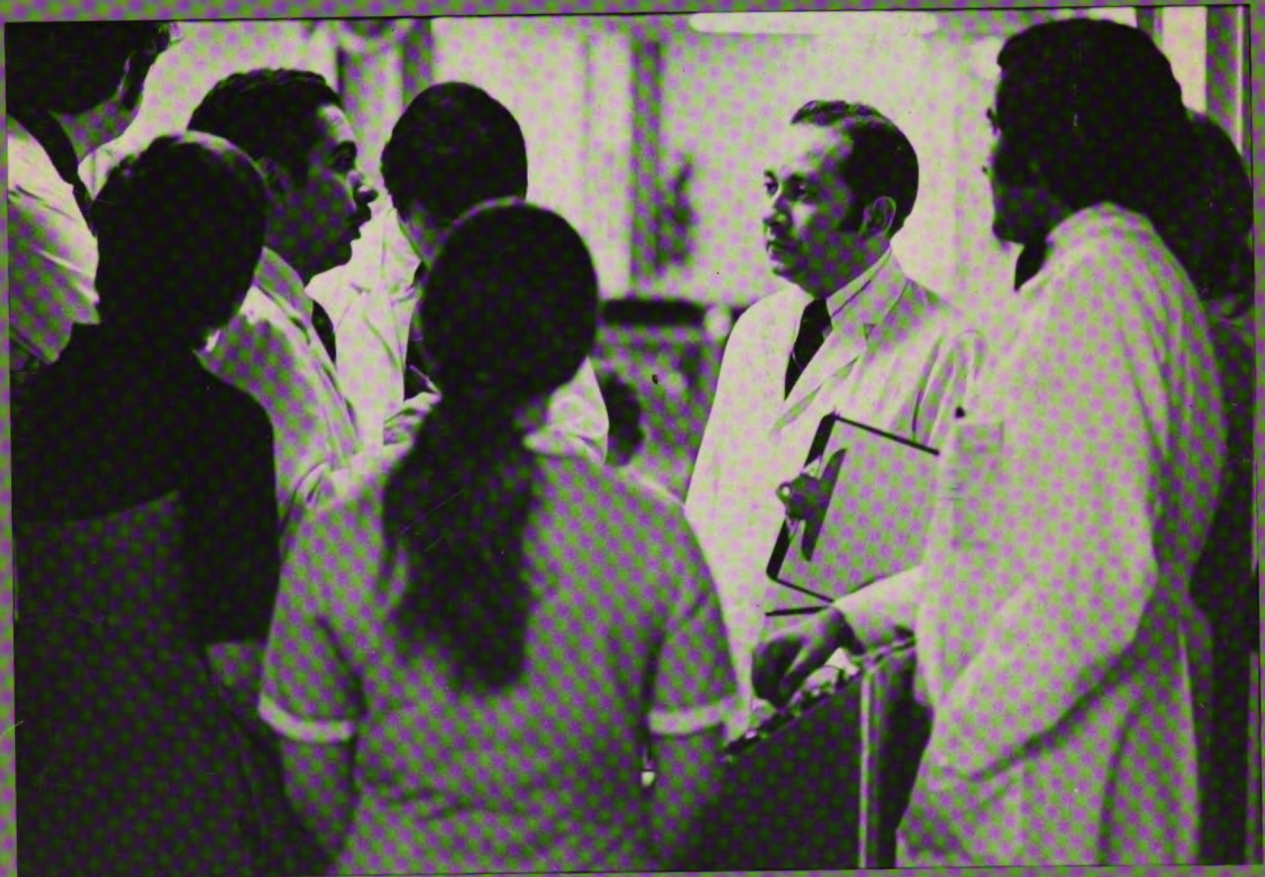


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Report of the
President's Cancer Panel

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

Public Health Service

National Institutes of Health

1974



National Cancer Program

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Report of the
President's Cancer Panel

Submitted to
The President of the United States
for transmittal to
The Congress of the United States

U. S. Department of Health, Education, and Welfare
Public Health Service
National Institutes of Health
National Cancer Institute

DHEW Publication No. (NIH) 75-354

President's Cancer Panel

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1975*

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Cover photograph:
UNIVERSITY OF WISCONSIN, Madison.

The President
The White House
Washington, D. C.

