-ray and radium specialists, physicians at large.
2. Pathologists.
3. Biologists (physiologists and biochemists).
4. Physicists and chemists, including theoretical physicists and physicists with special knowledge on radiation energy.
5. Anatomists.
6. Nutritionists.
7. Statisticians.
8. Research workers on genetics.
9. Authors of outstanding scientific books and papers on cancer.
10. Scientists with knowledge of foreign languages and foreign literature on cancer.
11. People engaged in preventive and educational work on cancer.
12. Representatives of Sponsors of Government Action against Cancer.

According to the bill, the selection of this group rests with the President himself.

In answer to the question, "Whether the members of the Advisory Board should first be selected and then a chairman be elected among them by them, or whether a director should be appointed to select the members," in my opinion, the President, in conjunction with the two foreign committees on the House and the Senate who have originated the bill and given so much time and shown such interest in the matter would be in the best position to select the advisory board.

Names of people well equipped to represent the different categories may be found in the records of the American Cancer Society, the National Research Committee, the Committee on Growth, the Academy of Science at large, and among those working at Bethesda, Memorial Hospital, Lankenau Hospital, Massachusetts State Organization Against Cancer, Johns Hopkins, Harvard, Cornell, Columbia, Mayo Clinic, Smithsonian Institute, American Library Association, etc.

I am entirely in favor of the passage of bill S. 1875 with the recommendation that an independent advisory board to the President be formed at the earliest possible date.

Senator PEPPER. Thank you very much, Dr. Barzilai.

Is Dr. Walter M. Simpson, director of the Kettering Institute for Medical Research, the Miami Valley Hospital, Dayton, Ohio, here? He is not here.

Dr. Dyer, would you be good enough to have your draftsman formulate into a bill the general suggestions that you embodied here this morning in your testimony, which others have approved, making the Commission independent as you have mentioned it, and then emphasize in the drawing of it the fact that this Commission

is to cooperate with similar agencies in other parts of the world and that it is authorized specifically to aid research in any parts of the world, if it is carried on on terms satisfactory to us and information is made available to us, and so on, as we would require; and the Commission also should be authorized to encourage the formation of research agencies of this character in other parts of the world and to work in cooperation with the United Nations Health Organization? (See p. 56 of these hearings.)

Dr. DYER. Yes, sir.

Senator PEPPER. Now, Dr. Max Gerson, of Gotham Hospital, New York. We will hear Mr. S. A. Markel, of Richmond, Va., first. Gentlemen, you have heard twice the bell ring for the calling of a quorum for the Senate, so I would like us to make our statements just as brief as possible, and if you could make them orally and file your written statements for the record, it might save time.

#### STATEMENT BY S. A. MARKEL, RICHMOND, VA.

Mr. MARKEL. In the interests of saving time, I have a statement here that I will file for the record.

(Mr. Markel's prepared statement is as follows:)

#### PREPARED STATEMENT BY SAMUEL A. MARKEL

My name is Samuel A. Markel. My residence is 3410 Monument Avenue, Richmond, Va. I am a citizen of the United States, having been born in Elizabeth, N. J., United States of America.

I am in favor of the bill in principle. There are very few undertakings more important than this to which the United States Government could address itself. If my information is correct, between 450 and 500 people die each day of this dreaded disease, in other words, about 165,000 to 175,000 each year. This, of course, does not take into account the tremendous suffering by cancer patients.

Millions of dollars have been and are being spent in cancer "research," and while it is unknown how much of the actual dollar finds its way into research, as compared with other expenses, the amazing fact is that the medical profession is apparently still "researching" on the subject matter of cancer, while there resides in New York City an unassuming physician who has long since passed the period of research on animals and is actually treating and, in my humble opinion as a layman, curing cancer in human beings.

I have seen patients who appeared to me to be so far gone as the result of the ravages of cancer as to be beyond the pale of anything but miracles. These miracles are in fact being performed by Dr. Max Gerson, 667 Madison Avenue, New York.

I have seen some of these results.

The wife of one of my friends underwent an operation for cancer at the Walter Reed Hospital in Washington where her breast was removed, and which appeared to aggravate her situation and it appears that cancer had thereafter spread over her lungs. After a visit in New York for several months under the treatment of this scientist, Dr. Gerson, she has returned to her home in Richmond, Va., she has gained in weight, and, so far as I know, is cancer free. She says she has never felt better in her life. Her name is Mrs. W. G. Wharton. Her address is 2806 East Franklin Street, Richmond, Va., and her husband is presently the building inspector for the city of Richmond.

I myself was relieved of a very serious case of osteoarthritis by Dr. Gerson after my own doctor had pronounced my condition incurable.

My only interest in this matter is a humanitarian one, having lost my wife with this dreaded disease, and I feel that the least I can do is to add my voice and such funds as I am able to the eradication of cancer, and I have therefore given freely to the various campaigns for research. It appears, however, that some doctors are fighting Dr. Gerson. I can readily understand that when results so fantastic are obtained that such claims can hardly be believable. My quarrel with these gentlemen is the fact that they will immediately say such things are

impossible, or the doctor is a fake, without even stopping to inquire what is being done. I have had the same experience with my own doctors, who merely throw up their hands and say that anyone claiming to cure cancer is a fake, and while I understand that the medical profession considers it unethical for any doctor to say that he cures any ailment unless that cure has been in effect for 5 years or more. I understand further than the oldest patient in point of treatment for cancer which Dr. Gerson has, in the United States, is about 4 or 4½ years, and I hope that the good doctors of the medical profession will excuse me, if I as a layman say that I would not deny the results that I have seen on account of 6 months or so, and I feel that it is worthy of investigation and certainly of further research.

The very fact that the patients treated by Dr. Gerson are living today when they were destined to die 3 or 4 years ago, according to the statements of these good doctors who treated them, I say is a sensational result and the least that can be said for it is that Dr. Gerson has accomplished something that no one else in the medical profession has accomplished with respect to the treatment of cancer, so far as I am able to ascertain.

I would hate to think that the antipathy to Dr. Gerson would be in any manner associated with the fact that his treatments are dietary and are not surgical. He does not use surgery or recommend surgery, as I understand it, unless there may be some remote cases. Therefore, if this treatment is effective, as I believe it to be, the public would be relieved of millions of dollars of surgical fees, and I repeat, I would hate to think that such possibilities should incense any of our surgeons, who after all are presumed to be humanitarians as well. Dr. Gerson has no doubt made enemies as the result of his dietary therapy, wherein he does not permit patients to smoke or to drink intoxicating liquors or to consume canned goods and other items which could materially affect trade in that respect if it become universal, and of course it was not designed for Dr. Gerson to "make friends" but rather to treat cancer as the result of the many years of his experience.

I think this new approach is very important since apparently cancer research and the cancer research dollar has been traveling for many years down the same avenue of conventional orthodox research, and apparently those good scientists are unwilling to look at or give credence to anything new. In any event, the discoveries of Dr. Gerson should be carried further, as, in my humble opinion, he has unlocked the door to an avenue of approach to this problem from which a solution will be found.

To my mind it is of outstanding importance that facilities be provided in some manner, so that Dr. Gerson may train other doctors in his technique and that hundreds of thousands may be treated rather than the limited number that he is able to personally attend. It would be a calamity if anything happened to Dr. Gerson with no one left to carry on in this particular field, and I hope that the committee will see to it that in the development of cancer research, dietary therapy will have an important part.

Mr. MARKEL. I want to say at the outset that I am here in favor of S. 1875. At first I was constrained to oppose that bill like a lot of other people. There was a general apathy. I think Mr. Perlmutter's committee has stirred up some public interest, but there was a feeling that after 50 or more years, millions and millions of dollars spent, with the helpless feeling upon the part of these victims, that out of it grew nothing that they could lean on, not even a hope, and that it would just be another hundred million dollars down the same rat hole, at the cost of thousands of dollars per "rat." I feel, however, that we ought to do something.

The only assurance that I would like to see is that the commission as constituted would be absolutely independent, that it would be willing to do a job of research, as the name implies—every avenue of research that lends promise of a solution of this problem. There should not be a closed corporation or a gentleman's club where nothing would be heard from it.

We have present here cancer patients, victims, citizens of the United States, and I do not know who would have a greater right, Mr. Chairman, to express their opinion about the expenditures of public money for this purpose than those people. As far as I know, they are in favor of this bill, but I feel fully that research ought to be what it implies.

Since we have been here 50 people have died of cancer, while we are in this hearing. Money, as stated here, means nothing. We spent billions to destroy people, and probably we can spend a few hundred million dollars for the recapture of life. That is what this bill is designed to do, if it will do it; but I am not in favor, Mr. Chairman, of making the commission the tail to any existing kite. I think that it should be absolutely independent. Let them decide what they want to do. Let them adopt their own rules. All they need to be is honest scientists and honest Americans.

Now, what bothered me was, as I said, before millions are being spent for research. We are still researching with animals, while here, an unassuming scientist in New York—and I hope the medical profession will pardon me for using the word “cure”—is curing cancer today.

Now, I understand that a patient must have been free of a recurrence of disease for 5 years before an ethical doctor would be permitted to say the patient was “cured.” Well, fortunately, nobody can take my license away, because I am an ordinary layman, I am not a scientist, I am not a doctor—and I will not cloud the results on account of for 6 months. I say when the patient has lived  $4\frac{1}{2}$  years longer than the time allotted by reputable doctors, I am willing to say he was cured. At least, he has not been buried when he was designed to be by the hospitals that sent him home to die, Mr. Chairman. They were told that they could not live but a few months. That is 4 years ago. Something has been done for them. It has not been surgery. It has not been radium. It has not been X-ray—and those are the only three things, if my information is correct, that the millions of dollars had been spent upon. I say if there is another avenue, a nutritional avenue—which this is—or anything else which gives promise of the cure of cancer, these research artists at least should be willing to condescend to look at it, Mr. Chairman. In this case there have been outstanding scientists, I am told, who have been told of this, and they do not even want to look at it. I do not ask them to admit that it is true. At least take a look.

Senator PEPPER. Well, suppose we hear Dr. Gerson.

Mr. MARKEL. Yes.

Senator PEPPER. I have been informed by Mr. Markel and by a gentleman from Florida who is a friend of mine, they have been very much impressed by the work that has been done by Dr. Gerson, and they have requested that he be heard, here, at this hearing. I assented to the request. Mr. Markel, I believe we could do better, in view of the short time—and I know you would like to do this—to hear Dr. Gerson as soon as we can.

Mr. MARKEL. Yes; and we have Dr. Miley, here.

Senator PEPPER. All right. I have those two.

Mr. MARKEL. There are those two.

Senator PEPPER. We will hear them just as soon as we can.

**STATEMENT BY DR. MAX GERSON, GOTHAM HOSPITAL,  
NEW YORK, N. Y.**

Senator PEPPER. You may proceed, Dr. Gerson. Your name is Dr. Max Gerson?

Dr. GERSON. Max Gerson.

Senator PEPPER. Will you give us a little of your background.

Dr. GERSON. My office is 667 Madison Avenue, and I reside at 40 West Fifty-fifth Street, New York City.

I was born in eastern Germany, October 18, 1881. I graduated from the University of Freiburg im Br., where I received my license and degree in May 1907. I was assistant, later associate and on the staff of several famous hospitals, for about 13 years: with Prof. Albert Fraenkel, internist, Berlin; Prof. B. Kroenig, internist, Berlin; Prof. Otfried Foerster, neurologist, Breslau, for 4½ years; and Prof. Ferdinand Sauerbruch, Munich, for 4 years; Prof. Herman, Zondek, internist, Berlin.

I came to this country November 1936, passed the medical examination, and received my New York license January 27, 1938, my citizenship (No. 5961570) July 13, 1944, delayed by the war.

I am a member of the AMA, Medical Society of New York State, and Medical Society of New York County.

The dietetic treatment which has for many years been known as the "Gerson diet," was developed first to relieve my own severe migraine condition. Then it was successfully applied to patients with allergic conditions such as asthma as well as diseases of the intestinal tract and the liver pancreas apparatus. By chance a patient with lupus vulgaris (skin tuberculosis) was cured following the use of the diet. After this success the dietetic treatment was used in all other kinds of tuberculosis—bones, kidneys, eyes, lungs, and so forth. It, too, was highly favorable in many other chronic diseases, such as arthritis, heart diseases, chronic sinusitis, chronic ulcers, including colitis, high blood pressure, psoriasis, sclerosis multiplex, and so forth. The most striking results were seen in the restoration of various kinds of liver and gall bladder diseases which could not be influenced by other methods up to the present.

The great number of chronic diseases which responded to the dietetic treatment showed clearly that the human body lost part of its resistance and healing power, as he left the way of natural nutrition for generations.

The fundamental damage starts with the use of artificial fertilizer for vegetables and fruits as well as for fodder. Thus the chemically transformed vegetarian and meat nourishment, increasing through generations, transforms the organs and functions of the human body in the wrong direction.

Another basic defect lies in the waste of excrements of the cities. Instead of returning the natural manure to the fruit-bearing soil, it is led into the rivers, killing underwater life. The natural cycle is interrupted and mankind has to suffer dearly for the violation. Life in forest and wilderness should teach us the lesson.

But we can regain the lost defense and healing power if we return as close as possible to the laws of nature as they are created. Highly concentrated for speedy reaction, they are laid down in the dietetic treatment.

(Dr. Gerson placed on file with the committee a pamphlet entitled "Dietary Considerations in Malignant Neoplastic Disease.")

Dr. GERSON. The tuberculosis treatment was tested with favorable results in Munich, Kassel, and Berlin. A demonstration was scheduled in the Berlin Medical Association for May 5, 1933, but I left Germany for Vienna after the political upheaval, March 1933.

The first cancer patient (bile ducts) was treated in 1928 with success. Seven favorable cases followed out of 12 and remained free of symptoms up to 7½ years.

In Vienna I tried a modification of this treatment in six cases of cancer without any result.

After 2 years I moved to Paris where a patient, Mr. Horace Finaly, president of the Banque de Paris, bought a clinic for continuation of this treatment. Here I had three favorable results and one undecided case out of seven cases of cancer, following the use of the Gerson diet.

In New York I started the Gerson diet in cancer patients, 4½ years ago.

The evolution of the dietetic treatment is given in detail in one article published December 1945, and another one will be published soon.

The treatment is ineffective in cases with less than 10 percent lymphocytes in the differential blood count when the phosphorous cannot be brought back into the red blood cells and other tissues; it is also ineffective in patients with advanced liver damage, and, of course, in those who are in extremis.

Since the end of January 1946, I treat my patients in the Gotham Hospital in New York, 90 percent of them without charge, and never refuse any patients, irrespective of their condition, in order to see what this treatment can do for them. Up to the present all practical and research work was financed by myself in cancer, as well as other chronic diseases, including tuberculosis and I will not ask for money, here. This limits the progress of the method.

My experience leads me to believe that the liver is the center of the restoration process in those patients who improve strikingly. If the liver is too far destroyed, then the treatment cannot be effective.

#### MY THEORY

Aware of the imperfection of this as well as any other theory, I shall try, nevertheless, to explain the end results of the Gerson diet. It is condensed in three surpassing components:

(1) The elimination of toxins and poisons and returning of the displaced "extracellular" Na-group, connected with toxins, poisons, edema, destructive inflammation, from the tissues, tumors, and organs where it does not belong, into the serum and tissues where it belongs—gall bladder with bile ducts, connective tissue, thyroid, stomach mucosa, kidney medulla, tumors, and so forth.

(2) Bringing back the lost "intracellular" K-group combined with vitamins, enzymes, ferments, sugar, and so forth, into the tissues and organs where it belongs—liver, muscles, heart, brain, kidney cortex, and so forth—on this basis, iodine, ineffective before, is made effective, continuously added in new amounts.

(3) Restoring the differentiation, tonus, tension, oxidation, and so forth, by activated iodine, where there were before growing tumors

and metastases with dedifferentiation, loss of tension, oxidation, loss of resistance and healing power.

Mr. MARKEL. Doctor, you want to file this Case History of Ten Cancer Patients as a part of your statement. This is Dr. Gerson's.

Senator PEPPER. All right.

(Dr. Gerson placed on file with the Committee a document entitled "Case History of Ten Cancer Patients, Clinical Observations, Theoretical Considerations, and Summary.")

Senator PEPPER. Proceed.

Dr. GERSON. I would like to show you a few of the patients.

Senator PEPPER. All right, we would be glad to have them.

Dr. GERSON. This is Miss Alice Hirsch.

(Dr. Gerson presented for the record the following operative record:)

NEWARK BETH ISRAEL HOSPITAL

OPERATIVE RECORD

Name: Alice Hirsch. Age: 14. Date: October 15, 1945.

Preoperative diagnosis: Spinal cord tumor.

Surgeon: Dr. William Ehrlich. Service of: Dr. William Ehrlich.

First assistant: Dr. Wolfson. Anesthetist: Dr. Dear. Anesthesia: Endorrbial Ether. Suture nurse: Miss Goldberg.

Procedure: A midline incision was made extending from the spine of C-7 to D-3. The spines and laminae of D-1 to D-3, were removed with rongeurs. The dura did not pulsate. On opening the dura the cord was found to be swollen and had a yellow appearance. There were several tortuous varicosities on the surface of the cord. On compressing the jugulars no fluid could be obtained and consequently, the laminectomy was extended upward in two stages until the spines and laminae of what are estimated to be C-4, C-5, C-6, and C-7 were also removed. Here, too, the dura was tense, and on opening it the cord in this region had a glistening reddish-gray appearance as if it was completely infiltrated with gliomatous tissue.

The cord bulged through the opening in the dura. Exploration laterally and anteriorly was carried out to be sure we were not dealing with an anteriorly placed extramedullary tumor. A fine needle then was inserted into the midline of the cord but no cystic fluid could be obtained. Inasmuch as the patient had fairly good motor power in the lower extremities, it was not deemed advisable to incise the cord for biopsy.

The dura mater was left open for decompressive purposes and closure was completed using interrupted No. 1 chromic catgut in layers for muscle and fascia and interrupted black silk for subcutaneous tissue and skin. The patient stood the procedure well and returned to her room in good condition. Post operative diagnosis: Cervical and upper thoracic intramedullary glioma.

Style of operation: Laminectomy, C-5 to D-3.

Dr. GERSON. This original statement shows that this was a cervical and upper thoracic intramedullary glioma, with an operation in the Neurological Institute, Columbia University. That is the only case now at least arrested in 2,000 years of medical science. The patient was operated, she being a girl 15 years old.

(Dr. Gerson presented as a witness before the subcommittee at this point Miss Alice Hirsch, of Hillside, N. J.)

Senator PEPPER. What is your name?

Miss HIRSCH. Alice Hirsch.

Senator PEPPER. And what is your address?

Miss HIRSCH. 558 Sweetland Avenue, Hillside, N. J.

Senator PEPPER. Are your parents living?

Dr. GERSON. Yes; her father is here—the mother, too.

(Dr. Gerson presented as witnesses before the subcommittee at this point Mr. and Mrs. Leo Hirsch.)

Mr. MARKEL. That is the mother, Senator.

Senator PEPPER. And what is your name? Give your name to the reporter, and your address.

Mrs. HIRSCH. Mrs. Hirsch, 558 Sweetland Avenue, Hillside.

Senator PEPPER. And this is your husband?

Mr. HIRSCH. That is right. Leo.

Senator PEPPER. All right. Now, what did the little lady have?

Dr. GERSON. She had intramedullary glioma. Glioma is a tumor of the whole cerebral nervous system, it could be in the brain or in the spinal cord; and this was in the spinal cord. The tumor was here [indicating]. You can see they operated here, by the scar. They took the bones out, here for inspection. They made a so-called laminectomy. It came out here, where you see the long scar.

Senator PEPPER. You made the operation?

Dr. GERSON. No. It was made in the Newark Beth Israel Hospital; date, October 15, 1945.

Senator PEPPER. That is where the operation occurred?

Dr. GERSON. Yes. Here is the original operative record.

Senator PEPPER. What did you do?

Dr. GERSON. Then the physicians told the father:

We cannot do anything; it is a tumor, and nobody can remove such a tumor from the spinal cord. She would die.

Senator PEPPER. Was that before the operation?

Dr. GERSON. No. During the operations they saw that the tumor was in the spinal cord. It was inside—not outside. An extra-medullary tumor can be removed; so they operated to look into it and to see whether it was extra or intra. When they found it was an intra medullary tumor they could not do anything—closed, and sent her home, and told the father, "Please make her as comfortable as possible; that is all; we can do nothing else." That is all. So when she came to me, and we applied the treatment, and here [indicating], she had a paresis in the lower right arm; the process involved especially the nervous ulnaris of the right hand and the right leg; she could not walk much, these portions became more and more paralyzed, little by little increasing if the tumor grows. It destroys the spinal cord and stimuli from the brain cannot be carried to the muscles which atrophy.

Senator PEPPER. And by your dietary treatment you cured the tumor?

Dr. GERSON. We killed the tumor, yes; otherwise, you can understand, the muscles could not have been restored; she can move now the hands and arms. Maybe there is a little bit of weakness left, here. Professor Howe was much interested in this extraordinary case.

Senator PEPPER. You gave no treatment except your dietary treatment?

Dr. GERSON. She had some liver injections, too.

Senator PEPPER. How long was she under your care?

Dr. GERSON. She is still now under my care.

Senator PEPPER. How long ago was it she came to you?

Dr. GERSON. The end of October.

Senator PEPPER. Of last year?

Dr. GERSON. Of 1945.



Senator PEPPER. Is the statement that Dr. Gerson has made substantially correct?

Mr. HIRSCH. Absolutely. She was to have been paralyzed by around December 1—she was supposed to be, according to the other doctors.

Senator PEPPER. What was her condition when she went to Dr. Gerson?

Mr. HIRSCH. Very, very weak.

Dr. GERSON. She could not walk.

Mr. HIRSCH. We had to feed her by hand. We had to take her up out of bed when she wanted to go anywhere, and she could not walk to any extent.

Senator PEPPER. Could you see the tumor?

Mr. HIRSCH. No.

Dr. GERSON. No.

Senator PEPPER. It was inside; was it?

Dr. GERSON. Only by the operation it is visible.

Senator PEPPER. Did the doctors who operated at this Newark Beth Israel Hospital tell you they could do nothing about the tumor?

Mr. HIRSCH. That is right.

Senator PEPPER. And that there was a tumor in the spine?

Mr. HIRSCH. We knew before the operation that there was a tumor in the spine, and before the operation it was almost impossible to do anything for her.

Senator PEPPER. Is this a true copy of the report of the Newark Beth Israel Hospital about the operation and all?

Mr. HIRSCH. That is right. That is from the Beth Israel.

Senator PEPPER. Would you like to leave a copy of this for the record?

Dr. GERSON. I have presented that for the record.

Senator PEPPER. Now, another witness, Dr. Gerson?

Dr. GERSON. Yes, sir; Mr. Gimson.

(Dr. Gerson presented as witnesses before the subcommittee at this point Mr. George Gimson.)

Senator PEPPER. Dr. Miley, do you know also about these cases?

Dr. MILEY. Yes. I have seen all these cases many times. I have been watching it for the last 6 to 8 months, depending on how long they have been in there.

Senator PEPPER. Your name is Dr. George Miley, of Gotham Hospital, New York?

Dr. MILEY. That is correct.

Senator PEPPER. What is your own home address in New York?

Dr. MILEY. 820 Park Avenue.

Senator PEPPER. And what is the address of Gotham Hospital?

Dr. MILEY. 30 East Seventy-sixth Street.

Senator PEPPER. Who is the head of that hospital?

Dr. MILEY. I am.

Senator PEPPER. How many beds do you have?

Dr. MILEY. Approximately 85 beds.

Senator PEPPER. Is it a privately owned hospital?

Dr. MILEY. It is a hospital owned by a private foundation—the Robinson Foundation—at present.

Senator PEPPER. Is it a member of any hospital association?

Dr. MILEY. It is a member of the Private Hospital Association and the American Hospital Association.

Senator PEPPER. It is a member of the American Hospital Association?

Dr. MILEY. Yes, sir.

Senator PEPPER. In good standing?

Dr. MILEY. Yes, sir. Well, we think so!

Senator PEPPER. I just wanted the record to show whether it was a properly accredited hospital.

Dr. MILEY. Yes.

Mr. MARKEL. Dr. Miley will file for the record a statement.

Senator PEPPER. Did you know about the case of Miss Hirsch, who was here, before?

Dr. MILEY. Yes. We had a neurological consultation on Miss Hirsch, since I saw her, because I felt I was not a capable enough neurologist to make any decision whatever on Miss Hirsch's condition, and we had Dr. Hubert Howe, of the Neurological Institute, see her, and we had her, the last few months, and I have a statement here by Dr. Howe in relation to several patients that he has seen at Dr. Gerson's.

Senator PEPPER. Are you a medical doctor?

Dr. MILEY. Yes.

Senator PEPPER. From what school did you graduate?

Dr. MILEY. Northwestern University Medical School.

Senator PEPPER. Are you a member of the American Medical Association?

Dr. MILEY. Yes; a fellow of the American Medical Association, the National Gastroenterological Association, the American Rheumatism Association, the Philadelphia Physiological Association, the New York and Philadelphia County Medical Societies, and the New York and Pennsylvania State Medical Associations.

Senator PEPPER. And is it your opinion as a doctor that the cure, or the apparent cure, or improvement in the condition of Miss Hirsch which you witnessed, is due to the treatment that Dr. Gerson gave her?

Dr. MILEY. Well, I cannot see anything else to account for it. It is the only change in routine which she has had at all. If it were an isolated case you would say, "Well, maybe she was going to get better, anyway!" But if she had died, as apparently everybody who saw her thought she was going to die, everyone would have said, "Well, you see what happened!" But taking it along with quite a few other cases—and it is getting to be too much—it is no longer a coincidence. There are a good many people walking around that should be dead.

Senator PEPPER. Let us take the next case, here.

What is your name?

Mr. GIMSON. George Gimson.

Senator PEPPER. Where do you live?

Mr. GIMSON. 729 Thirty-second street, Union City, N. J.

Senator PEPPER. Dr. Gerson, tell us about Mr. Gimson.

(Dr. Gerson presented for the record the following letter:)

VETERANS' ADMINISTRATION,  
 Lyons, N. J., November 26, 1946.

Dr. MAX GERSON,  
 New York, N. Y.

DEAR DOCTOR: In compliance with a request from the above-named veteran we are submitting the following information.

First symptoms of present illness were present about May 1944. First symptoms in the Army since induction. First Army hospitalization was Regional Hospital, Fort Riley, Kan., August 28, 1944, treatment above.

Examination is not remarkable except for a freshly healed scar, anterior triangle, about 6 centimeters in length. Above and anterior to the scar is an area of anesthesia going well up into the scalp, including the entire tinna of the ear, following the nerve distribution of the greater auricular and of smaller occipital nerve. This scar is so recent it cannot be decided whether there is tumor tissue remaining in the scar or whether it is simple fibroblastic tissue as a result of the operation. But there is thickening along the entire length of the incision. There is no evidence of any other cervical adenopathy nor are there any occipital glands that could be palpated. There is nothing in the supraclavicular region either. No evidence of recurrence was noted on physical examination. It was a little bit difficult to determine whether the induration was due to postoperative reaction or some remaining tumor. However, review of the entire block of tissue removed, shows that histologically the malignant areas have been removed completely. Orthopedic examination reveals patient evidences extreme pain on all body motions even remotely related to the back. All back motion is limited by pain. Straight leg raising produces lumbar pain, Obers sign is positive, prone thrust produces pain referred to the lumbo-sacral region. All reflexes are normal. X-ray taken October 10, 1944, shows cervical spine in normal alinement and shows no bony abnormality, except a spina bifida occulta of the seventh cervical segment.

Treatment here consisted of extensive physiotherapy to back, dressings to the neck, and heat treatment to right ear.

Condition on completion of case: 1. Unimproved. 2. Cured. Disposition recommended: Since this patient's hospitalization he has complained of low back pain. He has been given an extensive course of physiotherapy with no signs of improvement. In view of these findings, a CDD discharge is recommended.

Maximum hospital benefits have been attained. No. 1 diagnosis is considered to be permanent. No. 2. Not permanent.

Diagnosis: 1. Strain, ligamentous, lumbosacral, moderately severe, secondary to injury incurred in fall, April 1943, Federal Shipbuilding & Drydock Co., Kearny, N. J.

2. Carcinoma, basal cell, skin back of right neck, of hair-follicle origin and precursor of rodent ulcer.

It is understood that this information is strictly confidential and not to be released to any other party.

Very truly yours,

R. C. FAGLEY,  
 Major, Medical Corps, Chief Medical Officer.

Dr. GERSON. Mr. Gimson came with a big tumor that was arrested. He was operated first when he was a soldier and was in camp.

Mr. GIMSON. Fort Riley, Kans.

Dr. GERSON. And then they operated, but they could not remove the basal cell carcinoma, because it was grown up into the skull, so they sent him for deep X-ray therapy to another hospital.

Mr. GIMSON. Fitzsimmons, Denver, Colo.

Dr. GERSON. He was sent to Fitzsimmons Hospital, at Denver, Colo., for deep X-ray therapy, but there they decided that deep X-ray therapy is very dangerous to the brain, and the specialists there refused.

Mr. GIMSON. They did not give me any treatment at all, so they discharged me.

Dr. GERSON. They discharged him and sent him out and told him, "Sorry, we can't do anything!" Then it grew further, and

the whole face was swollen, here [indicating]. His left eye was entirely closed, here; he could see very little with the right one.

Mr. GIMSON. This one is still swollen. You can see the crack.

Dr. GERSON. And I sent the case also to Professor Howe, the neurologist, and he saw, it was growing into the brain, and there [indicating], and all these disturbances; and I have some X-rays and all other things, there, but I do not know whether to put them on the table; and there is another [indicating].

Senator PEPPER. Go ahead. He came to you?

Dr. GERSON. Yes.

Senator PEPPER. He came to you, and you treated him?

Dr. GERSON. Yes.

Senator PEPPER. And you applied your diet?

Dr. GERSON. Yes.

Senator PEPPER. And did you give him any liver injections?

Dr. GERSON. Yes, daily; at home. I think his wife gave them to him.

Mr. GIMSON. Yes; that is right.

Senator PEPPER. And what is this, that you have here?

Dr. GERSON. That is from the Veterans' Administration, the original.

Senator PEPPER. This is a letter that purports to be from the Veterans' Administration, at Lyons, N. J., dated November 26, 1945, addressed to Dr. Gerson, and signed by R. C. Fagley, Major, MC, Chief Medical Officer. It purports to relate to George J. Gimson, C-4491792. That is the serial number, and the letter purports to be a report to Dr. Gerson about Mr. Gimson's illness.

Now, Mr. Gimson, you tell us about your case. What was your condition, and what treatment did you get from the Army? When did you go to Dr. Gerson, and what did he do? And what relief have you had?

Mr. GIMSON. I went to Fort Riley, Kans., and I had something like an ingrown hair, you might say, on my neck.

Senator PEPPER. Will you speak louder, please?

Mr. GIMSON. I went down to the hospital, and the doctor, the major, looked at me, and he told me, "Have it off—it wouldn't take long," and I could be back with the troop, and I wouldn't lose any time, I would be back in a day or two.

Senator PEPPER. How long were you off?

Mr. GIMSON. I was off 4½ or 5 months. Two days I had marching—to keep us busy, out of trouble. Then I went to the hospital. Down there they told me I would be back with the troop in 2 or 3 days. I went down and had the operation, the next morning, and I wound up in bed, and I could not move my head or anything—pulled away over on the side. They came in for inspection. This captain came in one morning and told me it was about time I had my head straightened out. I told him I could not move my head, because from the operation it pulled me all over on the side, so he just straightened it up—and he opened it all up again; and when he ripped it open like that, I told him, "I can't feel anything; I can't hear anything," so he looked at me, and he checked me, and he gave me an examination; then he told me, "We are going to send you," he

says, "to Fitzsimmons, Denver, Hospital." I asked him, "Why should I go there? Why couldn't I go east?" He said, "Well, we haven't got the right equipment, here, for what your trouble is, so we are going to send you out there."

Senator PEPPER. Where were you?

Mr. GIMSON. I was in the regional hospital in Kansas; and from Kansas they shipped me out to Denver, Colo., to Fitzsimmons, and when I went to Fitzsimmons they gave me an examination and took a hypodermic needle and stuck me in the head with it to see if my feeling was there, so I did not have any feeling whatsoever, and they were going to give me this deep X-ray therapy, and they did not give me any. I put in for a Christmas furlough, and that was refused to me, so then they gave me a discharge the following week, and when I came home the tumor was coming up. Half my white shirt is all worn on one side from where this tumor swelled up behind my ear, here, where the scar was. It had started to come up again, so I went to the Red Cross about it, and I told them I could not sleep at nights, and I had pains; I could not even do a day's work. I would have to quit as soon as I put any pressure on myself; so she sent me down to Lyons, N. J.; so I went down there, and they told me they had lost all my papers and records. I guess they did not want to tell me what was wrong; so they told me the only thing they could do for me was to send me to the Bronx, N. Y., and get a specimen; so I asked them, "You mean a specimen by operation?" He says, "Yes." I says, "There is no more operating on me," and I refused all operation; so I came home, and my wife told me I was going over to see Dr. Gerson.

Dr. GERSON. Why did you refuse an operation?

Mr. GIMSON. Well, they did not do me any good the first time, and my condition was worse; so I went over to Dr. Gerson, and he gave me this book, and that is what I am to do. There is no tumor. I can hear a lot in it.

Senator PEPPER. Now, tell us this: Did you stay in the Gotham Hospital for any length of time?

Mr. GIMSON. No.

Dr. GERSON. That was before, before the Gotham Hospital was established.

Senator PEPPER. He gave you this book, to tell you what to eat and what not to eat?

Mr. GIMSON. Yes; what to eat and what to drink, and everything.

Senator PEPPER. And you went by this diet?

Mr. GIMSON. Whatever is in that book, that is what I took.

Senator PEPPER. And you followed strictly this diet?

Mr. GIMSON. 100 percent. I gave away my last pack of cigarettes just before I went up to his office, and from that day to this I never smoked a cigarette.

Senator PEPPER. You quit smoking?

Mr. GIMSON. I quit smoking and drinking, too. Last night I was best man at my brother's wedding, and I couldn't even drink.

Senator PEPPER. How long, now, did you take this diet before you began to notice any improvement in your condition?

Mr. GIMSON. Well, I would say about, oh, a month, 2 months, a month and a half to 6 weeks.

Senator PEPPER. You took no medicine, or had no other treatment?

Mr. GIMSON. No. Liley's injection—that is, liver.

Dr. GERSON. Liver injections.

Mr. GIMSON. Liver injections. Everything I am supposed to take and eat and everything is right there [referring to the little book].

Dr. GERSON. Here is the medication book.

Senator PEPPER. You mean the liver injection?

Dr. GERSON. Yes; 2 cc. codliver extraction, Liley, No. 352.

Senator PEPPER. That is a liver extract?

Dr. GERSON. Yes.

Senator PEPPER. You inject that into the liver?

Dr. GERSON. Intramuscular—not into the liver, into the muscle.

Senator PEPPER. So you are satisfied the treatment Dr. Gerson gave you has been responsible for the improvement in your condition?

Mr. GIMSON. Every bit of it.

Senator PEPPER. All right. Thank you.

Mr. MARKEL. May I ask Dr. Miley to talk about this case?

Senator PEPPER. Dr. Miley.

Dr. MILEY. I saw this patient when he had already recovered to a great extent. I saw him after he had been under the treatment practically 3 or 4 months. I have been watching him, seeing him once a month, since. There is no sign of recurrence, certainly, and this particular patient has had a lapse, establishing it as a basal carcinoma, which is sometimes inimical to other treatments, but usually when it involves the bone as it did in this case it has gone pretty far. He had actual bone involvement, and apparently there are no signs of that at present.

Senator PEPPER. Was the tumor that he had what we call a real tumor?

Dr. MILEY. Yes; it was a tumor, starting with a hair follicle.

Senator PEPPER. Was it malignant?

Dr. GERSON. Yes.

Dr. MILEY. Yes.

Senator PEPPER. Was the tumor that the little lady, Miss Hirsch, had, a malignant tumor?

Dr. MILEY. It is a diffused glioma, which is somewhat different. It comes out of connective tissue and it produces most of its ill effects by actual scar tissue from the glioma surrounding the nervous tissue in the spinal cord itself.

Senator PEPPER. Thank you, Mr. Gimson. We appreciate your coming.

Mr. MARKEL. Who is your next witness?

Dr. GERSON. Mrs. Anna Hanna.

(Dr. Gerson presented as a witness before the subcommittee, at this point, Mrs. Anna V. Hanna.)

Senator PEPPER. All right, Doctor. Tell us about Mrs. Hanna's case.

Dr. GERSON. In the University of Pennsylvania, an operation was performed on the patient. We found—I read this original, here—an extensive carcinoma just above the rectosigmoid with infiltration of the mesentery of the rectosigmoid and descending colon. The growth was adherent to the vena cava and both iliac vessels, and there were suspicious nodules in the liver.

Because of the metastatic involvement, resection of this growth was impossible. I took a specimen for biopsy which proved to be adenocarcinoma. Operative procedure consisted of a permanent colostomy.

That was sent to me, here. That is an original letter that was first sent to another doctor, Dr. Jules Vogel, and it was sent to me.

Senator PEPPER. The letter to which you have referred is the letter from Dr. Thomas A. Shallow, 1611 Spruce Street, Philadelphia 3, Pa., and the first letter was dated April 23, 1945. That is the letter to Dr. Vogel. The other letter is a letter dated June 24, 1946, from Dr. Shallow to Dr. Gerson, enclosing a copy of the letter to Dr. Vogel of April 23.

Now, was that a malignant growth?

Dr. GERSON. Yes—carcinoma. When the lady came she was in a terrible condition. She could not eat, and her stool came here [indicating]. Now, the treatment closed the permanent colostomy. The physicians thought it would be always there, but nature even closed the permanent colostomy, and now her stool goes through the anus, as the tumor is entirely absorbed. We have wonderful X-rays. I have them here, but I have not shown them. The patient gained weight and is in good condition.

Senator PEPPER. Mrs. Hanna, will you give us your full name and address, please.

Mrs. HANNA. Mrs. Anna V. Hanna, 331 Virginia Avenue, Manoa, Upper Darby, Pa.

Senator PEPPER. Is what Dr. Gerson has said substantially a statement of your case?

Mrs. HANNA. Yes, sir; absolutely.

Senator PEPPER. Did you take any treatment except the treatment that Dr. Gerson gave you?

Mrs. HANNA. No, sir; not any; and they certainly came down and told my daughter there was absolutely nothing they could do, she was free to consult anybody she wanted.

Senator PEPPER. What doctors did you consult, by the way, about your condition, before you went to Dr. Gerson?

Dr. GERSON. The daughter can come.

Senator PEPPER. What doctors did you consult? Did you consult Dr. Shallow, here?

Mrs. HANNA. As soon as I came out of the hospital—

Senator PEPPER. No, I mean before you went to Dr. Gerson.

Mrs. HANNA. Oh.

Senator PEPPER. Who told you?

Dr. GERSON. Miss Alice M. Hanna, the daughter, went to Dr. Vogel, first. He is the family physician.

Senator PEPPER. Give us your name and address, please.

Miss HANNA. Miss Alice M. Hanna, 331 Virginia Avenue, Manoa, Pa.

Senator PEPPER. And you are the daughter of Mrs. Hanna?

Miss HANNA. That is right.

Senator PEPPER. Will you just tell us a little bit about your mother's case—what doctors she went to, and what they told her?

Miss HANNA. First she went to Dr. Vogel.

Senator PEPPER. Dr. Jules Vogel?

Miss HANNA. That is right.

Senator PEPPER. In Brookline?

Miss HANNA. That is right; Brookline, Pa.

Senator PEPPER. 250 Brookline Boulevard, Brookline, Del.?

Miss HANNA. Delaware County, Pa.

Senator PEPPER. It is Brookline, Delaware County, Pa.?

Miss HANNA. That is right. And he was suspicious of a tumor in the colon, and possibly cancerous, he said, from his examination; so he sent her to the Fitzgerald Mercy Hospital, in Darby, Pa., for X-ray pictures. These X-rays confirmed his suspicions, and he sent her to Dr. Thomas A. Shallow, a surgeon, of Philadelphia.

Senator PEPPER. Of 1611 Spruce Street, Philadelphia, Pa.?

Miss HANNA. That is right. Dr. Shallow placed her in Jefferson Hospital in Philadelphia for examination and treatment, and after 8 days of examination and some treatment to build her up he operated on her with the hope that he could remove the tumor; but during the operation he realized that it had grown so extensively and attacked so many organs that it was impossible to remove it; so he performed a colostomy to afford her temporary relief, and the report that he gave to me was that she might live 6 months, she might live 2 years—he could not predict the time, and it was very definite that she would not live very long. That operation took place on April 19, 1945.

Senator PEPPER. At what hospital?

Miss HANNA. Jefferson Hospital.

Senator PEPPER. Philadelphia?

Miss HANNA. Philadelphia.

Mr. MILEY. That is a correction. Dr. Gerson said "University of Pennsylvania," at the beginning. It was Jefferson Hospital.

Dr. GERSON. Is it not?

Dr. MILEY. Jefferson Hospital.

Miss HANNA. Jefferson Hospital. So while mother was still in the hospital, a girl in my office who happens to be a friend of Mrs. Fleming, another patient who is here today, told me of Dr. Gerson, and I got in touch with Dr. Gerson, and he said that he thought that perhaps he could do something for her, but she had to remain in the hospital for 2 weeks or for 5 weeks, and she developed pleurisy and different difficulties, and it was possibly 2 months following the operation before I could bring her to New York to see Dr. Gerson, and he gave her the regular Gerson diet.

Senator PEPPER. Did she go to the Gotham Hospital?

Miss HANNA. No, she did not, Senator.

Dr. GERSON. This was before.

Miss HANNA. This was before. And we have been going—first, we had to go in 2 weeks, and since then we have been going once a month to see Dr. Gerson.

Senator PEPPER. You took her to him, and he saw her?

Miss HANNA. That is right.

Senator PEPPER. And he then prescribed his diet, and then you took her back home?

Miss HANNA. That is right.

Senator PEPPER. And she followed the diet at home?

Miss HANNA. That is right.

Senator PEPPER. You live with your mother?

Miss HANNA. Yes, sir.



Senator PEPPER. And then you took her back every 2 weeks for a time?

Miss HANNA. For a time.

Dr. GERSON. The first time.

Senator PEPPER. And later on?

Dr. GERSON. Once a month.

Senator PEPPER. Did you notice; did your mother begin to improve in health?

Miss HANNA. Almost immediately; and at the end of 5 weeks I believe X-ray pictures show that the tumor was almost completely gone.

Senator PEPPER. You went back to doctors and got X-rays, and they reported?

Miss HANNA. Dr. Gerson takes X-rays, and during all this time she has been under the constant surveillance of Dr. Vogel, and he is very much impressed and thrilled with her response. He says he has never witnessed anything like it.

Senator PEPPER. And she has had no other treatment that you attribute her recovery to except Dr. Gerson's treatment?

Miss HANNA. Absolutely none.

Senator PEPPER. All right. Thank you very much. Where do you work?

Miss HANNA. I work for the India Co., 1740 Cherry Street, Philadelphia 3, Pa.

Dr. GERSON. I sent the patient back to Professor Reimann to see her, and sent her back to Jefferson Hospital, and the physicians were so impressed that they demonstrated her to the other students, and even called the case (I wouldn't do it) "cured"—as a cured case. She was demonstrated by Dr. Engel.

Miss HANNA. That is right. Dr. Bucher, pathologist at the hospital, presented her to the Jefferson Hospital medical student body.

Senator PEPPER. Dr. Bucher?

Miss HANNA. Dr. Bucher. He is the pathologist.

Senator PEPPER. At the Jefferson Hospital, he exhibited her to the students?

Miss HANNA. Yes, sir.

Dr. GERSON. Dr. Miley.

Mr. MILEY. Doctor, I have not examined Mrs. Hanna recently, but Dr. Reimann and Dr. Kilingle, of Philadelphia, examined her and could find no evidence of a sigmoidostomy of any kind, nor of the original growth.

Senator PEPPER. Was your mother able to walk around when she went to Dr. Gerson?

Miss HANNA. Just a little bit, Senator. She was practically laid down in a bed in the back of the car to make the first trip, entirely. She did manage to walk upstairs once or twice a day.

Senator PEPPER. Thank you very much, and thank you, Mrs. Hanna, for coming and giving us your statement.

All right. Now, who is next?

Dr. GERSON. Mrs. Fleming.

Senator PEPPER. Go right ahead.

Dr. GERSON. Mrs. Fleming had a lymphatic sarcoma. She had terribly big tumors here, in the abdomen, glands all over the body, neck,

axilla, both groins, two big tumors from rebró peritoneal glands, here, and mesenteric glands; and one tumor was removed, there. Biopsy was made by Dr. Gensberg—

Mr. FLEMING. No.

Dr. GERSON. And slides were sent to two other hospitals, to Dr. Stuart, in New York, and another professor, I think Yale, and all three decided that it is a myeloma, more specifically a plasmacytoma, a kind of a very bad malignant tumor.

Mrs. FLEMING. Dr. Averett removed it.

Dr. GERSON. Yes; he removed a piece for biopsy, and the others examined it.

Senator PEPPER. Now, let us get Mrs. Fleming. What is your name?

Mrs. FLEMING. Katherine Fleming.

Senator PEPPER. And where do you live?

