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## Early Years of NIH Research Grants By Ernest M. Allen, Sc.D., January 22, 1980

Recodification of Public Health Service laws in 1944 into Public Law 410 included Section 301 to provide the Public Health Service with authorization for research grants. Thus, PHS acquired overall authority which had earlier (1938) been restricted to the National Cancer Institute.

[Dr. Rolla Eugene Dyer](#), Director of the National Institute of Health, was serving in 1945 as a member of the Committee on Medical Research of the Office of Scientific Research and Development. This committee had responsibility for the medical and biological component of the World War II expansive research effort. With the approval of Surgeon General Thomas Parran, Dr. Dyer agreed to accept the transfer of continuation support of 66 contract-supported projects.

Dr. J.R. Heller Chief of the Division of Venereal Diseases of the PHS at that time, agreed to the assignment of [Dr. Cassius J. Van Slyke](#), his deputy, to NIH to direct the activity. Dr. Van Slyke brought Ernest M. Allen with him; and together they established the Office of Research Grants, which acquired Division status within a few months. Dr. Van Slyke had decided already to use the research grant as the mechanism of support rather than the contract because he believed the grantees should not be burdened with contract requirements existing at that time, such as quarterly financial and scientific progress reports.

Because the majority of the transferred projects involved the heavy use of penicillin, the price of which skidded simultaneously with the transfer, a considerable portion of the funds intended for continuation of the 66 projects became available for other grants. A letter was therefore sent to deans of medical schools that could be characterized as the most naive ever to leave NIH. The deans were informed that limited funds were available, and they were invited to submit letter justifications for project support. The flood of resultant requests, received for review by the National Advisory Health Council in September 1945, was eloquent evidence of the need for a continuing program.

### Program Growth

The quality of the applications recommended for approval by the National Advisory Health Council at the September and subsequent meetings persuaded the Congress to provide ever-increasing annual appropriations, a pattern that has been continuously followed through fiscal year 1980. The amounts from 1946 through 1953 will appear small in contrast to the current appropriation levels, but they represented actually a most significant percentage of growth, as follows [in the chart below]:

Fiscal Year	No. of Projects	Total Funds	Percentage Growth in Funds
1946	80	780,158	70.0
1947	354	3,437,280	340.6
1948	1,050	8,874,463	158.0
1949	1,133	10,871,492	22.5
1950	1,533	12,984,000	19.4
1951	1,723	16,374,128	26.1
1952	1,884	18,408,000	12.4
1953	2,000	20,518,000	11.5

These increases reflected strong bipartisan support of the House and the Senate, stimulated largely by the enthusiastic endorsement and help of influential non-Federal witnesses such as the American Cancer Society and particularly of Mrs. Mary Lasker whose help was truly outstanding. Each year the House increased the amounts recommended by the Bureau of the Budget, the Senate voted amounts larger than those of the House, and the Conferees recommended compromises nearer to the Senate figures than to those of the House. Senator Lister Hill and Congressman John Fogarty were the Subcommittee Chairmen who exerted the required leadership at that level.

Dr. Van Slyke recommended at the September 1945 meeting of the National Advisory Health Council that Study Sections of non-Governmental scientists have responsibility for the

scientific evaluation of all research grant applications. The result was the dual review that still prevails. The study sections were established in the Division of Research Grants<sup>1</sup> with one of the non-Federal members serving as chairman and one PHS member serving as part-time executive secretary. After two years, full-time professional staff were employed as non-voting executive secretaries; but one Public Health Service intramural scientist was named as a voting member. He was not a representative of a particular program; rather, he was selected because of his own professional expertise. These study sections accepted responsibility for review of applications based on scientific merit and confidence in the principal investigator. The National Advisory Health Council and the councils of the respective Institutes, as they were established, leaned heavily on study section recommendations; but, as today, they took program objectives into their consideration.

### The Study Section System

Initially, the study sections were formed primarily to meet needs identified by the nature of the applications. For examples, new drugs effective in the treatment of tuberculosis led to the establishment of the Tuberculosis Study Section, and the wartime need for better treatment of malaria resulted in the formation of the Malaria Study Section. Incidentally, [Dr. James A. Shannon](#), whose distinguished career as Director of the National Institutes of Health from 1955 through 1968, is widely acclaimed, accepted chairmanship of the Malaria Study Section in 1947 while he was director of the Squibb Institute for Medical Research. Other study sections were set up to represent the disciplines of medical and other professional schools such as physiology, biochemistry, hematology, pathology, and public health.



One of the very early scientific review groups that met in 1946—The Biochemistry and Nutrition Study Section.