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Dear Mr. President

The President's Cancer Panel is pleased to set forth in this letter its annual evaluation of the efficacy of the National Cancer Program as required by Sec. 407 (c)(4) of the National Cancer Act of 1971. The Director of the National Cancer Institute and the National Cancer Advisory Board have already reported to you in detail on the progress of the Program during the past year, and this letter will not undertake to duplicate or summarize the material contained in those reports. Instead, we will attempt to give you the Panel's evaluation of the Program and to deal briefly with some of the more important issues which the Panel feels should be brought to your attention.

Overall Evaluation. During this period of rapid growth in the National Cancer Program, the Panel believes that a high order of excellence has been achieved in the work supported, and that a good balance has been maintained between research aimed primarily at extending our fundamental knowledge of cancer and that aimed primarily at improving the technology of

clinical care, between grant-supported investigator-initiated activities and contract-supported activities, and between extramural activities conducted in research institutions throughout the country and intramural activities conducted by the National Cancer Institute itself. These balances are reflected in the 1974 figures discussed below.

In our opinion, there is no question that there is more and better cancer research going on today than has ever been the case in the past. Progress in some areas of basic science has been more rapid than was thought possible even two years ago. Furthermore, as a result of the progress that has been made in the centers program, in the control program, in the task forces programs, in the cooperative groups, and in certain of the other grant and educational programs, we are seeing better patient care for cancer patients throughout the country today than ever before existed. As these programs progress, the benefits of the intensified effort in cancer research will be increasingly apparent. Fundamental knowledge will be enhanced and prevention and treatment will be improved. Of

course, we are still far away from being able to put either a date or a price tag on the ultimate conquest of cancer.

This positive assessment of the programs of the National Cancer Institute must be tempered by the deep concern which the Panel feels about the level of funding of the Institutes of General Medical Sciences, Allergy and Infectious Diseases, Arthritis and Metabolic Diseases, Neurological Diseases, and the other institutes supporting basic biomedical research. Neither the Cancer Program nor biomedical research in general can thrive if these institutes are not healthy. We are also deeply concerned about the level of support of the training and fellowship programs of the NIH. It is absolutely essential to our success that we bring our brightest young biomedical scientists into this program, and fellowships and training grants have proved to be the most effective and most economical way of doing that.

We strongly urge that you support the recommendations we have made to OMB regarding additional support for the fundamental biomedical research in the other institutes and funds

for the restoration of the desirable elements of the training programs. The dollar amounts are not great, but the consequences to biomedical research and to the Cancer Program are vital.

The National Cancer Act of 1971. As reported last year, the Act has provided a sound foundation on which to build an effective National Cancer Program. Renewal legislation and certain amendments are now pending before the Congress and should go to conference shortly. All of the proposed amendments have the approval of the Panel, with the exception of the provision in the Senate bill for a Biomedical Research Panel of which the Chairman of the Cancer Panel is a member. The Panel is opposed to this provision, and we have advocated the elimination of the provision in conference. The Chairman of the President's Cancer Panel summarized his opposition to the Biomedical Research Panel in a cable to the Chairman of the Senate Health Subcommittee in the following language:

"Although I favor stronger support for many areas of basic biomedical research and will for

the reasons set forth in my testimony do all in my power to obtain such support, I have very serious reservations about the proposed legislation which would create a President's Biomedical Research Panel for the following reasons:

- 1) The Cancer Panel is a very unusual and unorthodox organizational arrangement that will only work effectively if it is reserved for unusual circumstances of extraordinary and specific priority as cancer research was felt to be. The Secretary of HEW could not be expected to accept this organizational anomaly for substantially increased areas of his basic responsibility;
- 2) The Cancer Panel has been an effective tool because the President has genuinely shared the priority it was designed to implement, and the President has made his support of the Panel clear to all concerned. As an instrument to oppose the President's priorities, the Panel would not, in my opinion, be effective. The Panel could easily be rendered ineffective without the President's strong and well publicized support;
- 3) By trying to extend the special emphasis that the Panel has

helped to achieve for cancer to all areas of biomedical research, we are more likely to lose the cancer priority than to gain the same priority for a vastly expanded area;

4) The effective discharge of the duties as Chairman of the President's Cancer Panel requires a very substantial portion of the time of the occupant of that position. The added duties envisaged by the proposed bill would make this a full-time job. Such a full-time person attempting to function outside the regular organizational setup would be likely to become a nuisance who would soon lose his effectiveness;

5) In my opinion, there is a better prospect of achieving the desired ends with the present setup and a much better chance of continuing a vital and effective Cancer Program;

6) I made these views known to Lee Goldman and Jay Cutler (of the Senate Health Subcommittee staff) before my departure. I assume they will come as no surprise to you;

7) I am highly hopeful that with a little more time we can obtain the desired priorities with respect to other biomedical research with the present organi-

zation without risking the loss of the momentum in the Cancer Program by changing the setup in midstream.