Mrs. FLEMING. 301 West Mentor, Olney, Philadelphia.

Senator PEPPER. Will you just tell us what your condition was before you went to Dr. Gerson—and this is Miss or Mrs.?

Mrs. FLEMING. Mrs.

Senator PEPPER. Mrs. Fleming.

Mrs. FLEMING. I started several years before, going around from doctor to doctor, and nobody seemed to know what was wrong.

Senator PEPPER. And who told you you had a malignant tumor?

Mrs. FLEMING. Dr. Leonard Averett, who operated the specimen.

Senator PEPPER. And where did he operate?

Mrs. FLEMING. In the Northern Liberties Hospital, Twenty-first and Spruce.

Senator PEPPER. Twenty-first and Spruce Streets, Philadelphia?

Mrs. FLEMING. Philadelphia.

Senator PEPPER. And he operated on you?

Mrs. FLEMING. Yes.

Senator PEPPER. And he told you that you had a malignant tumor?

Mrs. FLEMING. He did not tell me. He told my people.

Senator PEPPER. He told your people that you had a malignant tumor? All right; go ahead, now.

Mrs. FLEMING. So after I came out of the hospital he ordered X-ray treatments. I took 15 of those, and quit work; and so then he discharged me and told my people there was nothing more could be done, it was just a matter of time; and I went from 165 pounds to 130 pounds, and then they took me to Dr. Gerson.

Senator PEPPER. When did you go to Dr. Gerson?

Mrs. FLEMING. May, 2 years ago.

Senator PEPPER. And Dr. Gerson gave you his Gerson diet?

Mrs. FLEMING. Yes, sir.

Senator PEPPER. And did he give you any liver injections?

Mrs. FLEMING. Yes, sir.

Senator PEPPER. Did he give you any other treatment?

Mrs. FLEMING. Just the vitamins.

Senator PEPPER. And vitamins? And so, have you had an examination lately? You consider yourself cured, now?

Mrs. FLEMING. I was examined by Dr. Averett, January, a year ago, and he said I had no signs of ever having it.

Senator PEPPER. You consider yourself cured?

Mrs. FLEMING. I think so.

Senator PEPPER. And you attribute your cure to the treatment that Dr. Gerson gave you?

Mrs. FLEMING. Nothing else; positively.

Dr. GERSON. Her leg was terribly swollen.

Mrs. FLEMING. My leg was like that.

Dr. GERSON. The left leg.

Mrs. FLEMING. The right leg.

Dr. GERSON. Tumor masses pressed on the vena cava, and this was blue and terribly swollen, the leg, so she could hardly walk.

Now, something else happened. The case is interesting in several other respects. I will make it very short. When the patient was one year under my treatment, because the ovaries were killed for treatment reasons, she had terrible flare-ups, menopause reactions, perspiration and heart palpitation and these so-called flare-ups; so I tried to give her an ovary substance; immediately, the ovarian substance brought the tumors back. That is one of these cases where I have now seen that. Immediately, the tumors start to grow. Now, at that time, I found when I gave a little bit of iodine before, you see, I could destroy the tumor so that they cannot more grow. I gave her then for 5 months Lugol's solution, and after this I tried again to give her different substances to see whether the tumors will regrow again. Nothing happened. I gave her fats, and with fats also I could bring the tumors to regrow; but now, even, we, as physicians, are able to bring the tumors back; they can regrow, but we are able to suppress the tumors; when we give in addition to the treatment a little bit of iodine—nothing can happen again. No tumors can regrow again.

The first case in this respect, where I made all these experiments, is a next patient, Mrs. Beatrice Sharpe. This is the second, then came a third; and from now on I knew a little bit of iodine has to be added—but the individuals react differently, and that has to be worked out scientifically.

Mr. MARKEL. Ask Dr. Miley if he is familiar with this case.

Senator PEPPER. Do you know about this patient?

Dr. MILEY. I sent this case to Dr. Gerson, as a test, because a couple of years ago he had made this statement to myself and to Dr. Charles Bailey, of Philadelphia, an outstanding chest surgeon, there, and he was in Seaview and New York. I went over to see his tuberculosis cases, and some of his results were very, very remarkable. He had several bronchial chest fistulas which had healed up, which had no right to heal, and he had mentioned at that time the possibility of using this in malignant disease. Both Dr. Bailey and I smiled skeptically, thinking it was rather fantastic; so I picked out the worst case I could find and sent him one, which happened to be Mrs. Fleming; and much to my surprise she improved. She was supposed to live 3 to 5 months, approximately, and instead, she is still here. The tumors have at least palpably disappeared; they may reappear, but at least there is no evidence now, so far as she is concerned. She has put on very many pounds.

Dr. GERSON. Twenty pounds.

Dr. MILEY. Her sister is giving constant reports, and she says she continued to improve and she has remained improved, and it is 2 years now since that occurred. Certainly, something should have

happened by now if it were going to. We do not know—we are still watching it. She has a 2-year improvement, at least.

Senator PEPPER. Thank you very much for coming, Mrs. Fleming. Now, Doctor, have you another?

Mr. MARKEL. Yes.

Dr. GERSON. Mrs. Beatrice Sharpe.

Senator PEPPER. Have a seat. How do you do?

Mrs. SHARPE. How do you do?

Senator PEPPER. Now, Doctor, let us get the lady's name.

Mrs. SHARPE. Mrs. Beatrice Sharpe.

Senator PEPPER. And your address?

Mrs. SHARPE. 135-53 Two hundred and Thirtieth street, Laurelton, Long Island.

Dr. GERSON. The patient was first operated 3 years ago.

Mrs. SHARPE. 1940.

Dr. GERSON. 1940—now 6 years ago. Where was it?

Mrs. SHARPE. In Jersey City.

Dr. GERSON. Jersey City? And 2 years later she had a recurrence on the breast, left breast operation, the breast was removed, but how much later—2 years, about?

Mrs. SHARPE. Well, about 1941 I had a recurrence.

Dr. GERSON. You were at Memorial Hospital?

Mrs. SHARPE. Memorial Hospital, yes; taking treatments. In 1942 I had to go back and had more radium treatments. In 1943 I had X-ray treatments, and in 1944 they told me I couldn't take any more treatments, and that was all they could do for me.

Dr. GERSON. They sent her home.

Senator PEPPER. Now, I have here in my hand what purports to be a letter written from Memorial Hospital for the treatment of cancer and allied diseases, dated September 27, 1944, and it reads:

At the request of: Dr. Max Gerson, 667 Madison Avenue, New York, N. Y.

Name of patient: Beatrice Sharp. Address: 135-53 Two Hundred and Thirtieth Street, Laurelton, Long Island.

Admitted: To O. P. D. September 8, 1941. Discharged: ———.

Diagnosis: Recurrent inoperable carcinoma of left breast.

Remarks: Patient first examined in breast clinic on September 8, 1941, at which time it was noted that she had no local recurrence but had bulky left supraclavicular mass. This was treated with radium element pack in September 1941, patient having received 60,000 mghrs—8,000 mghrs having been given every other day, with excellent regression of mass. Node discovered in left cervical region in September 1942. This was also treated with radium element pack for a total of 64,000 mghrs with complete regression of disease.

What is the 64,000—milligram hours?

Dr. GERSON. No; a unit of measurement.

Senator PEPPER (continuing).

Disease remained quiescent until July 1943, when patient developed multiple skin nodules over left chest wall in region of scar and medial to it. Low voltage X-ray therapy given to these regions, patient having received 1,500 r (500 r×3) to left chest wall anterior and left chest wall lateral. At completion of this cycle two additional treatments (400 r×2) were given to left chest wall anterior, remained under control until July 1944, when it was noted coming active as well as the mass in the cervical area. It was felt that these areas could not be treated because of proximity to previously irradiated skin.

Last known condition: ———

FRANK E. ADAIR,  
Attending Surgeon, Breast Service.

Dr. GERSON. In the photos of X-rays you can see the big nodules, and it was here, at the upper half of the lung, and here, at the supraclavicular glands where the big nodules were. They disappeared in a short time. In a few cases these nodules and the tumor pain disappear, but it was not so in this case, because here some of the pain resisted and she had also, because the ovaries were killed for treatment reasons, these terrible menopause reactions; so I finally, with all these pains, and she could not stand more the pain, finally I started to give her a little bit, but only one tablet of ovarian substance—5-grain, one a day, instead of giving three or four, which is usual; one tablet given for 3 weeks, and all cancer masses came back; but not any this time, here. We find here it was the left side, but also on the other side. Now, they came back, with a little bit of ovarian substance. Here, all came back—also on the other side—not only here. You can see here, on the other side all glands came back, not only more cancer masses on the left side, they are also on the right. I applied again the first treatment. All glands disappeared in 3 weeks, when nothing more was left. Then I gave her iodine for 6 weeks, and then we gave her again, all ovarian substances we have; we gave her double amounts—three times the amount.

We gave her, in addition, stilbesbrol; we gave her, in addition, premarin—nothing came back. Then we gave her cancer activating (carcinogen) substances, and I have many other cases where I could activate cancer with certain substances. Then could make all disappear. Then we gave her a raw egg yolk. We know this egg yolk was carinogen too. I killed three patients, when I gave them a little bit of egg yolk, half an egg yolk a day, but the poor boy had to die for this. You see, when that had disappeared, in a few cases it could not be, it did not respond a second or a third time to the treatment.

Now, I gave one ounce of egg substance, and, second, the butter, and third, egg yolks—nothing came—nothing. No more apparently can grow any more. That was the first case where these experiments were made.

Senator PEPPER. That was not malignant? The meaning of that letter is that this is a malignant growth?

Dr. GERSON. A regrowing. And now, all pain is gone here in the arm.

Mrs. SHARPE. Yes.

Dr. GERSON. And all other, and the menopause reactions are gone, and now you can do it.

Senator PEPPER. Mrs. Sharpe, you just tell us about your case, will you? What happened to you after you went to Dr. Gerson? Tell us about his treatment.

Mrs. SHARPE. In 1940 I had a mastectomy, and in 1941 I went back and I had this recurrence in my neck, and I was sent over to Memorial Hospital for treatments. In 1942 I had to go back, and in 1943 and 1944 there was nothing more they could do for me, so I heard of Dr. Gerson, through a chiropractor. He gave me Dr. Gerson's name, and I thought I had nothing to lose, so I went to Dr. Gerson's, and in 3 weeks' time on the treatment the mass started to disappear. My head was stiff. I could not move my neck.

Senator PEPPER. You had what—a tumor of the neck?

Mrs. SHARPE. Yes.

Senator PEPPER. You had a big tumor that stuck out here on your neck?

Mrs. SHARPE. Yes.

Senator PEPPER. And after 3 weeks of Dr. Gerson's treatment it started to disappear?

Mrs. SHARPE. Yes.

Senator PEPPER. And it finally has subsided entirely?

Mrs. SHARPE. Oh, yes.

Senator PEPPER. And you have no more of the symptoms?

Mrs. SHARPE. And I am going to business all the time.

Dr. GERSON. She did not lose one working day. Most of my patients, they do not lose even one working day; they continue to work.

Senator PEPPER. You attribute the recovery entirely to the treatment that you received from Dr. Gerson?

Mrs. SHARPE. Oh, absolutely.

Mr. MARKEL. Dr. Miley.

Senator PEPPER. Dr. Miley, have you anything to say about Mrs. Sharpe?

Dr. GERSON. Yes.

Dr. MILEY. I saw her fairly early when she still had some tumor masses. Dr. Gerson was very enthusiastic in claiming they had gone down, and they had gone down partially from the original, but since then they have really gone down much more, and I felt at the time he was a little overenthusiastic about it, but certainly his results today, 6 to 8 months later, since I first saw her, justify the fact that there is certainly a steady subsidence of any signs of recurrence, and she certainly remained clinically better.

Senator PEPPER. Have you any other cases?

Dr. MILEY. Cases have to be observed for a long period of time before any conclusions can be drawn, but she has proved definitely—

Senator PEPPER. Dr. Gerson, have you had other cases, now, of what we would normally call "cancer"? That is, what they think of as a growth—the ordinary case of cancer.

Dr. GERSON. These, here, are recurrences.

Senator PEPPER. Is that what we ordinarily call "cancer"?

Dr. GERSON. Yes; that is cancer.

Senator PEPPER. Is that what she had?

Mr. MARKEL. All these cases had cancer.

Dr. GERSON. Only that in the spinal cord. That is one without metastasis. All others have metastases, and in metastasis cases it is known in medicine that they cannot be influenced.

Senator PEPPER. How many people have you treated for cancer who have favorably responded to your treatment, would you say?

Dr. GERSON. I might say 30 percent; but they are all the most hopeless cases, but when we get some not more than skin cancers, they always—easy to treat! And even skin cancer growing into the bones as basal cell sarcoma, which are known in medical science that they cannot be influenced—as Mr. Gimson had one, here, and the X-rays show how far it had grown into the skull. Professor Howe was very much influenced when he saw this. This was growing through the bones, and now what is left an absolute scar.

Senator PEPPER. You said about 30 percent of the cases that you have treated?

Dr. GERSON. Yes. I would like if you will discuss this with Dr. Miley. When I would say some things, then they would think maybe I would exaggerate it a little bit. I might. I prefer to underestimate. That is much better, you see; then others can have even better results.

Senator PEPPER. Have you anything to say by way of summary of Dr. Gerson's treatment, Dr. Miley?

Mr. MARKEL. Dr. Miley would like to make a statement, if you please, Senator, for the record, with respect to all these things.

Senator PEPPER. Can you give me a sort of summary?

Dr. MILEY. I will give it, and make this short, Senator Pepper.

Senator PEPPER. Let me ask you, Doctor, do you favor the appropriation of public money?

Dr. GERSON. I would be for it—not for myself, personally, but for research.

Senator PEPPER. I do not mean for yourself. Do you favor generally the objectives of this bill?

Dr. GERSON. No. All physicians must have money for research. Research is very important in medicine. The most important thing in medicine is research.

Senator PEPPER. I say, you do favor it? You said "no."

Mr. MARKEL. He thought you meant "object" to it.

Dr. GERSON. I am in favor of the bill, of course.

Mr. MARKEL. Yes; that is right.

Senator PEPPER. All right; now, you tell us, Dr. Miley. Go ahead.

**STATEMENT BY DR. GEORGE MILEY, GOTHAM HOSPITAL,  
NEW YORK CITY, N. Y.**

Dr. MILEY. I wish to congratulate you, Senator Pepper, on the bill. It is a wonderful thing, and I endorse it wholeheartedly. I think all of us are here for the same purpose, regardless of how we approach the subject of cancer, and what our ideas are. As I see it we are all in support of you, Senator Pepper. Our only argument is perhaps in the way that good can be done for people, and that is not a serious difference.

I feel that the Gerson dietary regime offers a new approach to the cancer problem. We do know experimentally that diet definitely does influence cancer. There is a lot of experimental work done, very good work done to substantiate that. I will run through this statement rather briefly.

I do not think Dr. Gerson has mentioned what the diet consists of particularly. The Gerson dietary regime is quite harmless and consists of a low salt, low fat, low animal protein and high carbohydrate diet, plus frequent injections of crude liver extracts and the oral administration of adequate amounts of minerals and vitamins to supplement those vitamins missing in the diet. The diet consists chiefly of large amount of fresh fruit and fresh vegetables and does not allow any meat, milk, alcohol, canned or bottled foods. Tobacco in any form is prohibited. The diet burns down to an alkaline ash and in general is a combination of many well known and approved dietary nutritional discoveries by many other workers. It is reasonable to assume that the closer one's diet is to nature and the soil, with fresh fruit from the trees and fresh vegetables directly from the garden, the nearer one is to normal health. Primary biochemical investigations by Dr. Rudolph Keller indicate that the use of the diet is soon

followed by certain definite electrochemical changes, notably, shifts toward normal or markedly unbalanced sodium, potassium, and phosphorous ratios in the blood serum and the body tissues. Dr. Keller, as a result of his investigation of the diet, believes that this type of electrochemical reaction can very well change the entire metabolism of the body in cancer patients. A preliminary paper by Dr. Gerson describes the diet in detail and cites 10 cases of cancer in which it appeared that the Gerson dietary regime favorably influenced the course and symptoms of the disease.

This new approach to the cancer problem is of fundamental importance because it is the first promising method which treats cancer as a systemic disease, that is, a disease of abnormal chemistry of the *whole* body. Heretofore, all efforts to treat cancer have been based upon the theory that eradication of the cancer growth must be performed by surgery, X-ray, or radium without regard for abnormal body chemistry which permits the growth to occur. The reason that surgery, X-ray, and radium have not been a real success in the treatment of cancer is that cancer is primarily a disease of abnormal body chemistry, chemistry which is controlled by organs far distant from the site of the cancer. The Gerson dietary regime is an encouraging attempt to return such abnormal body chemistry to normal.

There are certain definite problems to be overcome before any type of treatment of cancer can be considered partially or wholly successful, problems which are not solved by surgery, radium, or X-ray. A survey<sup>1</sup> made by Dr. Stanley Reimann of cancer cases in Pennsylvania over a long period of time showed that those who received no treatment lived longer than those that received surgery, radium, or X-ray. The exceptions were those patients who had received electro-surgery—in other words, the surgery with an electrical knife—and lived approximately as long as those who received no treatment whatsoever. The survey also showed that following the use of radium and X-ray much more harm than good was done to the average cancer patient. This is a conclusion which is not generally accepted and is highly controversial among leading cancer workers. It would appear that none of the routine measures employed today to combat cancer is as effective as their proponents would have us believe.

We have made two new approaches to the solution of the chief problems which have to do with the cancer patient, itself. In other words, we are trying to do the best we can for all types of cancer patients or propose something which can be studied over a long time, of some significance.

(1) The abolition of pain has been possible only by the use of narcotics, which are deleterious to any patient's general health when administered over a long period of time. This problem, in my opinion, has been solved more by the Gerson diet than by any other method today. We have observed marked relief of pain in approximately 90 percent of the patients who entered the hospital with severe types of pain due to cancer.

(2) The further spread of cancer processes has been apparently retarded by the use of the Gerson dietary regime in several cases observed.

(3) A reduction in the size of the original malignant growth has been observed to occur in certain instances following the use of the

<sup>1</sup> EDITOR'S NOTE.—A communication from Dr. Stanley Reimann to Senator Pepper states that he made no such survey.



Gerson diet, although in some of his private patients his findings are very encouraging, I should say.

(4) The reduction of metastases or secondarily disseminated cancers from the original growth has not been observed in the Gotham Hospital series, but in certain instances of private patients seen in Dr. Gerson's office, there was an apparent disappearance of metastatic nodules.

(5) The control of acute pyogenic (pus forming) infections in areas eroded by cancer, which is one of the chief causes of death in a cancer patient. The only type of treatment in my experience that has been of any use in the control of this type of infection is ultraviolet blood-irradiation therapy, in which I have pioneered for many years, and in which we have tried it in infections which have not responded to sulfa drugs or penicillin. We feel that although this offers only a temporary relief of 3 to 4 weeks' duration, it is of extreme importance to the welfare of the individual patient, especially where the patient's general health must be raised to a level high enough to allow the institution of other treatment, whether the Gerson dietary treatment, surgery, or anything else that may be suggested.

(6) The acute toxic symptoms, such as nausea and vomiting, which are commonly observed in a considerable number of cancer patients may be temporarily alleviated by ultraviolet blood-irradiation therapy. This result, though often only temporary, allows the institution of other therapy which otherwise might not have been possible and as such has a limited but definite value in the treatment of a cancer patient.

(7) Hemorrhage due to erosion by cancer masses is a frequent cause of death. Its control is only possible if there is no spread from an original cancer or there is a reduction in the original tumor or its metastases. To date the Gerson diet is of value in the control of hemorrhage only to the extent to which it limits directly the encroachment of cancer masses upon important blood vessels.

(8) General debility, and especially loss of weight, have been frequently overcome by both the Gerson dietary regime and ultraviolet blood-irradiation therapy, which fortunately may be used together without any contraindications whatsoever. As a result many formerly debilitated patients were able to do normal work again.

Senator PEPPER. Does the patient sustain any loss of weight from the Gerson diet?

Dr. MILEY. No. The diet, although very low in animal protein, seems to be followed at first by a temporary loss of weight, which is usually due to loss of fluid due to the restriction of salt. I think this salt-free diet plays a big part in the reduction of jell around cancer masses. This is a rather well-known finding, and it is one of the many things which Dr. Gerson has used, which is known to influence such swelling.

(9) The maintenance of the morale of the cancer patient is of primary importance at all times. When any one or any combination of the previously mentioned eight problems are solved for the individual cancer patient, his or her morale is enormously improved so that the practical solution of one or more of these problems must be accomplished wherever possible regardless of whether the patient is considered a hopeless case of cancer or not. That is a humane way to look at that.

Next we must consider the problems to be overcome in the prevention of cancer. The pertinent ones are, in my opinion, as follows:

(1) The discovery of the various causes of the various types of cancer.

(2) The elimination of the causes as they become known without the tragic long interval between the making of a fundamental discovery and the better understanding of its importance and the full realization of its benefits to mankind.

(3) Generalized education in regard to the various causes of cancer as they become known.

There have been many approaches to determine the causes of cancer. From clinical observations on cancer patients, the Gerson dietary regime for example provides a most promising lead. In order to profit from this knowledge an enormous amount of collateral biochemistry must be carried out intensively on both cancer patients and cancer animals by competent workers who are equipped with science's most up-to-date tools for such work. There are many great institutions doing this work. Prominent among them are the Lankenau Research Institute of Philadelphia, the National Health Institute of Bethesda, Md., Rockefeller Institute, not to mention many others.

There are no special cancer hospitals as yet doing this highly specialized work in biology and biochemistry to any appreciable degree though they should be encouraged to do this fundamental work in close relation to their carrying out the well-known and often not too successful routine treatment of cancer by surgery, radium, and X-ray.

The history of medicine is filled with tragic errors which allow such a long time to elapse between the time of discovery of a basic principle and the actual medical application of the discovery for the good of mankind. To quote from a recent paper by Hammett (*Science*, vol. 103, No. 2685, p. 714) :

Nowhere today is this delay more unhappily evident than in the field of cancer research. The accumulated data of Rous, Shope, Coley, Bittner, Strong, Andervont, Green, Greene, Williams, Taylor, Furth, Twombly, Cowdry, Diller, Bawden, Pirie, Stanley, Wycoff, Kunitz, and others indicate beyond peradventure the path for getting at something of practical benefit to the cancer patient of the future other than surgery and radium.

Even the newly announced radioactive phosphorus cure of skin cancer, and skin cancer only, does not approach the deeper body cancer problem from a systemic or fundamental point of view but is a step forward in the local treatment of cancer.

It is obvious that the many potentialities inherent in the Gerson dietary regime for cancer patients should be explored and exploited to the fullest extent for the common good. In order that this new and highly encouraging approach to the problem of cancer cure and prevention be utilized on a statistically significant scale by both laboratory and clinical workers alike, sufficient funds must be made available for this work. This also holds true for the supplemental use of ultraviolet blood-irradiation therapy in controlling secondary infections and certain toxic symptoms in cancer patients. These observations have become apparent to several distinguished physicians who have witnessed the effects of the Gerson diet on cancer patients and whose signed statements are also herewith enclosed.

Therefore, it is my carefully considered opinion that in view of the success so far and the excellent future promise of both the Gerson

dietary regime and ultraviolet blood-irradiation therapy, it would be unthinkable not to give major consideration to these new avenues of approach to the cancer problem in the research program contemplated by bill S. 1875.

(The remainder of Dr. Miley's prepared statement, together with the signed statements of certain distinguished physicians, et cetera, are as follows:)

STATEMENT OF DR. GEORGE MILEY BEFORE THE SUBCOMMITTEE ON FOREIGN RELATIONS, UNITED STATES SENATE, ON JULY 2, 1946, RE CANCER APPROPRIATIONS BILL, S. 1875

My name is Dr. George Miley. I was born in Chicago, 1907, graduated from Chicago Latin High School, 1923, graduated with B. A. from Yale University in 1927, from Northwestern Medical School, 1932, interned at Chicago Memorial Hospital in 1932 and 1933, University of Vienna Postgraduate Medical School, 1933, 1934, following which I visited the hospitals in India, China, and Japan.

Next practiced medicine and surgery in Cedar Rapids, Iowa, until January 1937, when I moved to Philadelphia to enter the department of pharmacology at the Hahnemann Medical College and Hospital of Philadelphia. Received doctor of medical science from Hahnemann in 1941 for original research in ultraviolet blood irradiation therapy. Have been in medical research as clinical professor of pharmacology and director of the Blood Irradiation Clinic of the latter institution.

I am a fellow of the American Medical Association, National Gastroenterological Association. A member of the New York State and New York County Medical Societies, Pennsylvania State and Philadelphia County Medical Societies, Philadelphia Physiological Society, American Rheumatism Association, and American Association for the Advancement of Science. I hold a national board certificate and am licensed to practice in the States of Iowa, Illinois, Pennsylvania, and New York. Since August 1945, I have been medical director of the Gotham Hospital, New York, in charge of blood irradiation research, and am acting as the representative of Dr. Stanley Reimann, its head of oncology (science of tumors), and pathology (science of abnormal anatomy), to observe and control as necessary, the experimental work of Dr. Max Gerson in the study of the clinical effects of diet on cancer patients at the Gotham Hospital.

During my research in the field of ultraviolet blood irradiation therapy,<sup>1</sup> which experience includes the administration and use of the method over 8,000 times in more than 3,000 individuals, many important clinical observations were made which were substantiated by other workers in the same field. Those which have to do with the cancer problems are as follows:

(1) Acute pyogenic (pus forming) infections in and around the cancerous area can be controlled better by blood irradiation than by any other known method.

(2) The acute toxic symptoms often present in cancer patients can best be controlled by ultraviolet blood irradiation therapy, which is the best detoxicating agent known to modern medicine, according to the workers in this field.

(3) The efficient control of virus and viruslike infections has been observed by blood irradiation workers throughout the country. This is extremely important in light of the recent demonstration that mothers' milk may contain a transmissible agent productive of malignant growth possibly of a virus nature. Also, there are certain types of experimental cancer which are produced specifically by a virus, so that any method which can inactivate viruses may be important for the treatment of the cancer patient.

(4) Ultraviolet blood irradiation therapy has no influence whatsoever on cancer itself insofar as may be judged by the experiences of all blood irradiation workers and in the light of our present knowledge of the subject.

The Gerson dietary regime is quite harmless and consists of a low-salt, low-fat, low animal protein, and high-carbohydrate diet, plus frequent injections of crude liver extracts and the oral administration of adequate amounts of minerals and vitamins to supplement those vitamins missing in the diet. The diet consists chiefly of large amounts of fresh fruit and fresh vegetables and does not allow any meat, milk, alcohol, canned or bottled foods. Tobacco

<sup>1</sup> See attached reprint of original papers on ultraviolet blood irradiation therapy.

in any form is prohibited. The diet burns down to an alkaline ash and, in general, is a combination of many well-known and approved dietary nutritional discoveries by many other workers. It is reasonable to assume that the closer one's diet is to nature and the soil, with fresh fruit from the trees and fresh vegetables directly from the garden, the nearer one is to normal health. Primary biochemical investigations by Dr. Rudolph Keller indicate that the use of the diet is soon followed by certain definite electrochemical changes; notably, shifts toward normal of markedly unbalanced sodium, potassium, and phosphorous ratios in the blood serum and the body tissues. Dr. Keller, as a result of his investigation of the diet, believes that this type of electrochemical reaction can very well change the entire metabolism of the body in cancer patients. A preliminary paper by Dr. Gerson<sup>2</sup> describes the diet in detail and cites 10 cases of cancer in which it appeared that the Gerson dietary regime favorably influenced the course and symptoms of the disease.

This new approach to the cancer problem is of fundamental importance because it is the first promising method which treats cancer as a systemic disease; that is, a disease of abnormal chemistry of the whole body. Heretofore, all efforts to treat cancer have been based upon the theory that eradication of the cancer growth must be performed by surgery, X-ray or radium without regard for abnormal body chemistry which permits the growth to occur. The reason that surgery, X-ray, and radium have not been a real success in the treatment of cancer is that cancer is primarily a disease of abnormal body chemistry, chemistry which is controlled by organs far distant from the site of the cancer. The Gerson dietary regime is an encouraging attempt to return such abnormal body chemistry to normal.

I first met Dr. Gerson in 1942, at which time I was interested in the effects of the Gerson diet on tuberculosis. I visited his office at 667 Madison Avenue, New York City, with Dr. Charles Bailey, outstanding Philadelphia and New York chest surgeon, and we observed several tuberculosis patients who had made remarkable recoveries following the use of the Gerson diet. During this visit Dr. Gerson mentioned to me, for the first time, the potential use of the Gerson diet in cancer, an idea which then seemed rather fantastic to me, but no longer does. In the last 4 years I have found Dr. Max Gerson to be an honest and ethical practitioner of medicine, interested in bettering modern methods of treatment, as the result of many years of clinical study of the effects of diet on various disease processes. Since January 1946, we have, at the Gotham Hospital, extended hospital facilities, including a special diet kitchen to Dr. Gerson, for a controlled study and observation of his work by physicians. The results are, in my opinion, most encouraging, but a tremendous amount of work needs to be done as yet before statistically significant conclusions can be reached.

There are certain definite problems to be overcome before any type of treatment of cancer can be considered partially or wholly successful, problems which are not solved by surgery, radium or X-ray. A survey made by Dr. Stanley Reimann of cancer cases in Pennsylvania over a long period of time showed that those who received no treatment lived longer than those that received surgery, radium, or X-ray. The exceptions were those patients who had received electro-surgery and lived approximately as long as those who received no treatment whatsoever. The survey also showed that following the use of radium and X-ray much more harm than good was done to the average cancer patient. This is a conclusion which is not generally accepted and is highly controversial among leading cancer workers. It would appear that none of the routine measures employed today to combat cancer are as effective as their proponents would have us believe.

These problems and two new approaches to their solution are described as follows:

(1) The abolition of pain has been possible only by the use of narcotics, which are deleterious to any patient's general health when administered over a long period of time. This problem, in my opinion, has been solved more by the Gerson diet than by any other method today. We have observed marked relief of pain in approximately 90 percent of the patients who entered the hospital with severe types of pain due to cancer.

(2) The further spread of cancer processes have been apparently retarded by the use of the Gerson dietary regime in several cases observed.

(3) A reduction in the size of the original malignant growth has been observed to occur in certain instances following the use of the Gerson diet.

<sup>2</sup> See attached reprint of original paper on Gerson dietary regime in cancer.

(4) The reduction of metastases or secondarily disseminated cancers from the original growth has not been observed in the Gotham Hospital series, but in certain instances of private patients seen in Dr. Gerson's office, there was an apparent disappearance of metastatic nodules.

(5) The control of acute pyogenic (pus forming) infections in areas eroded by cancer, which is one of the chief causes of death in a cancer patient. The only type of treatment in my experience that has been of any use in the control of this type of infection is ultraviolet blood irradiation therapy, already mentioned, and this, though only offering a temporary relief of 3 to 4 weeks' duration, is of extreme importance to the welfare of the individual patient, especially where the patient's general health must be raised to a level high enough to allow the institution of other treatment such as the Gerson dietary regime.

(6) The acute toxic symptoms, such as nausea and vomiting, which is commonly observed in a considerable number of cancer patients may be temporarily alleviated by ultraviolet blood irradiation therapy. This result, though often only temporary, allows the institution of other therapy which otherwise might not have been possible and as such has a limited but definite value in the treatment of a cancer patient.

(7) Hemorrhage due to erosion by cancer masses is a frequent cause of death. Its control is only possible if there is no spread from an original cancer or there is a reduction in the original tumor or its metastases. To date the Gerson diet is of value in the control of hemorrhage only to the extent to which it limits directly the encroachment of cancer masses upon important blood vessels.

(8) General debility, and especially loss of weight, have been frequently overcome by both the Gerson dietary regime and ultraviolet blood irradiation therapy, which fortunately may be used together without any contraindications whatsoever. As a result many formerly debilitated patients were able to do normal work again.

(9) The maintenance of the morale of the cancer patient is of primary importance at all times. When any one, or any combination of the previous eight problems are solved for the individual cancer patient, his or her morale is enormously improved so that the practical solution of one or more of these problems must be accomplished wherever possible regardless of whether the patient is considered a hopeless case of cancer or not.

Next we must consider the problems to be overcome in the prevention of cancer. The pertinent ones are, in my opinion, as follows:

(1) The discovery of the various causes of the various types of cancer.

(2) The elimination of the causes as they become known without the tragic long interval between the making of a fundamental discovery and the better understanding of its importance and the full realization of its benefits to mankind.

(3) Generalized education in regard to the various causes of cancer as they become known.

There have been many approaches to determine the causes of cancer. From clinical observations on cancer patients, the Gerson dietary regime provides a most promising lead. In order to profit from this knowledge an enormous amount of collateral biochemistry must be carried out intensively on both cancer patients and cancer animals by competent workers who are equipped with science's most up-to-date tools for such work. There are many great institutions doing this work. Prominent among them are the Lankenau Research Institute of Philadelphia, the National Health Institute of Bethesda, Md., Rockefeller Institute, not to mention many others.

There are no special cancer hospitals as yet doing this highly specialized work in biology and biochemistry to any appreciable degree though they should be encouraged to do this fundamental work in close relation to their carrying out the well-known and not too successful routine treatment of cancer by surgery, radium, and X-ray.

The ideal vehicle for the administration of the large funds necessary for the furtherance of the study of the principles involved, successful treatment for the prevention of cancer is, in my opinion, a privately controlled, nonprofit research foundation. Recently such a medical research foundation has been organized which recognizes the value of the two new avenues of approach to cancer mentioned above, and is now in the final stages of legalization. The foundation has been organized for medical research because of the feeling by its organizers that such a foundation devoted exclusively to medical research fulfills a definite need for the careful exploration of many important discoveries which

for an unnecessarily long period of time, have been, or may be, overlooked for lack of sufficient funds and a proper administrative vehicle devoted to the investigation of promising original work. Such work often has been considered unimportant or unorthodox by existing avenues of research that have remained closed to many worthwhile scientific workers.

The foundation mentioned will be devoted to the correction of the deficiency which allows, in our present American research practice, this delay of action in making known and clinically applicable important basic discoveries. In the very near future it is proposed to set up within the structure of the foundation an institute of dietetics devoted to the careful correlation of all biochemical and medical knowledge pertaining to the influences of the diet on cancerous growth and its various detrimental effects; at the foundation's institute of dietetics, this knowledge of its practical application will be taught to those dietitians, nurses, technicals, physicians and other cancer research workers who are interested in its approach to solving the problem of the cure and prevention of cancer. Such a foundation also insures both the hospital and the laboratory facilities which are so essential for the testing of new treatments which may conceivably influence favorably the course and symptoms of cancer. In such an environment a carefully controlled evaluation of promising methods of treatment of human cancer would be made available.

The history of medicine is filled with tragic errors which allow such a long time to elapse between the time of discovery of a basic principle and the actual medical application of the discovery for the good of mankind. To quote from a recent paper by Hammett (*Science*, vol. 103, No. 2685, p. 714) :

"Nowhere today is this delay more unhappily evident than in the field of cancer research. The accumulated data of Rous, Shope, Coley, Bittner, Strong, Andervont, Green, Greene, Williams, Taylor, Furth, Twombly, Cowdry, Diller, Bawden, Pirie, Stanley, Wycoff, Kunitz, and others indicate beyond peradventure the path for getting at something of practical benefit to the cancer patient of the future other than surgery and radium."

Even the newly announced radioactive phosphorous cure of skin cancer and skin cancer only does not approach the deeper body cancer problem from a systemic or fundamental point of view but is a step forward in the local treatment of cancer.

It is obvious that the many potentialities inherent in the Gerson dietary regime for cancer patients should be explored and exploited to the fullest extent for the common good. In order that this new and highly encouraging approach to the problem of cancer cure and prevention be utilized on a statistically significant scale by both laboratory and clinical workers alike, sufficient funds must be made available for this work. This also holds true for the supplemental use of ultraviolet blood irradiation therapy in controlling secondary infections and certain toxic symptoms in cancer patients. These observations have become apparent to several distinguished physicians who have witnessed the effects of the Gerson diet on cancer patients and whose signed statements are also herewith enclosed.

Therefore, it is my carefully considered opinion that in view of the success so far and the excellent future promise of both the Gerson dietary regime and ultraviolet blood irradiation therapy, it would be unthinkable not to give major consideration to these new avenues of approach to the cancer problem in the research program contemplated by bill S. 1875.

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NEW YORK 21, N. Y., June 29, 1946.

Dr. GEORGE MILEY,  
*Medical Director, Gotham Hospital,  
 New York, N. Y.*

DEAR DR. MILEY: In the last 6 months I have had occasion to observe several patients with advanced cancer treated by the Gerson dietary regime. While all of them did not respond to the treatment, the favorable results in some were very striking, much more so than otherwise could have been expected. I believe that this type of treatment should be investigated intensively and on a large scale as it presents many potentialities for the benefit of the cancer patient.

Sincerely,

JAMES V. RICCI, M. D.

NEW YORK, June 27, 1946.

DR. GEORGE MILEY,  
New York, N. Y.

MY DEAR DR. MILEY: I have observed several cases of malignancy which have apparently been arrested by the Gerson diet, and I am convinced that every opportunity should be given to the continuation of this research.

Sincerely yours,

HUBERT S. HOWE, M. D.

NEW YORK, June 28, 1946.

DR. GEORGE MILEY,  
Medical Director, the Gotham Hospital,  
New York 21, N. Y.

DEAR DR. MILEY: For over 3 years I have been observing the effects of the Gerson dietary regime on cancer patients, and it is my carefully considered opinion that many of these patients have been greatly benefited by this type of treatment. The method should be given an intensive trial, as it offers a new and promising approach to the hitherto unsolved problem of a successful treatment for cancer.

Sincerely yours,

ARTHUR L. WASHBURN, M. D.

NEW YORK 21, N. Y., June 27, 1946.

DR. GEORGE MILEY,  
Medical Director, the Gotham Hospital,  
New York, N. Y.

DEAR DR. MILEY: As you know, I have closely followed the cases of malignancy under treatment by the Gerson diet, particularly the pulmonary ones. I have been much impressed by the apparent reduction of the tumor in several cases and the marked clinical improvement in many of the others. There certainly is a definite benefit in many instances, and it is my firm belief that the research must be continued along these lines.

With best regards, I am,  
Sincerely,

CHARLES P. BAILEY, M. D.

Senator PEPPER. Thank you very much, Dr. Miley. We appreciate your coming.

Dr. GERSON. I have here a letter from a doctor with whom I worked together 7 years, and he would like to give you his statement.

Senator PEPPER. All right. I will just put it in the record, then. Dr. Gerson hands me a letter from Dr. Heinrich F. Wolf, 667 Madison Avenue, New York, dated July 1, 1946, reading as follows:

For the last 7 years I have shared the same office with Dr. Max Gerson, and in that time I have had the opportunity, not only to observe nearly all the important cases treated by Dr. Gerson with his diet, but I have used the latter on my own patients.

The results in some chronic skin diseases, in some types of heart diseases and in some dangerous cases of high blood pressure, were astonishing. In some of my patients the blood pressure that had been up to 170 and 180, went down to 130 permanently, and the symptoms of headaches and dizziness disappeared entirely.

During the last 3 or 4 years, since Dr. Gerson paid particular attention to the effect of his dietary regime on benign and malignant tumors, I observed practically all of the tumor cases which he treated. I observed and supervised their X-rays and saw the patients at nearly every visit.

One of the first cases of malignant tumors was a Mr. Baldry (1942) who, after surgical removal of a mixed tumor of the left side of the neck, developed a metastatic tumor of the right lung which was diagnosed by X-ray and bronchoscopy. The tumor disappeared and there was no recurrence when we last heard from the patient about one year ago (1945).

In 1942 I saw one of his patients who had been operated on for cancer of the tonsils and subsequently treated by radium and X-ray which resulted in an X-ray ulcer about 2 inches in diameter. There were several metastasis in the glands of the neck. Under the dietary treatment the ulcer healed, the glands became very much smaller. After a year the patient left New York. Later I read in the papers that the patient died, 2 months ago.

Since then I have observed many cases of primary and metastatic cancer. I saw two patients, each with a colostomy which had been performed because the cancer had completely obstructed the lumen of the sigmoid and rectum.

I verified this personally by barium enemas carried out through the colostomy opening and the rectum.

In one case (H) the colostomy wound closed and normal passage of the bowels was established.

The other patient treated for about 9 months has gained weight. I had no opportunity to reexamine him as far as the local condition was concerned. I saw him last 3 weeks ago.

One of my own patients whom I referred to Dr. Gerson because she had been suffering from cancer of the stomach for half a year is doing well. I saw her 4 weeks ago.

One of Dr. Gerson's patients who upon a laminectomy was found to suffer from an inoperable malignant intramedullary glioma tumor, has regained the use of her arm which was paralyzed when I first saw her 7 months ago. I saw her last 2 weeks ago.

Among his patients I saw four cases of malignant brain tumor, one of them metastatic. Two seem to be now perfectly well, both of the others had their failing eyesight partly restored; the progress was arrested.

I saw three women who had been operated on for breast tumors, malignant and verified by biopsy, and who had had a recurrence. In all three the metastatic tumors in the lymph glands disappeared, in one of them also a local recurrence.

There were quite a number of failures also but they were in my opinion due to the fact that Dr. Gerson accepted for treatment patients who were so far gone that they were absolutely hopeless, even for the most optimistic observer.

I wish to mention that the dietary treatment is equally effective in benign tumors.

In one of two cases of goiter, the goiter disappeared. In the other the tumor shrunk to about one-third its size. In the first-mentioned case the diagnosis of malignancy was made in the Memorial Hospital, but the method used is not accepted as reliable.

In a case of Recklinghausen the neurofibromas in the face have practically disappeared.

In a case of myoma of the uterus of the size of a small watermelon, clearly outlined by X-ray films, the tumor has become much smaller.

This statement is not intended to give exhaustive summary of Dr. Gerson's work. It is not a copy of his records but a simple report of my personal observations for which I can vouch.

I am intentionally refraining from entering into the question of the theoretical foundation of this method but only report my personal observation of the facts.

HEINRICH F. WOLF, M. D.

Senator PEPPER. The witnesses who care to examine the testimony that they have given, as recorded by the reporter, can get access to the testimony in room 249, Senate Office Building, where it will be available tomorrow.

Dr. GERSON. Mr. Swing is present.

Senator PEPPER. Mr. Raymond Gram Swing, would you care to say anything on the general subject, here, of this bill, or anything related to it?

Mr. SWING. I can speak only as a layman.

Senator PEPPER. Of course, everyone knows the recognized ability of Raymond Gram Swing as one of our distinguished radio commentators in this country.



**STATEMENT BY RAYMOND GRAM SWING, RADIO NEWS  
COMMENTATOR**

Mr. SWING. I think this bill is one of the most encouraging expressions of intelligent democracy. I hope that it gets the full approval of Congress. It has an inspired work to do, and I want to say in particular that before I came here today I have seen some of the cancer patients of Dr. Gerson, and I believe that research along these lines is so necessary and so hopeful that I am delighted that you, Senator, have had the heart and the courage to bring the doctor here, and some of his patients; and I thank you for it.

Senator PEPPER. Thank you, Mr. Swing. We appreciate your coming.

The hearings will be recessed until 10 o'clock tomorrow morning, and we will have a number of distinguished witnesses at that time. That is expected to conclude the hearings on this bill. The hearing tomorrow will be in this room.

(Whereupon, at 1 p. m., the subcommittee recessed until tomorrow, Wednesday, July 3, 1946, at 10 a. m.)

# CANCER RESEARCH

WEDNESDAY, JULY 3, 1946

UNITED STATES SENATE,  
SUBCOMMITTEE OF THE COMMITTEE ON FOREIGN RELATIONS,  
*Washington, D. C.*

The hearing was resumed, pursuant to adjournment, at 10 a. m., in room 124-B of the Senate Office Building, Senator Claude Pepper, chairman, presiding.

Present: Senators Pepper (chairman of subcommittee), Murray, and Gurney.

Also present: Representative Matthew M. Neely, of West Virginia. Senator PEPPER (chairman of subcommittee). The hearing will be resumed.

Representative and former distinguished Senator from West Virginia, and coauthor of this bill, Hon. Matthew M. Neely, has honored us by coming this morning, and we are going to give him an opportunity to make any statement that he will on this matter, before proceeding with the other witnesses.

## STATEMENT OF HON. MATTHEW M. NEELY, A REPRESENTATIVE IN THE CONGRESS OF THE UNITED STATES FROM THE STATE OF WEST VIRGINIA

Senator PEPPER. Senator Neely, we are very glad to have you here; and again I want to say that this bill is a companion bill to the bill introduced in the House by Senator Neely, and I am glad to be associated with him in this commendable endeavor.

Mr. NEELY. Mr. Chairman and gentlemen of the committee, in the memorable language of one of your famous body's most famous orators and statesmen, Daniel Webster, let me at once emphatically declare that "sink or swim, live or die, survive or perish, I give my hand and my heart" to Senate bill No. 1875, the object of which is to exterminate cancer—mankind's most aggressive, merciless, and agonizing foe.

According to a classical Grecian myth, a monster known as the Sphinx, which was capable of propounding difficult riddles and of destroying all who failed in their attempts to solve them, voraciously preyed upon the people of Thebes until the rapidly dwindling population of that ancient city was threatened with annihilation. But a courageous, resourceful young hero named Oedipus averted the impending calamity. He, with drawn sword, advanced upon the Sphinx which imperiously warned him that he would forfeit his life if he did not correctly answer this enigma:

What animal is that  
Which has four feet at morning bright,  
Has two at noon, and three at night?

