# AD HOC SUBCOMMITTEE ON PROGRAM PROJECT GRANTS

National Cancer Advisory Board

National Cancer Institute

SUMMARY OF THE MEETING

December 17, 1982

Denver, Colorado

The first meeting of the National Cancer Advisory Board (NCAB) Ad Hoc Subcommittee on Program Project (P01) Grants was held in Denver on December 17, 1982; the attendees are listed in Appendix A. Dr. Maureen Henderson, in her opening remarks, indicated that although there was no fixed agenda for this meeting, she wanted to determine how much time would be needed to prepare a report for the NCAB and what information would be required. To focus the committee on the issues, Dr. Henderson asked Mrs. Barbara Bynum to reiterate the factors leading to the genesis of this committee and the specific charge to the committee.

Mrs. Bynum listed a series of concerns:

1. Throughout the history of the program project grants, it has been difficult to make these amorphous granting mechanisms palpable. There has been a problem in the attempts to distinguish between a simple accretion of ROIs and an integrated, cohesive group of of research projects which comprise a program.

2. The various institutes and divisions have viewed this mechanism in different ways. Within the National Cancer Institute (NCI)

there has been a dichotomy between the purely basic research programs and ones that are strongly clinical in nature and have multidisciplinary components. Program and review staffs have both been somewhat inconsistent in their handling of these applications.

3. A senior staff member of the Division of Cancer Treatment (DCT) put forth a position paper to protect the program project support mechanism. DCT views these grants as useful and viable methods of funding. They recommended that the method of appraisal of the PO1s needed some reexamination. The DCT Board of Scientific Counselors made some recommendations which were taken to the NCI staff retreat.

4. Discussions at the staff retreat in July, 1982 resulted in five "directives:"

° There should be considerable program staff interaction with a P01 principal investigator (PI) before submission of the application. This would begin with a letter of intent.

° Review of P01s would include assigning a numerical rating, priority score, to each defined subproject. Even projects recommended for disapproval should be assigned some kind of rating. Usually disapproved projects are not assigned priority scores.

- The relative importance of the individual subprojects could be subjected to some sort of weighting overlay.

- The core elements of the P01 should not receive a score.

- The scores assigned to the subprojects should be averaged in some way

5. These "directives", simple averaging, caused considerable distress among both the review staff and the members of the parent P01 review committees. The discussions concerning the potential problems of averaging resulted in some modification of the "directive" and the formation of the present committee.

The charge to the committee was to look again at the initial directives and to put them into a workable framework.

Following Mrs. Bynum's review of events leading to the formation of the committee and the charge, Dr. Henderson asked Dr. William Walter to provide a brief history of the stages of development of the P01 as it is now used. In the mid 1950's the NIH Clinical Center opened to serve as a resource for the intramural research program of NIH. As the extramural research programs expanded, there was a need for clinical support facilities in addition to the NIH Clinical Center. The General Clinical Research Centers program was developed to set up clinical facilities similar to the Clinical Center around the country. Support

was provided as a resource, i.e., to pay for hospital costs, nursing and general costs required for clinical research. The actual research efforts were to be supported by individual research grants.

As research efforts continued to expand, these general centers no longer totally met the needs of the research community. Two mechanisms were established to support major research efforts by groups of investigators, the P01 and P02. P01s supported mainly basic research and P02s were used to support research with strong clinical emphasis. The provisions of the P02 allowed unlimited alteration and renovation funds. This particular benefit of the P02 was dropped in the late 1960's and the P02 and P01 mechanisms were merged to the P01.

The National Cancer Act brought a tremendous growth in P01s into large umbrella grants. These soon became too cumbersome for the institutions to administer and most difficult for the review system to adequately appraise. The P30, or Center Grant, was developed essentially to return to the support of clinical resources. The P01 mechanism is about twenty years old and the Division of Research Grants guidelines of twenty years ago are essentially the same as they are now; we have come full circle.

A period of general discussion followed during which an attempt was made to define the perceived difficulties in the review process. Dr. Solomon initially expressed his confusion about the review problem. Mrs. Rynum addressed the criticism that poor projects were being included in large P01s and that the PI was not fulfilling his/her responsibility for assuring the scientific merit and

relevance of each project. She referred to an analysis prepared by Dr. Sanslone to assess the effects of a scoring system (similar to Dr. DeVita's suggested method) to encourage greater care on the part of the PI. Dr. Henney continued with an explanation of questions repeatedly raised by the NCAB and the Boards of Scientific Counselors. She also emphasized that no one wants to eliminate the P01 mechanism; rather, they want to be able to explain it better and strengthen it. The questions concern the relative rigor of the reviews of P01s versus the individual research projects, R01s. In addition, in a period of flat budgets, such as we have had for the last three years, the relative impact of P01 versus R01 is frequently discussed. Some of the complaints again center on the question of whether it is possible to review P01s as stringently as R01s and whether investigators put in large numbers of less meritorious projects. Dr. Mueller suggested that the specifics of the review processes, for both R01s and P01s, be discussed. Dr. Kirsten made a plea for strengthening support for the P01 mechanism.

Dr. Cain then presented some data on currently active P01s to clarify the extent of support of research through this mechanism. About 75% of NCI's total budget goes toward grants and contracts. Over 50% of this is devoted to investigator initiated research projects, i. e., R01s and P01s. Of the total NIH supported P01s, ~~about 300~~ 557, the NCI supports 157 at a cost of $125 million. The breakdown by Division is as follows:

| Division | # of P01s | Total $(millions) |
|---|---|---|
| DRCCA | 2 | 1.3 |
| DCBD | 40 | 27. |
| DCCP | 43 | 30. |
| DCT | 72 | 67. |

The range of cost per grant is from $650,000 to $29.3 million with the average being $800,000 per year. These figures include indirect costs. The average number of projects per P01 is seven so that the average cost per project of a P01 is approximately the same as the average per annum cost of an R01. This data led to further discussion of the problems encountered in explaining to the scientific community at large that the P01 is not really more expensive than the R01. The community generally reacts to the fact that 5% of the NCI's grants, based on numbers, account for about 30% of the dollars; they have not considered the cost per project.