I hope these views will be helpful in your deliberations."

Assuming the elimination of the provision for the Biomedical Research Panel, the passage of the renewal legislation and the amendments will provide an even sounder legislative base for the continuation of the Program than the original Cancer Act of 1971, which has been highly satisfactory.

Expenditures. During fiscal 1974, the National Cancer Institute will spend a total of \$589.15 million on cancer research. This figure compares with \$181 million in 1970; \$232 million in 1971; \$378 million in 1972; and \$432 million in 1973.

Of the \$589.15 million spent in fiscal 1974, approximately \$90.9 million, or 15% is being spent intramurally (within the NCI or NIH) on research and administration. Approximately \$72 million of the in-house expenditures are attributable to the conduct and administration of intramural research, and approximately \$19 million is the cost of

administering the extramural programs.

Of the \$497.2 million spent outside the NIH, \$217.7 million is being spent on research grants; \$95 million on research contracts; \$80.8 million on support contracts; \$25.6 million on fellowships, training grants, and career development awards; \$34 million on cancer control; and \$45 million on construction.

Of the \$217.7 million spent on research grants, \$115.6 million is being spent on regular research grants (including grants to the clinical cooperative groups); \$91 million on center grants (including grants to places like Yale, Harvard, Cold Spring Harbor, Minnesota, Stanford and many other institutions which are not normally thought of as cancer centers, but which because of specialized cancer activities go through the center grant mechanism), and \$11 million is in support of organ site task forces.

In 1974, a total of 2,019 research grants amounting to \$217.7 million were made to 367 institutions. Of these, 1,519 amounting to \$94.7 million were traditional research grants approved by NIH Study Sections.

At this level, NCI is funding slightly over 50% of those grants approved by Study Sections. All grants are to universities and non-profit institutions. In addition, NCI entered into 1,283 contracts involving \$212.8 million. Of these contracts, \$95 million were for outside research, and \$80.8 million were for research support and services. The balance was for control activities, construction, and inter-agency agreements within the government. Of the total contract amount, 54% went to universities and non-profit research institutes, 35% to commercial institutions, and the balance to other Federal agencies, state and local governments, and foreign institutions.

Program Balance. The Panel believes that the Program represents a good balance between grant-supported research and contract-supported research; between regular research grants and center grants; and between clinically-oriented activities and those directed primarily toward fundamental science. Proper program balance is always a difficult problem. In spite of all the progress that has been made, there are still enormous areas of ignorance about cancer. While

in a few areas we have enough knowledge for prevention or cure, in most areas our physicians are still compelled to work with incomplete technologies which are expensive, and often of limited effectiveness when compared with the kinds of technologies that can be used in those areas of medicine where the disease mechanism is understood and outright prevention or cure is possible.

Under these circumstances, questions quite naturally arise as to the proper balance between fundamental research designed to assure the continued flow of the basic knowledge necessary to unravel the mysteries of cellular behavior and to permit us to understand the abnormal behavior of the cancer cell, and the effort to see that our present knowledge is applied today in the most effective way possible to prevent or control cancer among our people. Many physicians engaged in cancer practice, and a number of the members of the National Cancer Advisory Board, are concerned lest we spend too much on basic research and too little in developing for delivery the best possible diagnosis and treatment that today's technology makes it

possible to provide for the cancer patient. On the other hand, many biomedical scientists and some members of the National Cancer Advisory Board are concerned that we spend too little on basic research and too much on clinically-oriented activities. This is admittedly a very difficult balance, but it is an essential one, and any good cancer program must make maximum progress on both these fronts. The fact that our Board is divided, and the fact that our scientists and physicians are divided as to where the major emphasis should be will be an important strength in seeing that we keep appropriate emphasis on both sides of the problem and make maximum progress in both directions.