Oedipus promptly and wisely responded :

Man. In the morning of his life he travels on all fours, at noon he walks with two feet, which at night he supplements with a cane.

The solving of the riddle robbed the Sphinx of her extraordinary power and rendered her vulnerable. Thereupon Oedipus destroyed her and thus saved from extinction the remnant of the people of Thebes.

As all the dwellers in the Grecian city were threatened by the Sphinx so all the people in the whole wide world are threatened by cancer, a loathsome scourge a thousand times more terrifying and deadly than a wilderness of monsters such as that which the son of Laius and Jocasta slew before the gates of Thebes. Startling facts corroborate this sweeping assertion, and clearly show that mankind is confronted with the dilemma of destroying cancer or being destroyed by it.

A recent authority declares that in England and Wales the death rate from this scourge has increased more than 990 percent in less than 100 years. Hoffman, a great American authority on the mortality from cancer, says, in his comprehensive work which was published in 1915, that its death rate in the United States doubled during the preceding 40 years. For half a century a similar rate of increase has prevailed throughout the world.

In May 1928 I passed through the Senate the first bill for the exclusive purpose of obtaining governmental assistance in solving the cancer problem that was ever approved by either House of Congress. In that year cancer killed 100,558 of the people of the United States who were 40 years of age or older.

In 1943, the last year for which relevant accurate data is available, cancer killed, of the people of this country who had reached the age of 40 years or more, 156,503. This was equivalent to an increase in the death rate of more than 55 percent in 15 years. In 1944 the total death toll from cancer in the United States was 171,171. In the year 1928 cancer caused a death in this country, on the average, every 5 minutes and 30 seconds. In 1944 every time the clock "ticked away" 3 minutes and 4 seconds cancer sent someone's father, mother, brother, sister, husband, wife, or child in unspeakable agony from the joyous land of the living into the voiceless land of the dead.

Medical science has conquered yellow fever, diphtheria, typhoid, smallpox, and many other dire afflictions. Medical science has even robbed leprosy and tuberculosis of their terrors. But in spite of all that physicians, surgeons, chemists, biologists, and all other scientists have amazingly accomplished, cancer is still the unconquered, unconquerable, and defiant foe of the human race. Radium, X-ray, and the surgeon's knife are the only generally approved means of combating this frightful destroyer. Every passing year adds to the demonstrations that cancer cannot be eradicated by these or any other means now known, and that it is impossible, with available funds, existing facilities, and present methods, either to check the persistent acceleration of cancer's terrifying encroachment or stay the progressive increase of its horrifying destruction in this or any other land.

For generations the world has been waging war against cancer with bows and arrows and other primitive weapons of the Stone Age. In this life-and-death struggle no country has yet supplied its scientists with sufficient funds to enable them to advance even to the age of the flintlock musket. And while we persist in feebly combating cancer in the manner approved in our grandmothers' days, the insatiate monster, cancer, continues to "laugh at our calamity and mock at our fear when it cometh as desolation."

Statistics as unerring as Holy Writ demonstrate that every nation is traveling a cancer road that leads straight to the sepulcher of the human race.

The time is ripe, and rotten-ripe for change;  
Then let it come: I have no dread of what  
Is called for by the instinct of mankind.

The enactment of the bill before you will enable a host of eager scientists, who have long been handicapped by a lack of funds, to exchange their useless bows and arrows for weapons as modern as this afternoon, and with them proceed to win victories in keeping with the general, hopeful, prayerful expectations of the atomic age that has burst upon the world.

It is a most distressing fact that the deadliest types of cancer in their later stages inflict upon their wretched victims torture more excruciating than any other known to man. And it is impossible, without fatal consequences, to administer anesthetics to these pitiful sufferers in sufficient quantities to render them oblivious to their agony.

Had the famous but frugal artist Parrhasius beheld the heartrending suffering of an expiring victim of cancer, he would have had no reason to tear open the wounds of a dying captive soldier in order to obtain sufficient inspiration to impel him adequately to portray an expression of agony or cry out in ecstasy:

How fearfully he stifles that short moan,  
Gods! If I could but paint a dying groan.

According to reliable experts, cancer has already branded 17,000,000 of our living for its future victims. If the United States were in the regular shape of a parallelogram, its entire borderline would be approximately 7,000 miles long. Upon the assumption that the 17,000,000 branded for death are of the average height and that they will eventually be buried in a single grave, side by side, in a double line, that grave will be long enough to extend entirely around the United States and for an additional distance as great as that from New York City to Baltimore.

During the second World War the Nazis and the Japanese killed 273,000 of our service men and women. But during the three war years cancer killed of our people 501,019—nearly twice as many as our warring enemies, armed with the most deadly of modern weapons, were able to destroy in the same length of time.

The appropriation authorized by the bill is insignificant in comparison with the transcendent importance of discovering means of curing and preventing cancer. The atomic bomb cost us \$2,000,000,000. The cost of our participation in the recent war was at the average rate of \$221,043,000 a day. And please bear in mind that this expenditure

was made to defeat a foe whose power of destruction was only a little more than half as great as that of cancer. The entire appropriation sought by the bill is \$10,000,000 less than half a day's cost of our participation in the last World War.

The amount of the appropriation should be contrasted with the enormous loss which the American people will continue to suffer until a cure for cancer is found. Doctor Louis I. Dublin, noted statistician for the Metropolitan Life Insurance Co., pointed out in 1928 that in the preceding year cancer lost the people of the United States \$800,000,000. According to the Doctor, the average necessary cost of medicine and care for each patient who dies of this frightful affliction is at least a thousand dollars. Upon this basis, in 1944 cancer cost the people of the United States, for care and medicine alone, \$171,171,000; and when the estimated economic value of those destroyed is added to the foregoing, it appears that the people of this country in 1944 suffered a total loss from cancer of more than \$1,229,000,000. The loss for 1945 has not yet been accurately determined, but it is known to be much greater than it was in 1944.

Mr. Chairman, it is my hope that the committee will make the following brief amendments to the bill:

Insert after the word "place" on page 1 the words "or places;" and on page 2 at the proper place insert "this appropriation shall be available until expended." To all importunities for crippling or restrictive amendments such as that of providing that the appropriation shall be "channeled" through particular agencies or organizations, I entreat you to turn deaf ears.

The distinguished proponent of the bill, Senator Pepper, is obviously alive to the impossibility of solving the cancer problem by any means now known and also to the fact that the only hope of finding a cancer preventive or cure lies in new thought, new methods, and new experiments as revolutionary as those that produced the atomic bomb.

The bill, if enacted in its present form, will enable the President to seek the cooperation of the most preeminent scientists of the earth, such, for example, as Dr. Einstein; those who solved the problem of utilizing atomic energy; members of the National Academy of Science; and outstanding experts from the great institutions of learning and investigation of the United States, England, Russia, France, Germany, and all the other countries of the world in which any who are apparently capable of helping to speed humanity's victory over cancer may be found.

Let nothing be written into the bill that will prevent the President and this mobilized army of scientists from determining how and when and where the requested appropriation can be best expended in order to assure the highest probability of success in this the greatest venture ever launched by the Congress or any other legislative body in behalf of the alleviation of the suffering of mankind.

Let every cherished soldier in this mighty army of beneficent service to the cancer-stricken millions of the world be free to proceed in accordance with his own judgment to help achieve the high and holy purposes of the bill; and let every soldier who advances against the

relentless, bloodthirsty cancer foe find impelling inspiration in the stirring supplication of Doctor Oliver Wendell Holmes:

Build thee more stately mansions, O my soul,  
As the swift seasons roll!  
Leave thy low-vaulted past!  
Let each new temple, nobler than the last,  
Shut thee from heaven with a dome more vast,  
Till thou at length art free,  
Leaving thine outgrown shell by life's unresting sea!

Mr. Chairman, and gentlemen of the committee, I sincerely thank you again and again for having most generously permitted me to address you in behalf of the supremely important measure before you.

Senator PEPPER. Thank you, Senator, I wish that everyone could have heard what you have said.

Mr. NEELY. Mr. Chairman, once more I thank you, and now say good-bye because I am obliged to attend a meeting of the committee that is considering the Department of Labor and Federal Security Agency appropriation bill.

Senator PEPPER. I wish you could remain.

Mr. Albert D. Lasker, would you or Mr. James S. Adams like to come first?

Mr. LASKER. Mr. Adams.

**STATEMENT OF JAMES S. ADAMS, PRESIDENT, STANDARD BRANDS;  
CHAIRMAN, EXECUTIVE COMMITTEE, AMERICAN CANCER SOCIETY,  
NEW YORK, N. Y.**

Mr. ADAMS. I am not used to appearing before congressional committees, Mr. Chairman.

Senator PEPPER. Just take a seat and proceed with such statement as you would like to make on this bill and on this general subject.

Mr. ADAMS. Senator, I am appearing here today as the chairman of the executive committee of the American Cancer Society after our officers and directors have had the opportunity of discussing and considering the problems which are posed by Congressman Neely's very worthy bill. I am sorry he could not remain, as some of the things that I hope to say might clarify certain of the testimony which was given yesterday. I will be as brief as I can.

I think, if you will pardon me, I should tell you that in my business activities in the past at the Johns Manville Corp., the Colgate-Palmolive-Peet Co., and Standard Brands, I have had responsibility for the organization or the reorganization of three very substantial industrial research projects and am familiar with the problems involved in the planning and organization of general research. It probably was that interest that caused me to take a place in helping to organize the Nutrition Foundation of which I am a trustee, working in the field of nutritional research. I am a trustee of the Spies Committee for Clinical Research in Birmingham, Ala., which deals with important medical research in nutritional deficiencies, such as pellagra, and, lately, successful in finding a cure for the terrible tropical disease, sprue.

I think, first, I would like to put into the record a list of our officers and directors, and to explain to you that the American Cancer Society was reborn some 15 months ago. It had previously been an organization of devoted medical and scientific men concerned largely with education of the medical profession and the laity on the subject of cancer. Some 18 months ago a group of laymen came into that society and it was completely reorganized. Its objectives were changed and its program was aimed at a full-force strategic attack upon the whole problem of cancer. For the first time the objective of working out a real research program on cancer was undertaken. It was recognized by the medical and scientific men that such programs could best be worked out as were most of our programs during the war, by enlisting laymen, men from industry, men from business, who could be brought in to provide whatever talents they might have in finance and organization and in the promotion of ideas to the public, and in the organization of research work.

It was with that fundamental idea that we set out to build what possibly may turn out to be an entirely new kind of organization in the field of philanthropy and in the medical and health fields.

(The list of names referred to and submitted by the witness is as follows:)

AMERICAN CANCER SOCIETY, INC., NEW YORK CITY

OFFICERS

President: Frank E. Adair, M. D.  
 Vice president: C. C. Nesselrode, M. D.  
 Honorary chairman of the board: Mr. Eric A. Johnston.  
 Chairman of the board: Mr. Theodore R. Gamble.  
 Vice chairman of the board: Mr. Elmer H. Bobst.  
 Chairman of the executive committee: Mr. James S. Adams.  
 Treasurer: Mr. Henry C. Von Elm.  
 Secretary: Mr. Charles D. Hilles, Jr.  
 Chairman of medical and scientific committee: Edwin P. Lehman, M. D.  
 Chairman of medical and scientific executive committee: Edwin P. Lehman, M. D.  
 Medical and scientific director and executive vice president: A. W. Oughterson, M. D.  
 Business director: Mr. Edwin J. MacEwan.  
 National commander, field army: Mrs. Harold V. Milligan.  
 Comptroller: Mr. E. Tyson Matlack.  
 Assistant secretary: Mr. Harry A. Murphy.  
 Assistant treasurer: Mr. M. Ray Coffman.

BOARD OF DIRECTORS

*Professional*

Directors at large:

Frank E. Adair, M. D., 75 East Seventy-first Street, New York 21, N. Y.  
 Alfred Blalock, M. D., Johns Hopkins Hospital, Baltimore, Md.  
 Edmund V. Cowdry, M. D., 4580 Scott Avenue, St. Louis, Mo.  
 A. Raymond Dochez, M. D., Columbia University College of Physicians and Surgeons, 620 West One Hundred and Sixty-eighth Street, New York City.  
 Edwin P. Lehman, M. D., University of Virginia Hospital, Charlottesville, Va.  
 Charles Lund, M. D., Harvard Medical School, Cambridge, Mass.  
 Harry M. Nelson, M. D., 1067 Fisher Building, Detroit 2, Mich.  
 Alton Ochsner, M. D., Tulane University, 1430 Tulane Avenue, New Orleans, La.  
 Eugene P. Pendergrass, M. D., 3400 Spruce Street, Philadelphia, Pa.  
 George M. Smith, M. D., Pine Orchard, Conn.  
 Donald V. Trueblood, M. D., 625 Medical-Dental Building, Seattle, Wash.  
 Edwin B. Wilson, Ph. D., Harvard University, School of Public Health, 55 Shattuck Street, Boston 15, Mass.

**Regional directors:****Region No. 1:**

James Raglan Miller, M. D., 179 Allyn Street, Hartford, Conn.  
 Stanhope Bayne-Jones, M. D., 333 Cedar Street, New Haven, Conn.

**Region No. 2:**

Zoe A. Johnston, M. D., 601 Jenkins Building, Pittsburgh, Pa.  
 J. Ross Hunter, M. D., 1117 Virginia Terrace E., Charleston, W. Va.

**Region No. 3:**

Guy Aud, M. D., 321 West Broadway, Louisville, Ky.  
 Herbert Acuff, M. D., 603 West Main Avenue, Knoxville, Tenn.

**Region No. 4:**

W. S. Bump, M. D., Rhinelander, Wis.  
 William A. O'Brien, M. D., University of Minnesota Hospital, Minneapolis, Minn.

**Region No. 5:**

L. W. Larson, M. D., 221 Fifth Street, Bismarck, N. Dak.  
 A. M. Popma, M. D., 220 North First Street, Boise, Idaho.

**Region No. 6:**

W. W. Haggart, M. D., 1236 Republic Building, Denver, Colo.  
 Robert Newell, M. D., Stanford University, Stanford, Calif.

**Region No. 7:**

Everett S. Lain, M. D., 705 Medical Arts Building, Oklahoma City, Okla.  
 C. C. Nesselrode, M. D., 1200 Huron Building, Kansas City, Kans.

*Lay***Directors at large:**

James S. Adams, president, Standard Brands, Inc., 595 Madison Avenue, New York City.  
 Winthrop W. Aldrich, chairman of the board, Chase National Bank, 18 Pine Street, New York City.  
 Elmer H. Bobst, president, William R. Warner Co., Inc., 113 West Eighteenth Street, New York City.  
 Gen. William J. Donovan, 2 Wall Street, New York City.  
 Thomas E. Braniff, president, Braniff Airlines, Dallas, Tex.  
 Emerson Foote, president, Foote, Cone & Belding, 247 Park Avenue, New York City.  
 Theodore R. Gamble, care of Twentieth Century Fox, 626 Southwest Fourth Avenue, Portland, Ore.  
 Charles D. Hilles, Jr., vice president, International Telephone & Telegraph Corp., 67 Broad Street, New York City.  
 Eric A. Johnston, president, Motion Picture Association of America, Inc., 1600 I Street, Washington, D. C.  
 Gen. John Reed Kilpatrick, president, Madison Square Garden Corp., 307 West Forty-ninth Street, New York City.  
 Albert D. Lasker, 3313 Chrysler Building, New York City.  
 Charles P. Skouras, Fox West Coast Theatres, 1609 West Washington Boulevard, Los Angeles, Calif.  
 Mrs. Anna Rosenberg, chairman, New York City Advisory Committee on Veterans, 500 Park Avenue, New York City.  
 Henry C. Von Elm, vice chairman of the board, Manufacturers Trust Co., 55 Broad Street, New York City.

**Regional directors:****Region No. 1:**

Mrs. LaFell Dickinson, Keene, N. H.  
 Henry Dexter Sharpe, president, Browne & Sharpe, Providence, R. I.

**Region No. 2:**

George E. Stringfellow, vice president, Thomas A. Edison Co., West Orange, N. J.  
 Adolph Rydgren, president, Continental American Insurance Co., Wilmington, Del.

**Region No. 3:**

Hugh Comer, president, Avondale Mills, Sylacauga, Ala.  
 Robert W. Woodruff, chairman, Coca-Cola Co., 101 West Tenth Street, Wilmington, Del.



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J. V. Stuart, Michigan National Bank, Grand Rapids, Mich.

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Mrs. R. E. Mosiman, 511 Medical Arts Building, Seattle 1, Wash.

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Frank Ricketson, Jr., Fox Inter-Mountain Theatres, Denver, Colo.

## Region No. 7:

William Sheppard, assistant to president, Arkansas Power & Light Co., Little Rock, Ark.

A. P. Green, Mexico, Mo.

## EXECUTIVE COMMITTEE

James S. Adams, chairman.

Frank E. Adair, M. D., 75 East Seventy-first Street, New York 21, N. Y.

James S. Adams, president, Standard Brands, Inc., 595 Madison Avenue, New York, N. Y.

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## MEDICAL AND SCIENTIFIC EXECUTIVE COMMITTEE

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Stanhope Bayne-Jones, M. D., 333 Cedar Street, New Haven, Conn.

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Alton Achsner, M. D., Tulane University, 1430 Tulane Avenue, New Orleans 13, La.

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Alton Ochsner, M. D., 1430 Tulane Avenue, New Orleans 13, La.

Eugene P. Pendergrass, M. D., 3400 Spruce Street, Philadelphia, Pa.

A. M. Popma, M. D., 220 North First Street, Boise, Idaho.

Senator PEPPER. Mr. Adams, will you give us some idea about the magnitude of the work that the American Cancer Society has done and the funds that you have raised?

Mr. ADAMS. I would like to cover that, and I want to read the statement which we presented to the House committee and to tell you that the reason that more of us did not appear was solely due to the fact that the hearings were scheduled quickly, due to the condition of the House calendar, and with only 48 hours' notice it was impossible for many of us to appear.

We asked Dr. Rhoads, who is chairman of the committee on growth and responsible for the development of our research program, to appear for the American Cancer Society.

Senator PEPPER. That is Dr. Rhoads of the Memorial Hospital in New York?

Mr. ADAMS. Yes, sir.

This letter will answer your question to a degree, Senator [reading]:

MY DEAR MR. BLOOM: Dr. Cornelius P. Rhoads testified before your committee on behalf of the American Cancer Society and, in conformity with his promise, we are addressing this letter to you to give our views in regard to bill, H. R. 4502, now pending before your committee. We attach hereto the list of officers and directors of the American Cancer Society (exhibit A) and will undertake briefly to give you the facts concerning the society and its operations.

Last year the public responded to the society's appeal by contributing more than \$1,000,000.

I might state, Mr. Chairman, that previously for more than 10 years the annual contributions had been \$200,000. In 1944 that was stepped up, about the beginning of the change in the society, to \$800,000. [Continuing reading:]

Considerably more than half of this was retained by the individual States for education and service. The major portion of the money received by the national organization has been used for research. A total of \$800,000 has been devoted to this purpose.

Over \$900,000 was made available from the 1945 campaign, over \$800,000, already appropriated. [Continuing reading:]

Approximately \$700,000 of this has been expended in specific grants. The attached report (exhibit B) describes the research program and the first grants made through it. The attached exhibit C lists additional research grants which have been made since the report was printed.

The report explains how our research program is operating and the manner in which funds for research are allocated by the American Cancer Society. The society itself does not initiate grants for research. These are initiated by the committee on growth of the National Research Council, which is a branch of the National Academy of Sciences. Thus, the initiation and the recommendation of all research and fellowship grants are directed by this body and the eminent scientists from all fields who serve on its panels. The American Cancer Society can accept or reject any of the recommendations. In our first year under this arrangement, all of the recommendations have been accepted. This method of procedure, whereby the initiation and approval of all grants are in the hands of distinguished, independent scientists, was arrived at after long study. We believe this method constitutes the soundest pattern for the expenditure of similar funds, whether from private sources or from the Government.

In the field of education, the society has built up an organization, known as the Field Army, of more than 600,000, a large proportion of them women. This group is developing into the greatest peacetime army our Nation has ever known. They conduct year-round activities to educate the public with regard to the importance of recognizing the danger signals of cancer and seeking early medical aid. This is of the greatest importance. From 30 to 50 percent of all cancer deaths can be prevented if people are aroused to the threat of cancer and the importance of seeking aid in time.

I would like to interject there that we in the American Cancer Society have no vested interest in research in cancer. We are concerned and determined that this research shall be done. We, however, have sufficient activities other than research in the development of our education and our service programs, which means the development of prevention and detection centers and clinics, the training of teachers, the development of specialists in cancer, the building up of facilities in local communities, for even today, one half of the people whom Senator Neely has told us are dying from cancer could be saved with present known methods if only their cancers were discovered in time and if enough facilities were available for diagnosis and treatment.

Our job, therefore, is large enough without research; and I want to make it clear to you that we are speaking to you objectively here as people who are solely interested in solving this problem in all of its phases and we are firmly of the belief that we cannot do all of the job alone. [Continuing reading:]

The campaign which the society conducts annually to raise money in itself is the greatest contribution that can be made to cancer education.

This is the only fund-raising campaign which in itself is a very real part of the work for which the funds are raised since our campaign publicity is education of the public about cancer—we drive them to the doctors and often save their lives. [Continuing reading:]

The campaigns last year and this year have done more to awaken and to educate possible cancer victims than could have been done through any other means. In virtually every city and hamlet of the Nation citizens have been aroused to work for this cause. Until the battle against cancer is finally won, this voluntary effort by the people themselves is absolutely essential.

In every State the society has an independently organized division, which not only conducts educational activities but also promotes better facilities for cancer patients.

I would like to make clear there that, unlike the Red Cross, the Tuberculosis Association, or any of the others, this society, as organized, truly belongs to the people. Its national board is a creature of the State cancer societies and its directors are elected, half of them as regional directors by the States themselves and the directors at large by the whole group. So that it is an organization which is not an in-grown bureaucracy at the top but it is a grass-roots organization built by the people from the bottom up. [Continuing reading:]

Up to this year the society has not had sufficient funds for this work. That is why we increased our 1946 goal to \$12,000,000. Sixty percent of this money will be retained in the States. It will be used for the establishment of prevention clinics, where people may go to determine whether they are free of cancer's danger signals. If not, they are directed to diagnostic and treatment clinics. Additional support is also going to these institutions from this year's funds. Money is also being used for refresher courses and other activities designed to bring the practicing physician abreast of the latest advances in cancer work.

We propose to be the "home office" for the doctor on cancer. We propose that our society be the home office for the physicians of the United States on cancer so that whatever work comes from research or clinical work or elsewhere it will quickly flow to them, just as our business information flows from our home office to our salesmen. [Continuing reading:]

The Society recognizes that one of the things we need most in the fight against cancer is more able doctors, both in practice and in research.

Indications are that we will approach, if not exceed, this year's goal of \$12,000,000.

In 15 months the American public have entrusted to us \$15,000,000 of their money for the fight against cancer.

Comparisons are invidious, and I know about it because of my connection in the early days with the Infantile Paralysis Foundation—the very earliest days. With the great prestige of the President behind it, and all that, it took from 1932 to 1942 before it raised \$4,000,000, and it did not pass \$10,000,000 until 1944.

I give you that to indicate the tremendous interest which we have built up, so that the American public has poured out \$15,000,000 in 15 months to fight this thing. In addition to that, we are able to trace an additional \$15,000,000 which because of our campaign has gone into expanding hospital and research facilities for the fight against cancer. And almost every few days we are receiving notices of legacies and wills, so that the sums of money and the sources we have tapped are even greater than that which I mentioned to you.

It is not that we are so good at this. The field was ready for anyone who would set his hand to the spade and go to work on the problem. Cancer has touched practically every family in the country; and it is not at all that our organization is so good or so unique; it is only that we did go to work at it. That is important, because this fertile field was there a long, long time and the public would have answered the right kind of an organized appeal when Senator Neely introduced his first cancer research bill in 1928. [Continuing reading:]

We are virtually certain of being able to devote at least \$2,500,000 from this year's funds to research, and we hope much more.

In other words, we have raised roughly three and a half million dollars in 15 months for carefully organized cancer research; and when we started on the job a national survey showed us that not over \$550,000 per year was being spent in private institutions, and much less than half a million dollars by the Federal Government. So, Senator, you will pardon us if we do take pride in what has been accomplished in 15 months.

Senator PEPPER. Magnificent.

Mr. ADAMS (continuing reading):

With this background, we briefly summarize our reactions to bill H. R. 4502 as follows—

I might say that these recommendations were carefully considered by our medical and scientific committee. Our board is composed half of laymen and half of medical and scientific men. The medical and scientific group are responsible for the medical and scientific recommendations. They pass on all the programs. The laymen are responsible for the financial control of the organization, the planning, for the business side of the job and the promotional program. [Continuing reading:]

The American Cancer Society endorses the principle of making available Federal funds for the support of cancer research. However, the Society cannot pass upon the application of this principle until the detailed bill is drawn. In aiding to that end, the officers of the Society would be happy to be called on for their experience—

Senator PEPPER. Could you read off the members of your board? Who are some of them?

Mr. ADAMS. Mr. Eric A. Johnston is the honorary chairman of the board.

Senator PEPPER. Formerly president of the United States Chamber of Commerce?

Mr. ADAMS. Yes, sir. The chairman of the board is Mr. Theodore R. Gamble, notable in Washington for his activity in carrying on the war-bond drives during the war. He has come to us to take primary responsibility for future campaigns.

Senator PEPPER. What is his business connection?

Mr. ADAMS. He is an important operator of motion-picture theaters, in private life, on the west coast.

The vice chairman of the board is Mr. Elmer H. Bobst, now president of Warner & Co.

I am chairman of the executive committee. The treasurer is Mr. Henry C. Von Elm, vice president of the Manufacturers Trust Co. of New York—and a more devoted man to this cause never lived.

The secretary is Mr. Charles D. Hilles, Jr., vice president of the International Telephone & Telegraph Corp.

The chairman of the medical and scientific committee is Mr. Edwin P. Lehman, head of the surgical department of the University of Virginia.

Dr. A. W. Oughterson, our medical and scientific director, appeared yesterday. He was formerly professor of clinical surgery at Yale; more recently 3 years in the Pacific with General MacArthur and he has just completed important reports in regard to the medical effects of the atomic bomb.

As to the directors at large Dr. Frank E. Adair of Memorial Hospital; Dr. Alfred Blalock, of Johns Hopkins Hospital; Dr. Edmund V.

Cowdry, of the great Cancer Institute in St. Louis; Dr. A. Raymond Dochez, of Columbia University College of Physicians and Surgeons; Dr. Alton Ochsner, an outstanding man in the cancer field, from Tulane University; Dr. Charles Lund, of Harvard Medical School; Dr. Eugene P. Pendergrass, who is now with the atomic energy group at Bikini; Dr. George M. Smith, member of the National Cancer Institute and connected with Yale; Dr. Edwin B. Wilson, of Harvard School of Public Health, Dr. C. C. Nesselrode, of Kansas City; Dr. L. W. Larson, Bismarck, N. Dak.; Dr. William A. O'Brien, University of Minnesota Hospital, in Minneapolis; Dr. J. Ross Hunter, of Charleston, W. Va.; Dr. Zoe A. Johnston, well known in the cancer field, from Pittsburgh, Pa.; Dr. Bayne-Jones, who has already testified; Dr. James R. Miller, of Hartford, Conn.

Senator PEPPER. That is a representative group?

Mr. ADAMS. Yes, sir. Now I will give you a few of the lay members of the board of directors:

Winthrop W. Aldrich, chairman of the board of the Chase National Bank; Gen. John Reed Kilpatrick, president, Madison Square Garden Corp.; Charles P. Skouras, Fox West Coast Theaters; Mrs. Anna Rosenberg, a public-spirited citizen of New York; Mr. George Stringfellow, vice president, Edison Co.; Mr. Hugh Comer, president of the Avondale Mills in Alabama; Mr. Robert W. Woodruff, of the Coca-Cola Co.; Mr. William H. Ball, of Ball Bros., Muncie, Ind.

Senator PEPPER. And Mr. Albert D. Lasker?

Mr. ADAMS. Yes, sir; and Maj. Gen. William J. Donovan and many other distinguished laymen.

Senator PEPPER. What I wanted to emphasize was that you people who are coming here and advocating this bill are not men of irresponsibility, but are businessmen who know the value of money and are accustomed to handling it, and you are speaking thoughtfully and reflectively.

Mr. ADAMS. Senator, there is a unique fact concerning our board that I should point out. Every individual on the board is either a medical or scientific man, or a layman who is actively engaged in some part of our work, either national or local. He is not a name on a letter-head; and if without good reason they do not attend our monthly directors meetings, we fire them off the board. We keep them all at work. No member of that board is receiving personal publicity or will receive it. We are only interested in doing something about cancer.

Does that answer your question, sir?

Senator PEPPER. Yes; thank you.

Mr. ADAMS. Now, to get back to the letter from which I was reading. [Continuing reading:]

Experience has taught us that the mere expenditure of sums does not in itself bring us, either in research or in service, to the solution of the grave problems entailed in cancer.

We have many examples of that in the cancer field in which well-meaning individuals, institutions, and foundations have poured money down many rat holes, during the past years, and accumulatively a large sum has been wasted, though annually it has not been great [Continuing reading:]

While comparatively large sums are imperative if this dread scourge is to be properly fought, large sums spent without the proper planning that long experi-

ence and expert scientific judgment can give, may fail to accomplish what considerably smaller sums rightly planned can accomplish.

That is an axiom in industrial research and it is equally true in medical research. It was axiomatic in all of the research activities during the war, whether in the medical field, the scientific field, or in industrial research. Whether in fundamental research or applied research, or in what we call pilot-plant development, this principle is the same. [Continuing reading:]

The American Cancer Society recommends that Federal funds made available for cancer research under this bill be expended under the direction of a commission composed of outstanding scientists and laymen appointed by the President.

We are in complete agreement with Senator Neely on that. [Continuing reading:]

We urge that this commission be composed of one representative each from the Army, Navy, Public Health Service, and Veterans' Administration, and five representatives from private agencies distinguished for their contributions to cancer research.

This has since been amended, and I will come to that in a moment. [Continuing reading:]

One of the general purposes of the commission might be ultimately to coordinate private and public cancer research so as to prevent duplication of effort and expenditure in the field of research.

We have now come to the conclusion that it is essential to the success of our research efforts that this coordination take place, simply because there are not enough facilities and men available to allow competition for them. [Continuing reading:]

The American Cancer Society recommends that the Federal funds for cancer research be primarily expended in the support and enlargement of existing public and private institutions for cancer research, as well as in the possible creation of needed new institutions.

As covered in this letter, the American Cancer Society invites attention to the existing organization created by contract between the society and the National Academy of Sciences, by which there has been organized a committee of distinguished scientists under the National Research Council, which has mobilized 90 eminent specialists in various fields to coordinate, initiate, and guide this ambitious program of cancer research in the Nation's most outstanding institutions.

America is cancer conscious. The American Cancer Society established that beachhead. The real fight is ahead.

We respectfully request that this letter be entered into the record as testimony relative to H. R. 4502.

We have come to the conclusion that the method herein outlined is essential to the success of the project. The mere appropriation of \$100,000,000 will not do the job. In our own approach to the problem of research many of us, both on the medical and scientific side and on the law side, had experience with the Government research programs during the war. Not too much fundamental research was done during the war. It is clear that the fundamentals of atomic research, for example, had developed over a 50-year period, and, as Dr. Einstein told President Roosevelt when he urged the atomic bomb development program in 1941, there it was, the fundamental research had been done and it was ready for applied research and for development; for some additional fundamental or pure research, but the job had been so well done, so far as fundamental research was concerned, that if

we did not develop the atomic bomb, the Germans certainly would sooner or later.

The thing which we gained from our war experience was in the broad field of strategic planning, coordination, and collaboration, the planning and direction of multiple efforts on a definite objective. This was not only true in connection with the atomic bomb but in connection with Dr. Rhoads' great work which had to do with the control of insects and pests, and without this research we could not have won the war in the Pacific, atom bomb or no atom bomb. This method brought success—rapid success—to thousands of projects which were carried on for the armed forces in private institutions and universities, institutions like M. I. T., Chicago University, and in all of the great industrial laboratories scattered all over this country.

We tried to analyze and take out of that war work the best experience that we could find in setting up our own research program. We surveyed the whole field of medical research in the United States in, I think, a fairly careful manner and we came to the conclusion that the fundamentals developed during the war were the only fundamentals which would give us a fair chance to make fairly rapid progress toward the solution of the cancer problem as a menace to health and life itself. Therefore, we adopted what seemed to be the best method used during the war. The office of scientific research set up under Dr. Vannevar Bush for war research utilized the facilities of industry; private and public laboratories and institutions were called upon, groups like the National Research Council of the Academy of Sciences were asked to provide scientists to man a system of committees and panels to survey the problems and work out research programs and to make recommendations so that a broad strategic attack could be made on these problems. These efforts were coordinated, planned, checked, and followed through and carried out. This method worked miracles and led us to our decision to make a contract with the National Research Council, which is the highest scientific body in our country, to bring together a group of scientists to form a committee on growth; that committee on growth to make a survey of all cancer research in the United States and from that survey to devise a system of panels, those panels to invite projects from private and public institutions, such as State universities, who were doing cancer work or who were capable of doing cancer research, to tell us what they needed, what they proposed to do, and make requests for funds to carry out the work. This committee is called the committee on growth because cancer research is concerned with the abnormal growth of cells.

That took time. The planning period was long. People were critical that we did not move more rapidly, but again, we had learned during the war that the poorest thing in the world to do was not to plan. So we took the time to plan and kept the money in the bank and brought together, as any group of scientists will tell you, 90 of the outstanding scientists having to do with this medical and scientific work in the country. No matter what program is set up by this bill, and no matter who does it, it must consider and consult that same group of men, with possibly a few exceptions here and there, because they represent the most knowledge we have concerning cancer and you will have to go to the same place where we have gone to get the job done.



Those men have given freely of their time without compensation; almost endlessly, in the planning of this work, and with an almost religious fervor. The whole program was developed on the highest possible plane, and I believe that you will find that no program of research has ever received such universal acclaim from both scientists and laymen, and so little criticism. The reason is not that we were bright but we were taking the obvious lessons from the war.

Senator PEPPER. I would like one thing to be made clear—that you gentlemen who have been doing this splendid work through the American Cancer Society are not trying to unload your obligations on the Federal Government, but you are asking that the Federal Government enter into this field for certain reasons; and you expect to continue your own efforts in every possible way?

Mr. ADAMS. Senator, as I explained before, our whole organization is devoting itself to service, education, and to statistical research, which is another field, and to the development of facilities for the detection and treatment of cancer and the cure of cancer patients in the States and local communities.

Senator PEPPER. But the American Cancer Society expects to carry on in the future?

Mr. ADAMS. We expect to carry on that work; and we have in that work a job which takes all of our time. After the fundamentals of our organization of research were completed, we now are on the basis of receiving recommendations from our committee on growth and of passing upon the general principles involved and the budgetary problems, but not having to do with the active direction of that research work—so we are free to devote ourselves to service and education.

Senator PEPPER. In other words, if the Government could coordinate all public and private work in the field of research and relieve you of some expenditures even in the research field you would have more money to use in the application of that knowledge and the education of the people in bringing it actually to the people themselves?

Mr. ADAMS. We would be delighted. If the Government adopted a research program which we believe that in all honesty in carrying out our responsibility to the public we could safely leave to the Government, we would withdraw from the field of cancer research.

I would like to say this: I do believe—I think I know, from our experience of the past 15 months—that over a longer period of time the American people would give us the money necessary to complete the research job, but that would take a long time and the cost or the delay in carrying out cancer research would be very great and the American lives wasted would be appalling.

Now in the spirit of the proposals which we gave to the House committee, we met at the request of Dr. Parran, the Surgeon General, with representatives of the Public Health Service. We have been cooperating with the Public Health Service which has been cooperating with the American Cancer Society from the beginning because we have a similar objective and are both working in the same field; directors of our society are now or have been on the board of the National Cancer Institute, and we must work together.

We met with Dr. Parran and Miss Mary Switzer. Representing the American Cancer Society were Dr. C. P. Rhoads, chairman of the

committee on growth; Dr. Oughterson, our medical and scientific director; Mr. Albert Lasker, the chairman of our committee on public relations; and myself as the chairman of our executive committee.

The facts are, gentlemen, that these two groups—the American Cancer Society and the Public Health Service—and it is too bad that this is so—represent the only sizable reservoir of experience and knowledge that you have available in the field of research aimed toward finding the causes, the treatment, and the control of cancer.

The Government's research program on cancer has had a budget of under \$500,000. In 15 months, as I have said, the American public has entrusted us with about 3½ million dollars, and over \$800,000 of that work is already under way. The balance of the \$15,000,000 we have raised is being spent in the effort to prevent the 50 percent of the deaths that can be prevented now. We approached the problem of our meeting with Dr. Parran from the standpoint of what was best for the American people, what research program or plans would be best, and we came to the conclusion that it was essential a single major cancer research program be adopted, just as it was in wartime on the atomic bomb.

We came to the conclusion that close cooperation was essential to success, to progress. If we do not have that, we will have competition for scientists, for facilities; we will have overlapping of fields, duplication of efforts. It would be futile to carry virus work at the National Cancer Institute, while the American Cancer Society is carrying on virus research at the University of Minnesota and two other institutions, Harvard and the Jackson Memorial Institute. We came to certain conclusions as to the bill in our own minds, as had Dr. Parran and his group. The amazing thing is that we both had reached almost the same conclusions.

Now those conclusions were given to you yesterday, I believe—I was not here—by Dr. Oughterson and Dr. Rhoads, and I want to make clear that these proposals would in no way place the cancer commission which it is proposed be entrusted with the carrying out of a great cancer research program as a subdepartment of the Public Health Service. That is certainly not a responsibility the Public Health Service wants and it is not a responsibility they should have. But the Public Health Service and its facilities are a part of this program, an essential part, a necessary part. Its machinery is an essential and necessary part, and if it is not used, other machinery would have to be set up, which means waste, and lack of experience which is already available in this field in the Public Health Service. Therefore, these things that we have agreed upon to recommend to you seem to us to be sound in the light of the experience that we in the American Cancer Society have had in organizing cancer research. Our experience and that of the Public Health Service is about all the experience that is available to you insofar as broad organized cancer research is concerned. The following are the general conclusions we have reached:

1. That the President be authorized to appoint a national cancer commission. No funds to be made available under this act would be expended except with the approval of the commission. The commission should consist of 14 members, as follows:

- One full-time paid chairman.

And that is essential. [Continuing reading:]

One representative of the Veterans' Administration. And at this point we adopted the recommendation that the surgeon generals of the Army and Navy be not added, because further study indicated to us that the Veterans' Administration only was the proper one in this field, since the Veterans' Administration have the largest group of hospitals in this country—an appropriation I believe of \$700,000,000 has gone through—and in those hospitals they will undoubtedly have the largest collection of cancer cases in this country; the law of cancer mathematics makes that certain. The veterans' hospital facilities should be available for the clinical research program without which cancer research cannot go forward. Therefore, we suggest including the Veterans' Administration on the cancer commission.

Then:

Six medical or scientific authorities who are outstanding in the United States as concerns the study of cancer or related fields.

The President is perfectly free to call upon the Academy of Sciences if he desires suggestions as to scientists for the cancer commission, or the National Cancer Institute, or any other group of scientists, or the presidents of five or six universities. We do not presume to recommend to him. These things are known to him and he would find ways to get advice as to the right scientific men. Inevitably he will come back to the group which our careful survey has brought out as the men who are working in the field, because they are so few you can count them. And then:

Six outstanding citizens.

These are not medical or scientific men necessarily—laymen, we mean by that, who have experience, interest, and competence in scientific matters. Now we are thinking there of the importance of bringing to cancer research the kind of thing which must be brought to all scientific research work, the kind of abilities of men who have built our great industrial research organizations have, in organization, in the plowing of fresh fields, and in planning research. There are five men of this type in the automotive industry, in the great oil and chemical and pharmaceutical industries. Much of the medical research carried on in this country has been done by the great research organizations of the pharmaceutical industries; those experienced in planning and organization are as essential here as are the men in the laboratory or the man in the hospital who carries on the actual research work. They were so used during the war, and I do not believe we would have succeeded without them, and I think the scientists will agree on that.

The cancer commission then would be composed of 14 outstanding citizens in whom the public would have confidence. The cancer commission would operate in the administrative framework of the United States Public Health Service, administratively responsible in this instance to the Surgeon General.

Now, that is not meant to put the commission under the Surgeon General, but it is meant to provide a proper coordination of effort.

Senator PEPPER. As a matter of fact, on the contrary, it puts the Surgeon General under the commission.

Mr. ADAMS. That is correct.

Senator PEPPER. I meant, you want to be clear about that, that it is intended that the full and final authority is vested in the commission, and the Surgeon General and the Public Health Service are intended

as the administrative agency which may function for the commission. That is what you had in mind, was it not?

Mr. ADAMS. Yes. I think it would be wise if the Surgeon General, let us say, as the "watchdog" of the Government, were in a position to question or to veto a proposal from this commission. If the commission were composed of first-rank men, as I know it would be, he certainly would never exercise that veto except under the most unusual circumstances. We must surround this with all of the elements of safety, bringing into effect all of the forces of government in cooperation with private institutions.

Senator PEPPER. Would it not also be desirable to make it clear by statute that the commission could also function through governmental agencies and call upon other governmental agencies in any way not inconsistent with law also to cooperate?

Mr. ADAMS. That is intended; yes.

Senator PEPPER. You want to coordinate the research maybe that the Army and Navy were doing, and the Bureau of Standards, and the various governmental agencies?

Mr. ADAMS. Those are the sort of things that the Public Health could be very helpful in doing. If you do not have a governmental agency operating for this commission you would have to create one, Senator, and it seemed to us wise to use the most experienced one that you have available, putting the responsibility for the program and the policy on the cancer commission, but not throwing away what we have in the Government.

Senator PEPPER. So that the commission would not only coordinate all public research that is being carried on by the United States Government, but then it would coordinate all the private research—

Mr. ADAMS. We would hope for cooperation from all private cancer research.

Senator PEPPER. With the Federal, where the private agencies would cooperate with you?

Mr. ADAMS. And that certainly would be the viewpoint of the American Cancer Society. Now, you understand there are other independent private activities on cancer research besides the American Cancer Society, though small by comparison of resources and facilities, that must be encouraged and that must not be stopped.

Senator PEPPER. I understand; undoubtedly.

Mr. ADAMS. After all, Dr. Einstein was once a clerk in Switzerland, and we must remember that he and his world-shaking research is not a product of anything public or private except his own tremendous ability and initiative and, so we must not take the chance of coordinating the Einsteins "out," if you get what I mean.

Senator PEPPER. I understand. You will also make it one of the missions of the commission to stimulate all private research that can possibly be stimulated?

Mr. ADAMS. Right! Right!

Senator PEPPER. You also contemplate that this Commission shall cooperate with all the authorities and agencies abroad?

Mr. ADAMS. That is right.

Senator PEPPER. In the same direction?

Mr. ADAMS. That is right.

Senator PEPPER. And it shall even have authority not only to aid research and stimulate research in the United States by grants wisely placed but also abroad?

Mr. ADAMS. That is right.

Senator PEPPER. And also the authority to bring scientists from abroad, if the Commission thinks it can?

Mr. ADAMS. The society thinks cancer research is a world-wide problem.

Senator PEPPER. That is right.

Mr. ADAMS. You may be interested to know that although we have been under way less than a year, we have already brought two of the great scientists of Europe here and engaged in a series of panel discussions which had to do with the stearoid chemistry involved in cancer and have already set up a working arrangement between their laboratories and the laboratories of Memorial Hospital in New York with provision for exchange of workers and fellowships in a field in which great raw material for research is available and no comparable experience or facilities are available in the United States, no such knowledge and experience in studying these stearoids in the tiny quantities in which they are available from the urine of cancer patients. These two distinguished men came here, at our invitation, and the world-wide type of work started. We must put the best scientists to work wherever they may be.

Senator PEPPER. That is fine.

Mr. ADAMS. This rather international kind of cooperation is a broad activity which must be enlarged. Mr. Lasker is going to elaborate on that.

Senator PEPPER. Is it not a fact that practically all of the great discoveries have not originated exclusively in one country but have been contributed to by the scientists and students of many countries?

Mr. ADAMS. Well, I tried to point out that the fundamental pure research on the atomic bomb was largely done outside the United States. It came from men in Germany, in Norway, in Sweden, in Denmark, in Italy, in Great Britain, and in Canada; and we must remember that, in all humility. It took 50 years to accumulate the basic scientific facts, and it was not the product of any one man, as every man or woman connected with it would tell you. The kind of science that we must have in cancer research must have that world-wide viewpoint.

Senator PEPPER. Is that substantially true with the sulfa drugs and with penicillin?

Mr. ADAMS. It is true of almost every scientific development that I know about. I am particularly familiar with synthetic rubber, for I organized the rubber industry for General Knudson during the war and had something to do with the early start of the synthetic-rubber development. We could not have made synthetic rubber without the research work which had been done in Germany and in Great Britain added to our own work.