At this point, the committee members were asked to present their views and the views of the review committees they represent on the problems related to the P01 mechanism. Although there were differences of opinion, there were several issues addressed by all of the members. One of these concerned whether or not the PI should be penalized for including less meritorious projects. Dr. Solomon expressed the view that the onus should not be on the PI because this would discourage risk taking, novel ideas, and inclusion of young investigators. Dr. Bartels suggested that the PI must take some responsibility for what is included, and that the PI suffers some because the reviewers object to having to review really poor projects. Dr. Colvin, quoting a letter from Dr. Mendelsohn, indicated that the reviewers have to consider not only the absolute scientific merit of the project but also whether the results are essential to the program as a whole.

A number of members addressed the idea that P01s have significant value because of the synergism of an integrated program; the whole is equal to more than the

sum of its parts. Drs. Solomon and Colvin said that this is particularly true of clinical efforts.

Dr. Kirsten emphasized that there should be comparability of review from committee to committee. Dr. Eltringham suggested that this was the issue under discussion; the committee must decide whether there can or even should be uniformity in the review process. Along these same lines, Dr. Mueller questioned the special review procedures and suggested that the standing committees may ameliorate problems of inconsistency.

In general, the discussion returned over and over again to comments about the great value of the P01 grant and the necessity of this funding mechanism. The most important aspect cited was the interdisciplinary nature of these programs and the resulting synergism.

NCI staff members added to the above discussion by recognizing that there are differences in the way the different committees operate. Dr. Sanslone presented results of a study which indicated that scoring behavior was actually quite similar across committee and even institute lines. Staff also indicated that PIs are penalized to some extent for inclusion of poor projects, at least when the issue of leadership is assessed. Dr. Cain presented extensive data concerning rates of disapproval. The first graph indicated that the rate of disapproval of individual projects was consistent over a two-year period (1981, 1982). A scatter plot of priority scores versus percentage of projects disapproved over the same time period appeared to indicate that there is not a high correlation between these two factors. Similar scatter plots for applications reviewed by the different committees indicated that the plot of the total population was

reasonably representative of the individual committee behavior. On closer scrutiny, there did appear to be a trend in the data supporting the expectation that priority scores were generally lower for applications which had more individual projects disapproved.

There was considerable discussion of the problems and good points of special review committees. These committees have a readback of the report at the site visit to assure consensus and consistency of the review. However, with large programs the number of projects is too great to allow sufficient time for extensive discussion.

Dr. Henderson then asked the committee to determine what information was needed to deal with the specifics of the charge. First, the opinion was expressed that the charge should not simply be to set up a scoring system but should include a consideration of the reliability and comparability of the components of the review process. Dr. Henderson emphasized that appropriate data must be collected to support any statements made concerning the validity of the review. The ensuing discussion attempted to delineate the objectives of the P01 based on the DRG definition. Suggestions for additional objectives such as bringing together newer and more experienced investigators were discarded. The committee moved on to consideration of the review criteria as presented on page 6 of the proposed NCI P01 guidelines. Dr. Henney brought the discussion back to the idea of weighting the priority of the various subprojects. Dr. Henney and Dr. Henderson requested that a matrix be generated to delineate common elements and differences in the review process as practiced by the different standing review committees.

Most of the afternoon was spent discussing the criteria for the review process (page 6-7a of draft guidelines) and the specific information related to this process which the committee will need to complete its analyses. These can be summarized as follows:

1. When reviewing the individual projects, how does each committee evaluate the following questions: how do the individual projects relate to the theme of the program; how well are they integrated; will there be a synergistic effect?

2. How do the committees address issues of scientific overlap; what background information is provided to members of the review teams?

3. How are questions related to program leadership handled; do the committees discuss the fate of the program if the PI should leave the institution or if one or a few of the project leaders should leave?

4. What criteria are used when choosing reviewers for a site visit team? Data was requested on the numbers of parent committee members present on special review site visits; personal experience of reviewers with the POI mechanism; and balance of site visit teams with respect to ad hoc vs. committee members and clinical vs. basic scientists.

5. What procedures are used for reporting back to the standing review committees; how is continuity between the site visit team and the parent committee established and maintained?

6. When considering the review of the integrated effort, how do the committees address the following issues: continued support for a "national resource" (e.g., a unique patient population), the uniqueness of the program, and the ongoing commitment of the institution to the program?

Two other important issues were raised. The first concerned shared resources. Often a collection of R01s loosely tied to a theme will be submitted as a P01 in order to gain support for a shared resource. The resource may be very important and improve the scientific efficiency of a department, but the collection of projects do not constitute a P01. The suggestion was made that PI's should be informed about existing NIH programs which support shared resources. In addition, there was discussion of the possibility of an NCI funding mechanism to support resources, such as mouse colonies, which are used by people involved in both R01s and P01s.

The second issue concerned the appropriate size of a P01. There was considerable discussion concerning the determination of appropriate size and how to communicate these ideas in the guidelines. Dr. Cain said he would collect data on how other institutes deal with the issue of size of P01 programs. The wording of the guidelines will be reviewed by staff. Dr. Henney also suggested that the

letter of intent would serve as a starting point for the discussion of appropriate size with the program administrator.

The next meeting was set for February 2 and 3, 1983 in Bethesda, following the NCAB meeting.