The most important focus in a scientific program of this type is to see that the money is spent for work that meets the highest standards of excellence. Regardless of whether the money is spent intramurally or outside, by grant or by contract, for basic science or for the development of clinical technology, it must be spent to support the highest standards of excellence that are available. The argument as to the relative scientific qual-

ity of activities supported by grants and those supported by contracts is a continuing one. Where contracts are used for support, logistical or readily definable activities, there is little objection to the contract mechanism, although even there the contract should have strict review with respect to the quality of the recipient. However, when the contract is used to support research activities designed to expand scientific knowledge, there is a large segment of the scientific community that believes that the peer review system which has been traditionally used to set the standards of scientific quality is not applied with the same rigor and visibility in the contract program as it is in the grant program. The Director of the NCI is meeting this objection in two principal ways. First, he is continuing to use grants with typical NIH Study Section review for the major portion of the basic research report. Secondly, he is introducing organizational and procedural changes designed to open up and broaden the contract program and to assure peer review of unquestionable quality.

National Cancer Plan. Given the

state of our knowledge and of our ignorance about cancer, there is considerable discussion regarding the proper role of planning in the cancer effort. The first two volumes of the National Cancer Plan were released last year. The third volume, which represents the operational plan or the administrative implementation of the science, has now been completed by NCI and is in the process of review. These plans are the result of the broadest participation by the scientific community so that those who will be responsible for doing the work have been involved to a maximum extent in the planning.

Although the Panel feels that the planning process has been an extremely useful and worthwhile exercise, and that the plan itself is a very valuable tool, there is no question that the plan has occasioned concern in some parts of the scientific community. A great many scientists, particularly scientists engaged in the most fundamental research, seem to be afraid that those charged with the administering of the National Cancer Program will lose sight of the vast areas of ignorance that

exist in connection with the cancer problem today. Planning, they feel, is valuable in filling the gaps when the scientific hypotheses are established, but how can one plan for discoveries when there is no way of knowing what the discoveries will be? In the opinion of the Panel, there is no need for this concern. The plan and the program provide for a very large element of unplanned, untargeted, undirected, investigator-initiated science of the type that has resulted in our major scientific discoveries for centuries. No one in authority has the nature of this program confused with that of the Manhattan project or the space program. We will continue to seek basic discoveries through the grant support of fundamental science with only the intervention of the peer review of the investigator for excellence. In this area of science, so necessary for the solving of the cancer problem, there will continue to be heavy reliance on independent, unstructured research which will assure the continued flow of basic knowledge.

Support of Fundamental Research. Although the Cancer Institute is continuing very sub-

stantial support for basic research, the Panel has been deeply concerned about the cuts which have occurred in the research budgets of certain of the other institutes doing basic biomedical research. In particular, this concern relates to the Institutes of General Medical Sciences, Allergy and Infectious Diseases, Arthritis and Metabolic Diseases and Neurological Diseases. Neither the Cancer Program nor biomedical research in general can thrive if these institutes are not healthy. At the time we were urging the Administration and the Congress to make a greater effort in cancer, we were very explicit in the position that the increased cancer effort should not be at the expense of other biomedical research. The Panel does not believe that the cancer effort has been the cause of these other institutes receiving less, but it is difficult to prove the contrary when cuts have, in fact, taken place. Also, regardless of what would have been the case in other circumstances, the Panel is of the view that the research efforts of these institutes should not be curtailed at this time. When we look at the cost of medical care in this country today, we cannot afford to econo-

mize on the basic research upon which we are dependent for the discoveries that will facilitate prevention or simplify cure.

The release of the impounded funds greatly alleviated this problem for the other institutes in 1974, but the Panel has urged OMB to increase the budgets of these institutes for 1975. We realize the enormous pressures to hold expenditures to a minimum, but the amount involved is not large in relation to the stakes, and the Panel strongly recommends appropriations for these institutes for 1975 which will, at a minimum, permit them to operate without curtailment.

Comprehensive Cancer Centers. Both fundamental research and improved technologies for patient care will be greatly enhanced by the increased number of comprehensive cancer centers. These centers will also contribute enormously to the widespread application to the cancer patient of the best techniques of treatment existing today.

Comprehensive cancer centers have been recognized at the following institutions which receive support from the NCI: Memorial Sloan-Kettering Cancer Center, New York

M. D. Anderson Hospital and Tumor Institute, University of Texas, Houston

Roswell Park Memorial Institute, Buffalo

Children's Cancer Research Foundation, Boston

University of Wisconsin Medical Center, Madison

University of Alabama School of Medicine, Birmingham

Duke University Medical Center, Durham, N. C.