Well, I am taking too much time here. I will move along rapidly. It is recommended that the National Cancer Advisory Council be abolished and its work coordinated and brought in here, so that the Government's Cancer Institute becomes a part and a tool in this program, and the National Cancer Institute would be operated administratively under the direction of the Commission. I am trying to make

clear that the authority must be in the Commission, and not in the Surgeon General; and Surgeon General Parran will be the first to tell you that himself, I am sure. He is not present because of his important work with the United Nations in New York, as you know.

The provisions of law No. 410 in respect to cancer research should be operated by the Surgeon General as directed by the Cancer Commission. That gives the authority, which is now available, to the Commission and all future appropriations for the operation of the National Cancer Institute would be included in the appropriation for the Cancer Commission, so that the considerable sums of money which are now in the budgets already approved would come within this new appropriation. Our recommendations also suggest the Cancer Commission be empowered to give grants to existing scientific institutions, public or private, to create new ones in order to enable it to provide facilities, both research, clinical and hospital, for the purpose of cancer research. We hope the Commission would provide through cooperation for the coordination of research conducted by the Cancer Institute with similar research activities conducted by other agencies, both private and public. The total appropriation should be available until expended or until the problem is solved, and I want to speak to that briefly just for a moment.

Senator PEPPER. Before you do that, you would not want to narrow, however, that authority of the Commission just to give aid to new institutions or to create the new institutions?

Mr. ADAMS. No; we do not.

Senator PEPPER. You would want the cancer commission to have the widest latitude in the expenditure of those funds, so as to achieve the best results?

Mr. ADAMS. That is right.

Senator PEPPER. It might be given the sum of money for scholarships or fellowships, or a lot of things?

Mr. ADAMS. But, Senator, I want to make this clear: While I am in favor of Government research, I am not in favor of 100 percent Government research or Government fellowships because that way brings disaster.

Senator PEPPER. I understand.

Mr. ADAMS. We will get nowhere in these efforts unless we do our utmost to stimulate both private and public activities. Let us face the situation as it is, build the largest cancer institute in the world down here, try to staff it—and you cannot compete in the long haul against the University of Chicago and Harvard and these other great private institutions, in my opinion. The only way is the way we found during the war, in which we put together that which is best from the Government and that which is best from private or semi-private sources, and going ahead working together on a common program, using Government finances where private funds are not sufficient. In my humble opinion, we would be nowhere in this country without the leadership of the great private agencies, the universities, and the colleges; and I am the strongest advocate you ever saw of the State universities and of free public schools; my great-grandfather fought for free public schools shortly after 1812 in Indiana; but without the leadership in education from private institutions of learning and without our private hospitals, which are the most efficient, which have done most of the pioneering and the developing, our public

schools and public hospitals would never have been what they are today. In our country, no 100 percent Government research program can begin to compare in results obtained with a cooperative research effort using the best in Government and the best of private facilities.

Senator PEPPER. What I meant was, if we just used the language "institution," that might prevent you from bringing a scientist here from abroad, or something like that. I wanted you to have the widest possible latitude.

Mr. ADAMS. We recommend that this bill be widened to make very clear the inclusion of the granting of fellowships and research grants abroad. I realize that that might be a controversial thing, but it is not a great thing. The two scientists that we brought here from Switzerland are the only two men in the world, in my opinion and in Dr. Rhoads' opinion, who could do that particular job. Now it happens we are not giving them fellowships, because they have fellowships of their own, but they are exchanging; but that work should be done wherever it can best be done.

Senator PEPPER. That is what I mean.

Mr. ADAMS. And we cannot engage in much of such activities as transferring or trying to induce all the principal scientists in the world over here to the United States to work on cancer research. We want the great work that is going on in England on cancer to be coordinated with ours, and our work with theirs, so that we will have a world-wide organized research attack on cancer.

Senator PEPPER. Now, you were getting to the point of the appropriation and the method of expenditure.

Mr. ADAMS. As to appropriation itself—and I will be very brief and I think my associates concur in this view—I would not think of setting out on this course unless the Congress appropriates the full sum of \$100,000,000, any more than I would dream of starting out to build a \$50,000,000 battleship without an assured appropriation. Any interim or annual appropriations here in this case may be more harmful than useful—interim appropriations of \$5,000,000 or of \$6,000,000, or even \$10,000,000. I think if you will examine the response of the American public in giving \$15,000,000 to the American Cancer Society and an additional \$15,000,000 to other cancer institutions such as hospitals, in the past 15 months, you have some measure of the sums the American public will give to fight cancer over a period of time. The need that is here and now with us is this—and it was not here in 1928 when Senator Neely was pioneering.

As a result of the war and as a result of the research developments in many fields which were under way even before the war—let us say during the past 10 years—there is enough knowledge about cancer and enough clues, there are enough research leads, there are enough certainties worthy of wider exploitation—not crackpot ideas—but developments that in the judgment of the soundest scientists whom we can find give great promise of amazing progress in cancer control and cures. It means that the time has come when a great coordinated effort in cancer research has a chance—for the first time, a good chance—to succeed and with reasonable speed as we succeeded during the war in research to kill now we have the opportunity for research to save.

Now, gentlemen, that job is too big for any private agency to undertake it within the period of time in which it should be done. It can

be done privately over a longer period of time. It cannot be done so well privately as it can be done by a combination of the Government and the private institutions. I do not like round sums like "\$100,000,000." I do not know—none of us know—whether \$100,000,000 can solve and find the cure of all cancer or not, and you must realize that the perfect, simple cure may never be found, because we are dealing not with a disease but with life, itself. Cancer is not like malaria or infantile paralysis or tuberculosis. Cancer is normal cell growth gone wild in any of a dozen different directions—cancer of the skin, gastric cancer, cancer of the thyroid—entirely different things—as different as malaria is from infantile paralysis. We are delving here at the roots of life itself, and the byproducts of this research although we may never discover the cause and cure of cancer itself may be worth all the effort and money expended, for the scientists tell us we are certain to discover more about the secrets of growth and life and we should discover more ways of growing better human beings, and we should be able to find ways to at least control cancer, as we have learned to control tuberculosis—although we have no cure for tuberculosis today, no complete cure. These results will bring our 50 percent of people who can be saved to a very very much higher percentage. And again, we may find the way to actually prevent or cure the most of cancer.

Senator PEPPER. There may be incidental discoveries, as you suggest, that would come out of this.

Mr. ADAMS. The byproducts that may occur are oftentimes the most valuable product of research.

Senator PEPPER. As a businessman accustomed to the responsibility of spending money, you say that this is a good investment for the Government and the people of the United States?

Mr. ADAMS. I know of no better! And I know of a lot of bad ones the Government has made. That is my viewpoint.

Senator PEPPER. I guess your own company spends a good deal of money in research of one sort or another, does it not?

Mr. ADAMS. Senator Pepper, we spend about twice as much money on research and development as was spent in all private research on cancer per year, before the American Cancer Society was reorganized to enter research on cancer.

Now, the thing I want to make clear is that \$100,000,000 may not do this—it may take less, it may take more. However, you cannot get the men to come in and devote themselves unless the program is definite and on a large and long-term basis—and remember that the number of men available in the world capable of studying this problem could be put in this small room. The facilities that they will need are sizeable and important. The facilities that are existing are not too extensive though very important and those must be expanded. For example, Johns Hopkins is not able, today, to carry on certain cancer research work and to apply for certain grants for, while the scientists are available, it is no secret that they just do not have the laboratory facilities over there with which to carry on the work. Unless this appropriation for \$100,000,000 is set up as a definite fixed capital sum—unless that firm commitment is made, the project will be something of a midget, and you had better leave it to us to struggle with the support of the public in a slow but sure way. Only a large definite capital appropriation will serve. It is needed to bring to this work the type of scientists and the



type of facilities which must be brought to it if the project is to have any hope of success.

Senator PEPPER. In other words, it will be big enough to allow this commission to plan a program over a period of a few years?

Mr. ADAMS. Right! And the period of planning and building will be long, and the period before productive results will require great patience. In the end, our judgment is that this project will stimulate an equal amount in private work within the institution to which grants are given. Remember that when we put a grant into a great institution we do not pay for all of it. That institution is already working in related areas or starts into these fields as a result of the grant and on the basis of its own steam and with its own funds and with its own generation develops and carries on. An awful lot of it is in the way of seed corn, but the greater amount of this money must go for the capital expenditures necessary for the facilities. Let us remember that the private institutions are faced with a very serious problem having to do with "where do they get the money for carrying on an expansion program in facilities?"

Senator PEPPER. I started to ask you, also, in addition to perhaps an equal amount that might be stimulated in the United States in private sources, it is entirely possible that in other parts of the world by our example here, by this Commission stimulating research in other countries, we might bring about a great deal of expansion in the same kind of work done by other countries, and that would all contribute to the sum total of knowledge?

Mr. ADAMS. No doubt!

Well, I think that I have about completed that which I wanted to say to you. I might talk all day and probably not add anything more to the discussion.

Let me say this to you: If the Government goes ahead with this project, we in the American Cancer Society propose to redouble our efforts not lessen them.

Senator PEPPER. Well, that is fine, Mr. Adams.

Mr. ADAMS. The job of saving the half of the people who die from cancer today and need not die, and the task of developing medical knowledge and medical facilities, are the ones to which our State and local organizations are devoting the most of their efforts today. We could intelligently spend on this work alone all of the money that we have received to date, including the sums now devoted to our cancer-research program. I hope you will understand the way in which I give you our viewpoint—I think I speak for our people, both medical and lay men and women in every State in the country. If this bill passes, the people who pay the taxes, and in the end that means the masses, will have in the American Cancer Society in every State something of inestimable value. A real watchdog. As one who served in seven or eight different jobs in Washington during the war, I think I can appreciate the danger of bureaucracy and if anybody is a fighter against a Government-controlled economy and Nation, I am the fellow. My favorite work is Dickens' chapter on The Circumlocution Department, which appears in *Little Dorrit*, it was that department of government devoted to "how not to get it done." This classic attack upon bureaucracy was given to me by Mr. Bernard Baruch when I first came to work in Washington. This I can promise you: The American Cancer Society will be the best "watchdog" for

the Treasury that the people ever had, for if the Government enters into this project, as we hope it will, our people will be watchfully cooperating with the cancer commission day and night, too, if need be. I thank you.

Senator PEPPER. Senator Murray, would you like to ask any questions of Mr. Adams?

Senator MURRAY. All I wish to say is that I have been greatly impressed by your statement, Mr. Adams. This is the first opportunity I have had to have a thorough understanding of what we are trying to do here, and I certainly appreciate your testimony.

Mr. ADAMS. Thank you very much, sir.

Senator PEPPER. Senator Gurney?

Senator GURNEY. Only one question. Are you sure that your recommendations are printed in the record in full?

Mr. ADAMS. No, sir.

Senator GURNEY. You have them there in written form?

Mr. ADAMS. No, Senator Gurney. You see I have never testified before a congressional committee before, except about 5 minutes in 1927. I do not come down here. I will file them later, however.

Senator GURNEY. Well, you did one of the best jobs this morning I have ever seen.

Senator PEPPER. That is right.

Mr. ADAMS. Well, I do not know about that, sir.

Senator GURNEY. May I ask, Mr. Chairman, if his recommendations that he has in printed form, there, could be incorporated in the record?

Senator PEPPER. Have you anything in print?

Senator GURNEY. He has a typewritten sheet, there.

Senator PEPPER. If you could leave that, we would be sure to have the fullest possible statement.

Mr. ADAMS. Yes. I think there is somebody here who is going to take care of that, Senator.

Senator PEPPER. I think that would be fine. I think maybe Mr. Lasker is.

Mr. ADAMS. I would appreciate it if I could have an opportunity of revising somewhat or extending my remarks. I apologize to you for not having been able to prepare what I said.

Senator PEPPER. You could not have done it better. I think you have done fine this morning.

Mr. ADAMS. But we are in a little bit of confusion, Senator, in this country, at the moment.

Senator PEPPER. You will have an opportunity, a full opportunity, Mr. Adams, to correct your record, here, and to extend it in any way.

Mr. ADAMS. Thank you.

Senator PEPPER. Would you like to leave an address to which you would like to have your testimony sent?

Mr. ADAMS. Yes, sir.

(Address: James S. Adams, president, Standard Brands, Inc., 595 Madison Avenue, New York.)

Mr. ADAMS. Thank you very much, gentlemen. You have been very fine.

Senator PEPPER. We thank you, Mr. Adams. It is heartening to see men like you take over public projects of such great moment as this and give your time to this committee, and we know what you have

done in giving yourself unselfishly to the American Cancer Society.

Mr. ADAMS. Well, I am simply representative of hundreds of men and women all over our country who are giving even more time to the fight against cancer.

Senator PEPPER. We do want to get you and these other distinguished businessmen on your board to speak to some of our colleagues so that they will understand that we are not just trying to throw away a lot of money here, but that this is a wise business investment.

Mr. ADAMS. We have a meeting of our directors from all over the country, on Thursday, the 11th, and I will go over this with them and urge that they communicate.

Senator PEPPER. Senator Green and Senator Bridges are the other two members of this subcommittee.

Mr. ADAMS. Senator Bridges I think has had a long interest in cancer work.

Senator PEPPER. He is very much interested in the subject. I hope you may have an opportunity to speak to him, and I know you will find him very responsive.

Mr. ADAMS. Thank you.

AMERICAN CANCER SOCIETY, INC.,  
New York 1, N. Y., July 8, 1946.

HON. CLAUDE H. PEPPER,  
United States Senate, Washington, D. C.

DEAR SENATOR PEPPER: As representatives of the American Cancer Society, we wish to express the sincere appreciation of the directors of the society for the generous time and courteous hearing you and your committee accorded to Dr. Oughterson, Dr. Rhoads, and all of us who testified for the American Cancer Society with respect to the Pepper-Neely bill, which proposes a Federal appropriation of \$100,000,000 for cancer research.

As an extension of our testimony we wish to again call your attention to the position of the American Cancer Society with regard to this legislation, which was outlined in Dr. Adair's letter, which was presented during the hearings before the House committee. In particular, we wish to reaffirm and stress the fact that the American Cancer Society stands firmly for an independent cancer commission of distinguished scientists and laymen, both the members and the chairman of the commission to be appointed by the President.

We urge that the cancer commission be given broad powers with regard to its funds in order that grants may be made to private or public institutions anywhere and that the commission be empowered to enlist the services of scientists both here and abroad. As we see it the cancer commission should have full power to allocate and expend its funds in whatever manner will best accomplish the purposes of the act, and to staff itself within the civil-service regulations except for experts, technical help, and such other special services as may be necessary. We also believe that the cancer commission should be empowered to coordinate all Federal agencies in a single, united program for cancer research and that the commission be empowered to utilize the administrative or other services of any of the Government agencies such as the Federal Security Agency or the Public Health Department, if it so desires. In addition, we believe the cancer commission should be charged with the responsibility for cooperating with the several private agencies now engaged in cancer research to the end that all facilities, Government and private, may be properly utilized in a coordinated attack on the cancer problem.

We wish to reaffirm our conviction that this program cannot succeed unless a fixed amount is appropriated to be used as needed through the years. Given a definite appropriation of \$100,000,000 the proposed cancer commission could then proceed with the organization of a broad and comprehensive cancer research program which would enlist the leading scientists of the world, for this appropriation would make certain that the facilities and funds necessary for such an ambitious program would be available when and as needed.

The American Cancer Society stands ready to furnish you or your committee any additional information you feel may be needed for your consideration of this important measure.

Very truly yours,

JAMES S. ADAMS.  
ALBERT D. LASKER.

Senator PEPPER. Now, Mr. Albert D. Lasker.

**STATEMENT BY MR. ALBERT D. LASKER, MEMBER, EXECUTIVE COMMITTEE, AMERICAN CANCER SOCIETY, INC. (NEW YORK CITY)**

Senator PEPPER. Mr. Lasker, we welcome your presence here. You have been one of the builders in this field—part of the generous and grand work that you are constantly carrying on; so we will welcome your statement on the subject.

Mr. LASKER. The chairman of our executive committee has largely covered the ground, but I would like to give a little background as to the amounts of money that have been spent on cancer, why we believe there has not been more spent on cancer research up till now, and why the American Cancer Society has been able within the last 15 months to receive a million dollars a month from the American people. Had we asked for more, I am sure we could get more. I also want to cover why the American Cancer Society, though it has the largest pool of funds for cancer research in the world at this moment, heartily endorses the proposed Government effort. I will cover the last point, first.

The only way the American Cancer Society can really be fully successful is when there is no need for it any more; and the only way there will be no need for it any more is if the causes of cancer are discovered so that specific cures may be applied.

A Government fund of \$100,000,000 appropriated here and now would give a capital account that would justify men and institutions in dedicating themselves to this work in a way that they would not and could not, if they did not know that the funds were continuing and assured. A society such as ours cannot accumulate such capital funds. We need currently the moneys we currently raise, because we have to operate Nation-wide educational—lay and professional—programs plus extensive service programs in addition to our research program. For that reason we are strongly for this appropriation; furthermore, we are for it because the Government appropriation would be sufficient to draw in world-wide collaboration; in short, make a pattern for world-wide cooperation.

Now, the background that I want to give you is why Mr. Adams and the rest of us who are laymen feel we have a right to testify here, and why we have a right to make a suggestion for amendments to implement this bill to make it work.

I very briefly want to give you the history of how those of us who are with the American Cancer Society newly, in the last 18 months, came there. About 2½ years ago a group of us who were interested in medical research of all kinds had some astounding statistics on the subject put before us, and strange as it may seem these statistics

which obviously should have been in existence, had not been in existence before—to wit, for instance, in cancer, how much money was being spent in research? We were as amazed, as I take it you will be, when we tell you those figures were not collated in one place, and we all thought, all of us, that there were millions spent annually by foundations in cancer research. Much to our surprise, when we got the information together from all sources, the total amount spent in cancer research by private institutions, was found to be within \$600,000 a year—not millions! What had been in everyone's mind was that there was for instance one foundation to whom a capital account of \$2,000,000 had been left; but that would yield only at present interest rates, \$60,000 or \$70,000 a year less operating expenses; but in the general mind we were thinking of this \$2,000,000 as being spent every year! That is where the confusion arose.

SENATOR GURNEY. Mr. Lasker, is that \$600,000 a year?

MR. LASKER. Yes, sir. Private funds spent on cancer research were about \$600,000 a year.

SENATOR GURNEY. Is that all that has been spent recently, until you started in?

MR. LASKER. Yes, until the American Cancer society went to the public for larger appropriations to include research.

There was also spent on cancer research in Government funds, or appropriated, approximately \$500,000; but for pure basic research of which I am talking I do not know how much of the \$500,000 was spent, because they had to have statistical research in other efforts which would come within the framework of a Government effort. But surely, with Government money and private money, there was not over a million dollars being spent a year—that would be the top—up until say 18 months ago or 2 years ago.

About a year before this our group went to see Dr. Rhoads, the director of Memorial Hospital, in New York, which has been mentioned often in this testimony, because it is the largest and oldest research hospital on cancer in America and, I believe, in the world. And yet I doubt whether at this time it has over 250 beds—maybe 300; I would not know for sure.

We found from Dr. Rhoads that this great research hospital known all over the world had at that time—which was approximately 3 years ago—an annual research budget of about \$85,000. We laymen would have thought that it was \$850,000. Since then, because of the awakening that has been given to the public as to the opportunity for cancer research, I am sure that the research funds of Memorial—though it has never received one dollar from the American Cancer Society—Dr. Rhoads having, to our view mistakenly, refused to take money from us, because he is also chairman of our committee on growth—have risen to many times that amount of money; Mr. Alfred Sloan, of the General Motors, alone, has lately given them \$4,000,000 to extend their research operations—\$2,000,000 for a research building and \$2,000,000 for research work. Memorial has also raised over \$3,000,000 in the last year from a campaign to the public.

After seeing Dr. Rhoads and others our group looked into the whole field as to why there had been this apathy and why there was not more money; and was there need and opportunity for the expenditure of more money? We found that within the last 10 years there had

been enough advances through this comparatively meager research and other work that would be normally done in unrelated fields (but still would give knowledge in this field) to hold forth the promise for the first time that there were enough leads that cancer research if attacked on a very large scale might bring forth results of a major nature. Therefore, the opportunity was wide open to any group of citizens to awaken the American public. It was not the men and women who reorganized the American Society for the Control of Cancer into the American Cancer Society so as to include a research program who are responsible that all this money was raised and given. The American people were waiting to give it. Any group could have gotten it, or any group of responsible people; but this was the only group who had voluntarily studied and gone into the matter with a view to finding what should be done.

The American Society for the Control of Cancer to which I have just referred had been in existence about 30 years. Two years ago our group went to them and found the society limited in funds, doing some good work on alleviation and education, with no great financial backing, but enlisting the work of many doctors and many women who were very dedicated. We made the proposal to them—their board consisted with two exceptions of doctors—that if we would agree to finance a national campaign to raise money, would they be willing (a) to put the control of the expenditure of the moneys in the hands of laymen so that what the scientists initiated and did would be reviewed, because those who raised the money have to have the trusteeship and final responsibility for its expenditure; and (b) would they agree that, say 25 percent of the moneys raised should be spent on research. They did so agree, and I believe we have testified here at length on the results.

Well, we are the only group in the world—comparatively new at it, and our experience may not be much—but we are the only group in the world with a large sum of money to spend on cancer research. In 15 months, the percentage of money that we have raised that would go to research is something over \$3,000,000. Taking the Government money and private money that was spent before in the same period, the total amount that would have been available was less than half; so that we have more than trebled the amount of money available for cancer research.

We thereupon, having the trusteeship of this money, studied the best way to expend it, and we arranged with the National Academy of Sciences, through its medical branch, to create a committee on growth, and to this committee on growth were called, as Mr. Adams has testified, 90 of the leading scientists of America to form themselves into panels. It is our experience there that led us to these amendments which are proposed.

We claim not that we are the wisest men, not that other people might not have gotten even more results out of what has been entrusted to us than we, but we claim we are the only ones who have had a wide experience in the expenditure of sums for research in cancer; and we know that, so limited is the number of scientists who can be called on in Cancer research that we must call in other talents in order to help multiply the facilities. For instance, this is a shocking fact, that in 20 years there have been only 100 teachers of cancer turned out in the

United States in our medical schools, and that of those 100, it just happens they are practically all, if not all, from Memorial Hospital of New York.

The need for fellowships to educate experts is overwhelming; we feel that it requires not only that this money be spent by a commission composed of scientists, but that we also use the talents of men who have been experienced in great industrial research—the same type of people that the Government called in all during the war to accomplish a purpose.

You will note in the amendments proposed for your consideration it says:

No funds made available under this act would be expended except with the approval of the Commission.

Well, whoever has the final say on the spending of the money is the "boss of the show" in any effort, anywhere, where money is involved.

Again, we take it that the type of people the President would appoint on such a commission would be such that no governmental department would interfere with its operations unless they were on very sure ground, and then that would not be interference; that would be constructive. But we, in the American Cancer Society, believe that all work, no matter whom you entrust it to, should be checked and double-checked—I mean, in this type of scientific work. Personally, I wish that there were some independent national health movement who would check on the work that we in the American Cancer Society do, because it is a purely arbitrary thing; even if vested rights do not come in, mistakes can be made.

For that reason, we feel very warmly that the type of amendments proposed is the best insurance that this money will be spent to the greatest advantage.

Senator PEPPER. Mr. Lasker, would you comment on Senator Neely's apparent fear that the bringing of the Public Health Service or the Surgeon General into this matter, although in a limited administrative capacity, would tend to strangle the widest latitude that the commission could have?

Mr. LASKER. For the commission to really accomplish its best purpose, you would be unable to get the best of America's experienced men at full time, for they are engaged full time in our leading hospitals and medical schools, whose vast existing facilities are at their disposal. You want the richness of their experience from the work they are now engaged in. You would have an eminent paid chairman and a paid technical staff subject to the commissions' direction. Somewhere down the line there has got to be auditing, there have to be budgets, there have to be all details of stenographers and clerks. For that alone you would either create a new bureau or put it in an existing one.

The Public Health Service of the United States may not be the most perfect institution, or a perfect one; I would know nothing about that, but I do know that it has charge of the public health of the United States, and therefore we felt that these administrative things which would divert a commission should be in the hands of an existing agency. You will notice we did not provide that any member of the Public Health Service be on the commission. We

did provide that the Veterans' Bureau, for reasons given by Mr. Adams, be on the commission. The commission would be the body that made plans and programs and that saw to their carrying out. That is, they would not be a full-time paid body. Somebody has to look after these administrative details.

Furthermore, there is already in the Public Health Service a Cancer Institute, and it would be a duplicate work. You notice the Public Health Service really surrenders power. They do not get power, they surrender power over this to the commission; but it is very important that the commission have its time free to plan, to program, and to coordinate, for with the limited number of people trained in cancer research, and with the knowledge needed all over the world, there will be confusion, on the one hand, if there is bidding between different Government and/or private agencies for the same talent; on the other hand, maybe the commission would decide that it would be wise to duplicate work on certain phases of research in several places; maybe they would decide on certain things there should be no duplicate work. Their time should be free for that. I was, for one, deeply moved by Senator Neely's appeal, and there is nothing that he said with which I would not agree, excepting that I do not have his fears on the proposed amendments, for this reason: The President is very busy, there are a lot of things he has to look after, and he would have to give much time to study how this should be set up—whether it is a separate institution or whether the administrative end is in a bureau or a department of the Government, the commission is a Presidentially appointed one, and what it will accomplish and can accomplish is dependent on two things: (1) That they have the final say, and they alone, on the expenditure of money; (2) on the type of men the President appoints. If the right type of men are appointed, the commission will function in or out of a Government department. We merely say from our experience that in order to get the maximum results and in order to safeguard in every way what is done we believe the procedures proposed represent the best way to go ahead. I believe that if Senator Neely had time to study and review at length with us, he would see that we are after the same thing he is, only we want to make sure that it is done in an orderly way.

Now, Senator Neely estimated that in the past it cost \$1,000 a year for a cancer patient in his last year, including funeral expenses. Present figures indicate that the average cost of all cancer cases is \$1,000 per patient annually—that is taking in those who die, and those who do not. We have just made an appropriation in the American Cancer Society to make a study of this by taking care of a group and finding out what the actual figures are; but \$1,000 is the generally accepted figure, I believe. Now, there are 500,000 sufferers from cancer, in addition to the 170,000 who die annually, so that taking the \$1,000 figure you see we would get into astronomical figures as to what cancer is costing now—between 600 and 700 million a year. Surely no one will question that half a billion is the figure that it costs. But that half-billion does not take into consideration the economic loss; that figure does not take into consideration the emotional effect on the family. Cancer is acknowledgedly the second largest cause of death, but it is also acknowledgedly the No. 1 torturous killer. Not only the suffering of the patient, but the emotional upset to the



family results in many cases in lessened family income, because the money earner is so worried that he is not so efficient.

For the Government, just from the standpoint of a money investment in the total economy, there is no more promising investment than this bill holds. Maybe the cause of cancer will never be found, but it never was so promising as now; and now, it is promising. It may take only \$20,000,000, and it may take hundreds and hundreds of millions; but as Mr. Adams testified, as it is a study of growth, which is life itself, it is sure that no moneys can be expended on human life that can give more promise of benefit even on the minimum of what can be done than the study of these malgrowths, these wild growths.

The American Cancer Society undertakes in its campaign to educate the public on the symptoms so that the public would go to the doctors much, much sooner than they now do. Contrariwise, I only last week personally came into contact with a case of the wife of one of the rich men in New York, who went to her doctor 9 months ago and had a little sign which she thought might be troublesome, and he told her—everyone makes mistakes—that she need not worry, that it was nothing. Last week one of the leading surgeons of New York examined her and said, "It is hopeless." Had she come in time to him he could have saved her.

In the American Cancer Society, and joined with all others who want to, we want to educate the people to look for the signs of cancer and to go and be diagnosed in time, for it is generally accepted medical opinion that 50 percent of the people who now die of cancer could be saved if they went in time.

Senator PEPPER. And you no doubt want to teach doctors?

Mr. LASKER. In closing, I will come to that, because I am about to close. But even those who are saved today, a great share have to go through surgery to be saved, and that in itself is a torture; so if we could increase and save 90 percent with this grave disease, that is not enough—we must try to find the cause and eliminate it. A society such as the American Cancer Society keeps the public and the doctors interested in the subject in a way that they would not be without in its campaigns, as the continuous campaign of the last 15 months has proved.

The raising of funds by the public is in itself a tremendous thing, because a maximum amount of education on cancer symptoms goes on during that period, and if all of the money that is raised in the campaign—and this is only my personal opinion—were thrown away in the Potomac and nothing else done, it would be worth while, because of the concentrated thought both by the medical profession, by the laity, through the press and through the radio that is given to cancer alleviation in the work of the campaign.

Now, what was your question?

Senator PEPPER. I say, you also no doubt want to see the doctors better educated?

Mr. LASKER. It is not the doctors' fault that they are not better educated. Cancer was for years like syphilis—you were not supposed to speak the ugly word! From the moment the word "syphilis" was spoken, look at the advances that have been made—advances before wonderful penicillin and the sulpha drugs came! In the same way,

so cancer. There had not been enough leads, it was considered a sort of hopeless thing, and it has never been given any proper place in the medical schools, and the doctors will be the first to admit that it requires great education among the doctors, requires refresher courses, and requires the training of teachers. To these three ends the American Cancer Society will use much of its funds.

Your bill does not provide for that, so there is ample work for the American Cancer Society and other related societies in addition to research, because research will not in a day or a week give the answer; it is over a long period; but the sufferers are here every day.

However, an organized research such as is proposed is bound to bring, before not too long, valuable leads. For instance, clinical research in the use of radioactive substances and the treatment or cure of cancer has scarcely begun. Organized programs for clinical research in this field and in the clinical use of various hormones in connection with several types of cancer need to be greatly enlarged.

Now, other nations have been ahead of us in agitating for cancer research. In Great Britain there is the British Empire Cancer Society which raised even during the war years on to half a million dollars a year in Britain, which when you consider the sums we spent in this country and their situation is a remarkable thing; I do not know, I have not checked, but I understand Canada with its 11,000,000 people is this year raising \$2,000,000. I think they were enabled to do that largely through the campaign from our country which flowed over to their country; so that the moment is ripe for the United States to take the leadership in a world effort, not only to solve cancer and in the meantime to alleviate its extent but just as in the splitting of the atom, the secret of nature on material things was found, there is a very good chance that in the study of growth infinite knowledge will be attained about human life itself; and therefore I am one who wants to join in urging the passage of this bill.

Senator PEPPER. Mr. Lasker, before you conclude, will you tell us whether you approve the amount of \$100,000,000 which is mentioned in this bill, and whether you think it should be authorized and then appropriated, and should remain available until expended by this commission?

Mr. LASKER. The American Cancer Society I am sure can raise several times as much money as it now raises. I repeat, that is no credit to the American Cancer Society. It is just amazing to me the hundreds of thousands of people who just rose out of the nowhere and joined us in collecting this money; but we have no guarantee from year to year that we can raise it, and therefore while scientists are working with us, there is a limit to the effort we can go to and the commitments we can make for the future. The existence of a \$100,000,000 fund would be an insurance to individual scientists and to institutions that the work would be carried on far enough either for solution or to prove itself, and would be a continuous effort. That is the main reason we are for this bill, is because it would be \$100,000,000 fixed. We think that nothing would be more hurtful to the cause of cancer maybe—I want to put in “maybe”—than to pass a bill a phantom \$100,000,000, where the people would feel money in a large enough sum was provided to insure continuous research work in a major way but where the scientists and

the institutions would know differently. For that reason we feel very strongly that this should be a fixed appropriation which the commission would use as it saw fit. Of course, in the beginning they would not be able to use nearly so much as they will as they get momentum.

Does that answer you, Senator?

Senator PEPPER. That is right, but they would be able to make contracts, to engage people over a period of time, to lay out long-range plans with the assurance that they had money with which to carry out a plan over a course of a few years.

Mr. LASKER. Absolutely. I will give you an instance. I heard of one institution—I do not wish to name it; I know no one connected with it—which had scientists well trained to work on cancer research, but they needed additional laboratory and building facilities. They did not have the money to do it. These men are very respected scientists. They will not leave the institution where they are, but such a fund as proposed in this bill could furnish the facilities they need to further their work. That, a private society cannot do. We cannot build buildings, unless we go out specially on a campaign for that, and then we would have to raise the sum of \$100,000,000 in advance, and we could not do that.

Senator PEPPER. So you, Mr. Lasker, as a very eminent and successful businessman, tell us that this is a desirable public expenditure and a good investment by the Government of the United States?

Mr. LASKER. I would feel that my life had been justified, if I had any part in bringing it about.

Senator PEPPER. Senator Gurney, would you like to ask any questions before you go?

Senator GURNEY. No. I am just getting an education, here. I certainly enjoyed it. Thank you, Mr. Lasker, for the information.

Senator PEPPER. Have you any questions, Senator Murray?

Senator MURRAY. No. I have greatly enjoyed your testimony, Mr. Lasker.

Senator PEPPER. Mr. Lasker, we said to Mr. Adams, insofar as we do happen to have an official position and can to a degree speak for the people, we want to express public gratitude for not only what you are doing in respect to this measure but for what you and men like you are doing in this field to save human beings from this scourge.

Mr. LASKER. Whatever we are doing, we are doing for ourselves, you know. As 1 in every 8 in America is going to die of cancer under present-day knowledge, maybe of those in this room you Senators and I will be the doomed ones. What we do for cancer we do for ourselves.

Senator PEPPER. Thank you very much. Now, by the way, have you got those amendments that you wanted to leave?

Mr. ADAMS. Mr. Lasker, I think Colonel Oughterson was working on that.

Mr. LASKER. Oh. Colonel Oughterson put that in for the society.

Senator PEPPER. Very well. We thank you very much, Mr. Lasker.

Mr. LASKER. Thank you very much for giving us the opportunity.

Senator PEPPER. We welcome and thank you very much. You have thrilled us all.

Dr. Daniel Lazlo, Montefiore Hospital, Bronx, New York.

**STATEMENT BY DR. DANIEL LAZLO, MONTEFIORE HOSPITAL,  
BRONX, N. Y.**

Dr. LAZLO. I shall make it very brief. I am one of the many cancer research workers. If I may be permitted to show you the program of the last meeting of the American Association for Cancer Research in Atlantic City, you will find quite a number of investigators who presented papers at this meeting. A few were from New York, but many of them came from other places—Minneapolis, Minn.; Bethesda, Md.; Madison, Wis.; St. Louis, Mo., and so forth.

I strongly favor the proposed bill, S. 1875, and urge you gentlemen to report it favorably, and I urge you gentlemen not to put in any amendment. My reasons for supporting this legislation were stated at the hearings on H. R. 4502 and were submitted for the record. I plan to give you a copy of this. However, there were quite a few points raised which I think make it worth while to read one or two paragraphs of this.

My question here, first, was whether cancer is a specialty, and whether we can expect to train cancer specialists in sufficient numbers in a comparatively short time. Now, gentlemen, I have worked in this line for a number of years. I do not consider myself a specialist in cancer. It is my opinion that cancer is not a specialty.

Investigative and clinical work on cancer requires a team of various specialists, such as biologists, chemists, physicists, bacteriologists, pathologists, diagnosticians, surgeons, radiotherapists, and many others. These experts combined make the cancer specialist. They are trained in our various colleges in sufficient numbers.

Can the physician be expected to contribute to the solution of the cancer problem or shall he wholly depend upon the experts in the various branches of basic sciences? I answered:

The past experiences have proven that physicians can be expected to contribute materially to the solution. They were the ones who solved quite a few baffling problems. To mention only a few examples: Robert Koch, a small-town doctor, who discovered the tubercle bacillus; Banting, the discoverer of insulin; Minot, the discoverer of the liver principle; Goldberger, the pioneer in the work on pellagra. Another question:

Are there places available, where research centers for cancer could be established without great delay? My answer:

I think there are. I propose that a survey of our medical institutions and those which are best equipped to carry on research in cancer be selected. The present lack of such institutions is not an indication of the lack of interest of these institutions in the cancer field, but a lack of funds to carry out such investigations.

**Question:**

What would be some of the desirable criteria for the establishment of research centers in a medical institution?

My answer to this question was as follows:

- (a) First-grade medical staff.
  - (b) A number of beds earmarked for the admission of curable and incurable cancer patients.
  - (c) Follow-up clinic and cancer prevention clinic.
  - (d) Adequate laboratory space.
- Full-time laboratory experts would soon be attracted to work in such centers, especially if long-term contracts could be offered.

Now, gentlemen, I proceed with my presentation, if I may read. So far as I recall, none of the testifying witnesses at the hearings before the House committee were opposed to the proposed

legislation. This unanimous support supplements the support of the public opinion, which strongly favors such a bill.

Whereas there is general agreement upon the need of Federal action for cancer research, the methods of applying this proposed Federal aid most effectively may be disputed.

The bill reads that the President shall mobilize at some convenient place in the United States the world's outstanding experts, which seems to imply a huge central organization at one place. However, our present lack of knowledge on the cause and cure of cancer would militate against such a central organization. We cannot possibly compare our present knowledge on cancer with the knowledge we had on atomic energy at the time, when such a central organization was created. Lacking the basic clues, centralization would not be advisable at this time.

Federal support of cancer research apportioned among institutions especially equipped for such work spread over the country, appears to be the ideal method. We should encourage every reasonable approach by every qualified scientist, wherever he may be found. We should encourage the systematic, scientific, conventional approach as well as the seemingly unconventional ideas. The unconventional approach should be supported, too, as history has proven time and again that great discoveries followed original, unexpected, unconventional ideas. And many of such ideas were bitterly fought by the scientists of their time. I could mention many prominent scientists, whom no conscientious administrator of public funds would have dared to support, though their contribution laid the foundation to our present knowledge and civilization.

Setting up an independent agency, appointed by the President as provided in the bill, appears to me the best way to handle Federal aid for cancer research. This independent agency would handle the requests and pass final judgment upon the projects submitted.

There is a reasonable assurance that the institutions submitting and supporting such projects would scrutinize the merits of the proposed investigations thoroughly. Therefore, the burden of administration of the funds would be considerably lessened and the risks involved reduced.

My institution, as I think practically everyone in the country, calls in a standing committee on research to discuss the merits of a research project. In that institution there are a chemist, a physicist, a pathologist, biologist, radiotherapists and many other experts who may say, after discussion, "This project appears to be promising and good enough." If they agree to that extent and if the institution is willing to support it, I think this is quite a fair guaranty that public funds could be spent on that, too.

I also agree with the statements made here that the Federal funds should not discourage private contributions. They should be a very important addition. Private foundations, hospitals, medical schools, industrial organizations, should continue their support.

I feel reasonably sure that a good number of research centers for cancer could be created without any great delay. Should anyone of these produce promising results, the agency would be in the position to centralize and concentrate upon this new line of investigation.

In summing up, I am in favor of S. 1875, giving the President the authority to take any action he may consider necessary or proper to achieve the desired results. I believe that decentralization and creation of a number of research centers would be preferable to concentration and that the Federal aid could be best administered through an independent agency in complete charge of the project, responsible to the President.

Gentlemen, I would like to ask you for the opportunity to comment on a few points. The first question was brought up, whether there are at present enough basic ideas upon which we could enlarge. I think there are not. I think we have to get ideas from everywhere, and whoever is in a position to "deliver the goods" should do so.

I mentioned that I believe that there are quite a large number of capable scientists who would be glad to join. One of the most difficult decisions, so I think, would be to decide whether to reject a proposed project. I mention that because quite a few important discoveries have been made on ideas which were absolutely new and probably would have been rejected by some agencies because they were unconventional. I therefore do not think the "show" should have a "boss." Everyone who is capable and productive and who presents a fairly reasonable approach to the idea, should get some chance to get a crack at it.

Senator PEPPER. Doctor, we thank you very much for coming and giving us your views.

Dr. LAZLO. Thank you, sir.

(Dr. Lazlo filed with the subcommittee the program of the American Association for Cancer Research, Inc., at its thirty-seventh annual meeting at Atlantic City, N. J., March 11-12, 1946. Dr. Lazlo also presented for the record copies of statements made by him before the Committee on Foreign Affairs on May 7 and 8, 1946; which statements are as follows:)

STATEMENT OF DR. DANIEL LAZLO, NEOPLASTIC DIVISION, MONTEFIORE HOSPITAL,  
NEW YORK, N. Y.

The following statement is submitted to the Committee on Foreign Affairs, House of Representatives, at the hearings on H. R. 4502.

Mr. Chairman, Congressmen, and members of the Committee on Foreign Affairs, I am greatly honored to be called upon to testify before your committee on the proposed legislation H. R. 4502. It is a great step forward that you gentlemen are here to discuss legislation and Federal aid to fight cancer. You propose concentration and coordination of national and international resources, spiritual and material, toward this aim. The need for such legislation is indeed pressing.

When Congress authorized the President to create a National Institute of Cancer several years ago as a division of the National Public Health Service, it recognized first the need of Federal support to investigate cancer. Your proposed legislation is a desirable and essential extension of this public responsibility.

Cancer affects every nation in the world. Although the greatest incidence is in the groups of middle age, children are not exempt.

Cancer research must be done by a team. Biologists, pathologists, bacteriologists, chemists, physicists, diagnosticians, surgeons, radiotherapists, and many other experts are needed for such a team.

The facilities for cancer research in our country are wholly insufficient. True, there are a few experimental laboratories where scientists of world renown can and do work and struggle in inadequate security and with lack of funds. They are dependent mainly upon philanthropic support, which is not always forthcoming and seldom enough. We have a few cancer hospitals. Our

facilities for treatment and care of advanced cancer patients are unbelievably and shockingly limited.

There are prevention clinics for the early diagnosis of cancer, but these are only a few. We have at present no national coordination of scientific efforts in this field.

In spite of all these limitations, great progress has been made in the past decade. It is, therefore, predictable that organization, coordination, and financial support of national and international research, so fruitful in destructive fields of science, should lead us to immeasurable gains in constructive fields.

The hospital with which I am associated is a general hospital, maintained by philanthropists, and it has recognized that it could best serve its cancer patients by creating an independent division of neoplastic diseases. It has set aside a sizable number of its beds for this purpose; it admits curables as well as incurables. It has as a team, all the scientists of the general hospital, and is willing to engage in experimental research in cancer. With the rapid advances in basic and applied medical sciences, the coordination of efforts of various scientists around such centers should lead to fruitful results.

Gentlemen of this committee, your legislative proposal is unique. You are determined to help fight cancer, this is your mission as it is the mission of the thousands of my colleagues in this field. It is not true that patients suffering from advanced cancer, though at times a prey of pain, are willing to die. They beg you to help them. Your support will, I am convinced, give them hope and, perhaps even more important, advance the prevention of such cases in the future.

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STATEMENT OF DANIEL LASZLO, M. D., MONTEFIORE HOSPITAL, NEW YORK, N. Y.

Members of the Committee on Foreign Affairs, I strongly favor the passage of the proposed legislation, H. R. 4502. My reasons are listed in the prepared statement, which I herewith submit. Surgeon General Parran elaborated in his testimony on the urgent needs of Federal support in the fight of cancer.

In the course of the hearing, several factors were mentioned, which need some clarification:

1. Is cancer a specialty and can we expect to train "cancer specialists" in sufficient numbers in a comparatively short time?

It is my opinion that cancer is not a specialty. Investigative and clinical work on cancer requires a team of various specialists, such as biologists, chemists, physicists, bacteriologists, pathologists, diagnosticians, surgeons, radio therapists, and many others. These experts combined make the "cancer specialists." They are trained in our various colleges in sufficient numbers.

2. Is it desirable to concentrate all investigative work into one central organization or is it preferable to spread it among many research centers?

Those who favor centralization recall the successful national efforts in harnessing atomic energy. However, as one expert stated yesterday, the cancer problem appears to be a greater one in 1946, than the problem of nuclear fission appeared to be in 1940. Whereas in 1940 the theoretical foundation for the atomic work was known, no such knowledge exists today on cancer. Therefore, I feel, that the time for a vast central organization has not yet come.

3. Can the physician be expected to contribute to the solution of the cancer problem or shall he wholly depend upon the experts in the various branches of basic sciences?

The past experiences have proven that physicians can be expected to contribute materially to the solution. They were the ones who solved quite a few baffling problems. To mention only a few examples: Robert Koch, a small-town doctor, who discovered the tuerkle bacillus; Banting, the discoverer of insulin; Minot, the discoverer of the liver principle; Goldberger, the pioneer in the work on pellagra.

4. Are there places available, where research centers for cancer could be established without great delay? My answer is yes. I propose to conduct a survey of our medical institutions and select those which are best equipped to carry on research in cancer. The present lack of such is not an expression of the lack of interest of these institutions in the cancer field, but a lack of funds to carry out such investigations.

5. What would be some of the desirable criteria for the establishment of research centers in a medical institution?

(a) First-grade medical staff.

(b) A number of beds earmarked for the admission of curable and incurable cancer patients.

(c) Follow-up clinic and cancer prevention clinic.

(d) Some laboratory space.

Full-time laboratory experts would soon be attracted to work in such centers, especially if long-term contracts could be offered.

6. It is my opinion that a cancer center is better placed in a general institution than it is when isolated. In the first case, it gives and receives stimulation from the various scientific branches with which it is associated.

7. While our main efforts should be directed toward prevention and cure of cancer, the treatment of the advanced cancer patients cannot be neglected. They belong in a general hospital, which alone is equipped to handle them. I am all against the separation of these in homes of incurables. Our provisions for the care of advanced stages of cancer are at the present time, shockingly limited.

