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REPORT
No. 1743

INTERNATIONAL CANCER RESEARCH ACT

JULY 18 (legislative day, JULY 5), 1946.—Ordered to be printed

Mr. PEPPER, from the Committee on Foreign Relations, submitted the following

REPORT

[To accompany S. 1875]

The Committee on Foreign Relations, to whom was referred the bill (S. 1875) 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, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

EXTENT OF CANCER

Cancer, a blot on our civilization, is widespread. Cancer was the cause of death of slightly more than 500,000 persons from 1942 to 1944, nearly twice as many as were killed by the Axis in World War II—273,000 of our young men died in action against the enemy. In 1942 cancer killed 163,000 persons in the United States; in 1943, 166,848; and in 1944, 171,171. The estimated deaths for 1945 is as high as 175,000. The death march of cancer is forward.

Thirty years ago cancer was the seventh greatest cause of death in the United States. Despite the great advances of medical science and research since that time, this disease has become the second greatest killer of our people.

It is estimated that, at the present time, there are at least 500,000 sufferers of cancer in our country. As many as 20,000,000 people who are living today in the United States will undergo the agonies of cancer and then will eventually die of this disease. Some way must be found to enable science to stop this deadly enemy which will cause the death of one out of every seven persons in the United States.

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COST OF CANCER

Estimates presented to the committee indicate that the minimum cost of care in the last year prior to death is about $1,000 per patient. This figure is exclusive of the economic loss involved. For 1944 the cost of care in the last year prior to death would have been about $171,000,000 and for 1945, $175,000,000. The total cost of medical care in any particular year for all sufferers from cancer would probably be around $600,000,000. The economic loss, one witness testified, would amount to as high as $900,000,000 a year.

PRESENT EXPENDITURES ON CANCER RESEARCH

Despite the ravages of cancer the meager sum of $4,500,000 will be spent in the next year for research in the field of cancer, by all sources, public and private. For this fiscal year there has been appropriated to the National Cancer Institute of the United States Public Health Service, a total of $1,772,000, of which $500,000 will be for universities and nongovernmental laboratories. Private sources expect to expend about $2,000,000 to $3,000,000 for cancer research.

Prior to this year less than $1,000,000 was expended by public and private institutions for cancer research. The expenditures under the National Cancer Institute Act of 1937 were limited to a maximum of $700,000 a year and this ceiling was not lifted until 1944. The appropriation to the United States Public Health Service for the last fiscal year was $490,000.

The American Cancer Society, the largest single group interested in cancer research, secured annual moneys for research in over 10 years amounting to only $200,000 a year—in 1944, $800,000, and in 1945, $900,000. The Memorial Hospital, the great research cancer hospital in the United States, operated on a budget of $85,000 up to several years ago.

A $100,000,000 ATTACK ON CANCER

The present bill carries an authorization of $100,000,000 to carry out the provisions of the act. This amount is infinitesimal. World War II, which expended the lives of 273,000 Americans, cost about $220,000,000 per day. The United States spent over $2,000,000,000 in building the atomic bomb. In the case of cancer, however, we would spend only a small fraction of this amount to save lives as we did in building the atomic bomb to take lives for democracy. It must be remembered that it would take about 25 years for public and private sources to raise and accumulate $100,000,000 at the present rate of contribution for cancer research. During that period, there would be as many as 175,000 cancer deaths per year.

The committee does not know whether $100,000,000 will enable the scientists of the world to discover a means of curing and preventing cancer. But this amount may be big enough to permit the planning of a program for at least a few years. No one knows how much a successful fight on cancer will cost any more than he could have predicted the cost of the war or the atomic bomb. If the purpose of this bill can be accomplished through the expenditure of this money, it will be a bargain, since cancer is now costing our Nation many times this amount.

There was unanimity of opinion of all the witnesses as to the need for $100,000,000 or more. The Gallup poll shows that the American people also want as much, if not more, spent for cancer research. A year ago, the poll showed that 81 percent of the interviewed people favored an expenditure of at least $200,000,000, and this year about 82 percent. In both surveys respectively 69 percent and 75 percent of the persons interviewed were willing to pay more taxes to provide the funds for this purpose.

USE OF FUNDS

The primary objective of the bill is the coordination and stimulation of all cancer research carried on by the United States Public Health Service and other public agencies with the work being done by private agencies in research and cooperation with the outstanding agencies and institutions of other countries; in short, to do everything that can be effectively done to discover a cure for cancer. The committee has amended the bill to provide that the appropriation when made, shall be available until spent, thereby assuring a continuity of support of undertakings which, by their very nature, must be long range. The funds could be used for grants to existing scientific institutions or to create new ones for the provision of facilities and to employ scientific experts and consultants without reference to Civil Service either in or outside the United States.