The scientists selected to serve were the leaders in their fields, a significant number of whom were Nobel Prize winners and Lasker awardees. In the early years of the program these leaders reviewed the individual applications, and they also surveyed their own fields of research in order to stimulate and encourage research in areas needing more emphasis. Later, this latter role became the major responsibility of Institute staff and councils. It was gratifying indeed not only that these prominent and busy scientists accepted the burden of review, but also that many asserted at the end of their terms that the experience had been stimulating and most worthwhile to them personally. Since the members were invited to serve four years, with one fourth rotating off the sections each year, the group provided invaluable updated advice on the impact of policies or procedures. For example, the salary policy developed from one that paid no part of the salary of principal investigators to one that allowed summer salaries only and eventually to one that pro-rated salary according to the time spent on the project. An even better example was the indirect cost changing policy. At the September 1945 meeting of the National Advisory Health Council, there was a consensus that no allowance be made for indirect costs since grantee institutions should be willing to accept such costs. At the very next meeting, the Council members responded to grantee-institution pressure and recommended an 8% blanket allowance. How this 8% changed to 15% and finally to full indirect costs coupled with cost sharing is well known.

In fiscal years 1946-47 a separate appropriation was continued for the National Cancer Institute, with the NIH appropriation containing the funds for all other research grants of NIH, funds administered by the Division of Research Grants. In 1948 the National Institute of Health became the National Institutes of Health with the establishment of the National Institute of Dental Research, the National Heart Institute, the National Microbiological Institute, and the Experimental Biology and Medicine Institute. As these and additional institutes were established, the grants and funds represented by the categorical interests, were transferred from DRG to the respective institutes as the research-grant base for their separate appropriations. Later (1958) the responsibility for remaining non-categorical research grants

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<sup>1</sup> DRG is now the Center for Scientific Review.

was given to the newly established Division of General Medical Sciences, which soon acquired Institute status.

### Early Grant Policies

Credit for the immediate success and enthusiastic endorsement of the research grants program must be shared by the NIH staff already mentioned (Dyer, Van Slyke, Allen) with Dr. David E. Price, Dr. John D. Porterfield, Dr. Ralph G. Meader, Dr. Franklin Yeager, Dr. Kenneth M. Endicott, Dr. Frederick L Stone, and others who played most important roles. The major tribute must be paid, however, to Dr. Van Slyke, whose vision and wisdom and ability to use advice of Study Section and Council members led to the establishment of a philosophy and set of policies that still characterize the NIH program today. The following list of research grant procedures and policies developed in the early years of the program will validate the assertion:

1. Dual review including peer review by Study Sections
2. Central NIH coordination and development of common research grant policy for all Institutes and Divisions
3. Effective liaison with the Office of Naval Research and other Federal Government agencies, including the establishment of the Medical Sciences Information Exchange in DRG - currently continued as the Smithsonian Science Information Exchange
4. Scientific freedom of the principal investigator, perhaps the most important single concept
5. Maximum practicable control of grant budgets by grantee
6. Award of title of equipment to grantee
7. Carry-over of unexpended funds to continuation of years, which led later to the project period concept
8. Institution agreements on patent policy
9. Establishment of audit programs, subsequently transferred to HEW [now the Dept. of Health and Human Services]
10. Meetings with Chairmen of Study Sections to provide joint evaluation of grant policies



Cassius J. Van Slyke  
Lasker Award Photo

How these policies were developed and issued will surprise, perhaps startle, current administrators of research grants programs. Whereas new policies now require months and sometimes years to pass all stages of review, in the early years the Chief of the Division of Research Grants had the authority, later transferred to the Associate Director of NIH, for issuing new or modified policies. With consultative advice of study section and council members, these officials would meet with appropriate representatives of the Institutes, reach an agreement for approval of the Director of NIH, and issue the policy without further clearance - oftentimes within a few weeks. The Golden Age for policy development ended many years ago, but it was natural that it should in view of the increasing size and complexities of the various NIH grant programs.

Even in the early years most effective collaboration of Institutes was effected. A notable example was the Report of the Inter-Council Committee on Institutional Grants, dated May 23-24, 1952. The Committee had been charged with surveying and seeking advice of grantees of better methods and principles for determining the use of research grant funds. The Council members on this Committee and staff of the Division of Research Grants interviewed university officials and scientists at 14 universities in order to determine research needs. Their twenty-two page Report would be interesting to many program officials of today, but only two recommendations are mentioned here, selected because of their significant relationship to current programs. One recommendation was that supplemental fluid funds be provided to the grantee institutions to support pilot studies of promising youngsters, to purchase equipment needed in common by several grant supported projects, and to provide for other research needs as determined locally. This recommendation led to the eventual establishment of the General Research Support Grant. A second recommendation was for long-term stipends for non-tenure scientists following their training, stipends to be commensurate with ability,

stature, and age of the recipient researchers. This recommendation led to the establishment of the Research Career Development and Research Career Awards.

In net conclusion, one can agree that many highly important aspects of the NIH research grants program of today were either established or had their origins in the administration of the comparatively very small programs of the first seven or eight years.

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