May I summarize:

I urge you, gentlemen, to pass this bill which will help to expand the very fruitful work of our National Cancer Institute; which will support our existing privately endowed institutions and which will create a number of new research centers all over the country. These will attract foreign scientists to work in this country. Centralization is suggested at a later stage after more fundamental knowledge has been accumulated.

Senator PEPPER. Dr. Harold P. Rusch, of the University of Wisconsin, director of the McArdle Memorial Laboratory for Cancer Research. We will welcome your statement on the bill or the subject, Dr. Rusch.

Dr. RUSCH. Thank you.

**STATEMENT BY DR. HAROLD P. RUSCH, DIRECTOR, McARDLE MEMORIAL LABORATORY FOR CANCER RESEARCH, UNIVERSITY OF WISCONSIN, MADISON, WIS.**

Dr. RUSCH. It appears obvious from the comments made during these hearings that there is entire agreement concerning the purpose of bill S. 1875. Since there is unanimity of opinion about the necessity of more cancer research let us proceed at once to set in motion the machinery that will result in the realization of the true purpose of the bill. I suggest, therefore, that no pronounced changes be made in bill S. 1875. Details of administration can be worked out at a later date by such group as the President may authorize. Certainly we have every reason to believe that such body will be a democratic one.

In my opinion, however, two changes that will improve rather than cripple the bill should be made prior to its introduction on the floor:

- (1) The words "place or places" should be substituted for "place"; and
- (2) any sum of money authorized to carry out the provisions of the act should be available until spent.

Mr. Neely has already indicated his willingness to substitute the words "place or places" instead of "place", but I wish now to say a few words emphasizing the importance of decentralizing research.

It is my opinion that fundamental research will flourish best in a number of separate laboratories; it can be accelerated but not forced. There is no satisfactory method of predicting just where an important discovery will be made except that it can occur only where research is fostered. No single institution has a monopoly on scientific discovery; instead achievement in science, more often than not, is the result of the sustained thinking of many minds in many places driving for a common goal. The creative spirit of man cannot successfully be localized or nationalized.



Nowhere is the individuality of scientific discovery better demonstrated than in the field of cancer research. The first intimations of carcinogenic substances were heard in England at the time of the Revolutionary War; many years later they were questioned in Germany; then taken up in Japan in 1915 and returned again to London where the final proof of the carcinogenic potency of certain pure chemical hydrocarbons was announced. Soon after the report from England work in this field spread to this country where it was taken up at Harvard, at Michigan, as well as other places, and within a few years over 170 chemicals of varying degrees of carcinogenic activity were described. The story concerning the cancer-producing properties of the azo dyes is very similar, the early tentative questionings came from Germany, definite proof was made in Japan, and important contributions and refinements have been made recently at the University of Wisconsin and the Memorial Hospital in New York. The finding that certain types of mammary cancer in mice could be transmitted through the milk of susceptible mothers to suckling mice was first observed at Bar Harbor, and the eventual characterization of the active agent in the milk as a particle with virus-like properties was continued at the University of Minnesota. Investigators at the University of Chicago and Yale have made outstanding contributions on the relationship of endocrines to tumor growth and characterization of enzyme patterns in neoplastic cells has been receiving the full attention of experts in this field at the University of Wisconsin and the National Cancer Institute. Other examples may be cited but these should suffice to illustrate that no single group has monopolized the field of fundamental research.

Furthermore, the localization of experts in cancer research in one center would have an adverse effect on the training of young people for future work in this field. Such training requires a period of years and is best conducted in laboratories that are closely associated with educational institutions where close contact and cooperation with the basic sciences can easily be achieved. We cannot afford to kill the goose that lays the golden egg.

It appears to me that the plan best adapted to accomplishing most in the least time would be the support of existing centers for cancer research. There are perhaps seven or eight such institutions in the United States and in addition there should be an expansion of some groups in two or three universities which have not been formally organized as cancer departments. The values of these laboratories has been amply proven, but few people are cognizant of their important discoveries. Scientists from these institutions have had a dominant role in the elucidation of the cause of many cancers; they have discovered the carcinogenic qualities of many pure chemicals, of ultraviolet rays, and of some viruses; they have extended our knowledge of the biochemical nature of the cancer cell; they have gained some information on the mechanism of the carcinogenic process and have found some factors that inhibit the reaction; and they have clarified certain relationships of endocrines to tumor development. Such fundamental studies have enriched all branches of medical knowledge. Of only slightly less interest than the experiments themselves is the fact that most of these remarkable discoveries were made by a mere handful of men during the past 15 years when research was

handicapped both by insufficient financial assistance and by the war. Nevertheless, the discovery of so much by so few cannot help but arouse a feeling of optimism for the future of an adequately supported program.

At the present moment, there are not enough trained personnel available to justify a vast expenditure of money for research alone. Instead funds could be used to great benefit in the beginning for training programs and for construction. As investigators become available they could be added to the staffs of the various centers. Coordination among the several institutions could be accomplished by the free dissemination of knowledge through conferences held at regular intervals and through scientific literature. Cooperation at the operative level should be especially stressed. The avoidance of duplication at this level is not a serious problem, since in a field as complicated as this, duplication is seldom achieved even when it is attempted.

On the basis of the accomplishments of the past small-scale programs, the future of more ambitious planning is very encouraging. Although no definite predictions can be made concerning means of curing and preventing cancer it is safe to state that cancer will always remain the most hideously persistent and the most persistently hideous enemy of mankind if nothing is done. We must be determined to conquer this thing that steals upon men and without warning strikes down the strong and the weak alike. By one thing alone can this conquest come and that is by the tireless painstaking efforts of scientists provided with adequate weapons.

SENATOR PEPPER. Doctor, we thank you very much for coming here and giving us the benefit of your views on the subject.

DR. RUSCH. I was very happy to have the opportunity to present my views.

SENATOR PEPPER. If you care to submit anything further at any time, we will be glad to hear it.

DR. RUSCH. Thank you.

SENATOR PEPPER. Mr. Harry Read, executive assistant to the secretary-treasurer, CIO. While Mr. Read is coming, I will read a letter, dated July 1, addressed to me:

The Railway Labor Executives' Association, consisting of the chief executive officers of 19 national and international railway labor organizations representing approximately 85 percent of the railway workers in the United States, is on record in support of S. 1875, the bill relating to methods of curing and preventing cancer, which is now before the subcommittee of which you are chairman.

We believe that the problem of preventing and curing this dreadful disease is one on which our Nation should take the leadership as is contemplated by the pending bill. We favor the simple but comprehensive provisions of the measure authorizing the President to arrange for the mobilization of the efforts of the world's experts in order that plans and programs can be carried forward to a conclusion.

We believe that the amount which the bill would authorize to be appropriated for this purpose is reasonable and should be adopted.

It is sincerely hoped that the committee will favorably report the bill as quickly as possible.

We will appreciate it if this letter can be included in the record of your hearings.

Yours very truly,

T. C. CASHEN, *Chairman.*

Senator PEPPER. Mr. Read, we will be glad to have you present your statement.

Mr. READ. My name is Harry Read, executive assistant to James B. Carey, secretary-treasurer of the Congress of Industrial Organizations. I am making this statement in his behalf, Senator.

**STATEMENT BY JAMES B. CAREY, SECRETARY-TREASURER,  
CONGRESS OF INDUSTRIAL ORGANIZATIONS**

(Read by Mr. Read:)

In considering the proposed legislation your subcommittee is confronted with, you cannot evade the stark fact that there is abroad in this land today an insidious, deadly enemy of human welfare. A people that is properly shocked by a single evil homicide in any community is now looking to the Congress for the prevention of a steadily growing number of deaths each year attributable to cancer. Physicians may refer to this dread affliction by soft and fancy technical terms. I am not interested in the technical aspects of the problem. I say that the affliction called cancer amounts to the murder of a human being each time it strikes.

In 1942 cancer murdered 163,000 persons in the United States; in 1943 it murdered 166,848; in 1944 it murdered 171,171, for a total in the 3 years of 501,019. Those figures do not represent dollars or automobiles or radios. They represent more than one-half million human beings who constitute the United States of America. This Nation is not composed of cities, towns, factories, farms, rivers, lakes, and forests—it is made up of people. They and they alone go to make our country what it is today and yet cancer murdered more than one-half million of them in the brief space of 36 months.

Nor is this all. The figures, gentlemen, indicate that cancer murders are increasing steadily and inexorably, with the result that a great fear is held constantly in growing proportion over the heads of every man, woman, and child in the United States. Every 280 of our people know that one of them will die this year of cancer. Those are short odds where human life is concerned, and the odds are growing shorter as time goes on.

A great many things are blamed on Congress these days and many of the accusations are true. I am not accusing Congress of responsibility for cancer. I believe though that as a spokesman for some 24,000,000 American citizens whom we represent through our membership, we have a right to ask that the Congress make its contribution in the fight against cancer. The Congress most certainly is charged with observance of the preamble of the Constitution of the United States; and it seems to me that more than one-half million cancer murders in 36 months come under the general welfare clause.

There will be of course, as usual, advocates of economy in the Congressional Halls, who will argue that the \$100,000,000 appropriation provided for in S. 1875, the Pepper bill, and H. R. 4502, the Neely bill, is a lot of money. If the discussion is to be a fiscal one, I submit that such a discussion will suggest a horrible price tag of \$200 apiece on each of the one-half million persons murdered by cancer in 1942, 1943, and 1944.

I believe this problem should be approached as we approached our problem of human security and the right to life during the war. During the entire war period the enemy killed 273,000 of our soldiers, sailors, and marines. This is a little more than half the number murdered by cancer during the same period. In the matter of battle deaths, however, we moved swiftly to stamp out the source of the plague.

It may be claimed that the provisions of the bill under your consideration constitutes a gamble. In other words, \$100,000,000 may be spent vainly in an endeavor to learn means of curing and preventing cancer. It is a gamble; but we gambled \$2,000,000,000 during the war in an effort to perfect atomic energy so we could halt the killing of our people on land and sea and in the air. We had no assurance that our \$2,000,000,000 expenditure would give us what we sought, but we gambled. Now I am suggesting that we gamble 5 percent of \$2,000,000,000 in an effort to halt murder by cancer.

Gentlemen, this bill presents a challenge. It calls for the mobilization at some convenient place in the United States of an adequate number of the world's outstanding cancer experts to put forth a supreme endeavor to overcome cancer.

In the light of our accomplishments in the fields of science and industry we and we alone of all the people on earth stand the best chance of attaining success. We owe it to ourselves and to all other human beings to meet our obligation in the premises.

Senator PEPPER. Thank you very much, Mr. Read. We appreciate your coming and giving us your views on the matter.

Mr. READ. We do not purport to go into the technical end of this.

Senator PEPPER. I understand.

Mr. READ. We have too many people going into the technical end of our affairs that know nothing about them.

Senator PEPPER. Yes; I understand. Thank you very much.

Now, that will conclude these hearings, so far as I know, upon this measure, and we thank all who have participated with us.

(The following statements will be inserted in the appendix of the record as follows:)



# APPENDIX

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## EXHIBIT 1

[From the Washington Daily News, June 29, 1946]

### ATOM BYPRODUCTS AID IN TWO TYPES OF CANCER

(By Science Service)

SAN FRANCISCO, June 29.—Cancer treatment by atomic research byproducts is a reality for two types of the disease, a California University medical school physician reported yesterday to the American Radium Society.

Successful treatment was to be described by Dr. Bertram V. Low-Beer, associate radiology professor, who has been working since 1911 with radioactive phosphorus produced in the California University cyclotrons.

Dr. Low-Beer cautions the treatment is applicable only to superficial skin cancers and warts, and holds no hope it can be applied to deep-seated tumors in the near future.

The two types of skin cancer treated successfully are basal cell carcinoma and hyperkeratosis. Neither is a rapidly spreading type which causes death. In basal cell carcinoma cases Dr. Low-Beer's treatment was 98 percent effective, tumors being removed in 51 or 52 patients. For hyperkeratosis, the treatment was 100 percent effective in 36 cases.

Dr. Low-Beer refuses to say whether the treatment is superior to X-rays, radium, and surgery, but does assert it is as good as any to be had.

#### WIDE USE POSSIBLE

The physician observed that while cyclotrons can produce enough radioactive phosphorus for experimental use, chain-reacting piles of atomic bomb factories should be able to manufacture enough for widespread clinical treatment.

The treatment is an excellent illustration of the theory of possible treatment of cancer with artificially radioactive substances, and it brightens the future in this field.

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## EXHIBIT 2

UNITED STATES SENATE,  
July 2, 1946.

Hon. CLAUDE PEPPER,

*Chairman, Subcommittee, Senate Foreign Relations Committee,  
United States Senate, Washington, D. C.*

DEAR SENATOR PEPPER: I am taking the liberty of enclosing herewith letters from the Governor of Idaho's office, and the office of the Department of Public Health of Idaho, regarding Senate bill 1875. Please give the suggestions contained in these letters full consideration during the hearings which are now being held by your committee.

Thanking you and with kindest regards, I am,

Sincerely,

CHARLES C. GOSSETT,  
*United States Senate.*

STATE OF IDAHO,  
OFFICE OF THE GOVERNOR,  
Boise, June 29, 1946.

Hon. CHARLES C. GOSSETT,  
United States Senator,  
Senate Building, Washington, D. C.

DEAR SENATOR GOSSETT: Our department of public health has called to our attention Senate bill No. 1875 on which hearings will be held Tuesday, July 2. This is a bill concerning the control of cancer and research work. There is a companion bill, H. R. 4502, which would make an appropriation of \$100,000,000 to be expended within a 5-year period.

The department of public health offers these suggestions in this consideration of the bill.

1. If the large sum of \$100,000,000 be incorporated in the bill, the time limit for its expenditures should be extended.

2. That there be a provision made in the bill to allow for construction of facilities and the purchase of equipment where needed.

3. That the bill be amended to channel money through existing State agencies as grants-in-aid to the States, in Idaho it would be the department of public health, rather than setting up a special Federal and State agency.

This is being submitted to you for your consideration.

Very truly yours,

R. W. BECKWITH,  
Executive Secretary.

STATE OF IDAHO,  
DEPARTMENT OF PUBLIC HEALTH,  
Boise, June 29, 1946.

Hon. CHARLES C. GOSSETT.  
United States, Senate, Washington, D. C.

DEAR SENATOR GOSSETT: We have recently studied Senate bill 1875 which covers an appropriation and plans for a cancer control program. We are greatly interested in this activity as this department has already done preliminary work in this field and has cooperated with the Idaho division of the American Cancer Society in our Idaho program. We know the United States Public Health Service is also deeply interested in this activity and has already set up extensive cancer research and control programs.

In studying this proposed bill we note it sets up a special board to administer the program and neither the United States Public Health Service nor State health departments would necessarily be considered in planning or administering this program even though all such activities have previously been centered in these two agencies.

This bill calls for an appropriation of \$100,000,000 and limits its expenditure to a period of 5 years. We believe it would be impossible for even an existing agency, let alone a new agency, to establish and administer this amount of money economically in such a short period. We do believe work should proceed as rapidly as possible in this important field, but believe such a program limited to 5 years would result in a great deal of waste.

We find no provision in this bill to allow construction of facilities or purchase of equipment which would be needed for any program apparently anticipated by the \$100,000,000 appropriation.

We strongly urge that you give consideration to amending the bill so that the United States Public Health Service will be the administrative agency on the Federal level with the State health departments responsible for the program on the State level. We also believe the 5-year limit should be taken off the appropriation and that amount of money should merely be appropriated for cancer research and control in order that the program may be properly planned and administered.

We will appreciate your favorable consideration of this request and ask that you keep us informed of the progress of this legislation.

Sincerely yours,

L. J. PETERSON,  
Administrative Director.

## EXHIBIT 3

SALT LAKE CITY, UTAH, July 1, 1946.

Senator ELBERT D. THOMAS,  
*United States Senate, Washington, D. C.:*

Urgently solicit your assistance to amend S. 1875 (Pepper) as follows: (1) Appropriation should be made available until expended; (2) provision should be made for construction of facilities and purchase of equipment; (3) appropriations should be made available through Public Health Service and National Cancer Institute as grants-in-aid to State health department, these agencies now administering cancer programs.

WM. M. MCKAY,  
*State Health Commissioner.*

## EXHIBIT 4

STATE OF MONTANA,  
 STATE BOARD OF HEALTH,  
*Helena, Mont., June 29, 1946.*

Hon. JAMES E. MURRAY,  
*United States Senate, Washington, D. C.*

DEAR MR. MURRAY: It has been called to our attention that a bill has been introduced in the House (H. R. 4502) and a companion bill in the Senate (S. 1875) for cancer research and control. We believe that if certain amendments were made the bills would be more applicable to the State of Montana. The following suggestions are offered in the way of amendments:

1. The size of the appropriation is such that it is questionable whether it can be expended to the best advantage in the 5-year time limit designated in the bill, and it is suggested that the bill be amended to make the appropriation available until it is expended rather than limited to the 5-year period.

2. That the size of the appropriation is such that we believe that it should carry a provision to allow construction of diagnostic centers and purchase of equipment where needed.

3. We also feel, and recommend, that rather than have this fund administered entirely by a special board, that the funds should be made available through grants-in-aid to States and administered on the Federal level by the United States Public Health Service and on the State level by the State health department. Unless this is done, the allotment will probably be made without any relation or supervision by the official State health agency.

We hope that these or similar suggestions may be included before final passage of the bill.

Yours very truly,

B. K. KILBOURNE, M. D.,  
*Executive Officer.*

## EXHIBIT 5

NEW YORK UNIVERSITY,  
*New York 16, N. Y., July 1, 1946.*

Senator CLAUDE PEPPER,  
*Chairman, Senate Foreign Affairs Subcommittee,  
 Senate Office Building,  
 Washington, D. C.*

DEAR SIR: I am invited by Mr. Perlmutter to testify on behalf of the immediate passage of the Pepper-Neely bill; however, illness prevents my appearance to testify personally.

I am therefore submitting to you the following statement in support of this bill.

My conviction of the importance of the Pepper-Neely bill is that such an important and vital problem as cancer should be supported by Federal funds and not by charitable contributions.

Research on the cancer problem embraces almost all branches of medical research, such as, physiology, biology, chemistry, immunology, pathology, etc., because the problem of cancer is the problem of growth, differentiation, organization of living cells, which is the greatest mystery of nature. The scientific



contributions made in the investigations on the cancer problem are of equal importance to the medical sciences as a whole.

Since the problem of cancerous growth is a complex phenomenon, the investigations must be made over a long period of time and the investigator should not be limited to 1- or 2-year grants.

Since no security is available either for the investigators or the investigations, only a few good scientists are working on the cancer problem. The investigations on the cancer problem conducted hitherto were made mostly by individuals who regarded cancer research secondary to their specialty; for example, pathologist, chemists, biologists, and clinicians, who had to seek income from other sources, since no funds for cancer research are available.

It is my opinion that special training should be provided for those who want to devote their life and work to cancer research. Such individuals should be placed in institutions specially welly organized for cancer research.

I will give an example from my own experience. Although I was brought to this country by invitation on the basis of my recognized work on the cancer problem, 15 years ago, I faced and am still facing tremendous difficulties in maintaining my investigations on the vital problem of cancer, although I am proud to say that my work has been continuously praised for its high standard. I am certain that had I had better facilities and sufficient help my work would have been far more advanced. I, myself, have devoted over 22 years to the cancer problem, and, in spite of the recognition given to my contributions to the cancer problem by the greatest authorities in this field, I have no financial security whatsoever.

The cancer problem is a national problem and therefore should be supported by Federal funds.

Therefore, in conclusion I am stating:

1. That I favor the appropriation of \$100,000,000 as a minimum fund for cancer research.

2. That I favor enactment of the bill in its present simple form without complicating amendments.

3. That the intent of the bill be clear in its authorization to the President of the United States to appoint a new and independent cancer commission representative of all interested persons and groups. When such a method of research is adopted we are certain to make more progress in a few years than we can now make in 20 or even 50 years.

Respectfully yours,

Dr. ANNA GOLDFEDER,  
In Charge of Cancer Research.

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EXHIBIT 6

NATIONAL MACHINE ENGINEERS,  
Los Angeles, June 27, 1946.

Senator CLAUDE PEPPER,  
Senate Office Building,  
Washington, D. C.

MY DEAR SENATOR PEPPER: AS I stated in an exchange of telegrams, it will be impossible for me to attend in person to testify in favor of S. 1875 at the Senate Foreign Affairs Subcommittee hearings, July 1-3. I am, however, enclosing a copy of a statement which I should be very glad to have incorporated in the record. It is substantially the same as my statement to the House Foreign Affairs Committee hearing on H. R. 4502 (Neely bill) on May 9, 1946.

I am most regretful at being unable to attend the Senate hearings, because I am heart and soul behind your bill, and wish to do everything possible to encourage its passage. My confrere here, Dr. Harry B. Friedgood, president of the Cancer Research Foundation of California, will, however, be present to testify, representing the views of our foundation.

May I call attention to the inadvertence in your office having addressed me as "Dr." in our exchange of wires. I am not a doctor but a businessman, tremendously interested in seeing more and better cancer research made possible.

Very truly yours,

CANCER RESEARCH FOUNDATION OF CALIFORNIA,  
LOUIS H. SEAGRAVE,  
Director, Secretary-Treasurer.

STATEMENT TO SENATE FOREIGN AFFAIRS SUBCOMMITTEE ON  
S. 1875

(By Louis H. Seagrave, director and secretary-treasurer, Cancer Research Foundation of California; Chairman of Board of National Machine Engineers; Director, Standard Power & Light Corp.)

I. INTRODUCTION

My first reason for submitting this statement is to support the purposes of the Pepper bill (S. No. 4502) which proposes the establishment of a hundred million dollar fund for an all-out fight against cancer.

My second reason for being here is the hope that a statement of certain observations and conclusions from my investigation during the past 6 or 7 months may help to insure the passage of this legislation.

I wish to make these points:

1. I sincerely believe that cancer will be conquered when adequate funds are available to bring to bear on it the full force of American scientific and medical knowledge. There must be enough money to build and equip laboratories and to pay the workers well to stay on the job.

2. But cancer will not be beaten until men of science and medicine can be assured that there will be continuity in the attack, and that if they start to work on the problem, they will be kept on the job until their responsibility is discharged. They must have the sure knowledge that the necessary money will be available and that the program, once adopted, will not be sidetracked, terminated, interrupted, or interfered with.

3. Cancer has frustrated man's empirical attacks for thousands of years, and his scientific assaults for a hundred years, but it can and will be beaten if these bills in Congress are passed and become law, and the Government of the United States goes into full action against it.

II. THE CANCER PROBLEM IS MORE SERIOUS THAN GENERALLY REALIZED

DOES CANCER RANK FIRST AS CAUSE OF DEATH

Though statistics still list heart disease as the chief cause of death, there may be reason to believe that cancer ranks first. The varied causes of death usually listed as "heart disease" include a great many kinds of trouble with the heart. As stated aptly by Dr. Anthony Sampolinski, F. A. C. S., chairman of Tumor Clinics at St. Mary of Nazareth Hospital, Chicago, Ill., "every 'heart failure' is necessarily a cause of death, but not every heart failure is due to heart disease." Dr. Sampolinski evidently thinks that if those doctors who put the blame for death on the heart would give more correct causes of death, cancer would occupy first place as a cause of death. Cancer has climbed from ninth place on the list of causes of death in 1900 to second (or first) place in 1945. And this has happened while death from most other known diseases have gone down sharply.

Even if the statistics are, as some believe, slightly distorted, because causes of death are more accurately reported now than in earlier years, certainly it is nevertheless true that the figures have gone up almost steadily since 1900. The total deaths are now about 175,000 a year. Tuberculosis and smallpox, scarlet fever and diphtheria and many other diseases show gratifying declines. More people are being saved by vaccines, serums, X-ray, plasma, sulfa drugs, penicillin, and streptomycin. But statistics now indicate that 1 in 8 American persons alive today will fall victims to cancer.

CANCER DEATHS STILL MOUNTING

Between 1930 and 1940 the death rate from cancer climbed from fourth place on the list of killers, jumping over both tuberculosis and pneumonia, into second place (second to all heart failures), an increase of 33.7 percent.

INCREASED DEATHS ALONE GREATER THAN TOTAL DEATHS FROM MANY CAUSES

In the 5 years between 1940 and 1945 annual deaths from cancer increased about 17,000. In that brief period this increase in the number of cancer deaths alone was greater than the total deaths in 1943 (most recent available) from any of the following causes of death: Diseases of the blood, diarrhea, enteritis,

ulcers of the intestines, cirrhosis of the liver, senility, homicide, conflagration, syphilis, congenital malformations, influenza, burns, drowning, railroad accidents, firearms, falls, poisons or poison gas.

#### KILLS TWO FOR WAR'S ONE

Between Pearl Harbor and VJ-day cancer killed 607,000 Americans, or more than twice the Americans killed or missing during World War II.

This is a staggering fact, truly appalling, and it warrants far more attention than it has yet gotten. Perhaps some other comparisons not often referred to will help to make this ghastly total even more personal and disturbing.

The World Almanac and Book of Facts for 1946 cites the United States health figures for 1943, apparently the most recent year for which they are complete, but these will do very well for comparative purposes and show how justly cancer deserves the grim and opprobrious epithet of "Our Number One Enemy." I would go further and call it public enemy No. 1, for only afflictions of the heart of all kinds, loosely called heart diseases, which kill over 400,000 a year, are responsible for more deaths each year. So far as can be determined from available statistics, primary heart disease does not cause as many deaths as cancer.

#### COMPARISON OF CANCER WITH OTHER CAUSES OF DEATH

The 175,000 deaths from cancer each year, compare with other recognized causes of death in 1943 cited in 1943 in the 1946 World Almanac, as follows:

Tuberculosis killed 57,005, or less than one-third as many.

Diabetes mellitus took only 36,314, or less than one-fourth what cancer killed.

Only 72,896 died of pneumonia, less than half the cancer toll.

There were only 13,725 suicides; 12,527 died of cirrhosis of the liver.

Diseases peculiar to the first year of life accounted for only 55,506 deaths, less than one-third as many.

One may well think of the money spent to prevent, detect, arrest, try, and convict for homicide in the United States, and then consider the 6,690 homicides as compared with 175,000 cancer deaths—nearly 27 times as many.

Conflagration resulted in the death of only 2,775—while cancer was accounting for nearly 63 times as many Americans.

The dread influenza killed only 17,219, syphilis 16,263, and cerebral hemorrhage, excluding birth injuries, only 111,472.

And consider the toll from accidents, and the constant publicity given to it by press, radio, and insurance companies, and believe it or not, the total was only 99,038—only about five-eighths the deaths from cancer. Note, too, how accidental deaths are divided—falls, 24,179; burns, 5,591; drowning, 6,095; railroad, 3,783; firearms, 2,318; poison gas, 2,028.

But now for the surprise package—automobile accidents in 1943 accounted for only 23,823 deaths, and in the previous decade the greatest number in 1 year was in 1941, when motor vehicle deaths were 39,969—one-fourth what cancer takes.

Millions are spent on propaganda for the prevention of accidents, but what about cancer?

These figures leave one wondering over the little we are doing to get this hideous disease under control. Everyone has read in the press from time to time some of the mortality figures I've cited, and thought how dreadful it was that so many should die of burns, drowning, accidents in the home, tuberculosis, pneumonia, and the other diseases, but how can we rest—how can we sleep at nights when we see the dreadful totals that cruel cancer rolls up—that killer whose toll mounts each year—which will reach 200,000 by 1951 unless we arrest its course—and which will kill on the average one out of every eight persons in this room—one out of eight members of each of our families, one out of eight of our friends and loved ones.

#### CANCER, THE GREAT PLAGUE

Cancer deserves the title of "The Great Plague." In a few paragraphs its unassailable right to that opprobrious designation can be established. That great cycle of epidemics in the fourteenth century known as the Black Death, Hecker calculates accounted for a quarter of the then population of Europe, or 25,000,000 persons.

According to mortality statistics, the Great Plague of London killed only 68,686 in the year 1665, though the figure may be low.

Cholera killed about 4,000,000 in all India in the decade from 1896 to 1906. In Vienna in 1679 plague took 76,000 and in 1881 Prague lost 83,000 by plague.

None of the plagues of history compare with the Black Plague of the fourteenth century, with its estimated 25,000,000 deaths in all Europe. But that total doesn't compare with cancer. Plagues and pestilences come and go. But cancer goes right on killing year in and year out. It killed 607,000 Americans during the period of our participation in the World War II, but it was killing during the peace years, too. In the 24 years intervening between World War I and World War II it is estimated, statistically, after making reasonable allowance for inferior reporting, that about 3,600,000 Americans died of cancer. Since the dawn of the century cancer has accounted for the deaths of about 5,500,000 Americans.

#### WORLD'S FIGURES ABOUT 16 TIMES GREATER

But these figures are for America only. While statistical inquiries have shown that the deaths from cancer vary considerably, it is common to all peoples and habitats. No complete statistics appear to be available. But to do a little arithmetic with the figures available for this country—available statistics indicate that the population of the world is about 16 times that of continental United States. Assuming that deaths in the rest of the world are in the same ratio, 88,000,000 have died of cancer since 1900.

Perhaps we might make a few more calculations based upon these somewhat hypothetical figures. Applying to the world, the estimates that 175,000 Americans will die of cancer this year, and that 17,000,000 living Americans will die of cancer, it would mean, first, that 2,800,000 persons in the world will die of cancer this year, and that 272,000,000 persons now living will die of cancer.

The actual statistical data will probably never be known, but discount them as liberally as one pleases, and there still remains an enormous and horrible total to contemplate, besides which the puny figures of the great plagues of history, and even of the fourteenth century deaths in Europe from the Black Plague pale into insignificance. Not even the estimates of the deaths to follow all-out use of the atomic bombs, if they are ever again to be used in war, dim the grim grisly totals of cancer.

#### WORLD'S CANCER DEATHS FIVE A MINUTE

Based on yearly known deaths, Americans actually die at the rate of one every 3 minutes. But based upon my computations of the world's cancer deaths, every time the clock ticks off 12 seconds another living person is to die of cancer—5 a minute, 300 an hour, 7,600 a day.

#### CANCER'S PLACE ON THE HORROR LIST IN NEW YORK

One of the most shocking, accusing tabulations on cancer deaths I remember seeing was that published in the quarterly bulletin of the Department of Health of New York City, and quoted by Dr. M. Bemmoché in his book, *A Surgeon Explains to the Layman* (1940). It covers the months of October, November, and December, 1939: 3,006 people died of cancer, 264 people committed suicide, 120 people died from benign tumors, 66 people were murdered, 3 people died peacefully of old age.

Larger figures were also given for heart disease, but since such figures include all of the many cases of secondary heart failure, I have omitted them as misleading and more or less meaningless for comparative purposes.

### III. THE SITUATION IN RESEARCH

#### HISTORY OF RESEARCH

For decades now we have been doing a little more for cancer victims nearly every year. Modern experimental methods were adopted early in this century and within a few years research men were at work at the Imperial Cancer Research Fund, Christie Hospital, the Middlesex Hospital, the Cancer Hospital, and the Royal Cancer Hospital in England; Sameriterhaus, Heidelberg, Germany; and at the Crocker Foundation, Memorial Hospital, and Rockefeller Institute in New York; the Gratwick Foundation in Boston. There is a large institute for cancer research in Buenos Aires. Many associations for cancer study, with varying aims, are functioning in the field, among which are the Cancer Subcom-

mittee of the Health Division of the League of Nations, and the American Cancer Society, and the hospitals in America which are working on various aspects of the problem are many.

#### THE PAST YEAR'S DEVELOPMENTS

Within the past year we have had several developments of importance—the decision of the American Cancer Society to go into a broad cancer research program. Its drives last year and this for \$4,000,000 and \$12,000,000, respectively, were aimed to provide \$4,000,000 for research for the 2 years. Of the utmost importance also were the Sloan-Kettering gifts, aggregating \$4,000,000 to the Memorial Hospital in New York, and the Memorial Hospital's drive to raise \$4,000,000 more. Of the total \$4,000,000 is to be used over a 10-year period for research.

This is all good. Especially good is the plan of Memorial to spend \$400,000 a year on research, which is aimed to give sustained effort, security for the researchers, and continuity of policy and effort.

#### NOT ENOUGH FOR RESEARCH

But it is not enough. We've been, in the whole country, spending about \$1,500,000 a year for cancer research, but it is being spent in little dabs here and there. There has been considerable waste from duplication, important work has been abandoned because of lack of funds, unhappy scientists, or change of policy.

#### CANCER RESEARCH BACKWARD

The more one studies cancer research, the more one realizes that the whole problem is far from satisfactory. So far as clinical propaganda is concerned, the average layman has not yet been fully educated to recognize symptoms of cancer. Even when individuals have a painless lump, a sore that does not heal, or persistent indigestion or hoarseness (all danger signals of cancer) they do not go at once to a doctor or clinic for examination. The doctors they go to do not, unfortunately, always know all they should, and pathological laboratories are not readily available everywhere, nor properly staffed with full-time and experienced pathologists. The research information amassed already remains to be correlated with the data obtained in clinic and hospital. Many reputable general physicians have had so little training in cancer diagnosis that they ignore or incorrectly appraise symptoms while the early period in which treatment could be successfully given draws to an end. Detection and treatment clinics are still without adequate staffs, with long waiting lists, and hospital beds are lacking. Indeed, there are large cities in the United States where there isn't even a single bed for a cancer victim to die in. We need thousands and thousands more hospital beds, and ways must be found to provide them. That is, of course, a separate program from cancer research. But if cancer research comes first—is pushed hard enough—perhaps we can look forward to the happy day when the extra beds will not be needed.

#### MUCH MORE TO BE DONE

On the scientific research side, an article called *Cancer: Notes of Hope*, in *Fortune Magazine* in March 1945 points up the present state of research, by pointing out that—

The method of radiation is still being tinkered with.

Men have only begun to study the clinical possibilities of neutrons emitted by the cyclotron.

There is a largely unexplored approach to introducing radioactive substances into cancer sites.

A good many doctors are disappointed in rays for treatment, and surgery is to some extent staging a comeback, due largely to the part that plasma, sulphur drugs, and penicillin have mitigated serious postoperative complications.

Man's scientific war against cancer is still in the defensive stage.

Much more must be accomplished before science can launch a full-scale offensive.

On the other hand, equipment, though still way behind the van, is improving. Radiation methods have improved, though its cost is very high. A precision tube X-ray, for example, may cost \$45,000, though a Geiger counter, which will

locate metastases of thyroid cancer, costs less than \$1,000. The infrared spectrophotometer, which is capable of identifying minute quantities of chemicals, costs about \$10,000. The electron microscope can photograph a human cell magnified a couple of hundred thousand times, but is very expensive.

Many vitally important issues remain unsettled. For example, crucial experiments now being done on animals indicate that a certain variety of cancer is contagious, the problem still has to be investigated in man. Whether cancer is inherited is a mute point, the general notion being that one may inherit a predisposition but not the cancer itself; the cancer-producing qualities of powerful sunlight and wind, and other cancer provoking agents are still in the study stage. A great many problems have been attacked in the universities, hospitals, and cancer institutions, but are yet to be solved.

But the tools to use in the exploration of cancer causes and its cure are available. If these tools are intelligently used in an all-out coordinated and directed fight, we will find the answers that have puzzled men throughout the ages.

#### IV. THE TRIBULATIONS OF RESEARCH SCIENTISTS

##### REASONS WHY SCIENTISTS AND MEDICAL MEN SOMETIMES GROW WEARY OF THE FIGHT

I want to say a few words about poor pay of research men and women. One can but wonder how the meager rewards of scientific men in our universities have been sufficient to keep them there. Of course, the answer is that the rewards are of the spirit, for they are certainly not financial. I used to think that working newspapermen were the poorest paid, but the radio, the war, and syndication have changed that somewhat—at least there are a few more of them who have to make out income-tax returns nowadays. But now the doctors and scientists are candidates for the dubious distinction of being the poorest paid. And at the bottom of that list are the research men and women.

##### POOREST PAID PROFESSIONALS

One may well ponder over the extraordinary contradictions in a Nation that has made such terrific scientific advances, but so grossly underpays teachers, and treats its scientists still more poorly.

Consider the research assistant in a great university who, after 8 or 9 years of study during which he gets two or three degrees, gets \$2,800 a year; the full professor who finally after 8 or 9 years of study, and 15 or 20 years of slow advance from instructor to assistant professor, finally reaches the top rank of professor, and \$4,000 to \$5,000 a year. He has a few years left in which to enjoy this munificent income before retirement or death from overwork. His pay stays there unless one of our few wealthier institutions entices him away with a few more dollars, more liberty or a higher sounding academic title, and a lot of fine but empty words about greater opportunities and recognition. Then look at the \$600, \$1,000, and the unusually generous \$1,200 fellowships that are doled out to deserving scientists by a few foundations, on which income supplemented by what more they can corral, beg, or borrow, they are supposed to buy food, shelter and clothing, and presumably pay for fun and recreation. Medical schools do a bit better by their teaching staff, but not much better by research scientists.

These are the men to whom the world looks for the solution of cancer problems. The head of a research project has a more interesting and varied life—in all probability he spends about half of the time with his hat in hand making the rounds of the various foundations, controllers of research funds, and his university superiors begging or badgering them for funds to keep his little band of men paid and the materials needed supplied to them. If he is a practicing physician, he gives up a third or half of his time, and the income he could be earning, to direction of research, and as much more to solicitation for funds. If he does land a plum, of let us say, \$2,000 a year, and manages to keep his research assistants blarneyed into believing that the project will be continued until it is successful, he will more than likely be told one day that the grant will not be renewed next year, not because his project is not a good one, or making good progress, but because some other forlorn research has been knocking at the door so long that they can't stand it any longer. The financial support from researcher A is withdrawn so that it may be given, "in all fairness," to researcher B.

If most of us had to run our business that way, never knowing when our income would stop, I think we would go fishing instead. Why research scientists don't, I don't know. Small wonder some of them do desert to industrial posts where the pay is far better, but even greater wonder that so many zealously stay on, because some inner thing urges them on and on to try to accomplish something good for their fellow men.

#### AN ORGANIZED ARMY INSTEAD OF A NUMBER OF LONE FIGHTERS

Cancer is still a mystery, and the pages of the history are one long record of disillusionment and discouragement. As Dr. Boris Sokoloff says in his book *Vitality*.

"But writing about cancer comes hardest of all to a scientist who has consecrated a large part of his life to the study of this very disease, and who now, even as he did 20 years ago, finds himself in a half-dark thickly grown forest, where there is no path, no road, and where the gleams of light are self-deception illusion which is necessary to keep up his spirits.

"Practicing physicians, surgeons, and radiologists, specialists in the field of cancer, can at least find consolation in the realization that they are giving their patients whatever aid is in their power, even though it is insufficient. But the scientist carcinologist lacks even this comfort. He lives in doubt and in hope that is never justified, and usually disillusioned and weary of his fruitless efforts, he leaves the cancer laboratory in order to return to other problems of physiology and medicine. This has happened to nearly every scientist who has ever worked with cancer: Ehrlich, Rous, Flexner, Zondek, Michaelis, and many others. And yet the army of carcinologists is enriched by new groups who come from different branches of science, medicine, biochemistry, biology. The problem is attacked from many angles. And very slowly, step by step, in tiny steps, mankind is nevertheless approaching the solution of this problem, which concerns and moves every one of us."

#### SKILLED OPERATORS BETTER THAN SUNDAY DRIVERS

It is a fairly frequent practice to employ students and young instructors on a part-time basis to work on research problems, because of the limited funds which are available, because these funds must be stretched as far as possible. But if cancer research problems are to be solved in this decade, they must command the full and undivided attention of many men with the best of brains and training. A half dozen scientists working part time cannot achieve as much as one man working full time.

In general the same objections apply as to the "part-time pathologist." Dr. William McKee German tells of this species of pathologist in his book, *Doctors Anonymous* (1940):

"Now, a 'part-time' pathologist is usually that and nothing more. With the best training in the world, he will lose the sharp coordination of eye and mind unless he is constantly examining tissue through the microscope day after day. The subtle changes in patterns of cell arrangement, the fine gradations of architecture, the point at which growth becomes malignant and a tumor becomes a cancer, are matters recognized only after long and repeated experience. Recognition becomes almost a sixth sense. But the pathologist who uses his microscope only occasionally is the Sunday driver of the laboratory; his judgment is more fallible than it should be."

### V. PROPOSED NEW WAR ON CANCER

#### A NEW MANHATTAN PROJECT

The stories of the Manhattan project that filled the magazines and daily press last August still thrill all of us. The Manhattan project brought the atom bomb to practical fruition. It is a glorious tale of achievement, made possible by bringing together a host of the best scientific brains of the Nation. That is the kind of result we envision in an all-out drive against cancer. But the analogy does not end there, for the battle to be won against cancer is of comparable importance.

Finding the inventor of atomic energy would be like, as was pointed out in an article last August 20 in *Life* magazine, finding the inventor of the wheel or steam or electricity. The contemporary physicists, Dr. Neils Bohr, Dr. Enrico Fermi, Dr. Lise Meitner, Dr. E. O. Lawrence, Dr. Albert Einstein, and many others, built

on the work of a long list of achievements beginning with Sir Isaac Newton, who revived the "atomic theory." Sir James Chadwick, who discovered the existence of neutrons, and H. G. I. Mosley who probed the atom with X-rays. This host of earlier scientists did the spadework. Men like Maj. Gen. Leslie R. Groves, Dr. Alfred O. Meir of the University of Minnesota, Dr. Arthur S. Compton, University of Chicago, Dr. James B. Conant, Harvard University, and Col. Stafford Warren, and hosts of other able men, carried on the fight to successful conclusion.

The organization of science and medicine in the Manhattan project started earlier, but by 1941 it had become a major undertaking. By 1942 it was functioning on an unprecedented scale. The project was probably the most impressive industrial achievement in the world's history, from the standpoint of speed, number of scientists involved, technological problems solved. By July 1945 they had dropped and proven an atomic bomb, and by mid-August they had dropped more on Japan, and the war was over.

#### SPADEWORK ALREADY DONE

Similarly, the spadework has been done already in the cancer field. The work of Virchow in the nineteenth century, of Carrel, Rous, Warburg, and many others has been enhanced by contemporary scientists, such as Dr. William U. Garner, of Yale, Dr. Charles Huggins, of Chicago Medical School, Dr. Edward Podolsky, of Memorial Hospital, Dr. R. R. Spencer, at Bethesda, and Dr. Ludvig Hektoen, the grand old man of American medicine, at the Chicago Tumor Institute.

#### A NEW "MANHATTAN" CANCER PROJECT

A cancer project can be organized along the lines of the Manhattan project and completed in jig time, if the money is provided and given into the hands of the right men.

In a year we could be organized in radiology, basic physics, and isotopes; in biology, from a study of cellular structure and genetics; in the knowledge of viruses; and in the steroid, cytochemistry, endocrine, enzyme, and hormone fields, and in many subdivisions of the clinical aspects of this problem.

#### CERTAIN POINTS IN FAVOR OF A CANCER FOUNDATION

I find myself strongly in favor of much of the wise philosophy behind the National Science Foundation, such as Senator Kilgore revealed in his brief summary of testimony urging the establishment of a science foundation. In his able address before the representatives of science bodies in Washington, D. C., on December 5, 1945, Senator Kilgore made points which I have paraphrased to apply them to scientific research:

1. The support of critical problems of public health such as cancer is essential national policy.
2. Such scientific research in this field would make many contributions to the national welfare, not only in public health but to all fields of science.
3. Because the rest of the world includes fifteen-sixteenths of the population, the solution of the cancer problem would contribute to the good of the world, to international good will and understanding.
4. A class of research, affecting so large a proportion of the country's population, should have Government sponsorship. It should not be left to limited, uncertain, and sporadic gifts as in the past.
5. One of the effects of such scientific research would be to train more scientists through scholarships and fellowships so that other scientific problems can be attacked successfully in the years to come.
6. The freedom of the individual working scientist should be scrupulously maintained.

#### DISTRIBUTION ON STATE BASIS NOT GOOD PLAN FOR CANCER FOUNDATION

There are no doubt others appearing before this committee who are more competent than I to testify concerning the distribution of the funds which should be provided. I would like to go on record, however, in favor of the establishment of 6 to 10 well-equipped institutions contiguous to centers of population and to academic facilities for research. The principle of distributing the appropriation of the proposed National Science Foundation, to the extent of at least 50 percent geographically by States, has definite merit, and I would



support it. There we have a national institution in which interest is in science as a whole, with divisions including national defense, mathematical and physical sciences, biological sciences, social sciences, health and medical sciences, engineering and technology, personnel and education, and publication and information. These are all of definite interest and importance to each State, and it seems desirable that each State should contribute to advancement in some of the fields.

When it comes to a war against a particular disease, different tactics are essential. Total strength must be massed, surely and quickly. I think the men in charge should be free to "get there firstest with the mostest." That's the way our military material was assembled to fight World War II. Imagine the confusion and inadequacy of planning production for war except on the principle of "where can we, with a nod of course to costs, get what is needed as quickly as possible?"—and thus save the most men from death and end the war quickly.

#### VI. THE POSITION OF PROPOSED CANCER FOUNDATION IN REFERENCE TO OTHER CANCER WORK

##### AMERICAN CANCER SOCIETY'S PROGRAM

The story of the American Cancer Society is a splendid page in the story of the fight of Americans against disease. It was founded in 1913, 33 years ago, by physicians and scientists who sought to reduce suffering and death from cancer through a program of public education.