Fred Hutchinson Cancer Center, Seattle

The Johns Hopkins Medical Institutions, Baltimore

Mayo Foundation, Rochester

University of Miami School of Medicine, Miami

University of Southern California, Los Angeles

Other institutions which are receiving support from the NCI will attain the necessary parameters for recognition as time goes on and will be recognized as comprehensive cancer centers. Of course, most of the support for these centers comes from non-Federal sources, and the NCI support takes the form of grants or contracts which are awarded on the merits in competition with all other institutions. The NCI has no commitment of continuing support to a comprehensive cancer center

that is any different from its commitment of continuing support to those institutions which receive the bulk of NCI funds. The new comprehensive centers have developed at institutions which were already engaged in broadly based fundamental research and patient care in cancer, and which were receiving NCI support prior to their recognition as comprehensive cancer centers. All centers understand that such recognition does not give them a preferred status in the competition for future funds. The Panel believes that the Centers Program will greatly enrich the fundamental research in cancer and will improve and extend the scope of the best cancer treatment. The Director, the Board, and the Panel are all aware of the restraints which must be exercised to keep the centers program healthy and in proportion, and there is no need for the imposition of an arbitrary limit by OMB on the number of centers. In fact, since the government's role here is "recognition" of comprehensive cancer centers not "creation," such a limitation would be inappropriate.

Cancer Control. One of the important mandates of the Na-

tional Cancer Act is a separate Cancer Control Program. Obviously, the NCI cannot, and should not, take responsibility for the care of the nation's cancer patients. That is part of the general health care delivery system and should so remain. However, the Control Program is designed to extend the efforts already being made by the NCI to identify, field test, evaluate, demonstrate, and promote the best techniques emerging from research trials in order to extend the use of such techniques in the health professional community to the end that the public may benefit from a decrease in the incidence, morbidity and mortality of cancer. The Control Program has demonstration projects in the fields of cancer prevention, detection, diagnosis, treatment, rehabilitation, education and training. Already underway are important programs in breast cancer detection (a program of 28 breast cancer detection centers sponsored jointly with the American Cancer Society), lung cancer detection, cervical cancer detection, and the follow-up of certain special high risk groups such as asbestos workers, heavy cigarette smokers, and persons exposed prenatally to Stilbestrol.

In the field of treatment, the control division has programs in leukemia, lymphomas, breast cancer, head and neck cancer, and radiation therapy support. The division is also sponsoring important rehabilitation programs including demonstration of cancer rehabilitation activities generally, training projects in physical and occupational therapy, training in facial and prosthodontal rehabilitation, and psychiatric rehabilitation. The division is also sponsoring studies in work practices as they relate to cancer patients and cancer victims.

It is the view of the Panel that the Control Program has made a good start and that it will substantially stimulate better prevention, treatment, and rehabilitation for cancer patients.

Training. The Panel is of the view that there should be greater latitude in permitting not only the National Cancer Institute, but other institutes within the NIH, to make training and fellowship grants. It is absolutely essential to our success in the Cancer Program and in biomedical research that we bring a portion of our brightest young people into these programs, and

fellowships and training grants have proved to be the most effective and most economical way of doing that. These are among the best dollars we spend in terms of value received.

Most of the arguments which have been made for discontinuing the training grant and fellowship programs do not stand up under examination. First, it was said that these programs were not based on need. This loses sight of the fact that the real objective of these programs is to get the help of the brightest young scientists and bring them into research, not to educate them for other pursuits. This is not a case of the recipients needing our help, this is a case of our needing their help. We get more value currently per dollar spent from trainees and fellows than from any other class of personnel. Traditionally, a number of our notable discoveries are made by young investigators holding predoctoral or postdoctoral fellowships, and they are of inestimable value in the working laboratories.

Secondly, it is argued that we have sufficient biomedical scientists as evidenced by the fact that we are unable to fund a large portion of the approved

grants. However, we cannot afford to neglect to infuse biomedical science continuously with the best young brains. Such a failure is costly now and will be even more serious later on.

Thirdly, it is suggested that these people can be brought into the program as technicians or scientific assistants. However, experience has proved that this is not the case. The prestige and independence which the fellowships and grants have traditionally provided have attracted the best young scientists. The stipends are incidental and, in almost all cases, less than the recipient could earn elsewhere.