It has been well recognized that scientists of all countries have contributed to the conquering of great diseases and to the evolution of scientific discoveries. The atomic bomb, synthetic rubber, and other discoveries used in the war were not the sole product of Americans, but represented the results of the combined contributions of outstanding experts throughout the world. No single institution or country has the monopoly on scientific discoveries. Achievement in science is the result of sustained efforts of many minds in many different places driving for a common goal.

The creative spirit of a scientific mind cannot be localized or nationalized, and in the field of cancer this fact is well demonstrated. The first intimations of cancer were recognized in England at about the time of the Revolutionary War. Many years later cancer substances were discovered in Germany, picked up in Japan in 1915, and later in London, the final evidence of cancer potency was publicized. Soon after this report from England, investigations were taken up by Harvard University, the University of Michigan as well as other institutions. The story concerning cancer-producing properties of dyes is very similar, with Germany, Japan, and the University of Wisconsin and the Memorial Hospital of New York making important contributions. Other examples can be cited to illustrate the contributions made internationally in cancer research.

Localization of experts in cancer research in one center, therefore, might have an adverse effect of future work in this field. The objective of the bill can best be secured by coordination of the several institutions and agencies and the accomplishments by the free dissemination of knowledge through conferences and through scientific literature, and through research exchange fellowships between institutions and agencies at home and abroad.

Cancer research is really a study of cells and the fundamental processes of life. Present research is confined to a study of viruses, the production of cancer in animals by chemical agents, diet studies, enzyme investigations, chemotherapy and radiation. The bill would involve fundamental research and applied research. Fundamental research is an inquiry into the biological, biophysical, biochemical, and other phenomena, without reference to any practical benefits, to foster and develop new concepts of ideas which may be used intelligently. Applied research is another phase of the program under which efforts would be made to find a specific solution to the cancer problem through the practical application of the existing or newly developed scientific ideas and methods. The development of the X-ray is a good example of research. The X-ray was developed by physicists without any consideration of its application to cancer patients. Today, physicians use the X-ray in the therapeutic treatment of cancer.

In the last 20 years only 100 teachers of cancer have been turned out by United States medical schools and most of these by a single institution. Therefore, this legislation would require expansion of educational facilities. Time will be necessary to expend this sum wisely as present personnel in the cancer field is limited and hence must be trained and facilities for research and training provided. Early diagnosis is necessary for the earliest detection of cancer and for its cure. This requires education of the everyday physician in the fundamentals of modern theories and methods of treatment.

Cancer research involves the teamwork of biologists, chemists, physicists, pathologists, bacteriologists, diagnosticians, surgeons, radiotherapists, and other professional personnel. Medical schools would be required to train persons in the various fields of science beyond existing facilities and would thereby need an expansion of facilities for research and training such as laboratories, hospital beds for clinical study, research centers throughout the country, the purchase of land.

ADMINISTRATION

Cancer research involves such a wide scope of scientific activity and so many different scientific disciplines even beyond these ordinarily associated with medicine that no established department or division of the Government or private agency possesses the personnel or information to cope adequately with the problem or to insure a wise expenditure of funds.

In view of the importance of the problem and the wide variety of interests involved, the committee believe that the President should have the authority and discretion to use the funds and to administer the program as he deems necessary or proper to achieve the means of curing and preventing cancer. Under the bill, the President has broad powers to grant moneys to private or public institutions anywhere in order to enlist the services of scientists here and abroad. In the opinion of the committee, he is empowered to coordinate the work of all Federal agencies into a single united program for cancer research and to utilize the administrative or other services of any of the Government agencies as he deems necessary. The cancer provisions of the Public Health Service Act would still be administered

by the Surgeon General and the National Cancer Institute would operate administratively under his general direction. In the same manner that the Federal Government attacked the construction of the atomic bomb, the President is charged with the responsibility of securing the cooperation of all agencies throughout the world now engaged in cancer research to the end that all facilities, governmental and private, may be properly utilized in a coordinated attack on the cancer problem. For this reason the committee have inserted the words "or places" after the word "place".

The committee believe that the question of administration under the bill should be left to the discretion of the President. The bill contains no provision as to specific delegation of administrative authority by the President. If he finds it in the best interests of the cancer research program, the President can, upon passage of S. 1850, Seventy-ninth Congress, use the National Science Foundation created under that bill, which has already passed the Senate and is now before the House of Representatives. Or, he can set up an independent commission composed primarily of nongovernmental persons represented by persons of the highest scientific attainments and distinguished laymen to exercise general leadership and direction over the national efforts to solve the cancer problem.

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