In those intervening years it has been in the van of the fight to encourage local communities to provide the physical facilities for the diagnosis and treatment of the disease, has encouraged postgraduate study by the medical profession in order to develop in every section of the country specialized practitioners in the field of cancer control. It has stimulated the establishment of cancer diagnostic and treatment clinics in general hospitals. It organized a field army in 1935 for the purpose of bringing cancer education to the public.

In 1945 the directors interested a group of outstanding leaders to join them in launching an appeal for comprehensive attack on cancer, not only for preventive education and service to cancer victims, but to include research.

Last year they raised \$4,000,000 on a goal of \$5,000,000, of which \$1,000,000 appears to have been earmarked for research in clinical, chemical, biological, and physical research. This year's campaign is for \$12,000,000, and of the amount raised, one-fourth is to go for all forms of research.

Last year they contracted with the National Research Council of the American Academy of Science to serve as research adviser. The Council appointed a Committee on Growth, consisting of 14 authorities on cancer research, and this committee has appointed 19 panels totaling 80 experts in the field of basic and medical research, who are now functioning. The announced policy of the Committee on Growth includes, in addition to the work of these panels, a Nation-wide survey of cancer research now under way, solicitation of information from the Government, and materials for the benefit of cancer research. It also includes the recommendation of use of certain funds for fellowships to able men for cancer research and the setting up of a headquarters office for the research program.

Though constantly handicapped by meager or insufficient funds, the American Cancer Society nevertheless pioneered American education in cancer.

However, basic research is almost entirely a new venture to the American Cancer Society, which has done much for education, clinical aid, and treatment. Prior to last year it confined itself largely to the educational, clinical, and preventive fields, and left basic research to others. The most it ever raised for all purposes before 1945 was reported as approximately \$800,000, the most any previous year.

All that the American Cancer Society has done has been good. It is to be congratulated and admired. Let not one word I say here be interpreted as in the least critical of its work, its objective, or its accomplishments. Their work deserves everyone's admiration.

The only reason for discussing it at all is that it is raising funds for and planning to stimulate cancer research. In its clinical, educational, and field service in cancer there can be no question but that it will continue to succeed. But in its hopes and aspirations for research it may not be able to produce equivalent results. I'd say the same about any charitable organization dependent on annual drives for funds—not through any fault of its own, not through failing to fight for its purposes, and not through lack of planning intelligently. I think this is

because, first, its financial sights are not set high enough, and, second, if it tried to raise five times as much, it would, in all probability, find it impossible to raise anywhere near the 10 or 12 million dollars a year necessary for the research job to be done. Even if it were to succeed, miraculously, in doing so during certain years, it would almost certainly find the going too hard in other years. There is a rise and fall in the tide of gifts for benevolent, charitable, and social service giving in the United States, due to many causes. The fact that it occurs is known to every organization dependent upon voluntary contributions. If collections were poor some year, what would happen in the cancer-research field? The answer is clear—budgets would be cut, important projects would be dropped, men would be released, other projects would skimp along, the research scientists and medical men would lose morale, and the sad story of the blight of retrenchment would be told again. Cancer research would experience the same sort of set-back that almost every research project dependent on gift funds has experienced in the past. Again, let it be clear that I do not criticize the American Cancer Society. I say, all honor to these men and women who are setting out to try to fill the aching void in cancer research. But I do not think public donations and drives are the way to finance cancer research. There is a better way—the way I am here to champion.

My thought and recommendation is simply that if these bills pass, American Cancer Society should go on with its good work, but that there might be a division of efforts with correlation between it and the agency established to administer the fund provided for in the Neely and Pepper bills.

The American Cancer Society could well concentrate on the work it has done so well for so many years, namely, lay education, cancer diagnosis and treatment. These need to be carried on with increased intensity, and with a widening of service, which may well tax all they can raise from public drives for funds.

The new Cancer Foundation could then be left with an all-out responsibility for basic research in the clinical, biological, chemical and physics sciences, coupled with professional education.

#### LET UNITED STATES HEALTH SERVICE ADMINISTER CAMPAIGN

It has been suggested that the United States Public Health Service, as an existing public institution, could continue with its present activities, and also administer the research of the new Cancer Foundation.

This idea has merit, because it would make it possible to take advantage of the experience and trained approach of the United States Public Health Service.

#### NATIONAL SCIENCE FOUNDATION

There is no need for any conflict between the purposes and operation of the proposed National Science Foundation provided for in the Senate Bill 1850, introduced by Senators Kilgore and Magnuses. The work of the National Science Foundation will be in the basic sciences, and although it includes medical research in its field, its work will be done largely in fields other than cancer. There could and should be harmony and reciprocity between it and the new Cancer Foundation, for much found out by each would be of value to the other. This cancer war must be carried on by an institution dedicated to determination of the causes, prevention, earlier detection means, and ultimate control of that dread disease.

I would like to emphasize what may be shown by others in more detail, that the appropriation said to be contemplated for the National Science Foundation is \$40,000,000 this year, and that eventually four to five times this amount may be appropriated annually. It is my understanding that the appropriation provided for by the Pepper and Neely bill's, is to cover a period of many years, and that it is probable that no more than 10 or 12 millions will be required in any 1 year after the buildings and equipment are provided.

#### AN INDEPENDENT AUTHORITY FOR CANCER

Whatever means is to be adopted for administration, whether by adaptation of the facilities and experience of the existing United States Public Health Service, or independently organized along the lines of the National Science Foundation provided for in Senate Bill No. 1850, I believe that there should be a centralization of authority which will promote in every way possible

the furtherance of research in the field of detection, causes, treatment, and cure of cancer in all its forms.

An alternative but less satisfactory position for the National Cancer Foundation that would adequately provide for its purposes would be to incorporate it into the Senate Bill 1850 as an additional full fledged division ranking with the Division of Health and Medicine, and the other seven divisions. In this event it should have its own committee and special appropriation. On my consideration thus far I do not advocate this procedure.

#### FULL USE OF EXISTING SCIENCE AND SCIENCE BODIES

In planning the work of a national cancer foundation, the fullest use should be made of the many recognized scientific, technical, and engineering associations, and of the proposed National Science Foundation and all the other Government organizations engaged in scientific research.

The Cancer Foundation should not have the sole responsibility for the original development of the so-called natural or basic sciences of physics, chemistry, mathematics, and biology. It should seek out and to employ to advantage the scientific knowledge accumulated in application to the solution of the cancer problems in the 20 or more fields of endeavor already established, as well as any more they may find reason to believe fruitful. This does not mean that research will not be pressed in chemistry and physics and biology. On the contrary, any lead to possible success should be pressed to the fullest extent, without neglecting to urge other scientific associations and governmental agencies to pursue basic research which promises to be helpful in cancer research.

#### FRANKLIN DELANO ROOSEVELT'S INTEREST IN CONTINUATION OF MEDICAL RESEARCH

Nearly 18 months ago President Roosevelt gave us a pretty good idea of his views on the importance of research in general and medical research in particular, in the latter he wrote November 17, 1944, to Dr. Bush, the director of the Office of Scientific Research and Development. Let's quote a few of the paragraphs of this letter in full, because they are phrased so strongly. May I invite your particular attention to the second paragraph relative to war on disease:

"First: What can be done, consistent with military security, and with the prior approval of the military authorities, to make known to the world as soon as possible the contributions which have been made during our war effort to scientific knowledge?"

"The diffusion of such knowledge should held us stimulate new enterprises, provide jobs for our returning servicemen and other workers, and make possible great strides for the improvement of the national well-being.

"Second: With particular reference to the war of science against disease, what can be done now to organize a program for continuing in the future the work which has been done in medicine and related sciences?"

"The fact that the annual deaths in this country from one or two diseases alone are far in excess of the total number of lives lost by us in battle during this war should make us conscious of the duty we owe future generations.

"Third: What can the Government do now and in the future to aid research activities by public and private organizations? The proper roles of public and of private research and their interrelation, should be carefully considered.

"Fourth: Can an effective program be proposed for discovering and developing scientific talent in American youth so that the continuing future of scientific research in this country may be assured on a level comparable to what has been done during the war?"

In his statement of the duty we owe to the scientific development for future generations, he showed how seriously he regarded the problems of cancer and heart disease (the two which killed more each year than the war did). In effect he suggested a direct and immediate approach to the problems. There doesn't seem to be much doubt about Franklin Roosevelt's position in the Neely proposal for Government action against cancer.

#### VII. FAVORABLE ACTION URGENTLY NEEDED

##### NOTHING MORE IMPORTANT

I sincerely believe that the decision which will be made in this Congress with reference to these bills, ranks in importance with anything with which the world is faced. In its effect on lives, and our economy, it is of vast importance.

No more important decisions were made at Yalta or Teheran. Nothing more important was posed for decision when the general staff met for the last time to decide to move across the English Channel or on the day when this Congress met to take that dreadful decision to declare war, nothing more important was posed for decision. Even the tremendous problems of peace, of reconversion, of the United Nations, seem somewhat less formidable as compared with our worst enemy—cancer.

To date our attacks on cancer are still in the stage of wishful thinking. For more than 2,000 years we have been after the problem, and yet today with our surgical skill and with the use of X-ray and radium, we are still employing much the same methods as the early Egyptians who used the knife and flame to cut out or burn out the cancerous flesh as the only way of stopping its course. If you provide this money called for in this bill, I believe with all my heart that we will find the cause and cure of cancer. If you do not, I believe that though the problem may eventually be solved, it will be only after many, many long and unnecessarily wasted years, and at a frightful additional cost of life, and untold misery.

#### SEVEN LEAGUE BOOT STEPS

These bills propose to gather the best scientists together. I hope that this will be done in 6 to 10 fully equipped institutions where the strides will not be "tiny steps" but seven league boot strides, where men will not grow discouraged and lose their morale; where men will be encouraged by the giant progress that is being made by all of them; and where brilliant and eager carcinologists may in their scientific lives find the road and the light. What could not be done by lone and disillusioned scientists can, I verily believe, be accomplished if an army of scientists is given the money and facilities, and promised continuity of program.

What is needed is not what we have had. Snipers and sappers and scouts peck away at the entrenched enemy. It takes an army to engage the enemy, to outmaneuver and outflank, and to win the war.

#### HOW MUCH NEEDED?

How much money is needed? A hundred million dollars should do for a start, if appropriated now to cover the whole project. Such decisive action would make possible an organization of men of top rank, because they would know that their projects would not be dropped before they were successfully completed. It will probably not cost more than \$10,000,000 a year, after the first year in which buildings and equipment would raise the cost somewhat. What does this hundred million represent? A paltry 70 cents for each man, woman, or child in America—about 7 cents a year for a 10-year war. It means the equivalent of about \$6, or 60 cents a year for each of the 17,000,000 Americans now living who will die of cancer unless we get busy right away with a plan such as this to save them. It is the cheapest insurance procurable—a few cents a year for each of us, over whom the odds of 1 to 8 hang like Damocles' sword.

#### WHO WOULDN'T VOTE FOR IT?

I have seldom talked on this subject of cancer with anyone who had not lost a loved one, had cancer victims among his or her friends, or seen someone close to him die cancer's terrible agonizing way. Such facts usually come out in the first few minutes of conversation, for they are present in the minds of people who have seen their loved ones die of cancer in rack of body and torture of mind from living for months under the sentence of death. How would the American public vote on this subject if it came to a vote? It is not hard to believe that if a national referendum or an initiative measure could be put before the voters of this Nation, an overwhelming vote of approval such as has never before been recorded in favor of man or project would be the result.

#### GIRD UP OUR LOINS

If we were to be told by a competent authority that in the next 5½ years a million American citizens would die of infantile paralysis, smallpox, or scarlet fever, would we not, as soon as we recovered from the horror of it, plunge ourselves into

action to try to prevent it? I cannot but think that we would. The country would organize at once, the press and radio would be full of plans to prevent it, our planes would fly everywhere with serums and antitoxins. We would gird up our loins and arm ourselves to do active, dramatic, and effective battle. Witness what happened in the recent smallpox scare on the Pacific coast—two or three deaths in Seattle and the lines which formed at doctors' offices awaiting vaccination looked like nylon stocking rushes. From Los Angeles to the Canadian border nearly everyone is having his arm scratched.

But the estimate of a million to die of cancer in 5½ years is not too high. The estimate of 175,000 deaths from cancer this year and 200,000 by 1951 are authoritative estimates. The trend is upward. Unless we can stop it going up and turn it downward, a million more will surely die of cancer before the end of the year 1951.

We are spending all too little for cancer research, medical treatment, clinical diagnosis—relative to the deaths, per year, only \$1 for cancer for each \$100 for infantile paralysis; last year only \$1 for each cancer death for every \$11 for tuberculosis a death.

This situation is a challenge to American science and medicine, and to the Government of the United States. The challenge will be accepted with alacrity by science and medicine if ample funds and assurance of continuity are provided by Congress. I hope that Congress will answer the challenge by supporting the Neely bill in an all-out fashion.

Cancer has won every battle in the war since the dawn of civilization. But the war can still be won!

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#### EXHIBIT 7

MARINE EXPERIMENTAL STATION OF THE  
LANKENAU HOSPITAL RESEARCH INSTITUTE,  
North Truro, Cape Cod, Mass., June 24, 1946.

SENATOR CLAUDE PEPPER,

*Senate Office Building, Washington, D. C.*

DEAR SENATOR PEPPER: Thank you for your telegram. I appreciate your confidence in my judgment. If it were at all possible I would be in Washington for the hearings on S. 1875 on June 27. Unfortunately, I am still in the doctor's care following an operation and cannot make the trip just now. I will, however, send in a statement for inclusion in the record and hope that it may be useful in clarifying the issues.

I have the greatest admiration for your aims and for the way in which you are constantly trying to sift out the real facts essential to the attaining of those aims. I do not always agree with you as to what those facts are, but I hope you will accept my sincere regards.

Cordially yours,

PHILIP R. WHITE.

STATEMENT RE S. 1875 BY PHILIP R. WHITE, DIRECTOR OF GENERAL PHYSIOLOGY,  
THE INSTITUTE FOR CANCER RESEARCH, PHILADELPHIA, PA.

I am thoroughly in favor of Government participation in and support of a program for the investigation of the causes, prevention and cure of cancer, and consider the amount of \$100,000,000 a reasonable sum to be set aside for that purpose. To that extent I am in favor of the aims of the Pepper-Neely bill.

There are, however, certain underlying facts which impell me to oppose the passage of this or any similar bill at the present time. These facts are partly external to, partly internal in the bill itself.

External facts against S. 1875. There is before Congress at the present time a bill, sponsored by Messrs. Kilgore, Magnuson, Saltonstall, Johnson, and others for the establishment of a National Science Foundation. This bill has been very carefully worked out, after exhaustive testimony, and represents the best thought of a number of our outstanding scientists, legislators, and jurists. It deserves every possible support and it is my hope to see it passed and put into effect at an early date. The proposed Foundation includes, among others, two divisions which cover territory included in the scope of S. 1875, that for biological research and that for public health. It is my belief that once this foundation is established,

the need of a separate cancer research foundation will disappear, its functions being absorbed into those of the Public Health Division and the Biological Research Division of this National Science Foundation. It is my further belief that the introduction of S. 1875 at this time, because of its immediate personal appeal, is likely to divert a good deal of support from the more recondite and less easily appreciated Science Foundation, and result in Congress failing to pass the latter. This would, I believe, be a real calamity. On this ground I would strongly urge that S. 1875 and H. R. 4502 be withdrawn and that all the support which they have aroused be swung to the incorporation of their objectives in the National Science Foundation.

Internal facts against S. 1875. The Pepper-Neely bill provides for the mobilization of outstanding experts "at some convenient place in the United States." This wording indicates that the authors have in mind the establishment of a single centralized research center. From Mr. Neely's discussion of the bill at the preliminary hearings of May 7 and 8 and from the testimony of witnesses at that time it is clear that Mr. Neely and many of his supporters have in mind a "Manhattan project" for the solution of the cancer problem. It is my conviction, based on years of experience in biological and cancer research and a considerable acquaintance with other sciences, that this objective shows a profound failure to understand the nature of the cancer problem and the atomic bomb problem and the fundamental differences between the two.

The atomic bomb problem was solved by the establishment of a closely centralized organization, financed with \$2,000,000,000. It is a monument to the industrial and technological abilities of our Nation. Yet, in spite of constant reiteration on the part of the scientists involved, the public in general and Mr. Neely in particular have not yet comprehended the fact that there was no scientific research carried on by the Manhattan projects. The scientific research had been done by Meitner and Haan in Germany and Sweden, by Bohr in Denmark, by Chadwick in England, by Fermi in Italy, by Curie-Joliot in France. These investigators, not a single one of whom was an American, working in an American laboratory, established the facts upon which the atomic bomb was based. The Manhattan project took those facts and carried out first the pilot development and then the manufacture of a product based on those facts. But the Manhattan project was not a research laboratory but an industrial plant. The fact that not an American name was involved in the scientific background is crying evidence, not of any low level of American scientific ability but of our consistent failure to give adequate support, both moral and financial, to true science.

Now, in the case of the cancer problem we are faced with a real scientific problem, not an industrial problem. We are kidding ourselves if we think it can be solved by industrial methods. We are kidding ourselves if we hope for a solution by mobilizing experts at some convenient place in a Manhattan project. We are kidding ourselves in the Neely-Pepper bill. For we know almost none of the basic facts necessary for the solution of the problem. We do not know what cancer is, how it arises, or what maintains it, nor why it sometimes is cured. We do not even know who are the men competent to attempt its solution. The recent report of the first year's activities of the committee on growth of the American Cancer Society contains one group of statistics which I commend to your attention. This committee had available two funds of \$150,000 each for support of research in chemical and biological problems related to cancer, and two funds of \$100,000 each for physics and clinical investigation. The percentages distributed at the end of the year were: Biology, 47 percent; chemistry, 55 percent; physics, 80 percent; but clinical investigation only 10 percent. They were able to find only a single project, directed by a single man, which seemed worthy of support in this field, compared to 43 projects in the basic sciences.

What is needed, therefore, is not a centralized project for the exploitation of known facts, but a broad dragnet for the acquisition of facts as yet unknown. And scientific facts have a curious way of revealing themselves not in industrial laboratories but to isolated, struggling investigators in remote and usually academic institutions. The National Science Foundation is so organized as to aid these isolated investigators in an effective manner such as can never be done by a centralized authority. For this reason, again, I would prefer to see the objectives of the bill attained through the National Science Foundation rather than through a new and overlapping cancer foundation. I am therefore opposed to S. 1875.

## EXHIBIT 8

NEW YORK 21, N. Y., June 24, 1946.

Senator CLAUDE PEPPER,  
*United States Senate, Committee on Foreign Relations,*  
*Washington, D. C.*

DEAR SENATOR PEPPER: This will acknowledge your telegram of June 21, 1946. I am, indeed, heartily in accord with the aims of your bill for governmental support of cancer research as represented in your bill S. 1875. I regret, however, that due to short notice received, I am unable to rearrange my professional commitments to permit my attendance at the committee's meeting on June 27.

I am, however, enclosing herewith a written expression of my opinions on this subject, which I trust you will be able to present for me to the committee.

With all good wishes, I am,  
 Sincerely yours,

IRA I. KAPLAN, M. D.

## REASONS FOR PASSING OF CANCER RESEARCH BILL (S. 1875)

(By Ira I. Kaplan, M. D., Director, Radiation Therapy Department, Bellevue Hospital; Clinical Professor of Surgery, New York University Medical College)

I am a clinician actively engaged for the past quarter of a century in caring for the treating cancer patients; therefore, my recommendations are not based on hearsay or theory but upon solid facts experienced in my daily work. The cancer section of Bellevue Hospital, the largest municipal hospital in the world, has been under my jurisdiction for over 20 years. This has permitted me to see patients previously treated or cared for in practically every hospital of the city or by physicians throughout the country. Several thousand patients pass through our service yearly, and based on the knowledge acquired from caring for them I have formed the following conclusions.

Cancer is no longer a local, private, or municipal responsibility; it is a national burden. Funds available for cancer have always been inadequate and divided in such manner as to inhibit coordinated effort. As a remedy the proposed national cancer bill offers a beginning toward a real effort proposing the greatest possibility of producing results. I do believe if a group of trained scientists are mobilized in a coordinated effort to attack the cancer problem we will see the achievement we have all been looking forward to.

As I already stated, I am a practical clinician mainly interested in practical matters associated with the active care and treatment of cancer, and so I am anxious that certain conditions be provided for in the implementing of the cancer bill.

Millions of our citizens are preyed upon by medical quacks of all sorts, but in no field of disease is their activity so pitifully scandalous as in cancer. But how are the poor victims to know whether a supposed cancer remedy is safe and effective? I suggest that under the cancer bill there be set up an organization that shall investigate proposed cancer cures and to make definite pronouncements as to the worth of all remedial methods to the public for cure of cancer and to have the power to ban all fraudulent propositions. All too often because of the blandishments of quacks proper care is delayed and even avoided beyond the time when acknowledged therapeutic measures are possible and in some instances this has been the direct cause of the victim's death.

One of our most difficult problems is the caring for chronic cancer patients, especially those in the middle-class economic level. With few exceptions the homes and institutions under voluntary auspices refuse admissions to applicants suffering from chronic illness such as cancer. Over one-third of all chronically ill cancer cases are receiving totally inadequate care and only about one-fifth receive a modicum of efficient care. The governmental agencies as at present constituted offer little more. I propose that under this bill provision be made to care for in a proper manner the chronically ill cancer patient in centers especially established for this purpose throughout the country. The cost to the patient to depend upon his economic ability to pay. Cancer care and treatment is costly and uses up no matter what accumulated savings a victim and his family have. Only under a sympathetic Government agency can hopeless cancer victims receive humane and hygienic care until the Lord sees fit to end their misery.

One further point. To seek the cure of cancer we should know its cause. This requires intensive research by trained scientists and clinicians whose co-ordinated efforts are left untrammelled by the absence of worry about economic security.

As you also no doubt know, cancer is best controllable in its early stage. If we can have some means of early diagnosis, some test that will enable us to recognize the earliest signs of cancer or the possibility of cancer development, then we can defeat cancer. Combined concentrated efforts of a group of trained scientists unworried by economic factors under Government auspices will provide the certainty of such achievement.

In this care and treatment aspect of cancer, social service is a real necessity. Providing for a national social service and visiting nurse department covering the care of patients and their families throughout the Nation will be of immeasurable aid in relieving the misery usually associated with cancer. Supplies and dressings are costly where cancer is concerned. National provision for the victims worthy of charitable assistance is necessary. This, too, should be included in the provisions of this bill.

To sum it all up, if we are to succeed in conquering the dreadful cancer scourge a coordinated effort is necessary under national auspices.

The appropriations should be made without restrictions so that actual work can be carried on unrestrained by rules and regulations, aid given uninstinctively—used when and if needed—at once or over a period of time, depending on the exigencies of conditions determined by a group of selected scientists chosen for their knowledge and experience in cancer.

I trust this explains to you my thoughts in this worthy matter. It is along the lines of action proposed by the sponsors of Government action against cancer, with whom I associate myself for support of the cancer bill now before your committee.

I hope this data will help you decide to act favorably on the S. 1875 bill, which I am convinced is one of the most worth-while life-saving acts possible for the Government to carry through.

The objectives of any cancer-control program are the cure of existing cancer and the prevention of cancer. To realize these objectives, a completely integrated program, including hospitalization, facilities, approved tumor clinics, tumor-diagnosis service, detection clinics, an educational program, research into the causes of the disease, improvement of methods of diagnosis and treatment, and statistical studies is necessary. This, the proposed bill, would provide and only under Government support would such a plan succeed.

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#### EXHIBIT 9

JULY 2, 1946.

Senator CLAUDE PEPPER,

*Chairman, Senate Foreign Affairs Subcommittee,  
Senate Office Building, Washington, D. C.:*

At the request of sponsors Government action against cancer, I submit the following statement to be included in the record of the hearings of bill S. 1875. Although it is obvious that not money, but human ingenuity, will find the true cancer remedy; nevertheless, the success of cancer research depends first and entirely on money. The study of cancer is very expensive. Special apparatus, chemicals, animals, their care and food, all that has to be paid in thousands of dollars. Last, not least, people who concentrate their full time on cancer research must somewhere get money to make a living. The search for the cancer remedy is purely empirical. Thus, methods of treatment which were assumed to be promising after careful examination were found to be useless. Although the time and money spent for that research seem to be used up unprofitably, nevertheless no other way exists for the progress. Nobody can force which of the various ideas finally will be verified as the only right one. Every reasonable project must be examined and prejudice or partiality in this direction retard the progress. We must be prepared that millions of dollars will be spent on unsuccessful investigations, but if the amount of money is sufficient to sponsor all projects, the final success of the endeavor is evident. There can be no doubt that systematic research will lead to the discovery of the right approach to the problem and, in consequence, the cancer remedy will be secured for the suffering mankind. The funds of the various cancer foundations are so limited that nobody outside the small circle of the affiliated people can get any substantial support for



research. It is imperative that a big fund is created which will enable the President to sponsor every action which promises to bring the desired result. The appropriation included in the bill comprises just the minimum necessary for these purposes. The simplicity of the bill in its present form assures that all interested factors will profit from the money. A new and independent commission representing all prominent research people and all interested groups should help the President to carry out the purposes and intent of the bill. The bill should be reported as quickly as possible because cancer does not defer its deadly effects. Human dignity demands that it will be accepted unanimously so that the President and the Commission can proceed without delay.

HENRY K. WACHTEL, M. D.,  
*Professor, Fordham University  
 Cancer Research Laboratories.*

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EXHIBIT 10

St. Louis, Mo., June 26, 1946.

Senator CLAUDE PEPPER,  
*Senate Office Building, Washington, D. C.*

MY DEAR SENATOR PEPPER: AS I have already advised by wire, I will be unable to attend the hearing on Senate bill 1875.

I am taking the liberty of sending you under separate cover a copy of the statement which I intended to make. This statement is essentially the same as that made before the Committee on Foreign Affairs of the House of Representatives, Mr. Bloom's committee. I would like to have this statement and the accompanying charts incorporated into the minutes of the committee. If that cannot be done I hope you can find the time to read the statement and examine the charts.

I thank you very much for the invitation to appear before your committee.

With kindest personal regards,

Sincerely yours,

SHERWOOD MOORE, M. D.,  
*Director, Mallinckrodt Institute of Radiology,  
 Professor of Radiology, Washington University School of Medicine.*

STATEMENT OF SHERWOOD MOORE, M. D.

What I have to say is repetition of statements made before the House Committee on Foreign Affairs. Since that occasion I have had two experiences which perhaps will be of interest.

I was requested by the Veterans Hospital at Jefferson Barracks, Mo., to help give radiation treatment to veterans having malignant diseases. This request was made because the veterans' treatment center at Hines Hospital and the Army and Navy Hospital at Little Rock, Ark., could not provide treatment for the number of cases arising at Jefferson Barracks. It is a terrible fact that there are 12 veterans there in need of radiation treatment and are on a waiting list.

I have just had the sad experience of treating a patient with cancer of the uterus, the second wife of a man whose first wife died of cancer of the uterus just 2 years ago.

Any views or opinions which I express here must be considered as being entirely personal and not as representing the views of the organizations or institutions with which I happen to be connected.

There are two minor objections to this bill: the sum asked for is too small, and the implication contained in it that there are superior "exports" to be found outside of our own country.

At the risk of seeming captious and chauvinistic, I should like to point out that this continent, and probably this country, have perhaps the greatest experts in the field of cancer to be found in the world. There is at hand here one of the greatest, if not the greatest, institutions for the study of cancer in existence—that is the National Cancer Institute at Bethesda, Md.

I would like to have it clearly understood that I have no endorsement whatsoever for so-called socialized medicine or state medicine, as these terms are commonly understood. On the other hand, everyone realizes that conditions or diseases which menace the health and welfare of the people are, and have been in the past, matters of concern to the state. This national concern in a national

exigency probably extends back into prehistory. You will immediately recall the regulations for the control of leprosy in Biblical times, and much later—from the ninth to the fifteenth centuries—the efforts made by the rulers of Great Britain, for the common weal, to care for lepers.

No one will question the governmental right to apply custodial care to the insane and to control contagion, human, animal, and plant. It must be said, however, that as far as our knowledge goes, the element of contagion in cancer does not exist.

On the other hand, there is a great increase in the occurrence of cancer nor can anyone familiar with this aspect of medicine deny this increase or attribute it to "better diagnosis" alone. Undoubtedly, diagnosis is much more accurate now than it has been in the past, but this accuracy cannot account for the increased incidence of cancer. I think it would undoubtedly be true that if the autopsy reports of 50 years ago could be compared with a similar number of autopsies today there would definitely be more cases of cancer now than at the earlier period. I take it that all present are aware of the fact that cancer is the second most frequent cause of death in this country. I quote from a publication of the American Cancer Society:

"Cancer is a personal threat to every single one of us. There is one chance in eight that you yourself will be its victim—yes, one chance in six, if you are past 45. Many you know and love will develop this dread disease, and unless helped in time, die of it.

"Cancer killed 607,000 Americans between Pearl Harbor and VJ-day. Think of it—more than twice as many Americans as were killed or listed missing in action in World War II.

"Cancer is killing Americans at the rate of 175,000 every year, 478 every day, 20 every hour, 1 every 3 minutes. And the rate is constantly increasing.

"Contrary to general belief, cancer is no respecter of ages. It strikes young and old alike. Cancer is the greatest and cruelest killer of American women between the ages of 35 and 55. \* \* \*"

Nor is that all. The mortality statistics for the city of New York indicate that malignant diseases commonly classed under the term cancer cause more deaths among children than does appendicitis. This is a shocking fact. The source of this information is Dr. Frank E. Adair, of New York, president of the National Cancer Society.

But death is not the worst feature of cancer. Paradoxically, it can be said that it is the only favorable thing about this terrible disease. The suffering which it causes both in length of time and in intensity, and mental as well as physical, places it in a category to itself. Statistics are readily available as to the number of deaths from cancer in this country, but there is no unit of measurement for the suffering which it causes. And the suffering is not confined to the victim himself or herself; it spreads to the family. In addition to the sorrow of watching a loved one suffer and die, a family history of cancer causes great apprehension and mental suffering to the members in whom the disease does not develop; every physician is familiar with these sufferers from cancerphobia. Many physicians, in fact, believe that there are many more deaths from cancer in this country than the statistics indicate. For many cases of cancer are not reported by the attending physician because of a fear of the effect on the family. It is perfectly clear, from the discrepancy between the statistics on cancer deaths in the State of Connecticut, where such deaths are reportable, and the statistics for the country as a whole, that the national figures are inaccurate.

Cancer transcends State lines, as is shown by these charts which were made some time ago for an entirely different purpose. I may say that these are the figures for only one hospital group, almost certainly not the largest in the city of St. Louis. The figures also show the increased incidence of cancer in the localities referred to. That the demands for radiation treatment for cancer are on the increase is revealed by the fact that in the year ending April 1, 1945, there had been 480 calls for radiation treatment of one sort or another in the institution with which I am connected; by April 1, 1946, there were 827. If I have not already done so, I should like to point out that this institution is not by any manner of means unique. As I have also intimated, it probably does not give service to as many cancer patients as other institutions in St. Louis, and probably its experience does not differ at all from the experience of institutions of similar size in communities of like population anywhere in this country.

The study and care of cancer patients is too costly and too large an enterprise to be undertaken by any of the lesser divisions of government, municipal, county,

or State, even in those units which have superior facilities; for example, Massachusetts, Connecticut, New York, or Missouri. Nor can philanthropy care for the problem. It is my judgment that cancer is a national menace and should be so declared by the Congress of the United States, and the problem should be placed in the hands of the United States Public Health Service, for the reasons which have preceded. At the risk of being repetitious, I would state that I do not believe in governmental paternalism but that the cancer situation certainly calls for a modification of that general stand.

I wholeheartedly endorse Governor Neely's bill, H. R. 4502, but I must confess to a greater liking for Mr. Stevenson's bill, H. R. 3939. This preference derives from the fact that Mr. Stevenson's bill calls for \$500,000,000 instead of the \$100,000,000 proposed by Governor Neely. It also provides for the care of this disease by the United States Public Health Service. However, it has one drawback: It overemphasizes poliomyelitis, which, in comparison with cancer, may be described as of relatively rare occurrence.

Do these sums shock you? A booklet published by the Department of Agriculture in 1940, called *Technology on the Farm*, shows that the Federal and State Governments—with ample justification, of course—had spent \$250,000,000 for the eradication of tuberculosis in cattle. Dr. Roswell Pettit, of Ottawa, Ill., a member of the Illinois Cancer Society, is the source of information to the effect that a bill for \$75,000 to the Illinois Legislature, for the purpose of studying cancer, revealed the fact that \$500,000 had been given by the legislature for the study of brucellosis, commonly known as Bang's disease of cattle—also, of course, a justifiable expenditure of public funds. I fully realize the contagious element and the jeopardy to the human animal from both of these diseases, but that does not modify by one particle my view on the necessity and justification for a large expenditure of money on the cancer problem.

And, in any event, however much we may spend on cancer, we need not look for a sudden solution to the problem and therefore for an early eradication of the disease. Results can only come from long-time study of the most intensive sort. Amelioration of the disease in the last half century seems almost imperceptible until one looks back over a lifetime of practice. I have pointed out elsewhere that it is within my memory that a diagnosis of cancer of the womb or cancer of the mouth could be made at the door of a dwelling or of a hospital ward from the stench alone.<sup>1</sup> Meanwhile, the disease has become much more frequent; the population lives longer and therefore there would be more cases of cancer, but the increase is not entirely because the disease is supposed to be one of late life. Compare the New York City statistics on the relative number of deaths from cancer and appendicitis. And in one morning recently I saw a 7-year old child with cancer of the vagina, a 22-year-old girl with a returned cancer of the parotid gland, a 24-year-old young man with cancer of the blood, and a woman of 28 with a returned cancer of the breast with a spread to the spine and brain.

Earlier diagnosis with appropriate treatment will undoubtedly save many lives. However, that is not the whole solution either; if there is a solution it will be found in the research laboratory. Pending that time we are confronted with the problem of reducing the suffering of these people. There should be Federal support for cancer research much larger than now exists. There should also be Federal provision for both the victim of cancer and members of his or her family if they are indigent. The decision as to who is indigent should be left to local administration; for example, by some agency similar to the draft boards. Due consideration should be given to the density of population and to transportation facilities and their interrelationship.

The medical profession and the public both need better education than has generally prevailed in the past, but that will not solve the underlying problem.

To sum up, as I see it, cancer is enough on the increase that it can justly be considered a national menace. It should be dealt with on a national scale by the United States Public Health Service, and a long-term program for the study, prevention, and care of cancer should be financed with Federal funds. If left to lesser governmental units the problem would be subject to the caprice of local agencies. As a beginning, there should be Federal hospitals located at "strategic" points for the care of cancer in all stages, they serve as "pilot plants" and as a stimulus to private philanthropy and to local governments, municipal, county, or State for emulation. They would also have a beneficial influence on the educa-

<sup>1</sup> Blair, Moore, Byers, *Cancer of the Face and Mouth*, Mosby, St. Louis, 1941, p. 356.

tion of the general public and would be of incalculable value for medical education.

There can be no more justifiable expenditure of the public funds than for the study, prevention, and cure of cancer. I wish to repeat that these views are personal and that I do not believe in Government paternalism and so-called state medicine.

Strictly as an afterthought, the strategic locations for Government cancer hospitals are, first and foremost, as an adjunct to the National Cancer Institute right here at Bethesda. There should undoubtedly be one on the Pacific coast; naturally, I would advise the location of one in St. Louis (and this without reference to the administration). There are sound reasons for this. St. Louis is a great medical center with two class A medical schools. It has one of the best-known and best cancer hospitals in existence, the Barnard Free Skin and Cancer Hospital; and there is also at Columbia, Mo., the Ellis Fischel State Cancer Hospital, a magnificent institution doing the very best type of work. Because of small size, both of these institutions have a waiting list. A cancer hospital so restricted in size that it has a waiting list in appalling.

I should like to say that I can praise the work of these hospitals with complete detachment, as I am not connected with either of them.

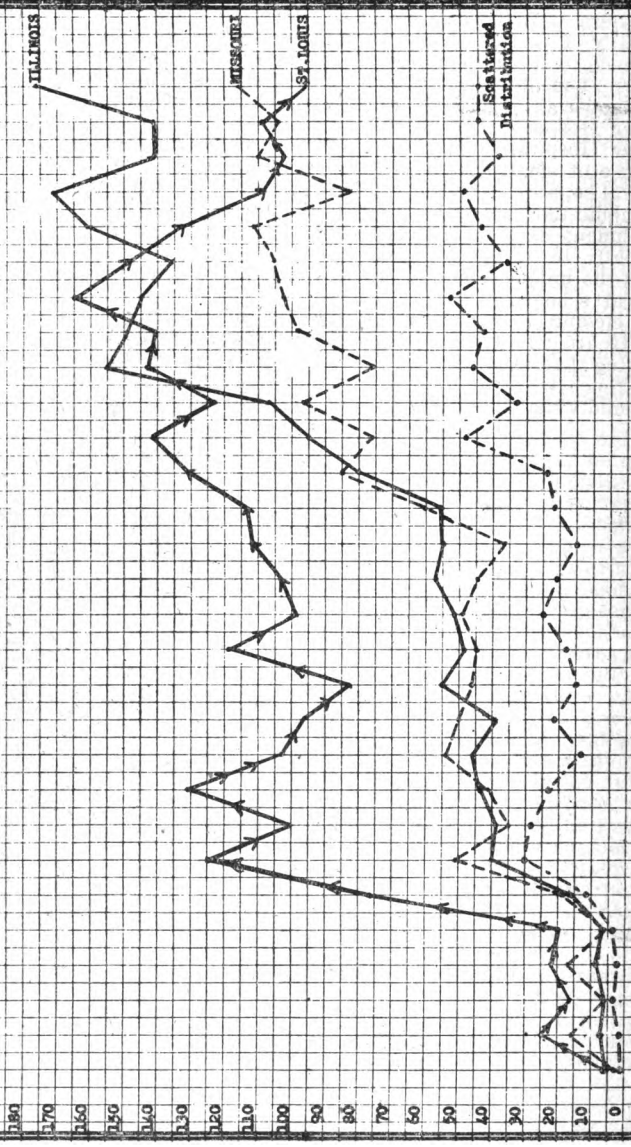
Finally, in reference to St. Louis as a suitable location, it could be added that it has the unique honor of having three Nobel prize winners, all connected with medical schools.

In closing, I should like to say that after being responsible for the radiation treatment of over 7,000 cancer victims in the last quarter of a century, knowing that most of these cases were hopeless when first seen, and having very close touch with the economic stress of many of the families involved, I regret profoundly that this cause does not have a better advocate than I feel I am.

HOWARD HALLIBROOK INSTITUTE OF RADIOLOGY, WASHINGTON UNIVERSITY SCHOOL OF MEDICINE  
St. Louis, Missouri

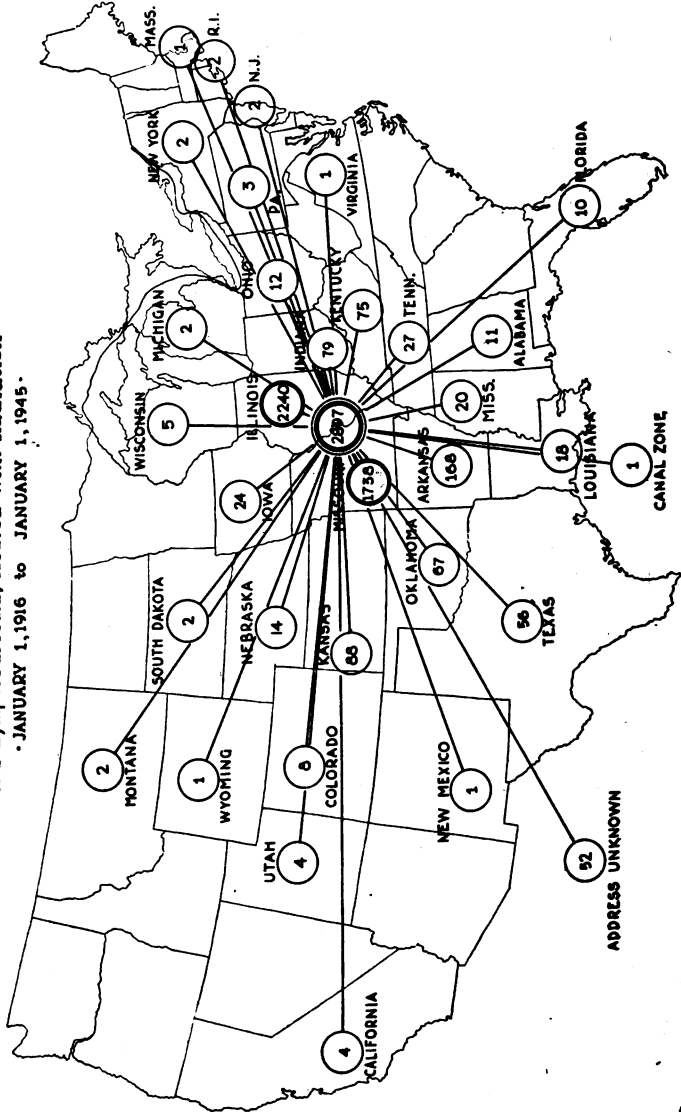
Geographical origin and yearly distribution of cases of malignant disease, including leukemias, Hodgkin's disease and lymphosarcoma, treated with roentgen, January 1, 1916, to January 1, 1945.

1916-17 -18 -19 -20 -21 -22 -23 -24 -25 -26 -27 -28 -29 -30 -31 -32 -33 -34 -35 -36 -37 -38 -39 -40 -41 -42 -43 -44



THE EDWARD MALLINCKRODT INSTITUTE OF RADIOLOGY  
WASHINGTON UNIVERSITY SCHOOL OF MEDICINE  
SAINT LOUIS, MISSOURI

Geographical Origin of Cases of Malignant Diseases, including Leukemia, Hodgkin's Disease  
and Lymphosarcoma, Treated with Radiation  
- JANUARY 1, 1916 to JANUARY 1, 1945 -



The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, Mo.—Geographical origin and yearly distribution of cases of malignant diseases including leukemia, Hodgkin's Disease, and lympho-sarcoma, treated with radiation, Jan. 1, 1916, to Jan. 1, 1945

Year	St. Louis	Missouri	Illinois	Arkansas	Kansas	Indiana	Oklahoma	Iowa	Kentucky	Tennessee	Texas	Mississippi	Louisiana	Scattered	Total
1944	96	116	176	7	3	8	4		9		4	2		8	433
1943	109	104	142	11	4	11	3		3	2	5	1		5	400
1942	103	110	154	10	3	5	4	2	2	2	5	1		5	394
1941	109	83	171	15	3	8	3	1	6	1	4	2	1	5	412
1940	133	112	161	11	6	3	2		4	4	2	4	4	4	450
1939	149	106	136	6	4	4	3	2	7	2	2	2	2	4	427
1938	155	103	145	10	6	4	3	3	16	2	5	1	1	6	466
1937	141	98	149	10	6	6	4	4	6	2	1	1		7	431
1936	143	76	155	7	9	6	2	1	6	2	2	1	5	9	420
1935	123	97	107	9	9	6	1	1	5	1	3	1	1	3	360
1934	142	77	95	8	15	7	5		2	2	3	1	1	7	362
1933	131	85	80	5	4	3		3	4		1	2	1	4	320
1932	118	60	56	3	4	1	1	1	2	1	3	1		4	251
1931	112	37	55	4	1	2	2	1	1		4	1		4	219
1930	103	45	57	3	3	3	2	5	2		6	1		6	226
1929	99	49	62	2	4	3	6			1	2	1		5	230
1928	119	45	48	7	1	1				1	2			5	199
1927	83	46	55	8	2	2	2			1	1			5	206
1926	96	50	39	8	1	1	2			1	1			5	199
1925	103	54	46	4	1	1	1	1		1	1			5	216
1924	41	41	44	3	1	8	2	2		2	2			5	239
1923	101	39	33	13	1	1	1	4		2	1	1		3	203
1922	125	51	40	4	1	2	4	1	1	4	1	1	1	11	246
1921	77	19	17	8	1	2				1				7	125
1920	20	6	6						1					3	36
1919	22	12	8				1							2	45
1918	17	6	6											2	33
1917	25	11	7											2	45
1916	7	4	6											1	18
Total	2,897	1,738	2,240	108	88	79	67	24	75	27	56	20	18	140	7,637

The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, Mo.—Geographical origin and yearly distribution of cases of malignant diseases including leukemia, Hodgkin's Disease, and lympho-sarcoma, treated with radiation, Jan. 1, 1916, to Jan. 1, 1945—Continued

Year	South Dakota	Montana	Wisconsin	Florida	New York	Alabama	New Mexico	Utah	California	Ohio	Virginia	Massachusetts	Pennsylvania	Wyoming	Michigan	Colorado	Nebraska	New Jersey	Rhode Island	Address unknown	Balboa, C. Z.	Total	
1944	1	1		1		2										1	1					8	
1943			1	1		1					1					1							5
1942			1			1										1	2						5
1941						1		1		1			1			1		1					5
1940								1								1						1	4
1939					1			1								1				1			4
1938						1		1						1			3						6
1937						1		1		2			1			2	1			1			7
1936				1		1		1		2						1		1					9
1935				1		1		1		2						1							7
1934						1		2		2						1		1					7
1933												1											1
1932																							1
1931						2		1	2	1					1		1						4
1930						1									1		1						4
1929						1									1		1						4
1928						1									1		1			1			6
1927						1				1							1						5
1926						1															3		5
1925																	1						5
1924																					4		5
1923																					6		6
1922																					4		5
1921																					3		5
1920																					11		11
1919																					7		7
1918																					2		3
1917																					2		2
1916																					2		2
Total	2	2	5	10	2	11	1	4	4	12	1	1	3	1	2	8	14	2	2		52	1	140



## EXHIBIT 11

ARMY SERVICE FORCES,  
ARMY MEDICAL CENTER, WALTER REED GENERAL HOSPITAL,  
Washington 12, D. C., July 2, 1946.