Fourthly, it is suggested that these programs have not been proved to be an important factor in determining career choices. However, the data prove the opposite. A very high percentage of our best and most productive scientists and our best teachers today held NIH fellowships and training grants at the inception of their careers.

The Weinberger Program of fellowship grants has enabled the NCI and the other institutes to restore a portion of the fellowships, and the NCI has not fared too badly in restoring its pro-

grams because its expenditures have traditionally been principally for postdoctoral fellowships. However, the other institutes which have supported the bulk of the training in the past, particularly the predoctoral programs, have been the ones who have attracted most of the good young scientists into biomedical science in the first place. They have gone into cancer at a later stage. Therefore, it is principally in the other institutes that the restoration of this program is important. However, this restoration is just as important to the cancer program as to biomedical science generally.

The restoration of the training grant and fellowship programs on their previous scale would involve a very small cost in dollars today. The failure to restore this program may have incalculable costs if our brightest young men and women are not attracted by the opportunities in biomedical research. The biomedical community is unique in that historically it has been the government training and fellowship programs which have attracted the best young people. This is in no small measure responsible for the unique reputation which the NIH has enjoyed

in biomedical research. In restoring the training grant and fellowship authority, a formula could be imposed which would protect these funds against diversion into nontraining institutional channels if that is thought to be a potential abuse. However, it should be pointed out that our inquiries indicate that such diversions occurred in a very small percentage of the cases.

Organization. The NCI has done an exceptional job in the administration of this rapidly expanding program. The members of the staff of the NCI, the National Cancer Advisory Board, and scientists too numerous to mention who have been called upon for help have all collaborated to make the administration of this program effective.

We are grateful to OMB and to members of your staff for their help in 1974 in enabling us to obtain the minimum personnel expansion required for the management of the program. We will have to have additional personnel in 1975 to administer the program effectively, and we may again need your help. As you know, the dollars and the

responsibilities have increased far more rapidly than the people, and we must not become ineffective for lack of authorization for the minimum personnel required to administer the program.

One of the most disturbing organizational problems in the NCI is the fact that we have a salary ceiling of \$36,000. Neither the Director nor the members of his senior staff can be paid more than this amount. Today there are 80 people receiving the top salary. This means that the senior people have received no salary increase for 3½ years despite the rapidly increasing cost of living. This has been a most serious impediment to the hiring of new top level personnel, and has prevented us from being able to hire in a number of cases the people who were needed to assist in the senior supervision of this very large program. To undertake the administration of a program of this size and importance, and to spend the amounts involved without paying the salaries necessary to hire the best people to administer it, would be considered foolish beyond description anywhere except government. However, we

have come to expect distortions of this sort in government.

Fortunately, the Director and many members of his senior staff are men of exceptional experience, competence, and ability and they have stayed with the program at substantial personal sacrifice because of their dedication and their commitment to the objectives of the program. However, we are currently losing two of our ablest senior administrators, Dr. Gordon Zubrod and Dr. Palmer Saunders, and the salary ceiling will add to the difficulty of recruiting high calibre replacements. As time goes on this will undoubtedly be more and more of a problem. I realize that this problem is government-wide, but it presents serious difficulties for the Cancer Program. Fortunately, the work which we get from the members of the National Cancer Advisory Board and from members of the scientific community does much to alleviate this problem.

Conclusion. We must continue to regard the Cancer Program as a long-term commitment by the Administration, the Congress and the American people. We will make progress as we go and

there is no doubt that the benefits of this program will be increasingly available to the American people as time goes by. However, neither the Congress nor the public must expect a quick breakthrough that will entirely rid us of the menace of cancer. We will expand our basic knowledge and improve our effectiveness but, unless we have an unexpected miracle of discovery, we must expect to be working with the cancer problem for many years to come.

Mr. President, I would like to express the sincere appreciation of the Panel, the Board, the staff of the Institute and, I am sure, the American people for your strong support of the Cancer Program. In urging that you extend your personal assistance to greater support for certain areas of fundamental biomedical research and for restoration of the training programs, the Panel wants to make clear that we have not lost sight of the tremendous support which we have received from you since the inception of this program. Much of that support is a matter of public record, but some of it has taken place within the councils of government, and your personal responsibility for it is

known only to those of us who have been participants. When we have needed more money or more people you have gotten them for us, and when we have run into other difficulties you have made it possible for us to surmount them. For all of this help and support we are most grateful.

Respectfully yours,



BENNO C. SCHMIDT

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
National Institutes of Health

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