Subject: Suggestion for organization of proposed cancer research bill.

Senator CLAUDE PEPPER,

*Senate Office Building, Washington, D. C.*

1. Since the object is to utilize available scientific brains without hindering them with a cumbersome organization, suggest you solicit opinions from scientists in the Manhattan project as to best type of organization. Many of the latter were vehemently critical of the organization, especially men slightly below the top echelon.

Send 1,000 letters to different scientists in all strata of the Manhattan project organization briefly stating purpose of present Cancer Act and ask their suggestion as to best possible organization.

This will give them time to prepare a thoughtful answer, which may help you more than impromptu suggestions made by various individuals at the hearings. Be sure to send half these letters to men who have returned to their civilian duties.

2. If you interview only laboratory men, they will advocate that cancer research be limited to laboratory work only. Actually, laboratory research to date has been relatively sterile. The greatest advances in cancer research to date have been made through clinical research. Also close association of the laboratory worker with the clinical research worker keeps the former from spending too much time in futile bypaths. I would be glad to supply particulars.

3. Your intelligent and sincere labors on behalf of this act amplifies my regard for your humanitarianism and statesmanship.

Sincerely yours,

MILTON FRIEDMAN,  
*Lieutenant Colonel, Medical Corps,  
Chief of Radiation Therapy Section.*

## EXHIBIT 12

UNIVERSITY OF CALIFORNIA,  
DONNER LABORATORY OF MEDICAL PHYSICS,  
Berkeley 4, Calif., June 26, 1946.

MR. JULIUS JAY PERLMUTTER,

*Chairman, Sponsors of Government Action Against Cancer,  
New York, N. Y.*

DEAR MR. PERLMUTTER: I have just sent you a telegram, as follows:

"Regret unable to attend meeting due to fact am on program medical convention here July 1 to 5. Submitting paper for record by air mail."

I am very strongly in favor of the general purposes of the Neely-Pepper cancer bill. The size of the appropriation would seem to me to be a minimum. The simplicity of the bill in its present form will allow the President wide latitude in supporting cancer research throughout the country in universities and research institutes. Believe that the details can be worked out later, but that this bill should be reported out quickly, favorably, and unanimously, if possible without complicating amendments, so that adequate support for research on cancer throughout the country will become available soon.

With my best wishes for your continued good work on this important problem.

Yours very sincerely,

JOHN H. LAWRENCE, M. D.

## EXHIBIT 13

SAN FRANCISCO, CALIF., July 2, 1946.

JULIUS JAY PERLMUTTER, *Washington, D. C.*

Regret being unable to attend Senate committee meeting on Neely-Pepper cancer bill. Bill has my support as a test of practicability of all large-scale

concentrates Government support research on major national health problems. Appropriation proposed should be considered minimum to initiate research and present to be enlarged if future developments warrant. Presidential appointments of new committee should include representatives of all interested parties such as members of existing cancer committees and Cancer Society. New committee should be charged with over-all planning and supervision of execution of bill and plans.

W. C. HUEPER, M. D.

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EXHIBIT 14

LOS ANGELES, CALIF., June 29, 1946.

Senator CLAUDE PEPPER, *Washington, D. C.:*

Cancer is a disease that strikes young and old, rich and poor alike. Neely-Pepper bill when passed will be the first step by the Government toward cancer eradication. The bill has my heartiest support.

MAURICE A. BERNSTEIN, M. D.,  
*Beverly Hills, Calif.*

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EXHIBIT 15

NEW YORK, N. Y., June 28, 1946.

Senator CLAUDE PEPPER, *Washington, D. C.:*

As a physician am constantly made aware of insufficient progress by private research against cancer. This is due to lack of coordinated method, lack of independent approach, and insufficient funds as the Pepper-Neely bill remedies this placing responsibility properly. Immediate favorable action is a must.

JOSEPH A. SMIGEL, M. D.

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EXHIBIT 16

SAN FRANCISCO, CALIF., June 30, 1946.

HON. CLAUDE PEPPER,

*Chairman, Senate Foreign Affairs Subcommittee,  
Senate Office Building, Washington, D. C.:*

Having been advised on very short notice of hearing on Pepper-Neely cancer research bill I could not arrange to attend. I offer my regrets to you and your committee. Would appreciate your including my views for the record: (1) I favor the Pepper-Neely cancer research bill, (2) I favor its passage in its present simple form, (3) I favor the appropriation of \$100,000,000 of a basic fund to plan intelligently the research necessary to solve this grave problem, (4) I favor the authorization by Congress to the President to appoint an independent and truly representative commission of scientists and experts to assure the success of this program.

BERTRAM V. A. LOW-BEER, M. D.  
*Associate Professor of Radiology,  
University of California Medical School.*

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EXHIBIT 17

CLEVELAND, OHIO, June 28, 1946.

HON. CLAUDE PEPPER,

*Senate Office Building, Washington, D. C.:*

On behalf of 100,000 Cleveland workers we urge favorable consideration of the Pepper-Neely bill. The scourge of cancer can be controlled and eliminated if all the resources of country are concentrated on research and control. This is responsibility of the Federal Government.

A. E. STEVENSON,  
*Secretary, Cleveland Industrial Union Council.*

## EXHIBIT 18

UNITED MINE WORKERS OF AMERICA,  
Washington 5, D. C., June 27, 1946.

HON. CLAUDE PEPPER,  
*Chairman of the Subcommittee of the Foreign Affairs Committee,  
Senate Office Building, Washington, D. C.*

MY DEAR SENATOR PEPPER: I regret my inability to appear before your committee to testify in behalf of the Neely-Pepper cancer bill, due to my absence from the city at the time of the hearings.

The United Mine Workers of America are in favor of this bill as now written and feel that the \$100,000,000 appropriation should be the minimum amount approved by your committee. We endorse the provision of the bill authorizing the President to appoint a new and independent commission representing all interested groups and individuals to plan the program and carry out the purpose and intent of this bill.

We request that your committee report out the bill favorably, as quickly as possible, without any complicating amendments, so that the President and the commission can proceed to undertake to solve the cancer problem in much the same manner and with the same authority as was granted so successfully in the case of the atomic bomb research project.

Sincerely yours,

JOHN L. LEWIS.

## EXHIBIT 19

RETIRED OFFICERS ASSOCIATION, INC.,  
Washington 8, D. C., June 28, 1946.

HON. CLAUDE PEPPER,  
*United States Senate, Senate Office Building,  
Washington, D. C.*

MY DEAR SENATOR PEPPER: It is noted that hearings are scheduled on S. 1875 (Pepper-Neely bill) (companion bill H. R. 4502) seeking to provide Government action against cancer.

In my judgment there is no more worthy cause to which Government effort can be directed under the public welfare provisions of the Constitution than the cure and eradication of the scourge of cancer, and it is hoped that a suitable enabling act will be passed authorizing adequate appropriations to be made for the eradication of this killer of mankind.

With kindest personal regards,  
Sincerely yours,

H. G. HAMLET,  
*Executive Vice President.*

## EXHIBIT 20

NATIONAL ASSOCIATION VETERANS OF THE HOSPITAL CORPS,  
Washington 6, D. C., June 29, 1946.

JULIUS JAY PERLMUTTER,  
*Chairman, Sponsors of Government Action Against Cancer,  
New York, N. Y.*

DEAR MR. PERLMUTTER: This is to acknowledge your recent telegrams and letter for which please accept my thanks.

The National Association Veterans of the Hospital Corps will be at the disposal of your committee at all times and it is my privilege to serve on your committee. Feel free to call on us at any time.

I shall communicate with Senator Pepper the first thing Monday morning and shall urge passage of the Neely-Pepper bill. Any further instructions are to be sent to my office.

Yours is indeed a noble cause and the passage of the aforementioned bill would only help to place our high standard of living on a firmer foundation.

With best wishes, I remain  
Sincerely,

RUTH O. KIRKLAND,  
*National Secretary.*

## EXHIBIT 21

WASHINGTON FEDERATION OF CHURCHES,  
Washington 6, D. C., June 28, 1946.

Senator CLAUDE PEPPER,  
Senate Office Building, Washington, D. C.

DEAR SENATOR PEPPER: The board of directors of the Washington Federation of Churches, which met today, unanimously passed a resolution approving the Pepper-Neely bill. We are convinced that this is a step in the right direction, and nothing too much can be done to fight this deadly and fearful disease.

Thank you for all of the efforts you are putting forth in its behalf.

Sincerely yours,

FREDERICK E. REISSIG,  
Executive Secretary.

## EXHIBIT 22

ST. LOUIS, MO., July 3, 1946.

HON. CLAUDE PEPPER,  
Chairman, Senate Foreign Affairs Subcommittee, Washington, D. C.:

Two hundred thousand Catholic Daughters of America are heartily in accord with the Pepper-Neely bill.

MARY C. DUFFY,  
Supreme Regent, National Convention Headquarters,  
Jefferson Hotel, St. Louis, Mo.

## EXHIBIT 23

NEW YORK, N. Y., June 28, 1946.

Senator CLAUDE PEPPER,  
Chairman, Senate Foreign Affairs Subcommittee, Washington, D. C.:

The management and employees of this company have gone on record favoring a Government program of cancer research. Too little has been done to combat this scourge which attacks all regardless of age, economic level, race, or creed. This is not just a plea for passage of Pepper-Neely bill; it is a prayer.

HAROLD S. AMES-SITROUX, INC.

## EXHIBIT 24

WASHINGTON, D. C.

HON. CLAUDE PEPPER,  
Chairman, Senate Foreign Affairs Subcommittee.

We strongly urge early and favorable action on Pepper-Neely bill for Government action against cancer.

JOHN F. P. TUCKER,  
Legislative Representative, Union for Democratic Action.

## EXHIBIT 25

NEW YORK, N. Y., July 1, 1946.

Senator CLAUDE PEPPER,  
Chairman, Senate Foreign Affairs Subcommittee, Washington, D. C.:

The Council for Community Action with more than 12,000 participants in all States endorses the Pepper-Neely bill and feels that the action implicated in this bill is required to save the people from the threat of cancer. We hope for favorable congressional action on this bill.

ARTHUR M. LOEB, Chairman.

## EXHIBIT 26

WASHINGTON, D. C., June 28, 1946.

HON. CLAUDE PEPPER,  
*Senate Office Building:*

The National Association of Letter Carriers desires to record itself as favoring the provisions of the Pepper-Neely cancer preventive bill.

CLARENCE F. STINSON, *Secretary.*

## EXHIBIT 27

THE COMMONWEALTH FUND,  
*New York 22, N. Y., June 26, 1946.*

HON. CLAUDE PEPPER,  
*United States Senate, Washington, D. C.*

MY DEAR SENATOR PEPPER: In reply to your telegram of the 25th I regret that because of previous obligations I shall not be able to appear before the Senate Subcommittee on Foreign Relations to present my views on the cancer research bill S. 1875 on July 1, 2, or 3. While in entire sympathy with the idea of pursuing cancer research as intensively as possible, I do not believe that S. 1875, which calls for an appropriation of \$100,000,000 would net the results implied by the size of the appropriation recommended. My personal view is that whatever assistance the Government can give to cancer research should be through already existing channels and for either existing research activities or such new activities as might be set up in proven research institutions or settings. For example, it would seem to me that by full utilization of the cancer research facilities of the Public Health Service and by grants-in-aid such as provided for under the various proposals for a national science foundation together with voluntary gifts the cause of cancer would be advanced as rapidly as is possible with prevailing facilities, techniques, and personnel.

Thanking you for the invitation to appear before the committee, I am,  
Sincerely yours,

LESTER J. EVANS.

## EXHIBIT 28

EASTERN MILLINERY CHAMBER OF COMMERCE, INC.,  
*New York City, June 28, 1946.*

MR. JULIUS J. PERLMUTTER,  
*Chairman, Sponsors of Government Action Against Cancer,*  
*New York City.*

DEAR SIR: The board of directors of this association with a membership of approximately 300 concerns is desirous of seeing the Pepper-Neely bill passed.

Yours very truly,

EASTERN MILLINERY CHAMBER OF COMMERCE, INC.,  
THEO. I. STURTZ, *Executive Director.*

## EXHIBIT 29

NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE,

*Washington 1, D. C., July 2, 1946.*

HON. CLAUDE PEPPER,  
*Chairman, Subcommittee on Foreign Affairs,*  
*Senate Office Building, Washington, D. C.*

DEAR SENATOR PEPPER: I would appreciate your inserting into the record of hearings on your cancer control bill the attached letter in support of that important measure.

Very truly yours,

LESLIE S. PERRY.

NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE,  
Washington 1, D. C., July 2, 1946.

HON. CLAUDE PEPPER, *Chairman,*  
*Subcommittee on Foreign Affairs,*  
*Senate Office Building, Washington, D. C.*

DEAR SENATOR PEPPER: The National Association for the Advancement of Colored People heartily endorses S. 1875 and H. R. 4502, the Pepper-Neely cancer-control bill, and urges its speedy enactment into law.

The Federal Government can no longer stand aloof while the dread disease cancer ravages and snuffs out thousands upon thousands of lives every year. The Federal Government should, and must, assume the responsibility of mobilizing all scientific knowledge in an all-out effort to ascertain its causes and cure. In our judgment, the Pepper-Neely bill is a very effective way to tackle the problem.

Very truly yours,

LESLIE S. PERRY.

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EXHIBIT 30

Senator CLAUDE PEPPER,  
*United States Senate, Washington, D. C.*

DEAR SENATOR PEPPER: I am wholeheartedly in favor of S. 1875, providing for cancer research; and for the appropriation of \$100,000,000 to be retained until expended.

It would seem to me helpful if amendments were made to cover the method of allocating these funds. For example, to provide continuity of investigation. I would point out that virtually all the elements of an organization already exist, in the National Research Council, the committee on growth, the Public Health Service, and the Army and Navy; from these organizations could be built a national cancer commission competent to allocate the funds, and to that extent direct the research program.

The reasons why I favor this bill may be summarized as follows:

1. Any careful check shows that research funds now available are almost hopelessly insufficient.

2. There is no assurance of continuity in even such funds as are available.

3. There is very little coordination between the various investigating institutions.

4. The annual death roll and the acute suffering, plus the complexity of the cancer riddle, make up a problem which has proved to be beyond private or voluntary organizations.

I am only a layman, and my competence cannot be compared with others who will come before you. I can only report to you that for the past year I have been doing little else but journey about the country gathering information on the cancer situation, and am supporting, and endeavoring to induce others to support, certain cancer-research projects under one of the largest cancer organizations. A man does this because it is all he can do, but from the facts I have gathered, I am convinced that your bill would give an enormous impetus to work which is already very promising. I have met scientist after scientist who will say privately, although not in a published "paper," that with proper financing and administrative control there is every likelihood that cancer could be licked within 10 years, perhaps in 5.

I would be glad to do anything in my power to aid you and your committee in connection with your consideration and handling of this bill.

Very truly yours,

FRANCIS DRAKE.

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EXHIBIT 31

NEW YORK 18, N. Y., June 25, 1946.

Senator CLAUDE PEPPER,  
*Senate Office Building, Washington, D. C.*

MY DEAR SENATOR: It was my pleasure to receive an invitation to attend your hearings on the Pepper cancer-research bill from our good friend Julius Perlmutter, of Sponsors of Government Action Against Cancer.

In view of the fact that my son is to be married on July 2, I shall be unable to attend any of the hearings. However, I shall appreciate your expressing my views for the record.

1. I am definitely and unequivocally in favor of Government action against cancer.

2. I am in favor of the size of the appropriation—\$100,000,000—as requested in your bill as the minimum amount necessary to undertake to find the solution to this grave problem.

3. I am in favor of the bill's being acted upon in its present simple language, unencumbered by amendments for specific obligations, appointments, or commitments.

4. I am unequivocally in favor of the President's appointment of a new and independent commission to program, plan, and carry out the purposes and intent of the Pepper bill. I would not like to see this new fund turned over to any present existing governmental agency.

I should like to implore the committee through you to give this bill its prompt and unanimous action and support so that a great service can be rendered to all humanity.

Respectfully,

MORRIS W. HAFT.

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EXHIBIT 32

ABSTRACT OF THE STATEMENT TO THE SUBCOMMITTEE ON FOREIGN AFFAIRS, SENATE,  
S. 1875

(By Ella Hoffman Rigney, executive director of Sponsors of Government Action  
Against Cancer)

For nearly 20 years I have been associated with organized campaigns of the New York City Cancer Committee against cancer financed by donations from the public. Much good work has been done by the committee and its parent body, the American Cancer Society. However, it is a fact that there has never been any adequate fund available for the sort of concentrated educational program needed to obtain really successful results, to say nothing of the problem of research.

As long as support must be obtained from volunteer collectors shaking canisters, professional fund raisers, and the writing of appeal letters to individuals once or twice a year, the necessary mobilization of the best scientific brains of the world seems to be unobtainable. It would be very interesting to know the proportions of time, effort, and money used to obtain what barely covers working cost, of organizations striving to solve the cancer problem. The research workers can never devote themselves freely and entirely to their studies because of the uncertainties connected with fund raising. No definite long-term plans can be made and no guaranty given that the research job begun will have a chance to be completed. This is true also of the educational program.

Naturally cancer has long been a problem of scientific interest. But even scientists must have economic security to conduct their research. Private donations to provide such security at best are variable and unpredictable, and have yet to reach a really impressive total measured against the enormity of the problem to be solved.

During hard times—and they always seem to come along—donations from individuals fall off. Research begun is discontinued because of lack of financing. Such conditions do not make for the essential standards of concentration and continuity.

The Government has established the National Cancer Institute and an act of Congress did recognize April as "Cancer Control Month," both evidences that our public servants do recognize the gravity of the cancer problem.

Now it is time for the Government really to go into action, and in the simple wording of the Pepper-Neely bill the means to that glorious end is well provided. The answer to the fight against cancer is the same answer as the fight against other enemies of our Nation—all-out Government action of the same type that resulted in development of the atomic bomb and our victory over Japan. Two billion dollars was spent on the bomb. We ask for only \$100,000,000 in the Pepper-Neely bill to combat cancer, a disease which today threatens 1 out of every 5 of our population.

Today most cancer research is conducted by men who depend on grants-in-aid from philanthropic foundations. Scientists and doctors have to run around from "pillar to post," "hat in hand," so to speak, to solicit money to carry on their work, instead of concentrating on their particular piece of research.

Grants-in-aid, for the most part are usually for short terms and there is no guaranty that they will be renewed. Continuity thus is often sacrificed. Beginnings that promised much may be interrupted or significant discoveries ignored.

Conducted in a haphazard manner, there has never been a satisfactory organization, planning, or competent direction for cancer research. Even in the great cancer laboratories, research scientists do not work in teams, but as individuals. Chemists concentrate on chemotherapy, and too often know nothing of the work of the geneticist, the student of heredity. The work of the physicist, concerned chiefly with the effects of X-ray and radium on abnormal growths, is not satisfactorily correlated with the work either of the pathologist or geneticist.

Government appropriation and administration should give us that unification of effort for which there is such a great need. The whole field of cancer research would be mapped out—a field to include chemists, physics, biology, pathology, and surgery. Scientists in different fields would be brought together to work as teams on special problems.

The classic argument that thoroughly organized scientific research interferes with individual scientific freedom has now been answered by Government organization that gave us the atomic bomb, radar, and the proximity fuse. The coordination achieved by the National Research Council in pooling about 15,000 chemical formulas for study under Government sponsorship before one or two were selected and perfected for use against malaria is another answer to the old-fashioned argument.

By Government-financed world-wide research in cancer more progress would be made in a few years than we can now make in 20 or even 50. In the end the cost would probably be about the same, or even much less than \$100,000,000 that this bill asks. Too much money is now wasted by duplication in all fields of cancer research. Too much time is now thrown away in money raising by the scientist and the doctor, who should be concentrating on their laboratory work and the treatment of the cancer patient.

Currently the Government is spending about \$500,000 annually on research at the National Cancer Institute, founded in 1937 by act of Congress to "conduct, assist, and foster researches, investigations, experiments, and studies relating to the cause, prevention, and methods of diagnosis and treatment of cancer." An additional \$100,000 also stems from the Institute for scattered research grants.

This, plus the small amounts raised by private donations and the philanthropic foundations, are but drops of water to wear away the cancer stone.

There is every reason why America should take the lead with a \$100,000,000 organized fight on cancer. We are financially able to undertake the task. Our industrial resources which must be tapped for apparatus are unsurpassed.

This testimony that I am submitting to the Senate committee is similar to that which I submitted to the House. This testimony represents my personal point of view as director of public relations of the New York City Cancer Committee from 1924-46. During these years fund raising for the New York City Cancer Committee was part of my responsibility.

Therefore, I respectfully suggest—

1. That the world scientists be mobilized for the purpose of an all-out fight against cancer.
2. That the appropriation of \$100,000,000 be a minimum fund for cancer research.
3. I recommend the passage of bill S. 1875 in its present simple form.

I hope that this bill will be passed as it is written and work begun as soon as possible. While we delay people are dying. Why delay longer?

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EXHIBIT 33

NEW YORK, N. Y., July 1, 1946.

JULIUS J. PEELMUTTER,

*Chairman, Sponsors, Government Action Against Cancer,*

*Washington, D. C.:*

Please put me on record as urging adoption of Pepper-Neely bill. I regard this as imperative Government duty in the face of awful toll taken annually by this malady. Action should be immediate and I trust this session of Congress will pass this vitally important measure. As officer of your organization, sponsors of Government action against cancer, I can assure Senator Pepper's committee that great majority of us citizens want this bill passed.

JAMES A. FARLEY.



## EXHIBIT 34

NEW YORK, N. Y., June 28, 1946.

JULIUS J. PERLMUTTER,

*Chairman, Sponsors of Government Action Against Cancer,  
Washington, D. C.:*

Pressure of local activities prevents my attending Senate committee hearing as per your invitation. I would appreciate your expressing my regrets accordingly and my views as a member of the Sponsors of Government Action Against Cancer to Senator Claude Pepper and his committee. With regard to the Pepper cancer bill, S. 1875, I am definitely and wholeheartedly in favor of Government action against cancer specifically through the passage of this bill in its present form calling for an appropriation for \$100,000,000 as a fund with which to battle and eliminate this dread disease and with authority to the President of the United States to appoint a new and independent commission to deal with this problem and thereby make an effort to save the lives of 17,000,000 Americans now doomed to die.

Assemblyman LOUIS PECK,  
*Seventh Assembly District, Bronx.*

## EXHIBIT 35

NEW YORK, N. Y., June 28, 1946.

Senator CLAUDE PEPPER,

*Chairman, Foreign Office Subcommittee,  
Senate Office Building, Washington, D. C.*

Because I am leaving on extended trip this week end I will be unable to take advantage of the invitation to attend and testify before your committee on the Pepper-Neely Cancer Research bill. Please accept my regrets. My views are as follows: As a member of Sponsors on Government Action Against Cancer I favor the immediate enactment of the bill before you, S. 1875. I favor the appropriation of \$100,000,000 requested and the adoption of the bill in its present simple form. I particularly favor the proposed authorization for the President of the United States to appoint a new and independent commission for the purpose of carrying out the intent of this bill.

WILLIAM M. HOLMES,  
*Bonwit Teller.*

## EXHIBIT 36

POUGHKEEPSIE, N. Y., June 28, 1946.

Hon. CLAUDE PEPPER,

*Senate Office Building, Washington, D. C.*

DEAR SENATOR PEPPER: I understand they are to hold hearings on the Pepper-Neely bill July 1, 2, and 3. This is a bill for Government aid to try and stamp out cancer. Cancer is uncontrolled growth and considerable work has been done by the Rockefeller Institute and by others to try and discover some solution or secretion which will arrest this uncontrolled growth. There is a general feeling among us civilians and among the doctors, that cancer can be arrested, which amounts to a cure.

That which makes a country great is not its lands or its wealth, but rather the people who really make the country. The United States should be solicitous of keeping alive all of its citizens and to protect them from disease, and the United States should not lag behind individuals and foundations which are trying to arrest this disease and to perpetuate human life. I hope and trust that the Congress of the United States, in their wisdom, will put through your bill promptly.

You know that for years we have lagged behind Germany and other countries in research work of all kinds. It is now time we should take our place as the leader of research not only in cancer, but in a great many other matters such as drugs, dyes, metallurgy, etc. It is well known that we shipped over to Germany a great number of scientists to get the advantage of the research work carried on by the Germans before the war. Let us hope that this country shall take its proper place as a leader of the world in research of all kinds.

Thanking you for your courtesy, I am, as ever,

Yours,

JOHN E. MACK.

## EXHIBIT 37

STATEMENT SUBMITTED BY N. MORTON MORRISON, PRESIDENT, GLASSFABRICS CORP. OF AMERICA, NEW YORK CITY; SECRETARY, NATIONAL FOUNDATION FOR THE CARE OF ADVANCED CANCER PATIENTS, INC., NEW YORK CITY; SECRETARY, SPONSORS OF GOVERNMENT ACTION AGAINST CANCER, NEW YORK CITY; ASSISTANT SECRETARY, NATIONAL CANCER FOUNDATION, NEW YORK CITY

My interest is that of a private citizen without technical knowledge to pass on to this committee. Whatever I have to say comes from the heart, as it must from anyone who has had a tragic brush with this seemingly unconquerable malady.

I just feel that not enough has been or is being done by a civilized and enlightened people in the way of a creditable fight against one of mankind's worst enemies.

I am stunned by the apathy of a modern government—a Democratic government—which can get stirred up by the momentary tragedy of a flood, a fire, or an earthquake; which will arouse itself on reading about a polio or rabies epidemic which cause an infinitesimal amount of deaths compared to cancer, and still disregard this continuing national emergency that is sure to agonizingly tear the life out of 17,000,000 people in the United States of America alone.

It seems to me that this problem is more pressing than the industrial strikes or any other threat that hangs over us.

We can have confidence in the sound sense of legislators to handle our economic emergencies, to appropriate vast sums for power, or for the means for waging wars.

These concerns are routine.

But the well-being of so great a proportion of our citizenry as face annual attack by cancer should, to my mind, receive primary attention.

I feel that it is scandalous to permit our self-sacrificing scientists to hack away at this problem of cancer, this universal killer, without knowing where the money will come from for next month's rent or food for their families.

This is not an exaggerated picture.

There are numerous instances of research activities being carried on by men who are forced to beg for funds to assure day-to-day continuance.

When a doctor diagnoses a case as incurable cancer, he is paid for his services regardless of the results of the case, and the person who has this insufferable malady is left to die usually unattended and at home in untold and indescribable agony.

The biochemist, physiologist, or other scientist who is trying to find a cure for cancer—or at least additional information on its cause or effect on various organs—when he runs up against a blank wall in his research—or even finds a clue from which to proceed further he must stop because he still has to make a living—even if it is an ashamedly meager one.

We have harnessed nuclear energy. That is wonderful. I am proud, just as any other citizen feels proud, that our scientists could work this miracle.

Now, I say, let us put aside a small percentage of the money used for that purpose to save our lives. Let us do it in much the same way as we attacked the mystery of the atom. Let us do this small thing. It is small in comparison to the great good that can ensue to every human being.

Voting for this bill's enactment is like voting to arm the country against an invader. It differs only in the fact that the invasion is a fait accompli, and we need twice the effort and the arms to drive him out.

Cancer is among us, has been for thousands of years; does that presuppose that no effort will dissipate the problem? I will not believe it—I refuse to even admit of such thinking.

Cancer has succeeded, only because we have not—yet—engaged it in final and mortal combat.

And until then—until—such time as we can muster the men, and materials, the know-how and the will to conquer, into such a supreme effort, can we really judge the ultimate victor.

For the sake of children, as yet unborn; and of the living—full of hope and of courage, trusting the vision of their legislators, doctors, and scientists, we must, and I say, we can, conquer cancer.

The will of the people, as expressed by its prominent leaders, demands affirmative, aggressive warfare.

You must implement the existing will and desire by enacting this bill—quickly—and, as it intends, an all-out war against cancer—appropriating only money to assure success; authorizing the supreme commander, the President of the United States, to appoint a truly representative commission to think, act, and conquer, on behalf of an enlightened people.

Those of you who have the vision and the common sense to aggressively assure the enactment of this bill shall be added to the names of great Americans who have made American as well as medical history.

Instead of begging for the pittance to keep alive the research activities of scientists spread all over the map, and out of touch with each other, I beg this comparatively great sum for coordination of all cancer work so that hope can be brought to the 17,000,000 of us who are doomed to die of cancer.

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EXHIBIT 38

STATEMENT SUBMITTED BY MORRIS M. BERNSTEIN, FIRM MEMBER OF BERNSTEIN & WOLFF, NEW YORK CITY; TREASURER, NATIONAL FOUNDATION FOR THE CARE OF ADVANCED CANCER PATIENTS, INC., NEW YORK CITY; ASSISTANT TREASURER, SPONSORS OF GOVERNMENT ACTION AGAINST CANCER, NEW YORK CITY; VICE PRESIDENT, NATIONAL CANCER FOUNDATION, NEW YORK CITY

Interested as I have been in the passing of the Pepper-Neely Cancer bill, my interest and hopes have been increased exceedingly by the results of the Gallup Poll which show that 87 percent of the people questioned were willing to pay higher taxes should they be required to do so because of the bill.

I was greatly impressed by the number of letters and telegrams coming to our office as sponsors of Government action against cancer requesting an all-out effort by the Government in the cause of cancer.

In the enthusiasm and urge for the speed of the passage of the bill, the movement, however, must not become the exclusive project in the hands of any special group or interest but should be open to all skilled scientists and doctors and subject to the advice and judgment of interested people concerned and qualified lay leaders. I request that the bill go through in its present form without any impeding amendments.

I believe that the \$100,000,000 should be appropriated at the very least.

It is needless for me to tell you about the agony endured by those who bear the burden of this dreadful disease. And it also is needless for me to tell you of the little that can be done with the knowledge and the medical skills now at hand to bring relief to the stricken. It has shocked me to learn that even babies fall victim to this merciless malady.

Only a few days ago I heard of the death of a 2-year-old boy in my city. Many times I have contributed funds to care for a child whose poor parents could not afford the expense of hospitals and treatments. I have fought side by side with Julius J. Perlmutter in his splendid leadership to find a haven for people in the final stages of this disease, and I eagerly joined him when he organized the National Foundation for the Care of Advanced Cancer Patients and again with sponsors of Government action against cancer.

One thing strikes home with me, and that is that individual efforts of too few people with too small means will not get anywhere toward conquering cancer. It is like trying to fight a thousand-acre forest fire with a single spray gun. Only our Government has the financial means and the power to focus a telling effort in the direction of a cure. It makes sense to direct tax money against such a foe. It worked in the case of the atom bomb. It has every chance of equal success, if done in the same manner, against cancer. Its people are the concern of the Government. No citizen is immune from attack by this disease. The need for worthy action cannot be ignored, since such action benefits us all. None of us at this hearing is pleading for someone else.

Everyone is talking about himself and the danger that threatens him. It is plain self-protection. If there is an answer to cancer, he adoption of the Pepper-Neely bill is, to my mind, the way to find it.

I know that I speak for every businessman in New York and, I am sure, throughout the country, when I plead for favorable action by this committee and the Congress on the Pepper-Neely bill. That the fight has grown more ominous of recent years can be easily explained if we consider that our population is an aging one. That is to say, during the last half century the mean expectancy of life at birth has increased from 45 years to 63½ years. Thus, we are living longer

than we used to live. Now, cancer, while it is no respecter of persons, and attacks even little children, is, in the main, a disease of middle years and old age. In other words, it is a chronic disease. The longer we live, the greater is the chance that we shall die of cancer. Hence, while cancer is on the increase, it is so only because we now manage to survive to a far greater degree than formerly the diseases which overtake us in our younger years. We owe our increased resistance to improved methods of treatment and diagnosis.

Thus we can say that the more that is done to lengthen our lives the more work there is for the doctors and the scientists and the educators to do in the field of cancer. In other words we need Government financial help to a far greater extent than ever before.

The day of large endowments is over, for the most part. Institutions will undoubtedly receive bequests and contributions and aid from local governments from time to time. But only the Federal Government can insure steady, definite support on the enormous scale required over a period of years. The fight against cancer, to be most effective, must not be dependent on private financial aid or grants. Only a blueprint that looks forward to activities which will cover a considerable span of years will answer the purpose. The work must never be jeopardized because a slump in the stock market, for instance, has necessitated the stoppage of the usual sources of income, or at least the lessening of these contributions. When a financial depression overtakes us, we are apt to retrench in the matter of voluntary contributions. But aside from the advantage of stable financial support, is the advantage which over-all planning will give to the subject. The Federal Government has the power to mobilize the services of experts and to coordinate their efforts. How effectively a vast problem can be solved when it is tackled by the Federal Government was well demonstrated in connection with the atomic bomb.

Here was a project calling for limitless sums of money and the coordination of scientific effort on an enormous scale. The Government spent \$2,000,000,000 and enlisted the services of hundreds of scientists and engineers to develop the bomb. No group of scientists working alone, no matter how skillful or zealous they might be, no institution however efficient, could have achieved what the Federal Government was able to do. The same Government action and support will go far toward conquering cancer.

We have learned to cooperate efficiently in waging a war against Nazis and Japanese. Now, at a cost which is less than half the amount that we spent every 24 hours to fight World War II, the Pepper-Neely bill aims to attack the problem of cancer in the most efficient way. It is the concern of every one of us to do our utmost to support Government action against cancer.

In closing I favor the appointment by the President of the United States of a new and independent commission on cancer, this commission to be made up of men who are outstanding in the cancer field.

A very apt reminder has been made by Mr. Waldimir Kaempfert, New York Times science editor, in his book *Through Science to World Unity*, in which he states: "It is a disgrace that the conquest of cancer is not in sight for lack of a systematic study of normal and abnormal growth."

Our Government is the only one in the world today that is financially able to conduct the research on the scale demanded and at the same time to cooperate with all governments of the world. Gentlemen, the Nation awaits your cooperation.

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### EXHIBIT 39

BROOKLYN, N. Y., July 1, 1946.

Senator CLAUDE PEPPER,

*Senate Office Building, Washington, D. C.:*

Please read the following to your committee: Five days ago our 2½-year-old son died of cancer. Only 3 months ago he was healthy, robust, intelligent, and a tremendous source of happiness to us. As soon as his illness was diagnosed he was doomed. Can you as a member of this committee gamble with the lives of those whom you love? There are many children alive and happy today who will suffer Donald's fate. The power to help them is in your hands. This source can only be eliminated by concentrating all the resources of our mighty nations in the attack on cancer. Only with the passage of Senate bill 1875 will the annual cancer toll in the United States and the rest of the world be drastically reduced.

Mr. and Mrs. MURRAY EISENSTADT.

## EXHIBIT 40

UNIVERSITY OF MINNESOTA,  
THE LAW SCHOOL,  
Minneapolis, June 28, 1946.

SENATE FOREIGN AFFAIRS SUBCOMMITTEE HOLDING HEARINGS ON THE NEELY-PEPPER  
CANCER BILL.

GENTLEMEN: I wish to be recorded as one who favors the enactment of the Neely-Pepper cancer bill.

The Research which produced the atomic bomb shows the efficiency of coordinated scientific research. Cancer is another enemy of mankind and its ravages are comparable to the ravages of war. It is, indeed, more destructive than war itself as it is an enemy whose attack never ceases. While many individual research projects are carried on, the number should be greatly increased and the researches coordinated.

For this purpose large additional funds should be provided. I regard the appropriation proposed as a minimum.

The simplicity of the bill in its present form appeals to me. I trust that it will be reported out of committee quickly and will be as promptly enacted. The enemy does not wait.

Respectfully yours,

EVERETT FRASER, *Dean.*

## EXHIBIT 41

VIRGINIA HILLS COUNTRY CLUB  
ALEXANDRIA, VA.

1617 RHODE ISLAND AVENUE, NW.,  
Washington, D. C., July 3, 1946.

Senator CLAUDE E. PEPPER,  
*Senate Office Building, Washington, D. C.*

DEAR SENATOR PEPPER: This letter is the follow-up to my telegram this morning in which I stated an endeavor would be made to have a report in your hands today regarding my personal experience with cancer.

It has been impossible, due entirely to my present serious illness, to get this report typed for your scrutiny today and perhaps this letter may come too late to be of any value. If such is not the case, the report will be sent in brief form, which may suffice, at the very earliest moment.

You are certainly to be commended for your stand in putting everything you have behind this recommendation at this time. but I want to add my little suggestion for what it may be worth.

During the course of my personal fight against this malady I have been to many of the most prominent specialists in the country and have at least refused to succumb to the predictions of many that my number was up. Of course the expense has run into thousands to say nothing of the suffering; first-hand knowledge of the way public funds are handled would astound you and anyone honestly interested in finding the solution.

Too much stress has already been applied to the research angle as evidenced by the handling of the funds we all subscribe yearly to this cause and not enough effort to some form of relief of the individual cases, which in itself may finally prove to be the answer.

It is my earnest hope that I may yet have the time to prepare the information which I feel sure will prove that you should make an endeavor to earmark at least a portion of any appropriation toward diversified channels.

Too many funds have already been expended by the present authorities in the cancer field without the possibility of requisition of any of these funds for some most worthy avenues of accomplishment.

Whether you remember me personally is irrelevant, but as I told your office this morning by phone if you do not, I will be greatly displeased, not only because of my Orlando efforts, for the reason that I have always felt you have been a real champion of the people and they may yet become completely aware of this in great numbers.

Trusting I may be able to lend some assistance to this effort and looking forward to the time when I may be again well enough to bask in the sun.

Yours for every success,

WILLIAM M. (BILL) YOUNG.

1617 RHODE ISLAND AVENUE, NW.,  
Washington, D. C., July 6, 1946.

HON. CLAUDE PEPPER,  
*United States Senate, Washington, D. C.*

DEAR CLAUDE: Enclosed herewith you will find the statement requested by you to be included in the record of the hearings for the subcommittee and for full consideration by the committee handling the cancer bill.

As stated to you by phone, and shown in the report, I am perhaps alive due entirely to the good fortune of having come in contact with one Dr. Lyman Loffler.

His treatment, in my opinion and in the opinion of many of the specialists who have been called in on my particular case, was entirely responsible for saving my life this past year. My reason for elaboration as to the qualifications and unusual ability of Dr. Loffler, insofar as the treatment of cancer is concerned, are due entirely, not only to the first-hand knowledge that I have but due because, during the course of my treatments under his therapy, it was my good fortune to meet personally many of his patients without his personal knowledge. It was from the conversations with these people that I learned of the outstanding accomplishments, especially in the cancer field, through blood therapy, and I bring them to your attention for what they may be worth in steering your cancer measure through to final and successful conclusion.

Great numbers of these people had experienced, like myself, consultations and treatment under many specialists and spent thousands upon thousands of dollars on unsuccessful treatments. As stated to you in our conversation, I feel sure you will find that it is vital in the welfare of humanity to earmark the greater portion of any public appropriation for individual aid and subsidy to the particular sufferer. On good authority, I am informed that the greater portion of the recent new findings, such as penicillin, have come much by accident from general practitioners in the normal course of their practices.

You can believe me, I feel sure, that when I say even a person who starts out with considerable financial assets, will very shortly find himself without funds in his personal fight with the cancer problem. And even though we, as individuals, contribute an enormous amount annually to the Cancer Society, I, as an individual, have failed totally and entirely to locate any agency whatsoever in the United States today that offers specific financial aid or relief to an individual because of his or her malignant condition.

At the very height of the fight against this malady, when it appears that Providence may be on your side, the idiosyncracies of social welfare require that at that stage of the battle you resign yourself to treatment in some general hospital as a public ward, even after you have, in the past 24 hours, been told that this is the time when highly specialized and qualified technicians should be momentarily at your beck and call.

As per your telegram, I am bringing Dr. Loffler to your office Wednesday morning at 9:30 for the hour's conference we all so urgently are awaiting, with the utmost hope and anticipation. At the conclusion of that talk with Dr. Loffler, I want to have a few moments with you as a personal friend, in the strictest confidence, to give you my reasoning for the commendation of Dr. Loffler's work and for nothing else.

With kindest personal regards and my sincere hope that you will continue to go on, as you have in the past, with this and other humanitarian work, which in my opinion has considerable merit, I am, as ever

Most sincerely your friend,

WILLIAM M. (BILL) YOUNG.

July 6, 1946.

## REPORT ON THE CASE OF WILLIAM M. YOUNG, AGE 41

DIAGNOSIS—MALIGNANT MELANOMA—OCTOBER 1943

In 1943 Dr. Thomas A. Stevenson operated on right forearm of above patient and after operation returned with a positive diagnosis of malignant melanoma.

In November 1943 the second operation was performed by the above physician as a prophylactic measure, removing the axilla glands. Pathological reports after the second operation were entirely negative.

Postoperative care was rendered by the same physician and the patient was pronounced "cured" in March 1944.

From March 1944 until May 1945 the patient enjoyed an unusual apparent good health and experienced a rehabilitation physically which was considered miraculous by many physicians, as attested by affidavits hereto.

In July 1945 patient began very rapidly to become generally run-down and within 30 days lost from 40 to 45 pounds in weight. The diagnosis of this condition was made and explained in a letter dated June 25, 1945, from Dr. H. Oliver Ernst, Jr., New Orleans, La.

Following the prescribed diet and medical advice of Dr. Ernst, some general physical improvement was noted for a period of approximately 30 days, at which time a period of recurrence of the internal disorders reappeared, such as internal bleeding, vomiting of blood, etc.

Dr. Ernest H. Gaither, an internal specialist, 12 East Eager Street, Baltimore, Md., who had treated the patient previously for internal conditions, was called in and advised according to his statement, dated December 13, 1945, attached hereto, together with his personal history of patient's condition in general.

From the early fall of 1945, until the last week of November, the patient experienced a state of debilitation almost reaching complete incapacitation. The week of December 1, the condition was again diagnosed as a recurrence of cancer and an operation was performed on December 7, namely, removal of the lymph gland as shown by the attached report and patient's condition generally became progressively worse following this operation.

On advice of surgeons whose statements are also attached hereto, patient was referred to Dr. George H. Pack, the physician in America charged with the responsibility of guiding the activities of the Rockefeller Foundation at Cancer Memorial Hospital, New York City. His advice was immediate amputation of the arm as per letter attached hereto.

Following these experiences and, as shown by all of the letters, correspondence, and reports, pathological and medical, attached hereto, the case was considered generally hopeless by all of the cancer specialists concerned and patient's life expectancy was placed by some at not more than 6 months at the outside. Under these conditions the patient was grasping at straws and was referred to Dr. Charles L. Loffler, M. D., Chicago, Ill., a hematologist of considerable background.

Dr. Loffler stated that the case had gone too far for there to be any assurance that blood therapy could combat the situation, but that he would make the effort. The condition of patient was so grave that his will to pull through was approximately all that was left. He had no appetite, no physical stamina, had to be carried to and from bathing facilities, etc.

After some 30 days under the care of Dr. Loffler, patient's recovery bordered on the miraculous. Dr. Loffler's therapy not only revitalized system of patient but was responsible for his regaining of appetite, and morale was improved to the point of again being physically able to fight for survival. Immediately within a 60-day period, patient regained 35 pounds of the 47 pounds lost during the previous 90 days. Dr. Loffler's affidavit and letter dated December 17, 1945, are attached hereto.

During the course of treatment under supervision of Dr. Loffler, patient talked with many other patients of Dr. Loffler at length, especially those having had a history of cancer. The accomplishment and cures which he has effected, personally seen by the patient, are sufficient in themselves to justify the establishment of blood-therapy clinics throughout the United States under Dr. Loffler's personal direction or supervision, or at least under his guidance, for the welfare of those who may have even the slightest possibility of cancer.

Dr. Loffler is so sincere is his desire to make his therapy available to all mankind that he is volunteering the time from his practice to appear before Congress and present his experiences and suggest a method by which this treatment can be made available to at least the entire population of the country.

## EXHIBIT 42

COMMENT ON THE NEELY-PEPPER BILL BY DR. ARTHUR B. PARDEE, CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA, CALIF.

The cancer problem differs from the atomic bomb problem in that fundamental discoveries which will lead to its solution have not yet been made. These discoveries may appear in some seemingly unrelated research, perhaps electron microscopy, or perhaps nutrition. The appropriation should be entrusted to a nonpolitical body of cancer experts, capable of planning a research program in many fields; \$100,000,000 could be expended over a period of several years on such a plan. I do not believe that this sum could be profitably spent on a short-term program devoted to clinical work on cancer victims exclusively, and a bill which specifies more exactly the method of attack would be far inferior to the present form.

It is my hope that the bill will be reported out quickly, favorably, and unanimously. Every day we waste, we kill half a thousand of our citizens.

## EXHIBIT 43

JUNE 28, 1946.

JULIUS JAY PERLMUTTER,

*Chairman, Sponsors of Government Action Against Cancer,  
Griffin Building 85, Franklin Street, New York:*

Pressure of professional matters makes it impossible for me to attend the Senate Foreign Affairs Committee hearings on the Pepper-Neely cancer research bill. Offer my regrets to Senator Pepper and members of the committee. Would appreciate your expressing my views for the record as follows: As a member of Sponsors of Government Action Against Cancer I urge passage of bill S. 1875 in its present simple form. I feel that the \$100,000,000 appropriation is a minimum fund for this purpose. I am in accord with the authorization proposing that the President of the United States appoint a new and independent commission to carry out the purposes and intent of the bill.

SYLVAN GOTSHAL, *Attorney.*

## EXHIBIT 44

STATEMENT BY COL. STAFFORD L. WARREN, UNIVERSITY OF ROCHESTER, SCHOOL OF MEDICINE AND DENTISTRY, ROCHESTER, N. Y.

A PLEA FOR ADEQUATE SUPPORT AND CONTINUITY IN CANCER RESEARCH

(By Stafford L. Warren, colonel, Medical Corps, AUS)

## PRINCIPLE

As a basic principle it is possible to make an all-out attack on the cancer problem if you have four things. That was essentially the principle used in the atomic-bomb project. However, cancer may be a tougher problem and may take a long time to solve. If you want a solution in the shortest possible time this is a good way to get it. If you have (1) a goal, (2) resources, and (3) continuity, you can then get (4) men who will in turn have the ideas and get the job done. We have the goal, i. e., the solution of the cancer problem. We lack the resources and the continuity.

## WHAT IS WRONG NOW?

Cancer research in the United States has been neglected. The reasons are mainly economic. There has been practically no support of cancer research on a Nation-wide scale with continuity. Actually little of the money available has been spent primarily on cancer research. Most of the effort has been in education using the fellowship system, which is primarily designed to teach the young professional men. It is set up on a yearly basis, with no continuity. The yield has been correspondingly small. A man cannot look forward to a career in cancer research in his own institution. There is relatively little support of cancer research by the foundations because they are organized in general for other pur-



poses. Since we lack large resources and continuity, we have few men devoting their time to cancer research. There are a great many excellent men, however, who could and would work in this field if resources and continuity were provided. It is for this reason that the following program is proposed.

#### GENERAL PLAN

At least \$100,000,000 should be disbursed over a 10-year period for cancer research exclusive of routine diagnosis and treatment. For immediate attack some proportion of the amount should be set aside for grants-in-aid to be given out as soon as possible, say \$5,000,000, and spent over a period of the next 5 years on a 3- to 5-year basis. This policy would bring new interest into the field, start the training of young men and achieve a certain amount of results within that time. It would feel out the present very hopeful leads and find the way to initiate a bigger and yet a sound program later. It would give some continuity from the start. Longer continuity would be achieved by asking universities with medical schools to submit general plans for a unified attack on a university-wide basis, involving all science departments: Biology, chemistry, physics, and the medical school departments, in an integrated program, all working together. No barriers should exist. Thus the minds and energies of the whole staff could be utilized as well as those directly employed.

This would entail buildings for additional laboratories, preferably physically built into the medical school structure; these might cost about \$1,000,000, depending on the plan of the institution. About half a million could be used to supply the special equipment needed and about a million-dollar annual budget for 10 years should be available. Such a unit would have a total cost of about \$11,500,000 over a 10-year period. There could be eight such institutions spread throughout the country and built into university medical schools. That would leave \$2,000,000 for grants-in-aid for the second 5 years and \$1,000,000 for administration, meetings, publications, etc. A fundamental principle would be to hold the university responsible for its own program.

#### SUGGESTED TYPES OF ADMINISTRATION

1. One method would be to set up a Federal Cancer Commission of nine men with power to formulate the policies, administer the money, build buildings, etc. It must have allocated to it the whole sum the first year to be used until expended, otherwise continuity could not be guaranteed.

The make-up of the Commission is the crux of the whole business. It has to have considerable daring and aggressiveness. It should be a part-time Commission, should deal in general policies only and not be concerned with the details of experiments. It should pick out the medical schools and universities in which the effort is to be made; assure itself that the university is serious, will accept the responsibility for its own program, will properly administer the money and see that the program is active and effective. The university cannot assure success, but if it will put good men into the program and make available consultation and other facilities, the results will be very satisfactory.

The Commission should be made up of youngish aggressive men, not necessarily known as cancer specialists, but having a broad over-all experience in science and the medical and biological sciences. The terms should be staggered around 3 years and reappointment should be possible at the discretion of the President.

There should be a full-time lay administrator who will be a disburser, a contractual agent (unless you could find a man like the late Archie Woods). From the outset he should not have much to do with policy and relatively little with inspection other than financial.

Subsidiary boards of part-time men would be appointed by the Commission for special considerations such as to deal with the grants-in-aid and other problems.

The President might ask for nominations for Commissioners from a committee composed of representatives from the Association for Cancer Research, the American Cancer Society, the United States Public Health Service, the Surgeon General's Office of the Army and Navy, the National Academy of Sciences, and several members chosen at large, or others as he saw fit.

2. *A second method.*—The Public Health Service Act deals with cancer research but has certain defects. It might be feasible to change this act by statute so that

funds could be made available to the Public Health Service to build buildings in public and private institutions, equip them and set up an annual budget. The annual budget is the "sticker" because no governmental agency has a guaranteed annual budget. An outright grant at the beginning of the whole sum for the "unit" might be the solution. With these two major changes and the money the United States Public Health Service could function in pace of a commission.

3. *A third method.*—The proposed (and not yet passed) National Science Foundation bill could be modified so as to include an additional specific budget of this magnitude (\$100,000,000) to be "used until expended" for cancer research. This would assure the proper resources and continuity. It would, however, require the formation of a special board to handle the special policies which would be necessary, yet the program would be integrated with the whole science program. It should not be done in such a manner as to detract from the main purposes of the National Science Foundation bill but should supplement it.

#### HOW GUARANTEE GOOD WORK

The quality of research varies with the institution, the men and the way they use their facilities and time. Any new program has much of fumbling and false starts at the beginning. It will take 3 to 5 years to get such a program into full effort. Procurement and training of men, designing of equipment, etc., all take time. There will be some waste. A guaranty to find a cure is not possible within any given period of time. Only good work can be certified.

Since the university is asked to accept the responsibility for its own program some universities may not wish to participate. Once they have embarked upon a program they will do their own policing. Competition among the institutions will be severe and prevent injudicious overlap of detailed programs. Correlations can be achieved by conference. Failure of a program will be evident to the personnel and they will leave the institution to go where a progressive effective program is under way. Annual reports before professional national societies will be evaluated automatically by the membership as is customary at present. (Clinical trials of possible therapeutic leads (although these may come late in the program) will give the final answer. Such tests of good work will be slow but definite. Negative findings in well-planned programs must not be considered as failure for these are valuable in outlining the field. A fruitful change in ideas often comes out of such blind alleys.

#### POLICY OF THE COMMISSION

The policies should be broad, leaving the greatest possible scope for individual initiative, yet avoiding too great diffusion of effort. They should neither over-direct nor underdirect the program. Each university program should be well rounded even though it may be restricted to one field. Several fields may be attacked at once. The main effort should be built around the strongest men in their own staffs who have proposals. Some percentage (20 percent) of the budget should be used for exploration in new endeavors.

The Commission should delegate a certain proportion of unpromising leads to each institution for complete exploration in order to sweep the field clean.

If the cure for cancer is found during the 10-year period and further major support of the research in this project deemed unnecessary, the project should be wound up, leaving the facilities with the institutions possessing them provided they can be used for further medical or other research. Unused money might be used for treatment facilities or returned to the Government Treasury at the discretion of the President on the recommendation of the Commission.

If the cure for cancer is not found within the 10-year period, suitable recommendations should be made by the then existing Commission to the President concerning appropriate action to be taken.

The Commission should have the power to withdraw support from an ineffective organization if in its opinion the work is not being properly done or is dishonestly done. Care must be taken that this is not done because of a clash of ideology or methodology for this would tend to wreck the flow of ideas and the whole project would suffer.

## RESEARCH WITH RESOURCES AND CONTINUITY IS A CHAIN REACTION

Not every person who desires to explore the unknown in science is necessarily endowed with the ability to do so. However, even in the average scientist, given a good training and with the proper associations, ideas begin to flow. If facilities are available and the experiment can be carried out promptly and decisively the train of thought begins to probe and expand. Ideas and results beget more ideas and results. It is like a chain reaction. Amass enough centers of such chain reactions and a whole frontier is breached.

During the last war this was illustrated in no uncertain manner. In addition to the atomic bomb, there was radar and thousands of other lesser but important items vital to our success in war.

Why not use a similar technique in the war on cancer?

## EXHIBIT 45

WASHINGTON FEDERATION OF CHURCHES,  
*Washington 6, D. C., June 28, 1946.*

MR. JULIUS JAY PERLMUTTER,  
*New York, N. Y.*

DEAR MR. PERLMUTTER: The board of directors of the Washington Federation of Churches, which met this noon, unanimously passed a resolution approving the Pepper-Neely bill. We will pass on this information to Mr. Pepper and Mr. Neely.

Is there anything else that you would like to have us do? Thank you for sending me the telegram concerning the hearing.

Sincerely yours,

FREDERICK E. REISS G, *Executive Secretary.*

## EXHIBIT 46

[Telegram]

NEW YORK, N. Y., *June 28, 1946.*

SENATOR CLAUDE PEPPER,  
*Chairman, Senate Foreign Affairs Committee,*  
*Washington, D. C.*

The Council for Community Action with over 12,000 participants throughout the country endorses the Pepper-Neely bill and feels that the action implicit in this bill is required to save people from the threat of cancer. We hope for favorable congressional action on this bill.

ARTHUR M. LOEB, *Chairman,*

## EXHIBIT 47

SECRETARY OF THE INTERIOR,  
*Washington, July 9, 1946.*

HON. CLAUDE PEPPER,  
*Chairman, Subcommittee on S. 1875, Senate Foreign Relations Committee,*  
*United States Senate.*

DEAR SENATOR PEPPER: I am writing you with reference to S. 1875, a bill in which I am personally very interested. I know of no problem facing the American people today as important to our national health and welfare as that of cancer. Cancer, which stood seventh in the list of the causes of death 30 years ago, now ranks second. During the three war years of World War II, 1942-44, inclusive, cancer killed a half million American citizens as compared with 273,000 who died in battle.

The Congress of the United States recognized the importance of this problem in 1937 with the passage of the National Cancer Institute Act, but that act in itself was only a beginning. S. 1875, which would authorize the President to undertake on a large scale the mobilization of our scientific and medical knowledge to discover the means of preventing and curing cancer and the financing of this authorization with a hundred million dollar fund which would continue to be available until expended, is, I think, the second necessary step which must be made. The enactment of this legislation would enable us to centralize our knowledge concerning cancer and to support necessary research wherever it might be possible to obtain results. I regard this bill as providing the tools which we need for an all-out fight against this scourge.

The enactment of this legislation will enable the Government to sponsor and finance fundamental scientific research which cannot be done without adequate Government support. A program as large and extensive as the cancer research contemplated by this bill is far beyond the financial resources available to even our largest pharmaceutical and chemical concerns. For private industry to move forward in this field would call for a group of beneficent stockholders and investors, which I do not believe now exists. Even if a private concern did expend fifty or one hundred million dollars on research and was able to find the cause and cure of cancer, the cost of such a cure to the individual patient would, of necessity, be so high that the average citizen would be unable to afford the private service if available:

I see no conflict between this legislation and the Kilgore-Magnuson bill to establish a National Science Foundation. This legislation authorizes the President to act as he sees fit in the field of cancer research. If the National Science Foundation legislation is passed by the Congress, the President could at that time, if he so desires, combine the operations of cancer research with the National Science Foundation.

I cannot urge too strongly immediate action by the Congress on this important piece of legislation.

With all best wishes,  
Sincerely,

J. A. KRUG.

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EXHIBIT 48

UNITED STATES SENATE,  
COMMITTEE ON BANKING AND CURRENCY,  
Washington, D. C., July 10, 1946.

Re S. 1875.

HON. CLAUDE PEPPER,  
*Chairman, Subcommittee, Foreign Relations Committee,  
United States Senate, Washington, D. C.*

MY DEAR SENATOR: Enclosed is a letter from Mrs. Grant Hess, State commander of the American Cancer Society for the State of Idaho, recommending certain amendments for S. 1875.

As your committee studies this legislation, it will be appreciated if you will give consideration to the amendments proposed by the Idaho Division of the American Cancer Society.

With kindest regards, I am  
Sincerely yours,

GLEN H. TAYLOR.

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AMERICAN CANCER SOCIETY,  
*Boise, Idaho, July 6, 1946.*

The Honorable GLEN TAYLOR,  
*Senate Office Building, Washington, D. C.*

DEAR SENATOR TAYLOR: Residents of Idaho are deeply interested in cancer control as evidenced by their support during our recent campaign. Idaho gave 180 percent of its assigned goal, or \$62,000, to our society this year for its work in education, research, and service to cancer patients.

Speaking for more than 1,000 active committee members who carry on the work of the American Cancer Society here, I wish to assure you of our interest in any legislation designed to further cancer research and control.

S. 1875, which is before you for consideration, would make funds available in ample amount to attack this problem adequately. However, we believe that certain amendments should be made. Will you consider these changes and make recommendations when an opportunity presents, if you agree that our reasoning is sound?

1. There should be no time limit on the expenditure of \$100,000,000 as now stipulated. We believe that great waste would ensue if the entire sum had to be spent within the 5-year limit called for by the bill.

2. This money should be spent by, or under the supervision of, an already nationally established agency such as the National Research Council (whose committee on growth passes on research grants for the American Cancer Society), or the United States Public Health Service, already experienced in cancer research through its National Cancer Institute.

3. Grants-in-aid to the States also should be spent by, or under the supervision of, already established State agencies such as the State Department of Public Health, State Cancer Commission, or State affiliates of the American Cancer Society.

It would seem wasteful to ignore the experience of agencies already interested in and working on cancer control.

Anything you can do to bring about the enactment of S. 1875, with these changes, will be greatly appreciated.

Sincerely,

FRANCES HESS  
Mrs. Grant Hess,  
*State Commander.*

#### EXHIBIT 49

BERKELEY, CALIF., July 13, 1946.

The Honorable Senator CLAUDE PEPPER,  
*United States Senate, Washington, D. C.*

DEAR SIR: With reference to the Pepper-Neely bill in support of cancer research and discussions thereanent, I take the liberty of bringing to your attention the following facts and making a few suggestions.

"There can be no independent decision in any area of public policy unless men have the courage to state their ideas and then subject them to rigorous and discriminating criticism."—Harold Stassen.

1. The training of cancer experts need not postpone worthwhile research.

It must be conceded that civilization influences toward cancer, including so-called occupational cancer require not only the research of the physician per se but that of scientists of other branches of knowledge, such as the agricultural chemist. In fact, I recommend the closest interdepartmental group work on the widest scale.

There is a possibility that modern artificial fertilizing methods may conduce to cancer through a lack of tracer elements. The spraying of fruits of the field may upset the living equilibrium between the beneficial and hostile organisms of the soil.

Doctor Gerson's dietetic results in cancer treatment might find a solution by the investigation of the pathological enzyme formation so frequently responsible for cancer growth. It is a known fact that the enzyme formation is closely linked with mineral metabolism. It is clear that in this field not a cancer specialist but the enzyme chemist would be the logical chief research man.

2. Prevailing statistics of successful cancer treatment need revision.

Beneficial results in cancer treatment present a gloomy picture as it is. In a true picture based on realistic statistics there would be almost total darkness. Yet to understand what confronts us and correctly gage progress, statistics at all times must be as nearly correct as possible.

I allude to this matter in my article entitled "New Salvage Surgery for Cancer." I now recommend that in cancer statistics there should be excluded

all skin cancers and all localized cancers that are only microscopically and not clinically diagnosed. Moreover, I think the evaluation of the statistics should not be left to the individual statistician but to objective committees composed of retired surgeons and X-ray men at suitable salaries. It has been remarked that older men are de trop, that only the young can understand the young. I disagree with this assertion. Resiliency of mind does not depend on age but the nature of the mind itself—and this applies to research in all phases of any type of research.

3. Though citizens of the United States should organize and direct all investigations, congressional funds appropriated for cancer research should not be limited exclusively to American cancer specialists and scientists.

The cure for cancer is not an American dream. The affliction is world-wide and almost everywhere men are seeking for the final solution. It would be criminal to disregard the vast potential foreign help. The effort should be international under American leadership. Moreover, abroad there exist conditions more favorable to cancer research in certain respects than in the United States. I refer to the greater facilities for experimentation on humans and availability of autopsy material in certain countries of Europe. Salaried American scientists should be sent to these countries with funds sufficient to insure the collaboration of competent experts native to those countries.

4. Obstruction to research by the ultraconservative should be eliminated.

It is almost a truism that the rigid conservatism of some scientists in leading social and economic positions still retards progress. If possible, these men should be exposed for neglecting overt possibilities much in the same way that a high military officer is censured for failing to seize opportunities in the field of battle.

One and every promising lead should be thoroughly tested without hindrance by the reactionaries and, when due, proper acknowledgment should be accorded the man doing the pioneer work.

5. In time the United Nations Health Organization should be the main coordinating agency. Only thus will it be possible to marshal effectively all the research forces not only of the United States but all other countries toward a concerted world-wide effort to combat a common enemy.

That other countries are eager to participate is without question. I had personal experience of this recently through the unsolicited recognition given me by the Mexican Cancer Society.

Narrow nationalism has no place in such a vital undertaking as cancer research.

"If a man wishes his country to prosper but never at the expense of other countries, he is at the same time an intelligent patriot and a citizen of the universe."—Voltaire.

Sincerely yours,

ERIC KOSTER, M. D.

#### NEW SALVAGE SURGERY FOR CANCER

By Eric Koster, M. D., Berkeley, Calif., Honorary Member, Second Mexican Cancer Congress, 1946)

"Nature cannot be governed, except by obeying her."—Francis Bacon.

The very limited success of radical extirpative surgery as well as of palliative measures in cancer forces salvage surgery into the foreground. Howe and Shapiro estimate that radical surgery is successful in only 18 percent of all cases. They stress the importance of salvage surgery, but do not offer any new ideas. Such an attempt will be made here.

The proposed reforms of the surgical procedures are based on the following two clinical experiences which are interrelated: First, it is an established fact that a large primary tumor is less conducive to metastases than a smaller one. Secondly, in prolapsed organs in which cancer per se is rare (Benecke, Kennedy), the course is extremely benign, the spread always being arrested. This is my own original observation.

Two cases will prove my point. The first case has been reported by Koenig. Here, the cancer was found in a ptotic stomach, the large tumor being located

in the left hypochondrium. This patient was found well 12 years after resection. My own experience is limited to a totally prolapsed cervix in a 70-year-old woman. In this case the specimen, after vaginal hysterectomy, proved to be an arrested, well-localized cancer, despite many years' duration and exposure to continuous irritations. The elongated cervix had an elephantoid appearance.

According to Drinker and Yoffey, malignancies in elephantoid regions are not common, as the rare malignant degeneration in indolent varicose ulcers proves (Behan). Moreover, Benecke has observed that asthenic individuals with long mesenteries and ptotic viscera rarely develop cancer, nor persons with varicose veins and scoliosis.

To pyramid a vast edifice as this recommended salvage surgery upon two pin points of clinical experiences, is, to say the least, an uncommon procedure. "If the two principles are completely true and the deductions are entirely valid, all is well," in the words of B. Russell; "but the structure is unstable and the slightest flaw anywhere brings it down in ruins." \* \* \* That is why it has taken me about 20 years to eliminate some of the flaws.

The main objective of salvage surgery is the formation, as the first stage, of an artificial prolapse whenever this is possible, or a similar effective procedure, producing a permanent combined venous and lymph congestion of the tumor and the entire adjacent regional lymph drainage area. Prolapse formation has already been employed, for instance, in recto-sigmoid cancer, but merely for technical reasons to relieve tension in later sutures in connection with the anastomosis.

I wonder, if the long survival and frequent revival of the Paul-Miculicz procedure has not been influenced in some degree by the beneficial effects of the prolapse formation itself.

It must be observed, however, that abdominal exteriorization never imitates a natural prolapse completely, for the lymphatic-vascular pedicle in a natural prolapse is stretched in a downward direction. Only in sacral exteriorization (Babcock and Kuettnner) is natural prolapse duplicated. In our recommended procedures the exteriorization principle itself is only of secondary importance. In all obstructive and also nonobstructive cases of cancer of the digestive tract, defunctionalizing complete exclusion procedures (distant from the cancer growth) should always be executed in combination with prolapse procedures. Moreover, certain details have to be observed. The stretching of the vasculo-lymphatic pedicle should narrow the thin-walled veins without obstructing their lumen. In this way a limited circulation is maintained for a while. The arterial circulation should be kept as intact as possible. In cases of doubtful arterial supply, symphatectomy should be added or arterial hyperemia by mechanical means. Arterial hyperemia without simultaneous prolapse formation in the treatment of cancer is dangerous (G. Spiess). A mere obstruction of major veins by ligation is not sufficient to accomplish the continuous combined venous and lymph congestion of the prolapse, because it does not cause permanent efema when not associated with extensive thrombosis. Bier's intermittent venous hyperemia, therefore, has no place in cancer surgery, being even dangerous because it is not permanent and does not produce lymph congestion.

The effect of the prolapse formation is comparable to a vacuum cleaner arrangement because leading gradually to a beneficial reversal of the lymph circulation. This vacuum cleaner arrangement will render unnecessary prophylactic dissections of regional draining lymph nodes. In surgical borderline cases it opens up the possibility of later radical removal of the tumor mass.

The gradual enlargement of the prolapsed tumor mass can be spoken of as a ripening process. It was thought that ripening, as for instance in parotid tumors, would make a complete removal easier and allow for better protection of the facial nerve. However, one of the real advantages of ripening is that it counteracts a too rapid regression of the primary tumor with its dangerous complications. The accelerated spread which follows arterial starvation treatment (Theilhaber) supports this contention, because arterial ligation leads to rapid regression. Therefore, when arterial ligation at later stages becomes necessary for controlling hemorrhages, at the ligation of the hypogastric artery in cervical cancer and of the carotid artery in advanced head and neck lesions, such ligatures should always be combined with procedures which are capable of producing venous and lymph congestion.

Woglum observed that tumor mass upon entering the circulation in large amounts leads to absorption of the antibodies of the body fluid and in this way interferes with the adequate function of the regression immunity.

On the other hand, ripening of the tumor improves retrogression immunity. For Lumsden observed that the regression immunity is greater after the retrogression of a tumor that is large rather than one that is small.

The demarcation trend of the prolapse is another advantage. It allows for a preservation of all regional reticulo-endothelial structures without compromising on the final complete eradication of the tumor mass itself. The favorable influence of an unspecific hyperplasia of regional lymph glands, following infection upon cancer development, is a proof for the value of regional defense mechanisms. It is known that lymphocytes play a role either as carriers of antibodies or as active producers of antibodies or both.

In contrast to this valuable regional defense, local resistance is only of little significance in cancer. It is, however, an effective aid in infections, as Buchner has pointed out. In infection the enemy invades, as it were, a well-prepared terrain, defended by an experienced army. The inflammatory process therefore represents the local manifestation of a general mobilization plan that strives to isolate the invaded part from the rest of the body until the danger is over.

Cancer growth, on the other hand, may be likened to the work of a fifth columnist force. Naturally, such hidden enemy easily escapes early detection and thereby makes early diagnosis difficult. In a long preparatory campaign this force gradually undermines the resistance of the organism. Borst therefore rightfully called cancer a fight of brothers against brothers. The fifth columnists are derived from cell groups endowed with potential immortality. They belong to the endless chain of multipotent or totipotent cells, which because destined for high specialization, are equipped to hold energy reservoirs. Such potential cancer cell groups, originating from sex cells or their offspring, persist in higher vertebrates only in certain locations as in the generative zones of the stratified epithelium or in the primary physiologically indifferent zones of a single-layer epithelium (Schaper-Cohn), and here only in relatively small numbers. In lower vertebrates they occur throughout the organism as unspecialized tissue (Berryl).

When such cell groups, caught in well vascularized heterotopic formations (own observation), become physiologically isolated (Childs), they are slowly fertilized by their own stagnating metabolic and excretory waste products. They gradually develop like overripe frog eggs, losing the power of differentiation and acquiring a tendency of forming tumors (Wischi). This is due to an enzymatic disequilibrium of the antagonistic differentiation and plastic hormones (as is shown in bone fracture experiments by Bier, Fraenkel). Disequilibrium between vitamin B<sub>1</sub> (deficiency) and excess of estrogenic hormone seems to play some role in the genesis of cervical cancer.

Because enzymes themselves are metabolites, one naturally has to expect a new crop of enzymes adapted to the peculiarities of the heterotopias. These adaptive enzymes initiate the break in the internal control mechanism of the cell, discernible in the disintegration of the normally interlocked forces of function, nutrition, and growth. Step by step increases the growth momentum lead to an autonomous existence of the cells with an unrestrained cell proliferation. The power to invade the adjacent epithelial tissues (not the connective tissue—Schiller) is due to new, more destructive probably bound portions of enzymes acting as an autocatalytic substance, possessing the pass-key (Rulf). Their disastrous effects are naturally more pronounced in the proximity of the site of the origin of the tumor. From this described carcinogenesis it is evident that the term clinical cancer should not be applied when no true regional involvement is present. Statistics, including cases of pure local involvement, are prone to be misleading.

Conversely, the distant, discrete metastatic foci do not show the same aggressive vitality because they represent only secondary daughter cell colonies. The removal of distant metastases when isolated as in the liver, is justified as part of salvage surgery when combined with artificial prolapse formation of the primary tumor mass. What influence the complete eradication of the primary tumor mass may exert in regressing multiple auto-sensitized foci, future observation should indicate.

Naturally, the traumatic or inflammatory origin of the heterotopia leads to a damaged mesenchyme, as such a deficient mesenchyme is later incapable of exerting restraining influence on potentially aggressive epithelial cells. Ribbert



showed experimentally that displaced epithelial cells without connective tissue develop in a disorderly manner. When an abundance of connective tissue is present, an orderly development results.

The predilection places for cancer (Pick) are examples of the role of a weakened mesenchyme in the carcinogenesis. Another example is the state of subinvolution in which mesenchymal relaxation (Auflockerung) prevails. Normally, the involution process releases mesenchymal protective mechanisms against the ever-present danger of fifth columnists. One of such effective mesenchymal reactions is the overproduction of elastic tissue, observed by Pick and others in the involutonal breast and uterus. A healthy elastic tissue is an efficient barrier against the permeation of cancer cells.

Consequently, one sees in cancer only infrequent, and then only rudimentary, attempts of mesenchymal local defense. Lymphocytes and plasma cells, when present in the neighborhood of a tumor, can be relied upon as signs of increasing resistance (Da Fano). In the retrogression of a tumor an increase in lymphocytes has been observed, while in active growths the lymphocytic reaction normally remains low.

On the other hand, the lack of local resistance in cancer growth does not mean that a slow regressing tumor mass cannot be useful in furnishing properly graded antigens so essential in initiating regional and systemic reticulo-endothelial defense mechanisms. Combined venous and lymph congestion, as brought on by prolapse formation, provides the necro-hormones (Caspari) which are regarded as potent stimuli for the functional activity of the reticulo-endothelial system. Interesting in this connection is the statically bolstered assumption that skin cancer furnishes protection against visceral cancer.

Moreover, all general measures that stimulate the reticulo-endothelial system, such as small doses of X-ray and ultra-violet radiation of the spleen (Ruskin), and Bogomolets serum have some place in salvage therapy. Frequent sunburns, which seem to furnish a certain immunity against later cancer development, probably do that by stimulating the reticulo-endothelial system. The protection of the regional and systemic reticulo-endothelial structures from X-ray and radium damage is one of the most important tasks. Cancer cells die continuously in lung and spleen (A. Fischer), and therefore these organs, as long as they remain uninvaded by cancer cells, should not be weakened by artificial means. Pneumonitis, as a complication from deep X-ray therapy in breast cancer, is a case in point.

In this connection I recollect two cases of X-ray damage to the salivary glands with subsequent disastrous results. The applications were for such pre-cancerous conditions as leucoplakia of the tongue and tooth fistula after an extraction. In each instance the X-ray and radium treatment seemed responsible for very rapidly progressing and finally fatal malignancies. Both were characterized by increasing anaplastic changes, characteristic for a damage of the regional defense mechanism.

Massive blood transfusions containing concentrated differentiation hormones would have been worth while trying in these cases of such increasing anaplastic recurrences. It is known that the most specialized tumors proliferate slowest and are therefore least malignant. But because many instances are recorded of normal secretory functions persisting in malignant tissue, not too much should be expected from the attempts to force differentiation in general carcinosis, when attempts are not combined with all the other here recommended therapeutic methods.

Surgical methods which may aid in activating reticulo-endothelial defenses are as follows:

1. The ligation of the splenic vein is to be recommended when it can be easily accomplished as in stomach resection. Experiments speak in favor of such ligation because it produces marked immunity against subsequent tumor inoculation (Auler and Nagumo).

2. Ligation of the pulmonary veins may be considered in unfavorable cancers of the inferior cava vein drainage areas before the lungs are invaded. The purpose would be to change the tissue equilibrium in the lungs in favor of the mesenchyme. It is interesting to contemplate that such pulmonary venous ligation imitates a well-developed pulmonary throttle mechanism in those animals that lack an efficient hepatic throttle mechanism.

3. A reversed Eck fistula (Biehl) is another suggestion which would help to shunt the blood from the inferior cava vein circulation into the portal vein circulation with its more abundant supply of reticulo-endothelial barriers, imitating cases with varicose veins.

The recommendation of delaying the physical removal of the tumor in advanced cases is a strategic reform which conforms to other well-known surgical practices. One does not remove a ruptured appendix in a spreading peritonitis until one is sure that the spread is controlled and the power of resistance is sufficient. The goal in advanced cancer is complete eradication of the entire tumor mass. It does not differ from the aim in early operable cancer. However, the methods are not the same.

Post-operative X-ray radiation fails to accomplish complete eradication in advanced cases, as the frequent local recurrences testify. One of the reasons for failure is that cancer cells are only temporarily inactivated by the X-ray treatment by being locked up in fibrotic clusters. Direct irradiation at the time of surgery has been tried. Combined with artificial prolapse formation it may promise better results.

Another method is to combine the ripening treatment with the injection of radioactive isotopes. The problem is to concentrate these isotopes in the tumor mass. This can be easily accomplished in the artificial prolapse formation, either by the intraarterial or the introductal method (parotid tumors) or by any combination of these. Iophantoresis with radioactive isotopes is another suggestion which appears very promising when done in combination with prolapse formation.

While these recommended strategic reforms are applicable mainly to salvage surgery, the tactical reforms which now follow pertain to both salvage surgery and radical extirpative surgery. They are, moreover, essentially of a technical nature and directed against the danger of dissemination of cancer cells into inaccessible hideout places. One of the reasons for such unfortunate complications is that the laws governing the reciprocity between the lymph and venous outflow have been ignored in cancer surgery. It is known that clamping of the veins always increases the lymph flow temporarily and may even do so to a marked degree (Drinker). Therefore, the time-consuming ligation of numerous veins and other maneuvers which produce a venous congestion, as temporary exteriorization of the tumor for determining the operability in the beginning of the operation, predisposes to an increased lymph flow with the danger of cell dissemination.

In malignancies of the limbs the countermeasures are simple. The application of suction boots to the parts that have to be ex-articulated, will effectively prevent an increased centripetal lymph flow (no Esmarch). This device cannot, of course, be applied to cancers situated in the trunk of the body. Nearly two decades ago, I tried unsuccessfully to employ a large suction glass in connection with an inoperable cancer of the breast. I did not realize at that time that the suction glass in its upper outer quadrant interrupted the continuity of the lymphatic flow from the nipple to the axilla, and the preservation of the continuity of the entire drainage area is necessary for a vacuum-cleaner effect, a principle often interfered with by X-ray treatment.

The artificial prolapse formation should imitate natural prolapse conditions. In stomach cancer Koenig's case shows how this should be done. A modified transverse incision starts high up on the right pararectally and runs obliquely downward to the left flank allows a continuous steady downward traction of the stomach toward the left hypochondrium. This staves off cell dissemination into the systemic circulation by way of the left coronary vein.

The stomach should never be brought outside of the abdomen and the transverse colon and mesocolon should never be lifted up for the reason that such procedures, even when speeded up, produce a venous congestion which accelerates the lymph flow into the cysternal chyli. Virchow glands appearing a few weeks later testify to this unfortunate complication. There is no need to decide beforehand whether radical extirpative surgery or only salvage surgery should be done. If the surgeon discovers later during the operation that radical extirpation is impossible, he continues with a Devine exclusion operation combined with procedures which produce a permanent venous and lymph congestion. Absorbable sponges "Oxycel"—Parke, Davis & Co.—facilitate the execution of such procedures. The dissection en bloc is started from above in the lesser omentum. Abdominal pads, moistened with glycerine or Aleuronate, aid in reversing the lymph drainage and are to be immediately applied behind the stomach through a rent in the lesser omentum as a protection against spilling over of cancer cells into the cysterna chyli.

In radical breast operations the problem of the paradoxical metastases is complex. The time-consuming ligations of numerous peripheral veins in the

beginning of the operation, together with the interruption of the main lymphatic outflow from the nipple toward the axilla, lead to a reversed lymph flow into the deep lymphatics (for instance, mediastinal glands).

Another complicating factor in radical breast operations is the encroachment upon the lumen of the axillary vein during the glandular dissection. Goldmann pointed to this danger of a retrograde lymph dissemination when large venous trunks are ligated or congested. The explanation is that the lymphatic-venous connections which are present mainly in major venous trunks, carry cancer cells in the reverse direction. When the axillary vein is accidentally injured and needs to be ligated, the prognosis immediately deteriorates when adequate counter-measures are not taken against the resulting accelerated retrograde lymph drainage.

Batson, who proved by injection experiments a third circulation through the vertebral veins, believes that paradoxical aberrant cranial and spinal metastases, which occur in about 50 percent of all operated breast cancer cases, are due to such venous dissemination. It is my opinion that the lodging of tumor emboli in the vertebral venous lakes takes place through a special route via the lymphatics into the venous blood stream in the majority of cases.

Congestion of the entire drainage area of the superior cava vein has to be considered as a predisposing factor for accelerated lymph flow during the radical breast amputation. This anatomical fact explains why right-sided breast cancers have a more unfavorable prognosis than left-sided ones. Coughing and undue straining which lead to such congestion can be minimized by basal anaesthesia. Frequent carbon-dioxide inhalations are recommendable, to encourage deep inspirations and thereby counteract the congestion of the superior cava vein. The removal of both pectoral muscles which normally serve enforced inspirations predispose to deep lymph dissemination by limiting inspiration. The ensuing expiration is dangerous because it leads to congestion of the superior cava vein through the communicating major azygos vein by interference with the drainage of the hepatic veins (Hasse). Moreover, all conditions which favor expiration, as reclining, kyphotic posture in sitting, have to be avoided, I refer to the use of back rests and early walking as countermeasures.

In a paper submitted to the Public Health Office in Washington, D. C., in 1937, I recommended the revival of the old Sauerbruch low pressure chamber for radical breast amputations. (Also recommendable in cancer of the esophagus and cardiac end of the stomach and prostate.) The reason for this recommendation was that under a differential pressure of a few inches a good frictionless intrathoracic circulation could be maintained and at the same time a suction effected which would bring spilled cell material to the surface. In the case of an accidental pleural injury the low pressure chamber will prove to be of particular advantage in contrast to the now employed positive pressure which impairs intrathoracic circulation and in this way predisposes to deep disseminations. Postoperative treatment in the Blanchard mechanical physiotherapist which subjects only the torso of the body to negative pressure may prove of great value.

Careful handling of the tumor mass, use of the electric knife, sealing the clamped vessel with a cautery (Percy), dissection en bloc, frequent changing of gloves, scalpels, and arterial clamps are recognized measures against cell dissemination. Repeated washing of gloves in the same basin should be avoided, running water instead substituted. A recommendable maneuver in absence of the low compression chamber is a continuous and steady pulling down of the breast with the aid of two towel clips which leads to venous and lymph congestion. This maneuver imitates the pendulum breast which rarely is the seat of a malignancy. The dissection is then started from the axilla with the removal of all the skin covering the superficially running lymphatics from the nipple towards the axilla. Any too economical skin removal will endanger en bloc dissection. Male hormone injections or pellets in large quantities as well as sterilization are additional recommendable procedures.

In uterine cancer as well as in recto-sigmoid cancer the combined abdominal-vaginal, respectively the abdominal-perineal, operation is the logical procedure, permitting a clear decision as to whether a one-stage or multi-stage operation should be performed. To start with abdominal exploration is essential, because the appearance of the primary tumor does not permit any deductions about the spread.

In cervical cancer the abdominal exploration permits the formation of the prolapse by severing the tubes, round and sacro-uterine ligaments and the safe separation of bladder and ureters from the cervix. This makes later X-ray or radium

treatment a safer procedure. Taussig's iliac adenectomy is added when indicated. The operation is finished as vaginal hysterectomy whenever possible, because the steady continuous traction, with slight twisting of the uterus, is a protection against cell dissemination. The uterus has to be developed without pushing the cervix back into the abdominal cavity. The naturally dependent drainage is an added safeguard against the accumulation of fertilizing-material (Kennedy). Ample drainage is always essential in salvage surgery, sumpdrains serving well this purpose.

In recto-sigmoid cancer, ligation of the superior hemorrhoidal artery is necessary to produce a polapse. The sacal exteriorization is the last logical step ensuing upon abdominal exploration.

In prostate cancer there exists a similar problem of aberrant metastases as in breast cancer. Here, valves in the veins which drain toward the rectum, lead to the venous prostatic congestion which forces the lymph drainage anteriorly into the bony channels. Extra-peritonealization of the bladder is the first logical step, because it furnishes information about the spread along the seminal vesicles and large vessels. Moreover, it has the advantage of permitting a satisfactory bladder fistula in the vertex of the bladder. Radium insertions, when indicated, can be added. The operation should be finished by the perineal approach for the same reason as in cervical cancer. Castration and estrogenic treatment naturally should be employed.

There are many locations in which the technical difficulties for producing artificial prolapse are great, as, for instance, in parotid tumors. In such a case I left absorbable gauze in the retromandibular space to prevent the spread into later inaccessible areas.

One case of mine illuminates clearly the logic of the here recommended procedures. A woman with a right-sided cancer in the outer lower quadrant was operated on by me 9 months after the diagnosis was made because consent could not be obtained. The radical mastectomy was followed postoperatively with intensive deep X-ray therapy. Metastases appeared very soon in the right supraclavicular region. Their radiation was followed by metastases in the right tonsillar region. From there, after further X-ray treatment, they appeared in the left tonsillar region, in the left supra-clavicular region, and finally in the left breast.

There seems to be only one main objection to the here-proposed salvage surgery, namely, that multistage operations may increase the danger of cell transplantations. It is my firm belief that this fear will prove groundless because the permanent venous and lymph congestion makes cancer cells harmless.

The optimism expressed in this paper is based on the conviction that an immediate practical solution of the cancer problem is possible with the knowledge already at hand. Paul Ehrlich's pessimism that one has to solve the riddle of life in order to find the solution of the cancer problem is unjustified because cancer is a devolutionary process (Abbau) of life's processes such as regeneration, organization, differentiation, and involution. Therefore it is sufficient to explore the factors which lead to the disintegration of the altruistic forces that maintain the organism as a whole. For instance, regeneration, so prevalent in lower organisms, is partly substituted in higher organisms by functional rejuvenation processes (Popoff). Exhaustion of these functional rejuvenation processes by minor chronic irritations (Virchow) revives suppressed regenerative mechanisms which on account of the previously described mesenchymal damage, are of an inferior character. Such faulty regenerations (observed by Fischer-Wasals, in carcinogenesis), faulty organizations, subinvolutions, and dedifferentiations, all belong to the complex precancerous picture.

As far as I know, this study is the first attempt to indicate the course of practical measures in inoperable cancer cases. It seems to provide the basis for a logical procedure in effectively limiting cancer spread, and if the suggestions made are further explored it would appear that salvage surgery will be of benefit. The contention that there are as yet insufficient case histories to support my original theses, should not deter those in charge of salvage cases from testing the efficacy of the methods I have proffered.

The vast material (in the United States alone some 400,000 cases) should be made available, under adequate control, for the many problems in cancer of humans which does not admit of a solution with laboratory animals alone.

Another urgent task is the elimination of all factors which bring on cancer in the reproductive ages (occupational cancers). The danger of such early cancers is that cancer parents may transmit defective genes, the biological atoms, to their offspring. Such defects endanger the unbroken chain of the supra-indi-

vidual cell groups which are essential for the progress of the human race which is based on higher specialization of structures and functions. Reversions as present in the carcinogenesis are always a prelude to extinction as the course of evolution proves.

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EXHIBIT 50

STATE OF IDAHO,  
OFFICE OF THE GOVERNOR,  
Boise, June 29, 1946.

HON. GLEN H. TAYLOR,

*United States Senator, Senate Building, Washington, D. C.*

DEAR SENATOR TAYLOR: Our department of public health has called to our attention Senate bill No. 1875 on which hearings will be held Tuesday, July 2. This is a bill concerning the control of cancer and research work. There is a companion bill, H. R. 4502, which would make an appropriation of \$100,000,000 to be expended within a 5-year period.

The department of public health offers these suggestions in this consideration of the bill.

1. If the large sum of \$100,000,000 be incorporated in the bill, the time limit for its expenditures should be extended.

2. That there be a provision made in the bill to allow for construction of facilities and the purchase of equipment where needed.

3. That the bill be amended to channel money through existing State agencies as grants-in-aid to the States, in Idaho it would be the Department of Public Health, rather than setting up a special Federal and State agency.

This is being submitted to you for your consideration.

Very truly yours,

R. W. BECKWITH, *Executive Secretary.*

JULY 18, 1946.

Mr. R. W. BECKWITH

*Executive Secretary, Office of the Governor, Boise, Idaho.*

DEAR FRIEND BECKWITH: I am grateful to you for your thoughtful and constructive letter of June 29 regarding the cancer control bill. The problem of cancer is a source of deep concern to me. It is the second most deadly killer of our people. In 1942, 163,000 people died of cancer. It is estimated by experts that 20,000,000 people now living will eventually die of this dread scourge. I feel that if we organize the country's medical and scientific talent as we organized our atomic physicists during the war and place adequate facilities and funds at their disposal, a solution can be found. The problem is no more insuperable than the problem of releasing atomic energy. I have maintained a close interest in the work of the subcommittee on public health, and was deeply gratified when I received letters which indicated that you and Mr. L. J. Peterson had a similar interest. I felt that the subcommittee should have the benefit of your thoughts, and I accordingly brought your letters to the hearing on July 2. They will be published in the hearing record along with the testimony of other authorities.

The amended bill, I am convinced, covers the points which you raise in your letter. With respect to your suggestion that the time limit be extended, you will note that the bill now contains no time limit at all. With respect to your suggestion that there be a provision made in the bill to allow for the construction of facilities and the purchase of equipment where needed, you will note that the terms of the bill allow the President broad and flexible powers, and that the framers explicitly intended this type of expenditure be permitted. Finally, you will note that the language of the bill is sufficiently broad and flexible to permit grants-in-aid to existing State agencies. It is contemplated that the President, in attacking this problem, will employ all available facilities, including State agencies, colleges, hospitals, and the like. In short, it empowers the President to make the same type of all-out attack on the cancer problem as was done on the problem of atomic energy. In so doing, he will set up a general staff for the purposes of coordination, but there will be the broadest cooperation with existing agencies.

I am writing a similar letter to Mr. Beckwith, executive secretary, Office of the Governor, Boise, Idaho.

With kindest regards, I am

Sincerely yours,

GLEN H. TAYLOR.

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EXHIBIT 51

STATE OF IDAHO,  
DEPARTMENT OF PUBLIC HEALTH,  
Boise, June 29, 1946.

HON. GLEN H. TAYLOR,  
*United States Senate, Washington, D. C.*

DEAR SENATOR TAYLOR: We have recently studied Senate bill 1875 which covers an appropriation and plans for a cancer-control program. We are greatly interested in this activity as this department has already done preliminary work in this field and has cooperated with the Idaho division of the American Cancer Society in our Idaho program. We know the United States Public Health Service is also deeply interested in this activity and has already set up extensive cancer research and control programs.

In studying this proposed bill we note it sets up a special board to administer the program and neither the United States Public Health Service nor State health departments would necessarily be considered in planning or administering this program even though all such activities have previously been centered in these two agencies.

This bill calls for an appropriation of \$100,000,000 and limits its expenditure to a period of 5 years. We believe it would be impossible for even an existing agency, let alone a new agency, to establish and administer this amount of money economically in such a short period. We do believe work should proceed as rapidly as possible in this important field but believe such a program limited to 5 years would result in a great deal of waste.

We find no provision in this bill to allow for construction of facilities or purchase of equipment which would be needed for any program apparently anticipated by the \$100,000,000 appropriation.

We strongly urge that you give consideration to amending the bill so that the United States Public Health Service will be the administrative agency on the Federal level with the State health departments responsible for the program on the State levels. We also believe the 5-year limit should be taken off the appropriation and that amount of money should merely be appropriated for cancer research and control in order that the program may be properly planned and administered.

We will appreciate your favorable consideration of this request and ask that you keep us informed of the progress of this legislation.

Sincerely yours,

L. J. PETERSON, *Administrative Director.*

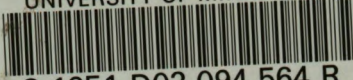
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