

# Establishment of Multiple Principal Investigator Awards for the Support of Team Science Projects

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## Key Dates

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## Issued by

National Institutes of Health (NIH), (<http://www.nih.gov>)

**Implementing the Multiple Principal Investigator Policy:** Beginning with research grant applications submitted for February 2007 receipt dates, the NIH will allow applicants and their institutions to identify more than one Principal Investigator (PI). The Multiple PI option will be extended to most research grant applications submitted electronically through Grants.gov (<http://www.grants.gov/>) using the SF424 R&R application package. Grant applications that will accommodate more than one PI beginning in February include: R01, R03, R13/U13, R15, R18/U18, R21, R21/R33, R25, R33, R34, R41, R42, R43, and R44, (see [http://era.nih.gov/ElectronicReceipt/strategy\\_timeline.htm](http://era.nih.gov/ElectronicReceipt/strategy_timeline.htm)). Some types of applications including individual career awards (K08, K23, etc.), individual fellowships (F31, F32, etc.), Dissertation Grants (R36), Director's Pioneer Awards (DP1), Construction Grants (C06/UC6), and Shared Instrumentation Grants (S10) will not accommodate more than a single PI. The restriction to a single PI will be described in announcements for those programs.

The NIH will extend the multiple PI option to most research grant applications when they transition to an electronic format. Some paper applications submitted on PHS 398 application forms also will allow inclusion of more than one PI, but only when the multiple PI option is clearly specified in the soliciting Request for Applications (RFA) or Program Announcement (PA). Other paper applications listing more than one PI may be delayed in the review process or returned to the applicant.

The decision to apply for a single PI or a multiple PI grant will be the responsibility of the investigators and the applicant organization. Those decisions should be consistent with and justified by the scientific goals of the project. As described in the Background section below and on the Multiple Principal Investigator website at [http://grants.nih.gov/grants/multi\\_pi/index.htm](http://grants.nih.gov/grants/multi_pi/index.htm), the NIH expects the availability of the Multiple PI option to encourage interdisciplinary and other team approaches to biomedical research.

**Features of the Multiple PI Option:** The Multiple PI option will include the following features beginning in February 2007:

- **Applications**
  - NIH Grant Applications Forms including the PHS 398 and SF424 R&R will accommodate more than one PI (see application forms at <http://grants1.nih.gov/grants/forms.htm>)
  - Applications that involve more than one PI must include a Leadership Plan that describes the roles, the responsibilities, and the working relationship of the identified PIs (see application instructions below)
- **Principal Investigators**
  - All PIs are designated by the applicant institution (see definition of PI below)
  - All PIs share the responsibility and authority for leading and directing the project (see definition of PI below)
  - All listed PIs must be registered in eRA Commons with a PI role type.
  - All listed PIs will have access to Status on the eRA Commons at <https://commons.era.nih.gov/commons/>
  - The first PI listed must be affiliated with the institution submitting the application and will serve as the contact PI.
  - The contact PI will be responsible for communication between the NIH and the rest of the leadership team.
  - Being named contact PI does not imply any particular role within the leadership team.
  - When requested by the grantee institution at the time of a non-competing application, another member

of the leadership team may assume the role of contact PI.

- All PIs will be listed on summary statements
  - All PIs will be listed on the Notice of Grant Award (NOGA)
  - All PIs will be listed in CRISP (see <http://crisp.cit.nih.gov/>)
  - Any requested allocation of funds to components of the project or the associated PIs must be included in the Leadership Plan (see below). If an award is made, the requested allocation will be acknowledged in the NOGA. Unless limited by a specific term of award, the acknowledgment of the requested allocation will not limit institutional authority to manage the funds nor will it impose additional prior approval requirements.
  - The role type, "Co-PI" will not be used by the NIH
- **New Investigator Policies**
    - NIH policies related to New Investigators will be applied to applications only when all PIs involved are classified as New Investigators (see [http://grants.nih.gov/grants/new\\_investigators/resources.htm](http://grants.nih.gov/grants/new_investigators/resources.htm)).
    - The New Investigator Box on the application may be checked only when all PIs involved are classified as New Investigators (see instructions for Section 5.3 of the SF 424 R&R application at [http://grants.nih.gov/grants/funding/424/SF424\\_RR\\_Guide\\_General\\_Ver2.doc](http://grants.nih.gov/grants/funding/424/SF424_RR_Guide_General_Ver2.doc)).
    - For the purpose of classification as a New Investigator, serving as a PI on a multiple PI grant will be equivalent to serving as a PI on a single PI grant.
  - **Review Criteria**
    - Standard NIH review criteria have been modified to accommodate both single PI and multiple PI applications (see below)
  - **Awards Involving More Than One Institution**
    - Awards involving PIs at different institutions will be managed using subcontracts until options involving linked awards have been developed.

**Features of the Multiple PI Option Still Under Development:** The following Multiple PI options are still being developed or assessed:

- The ability to manage research projects using linked awards involving PIs located at more than one institution is being developed.
- The ability to recognize non-PI key contributors to the project is being developed.
- The desirability of formally apportioning funds under a grant to various components of a project or the PIs associated with those components will be assessed.

**Background and Purpose:** The NIH announced a pilot initiative involving applications that permitted more than one PI on February 7, 2006 (see <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-06-036.html>). As indicated in that announcement, it is believed that the multiple PI option will offer a new and important opportunity for investigators seeking support for projects or activities that require a "team science" approach and which do not fit the single-PI model. The multiple-PI model is intended to supplement, and not to replace, the traditional single PI model. The goal is to encourage collaboration among equals when that is the most appropriate way to address a scientific problem. Although the number of applications submitted with more than one PI is expected to be relatively small compared with those that continue to use the traditional single-PI format, the ability to submit applications with more than one PI should encourage multidisciplinary efforts. This effort was undertaken in response to recommendations from the 2003 NIH Bioengineering Consortium (BECON) Symposium, "Catalyzing Team Science" (see <http://www.becon.nih.gov/symposium2003.htm>); as a 2005 Roadmap initiative to stimulate interdisciplinary science (see <http://nihroadmap.nih.gov/interdisciplinary/>); and in response to a directive from the Office of Science and Technology Policy (OSTP) issued to all federal research agencies in January 2005 (see [http://rbm.nih.gov/PI\\_memo\\_050104.pdf](http://rbm.nih.gov/PI_memo_050104.pdf)). The policies have been shaped by responses to a Request for Information (RFI) issued by OSTP (see <http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/pdf/05-14015.pdf>) and a second RFI issued by the NIH (see <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-05-055.html>). The NIH also conducted a pilot, receiving more than 60 applications that included multiple PIs in response to nine different Requests for Applications (RFAs) and Program Announcements (PAs). In addition, the NIH has held detailed discussions with the Council on Governmental Relations, the National Council of University Research Administrators, the Association of American Medical Colleges, the Federation of American Societies for Experimental Biology and other organizations to

discuss the features and the policies associated with the multiple PI option.

**Findings from the Pilot:** During the period of the pilot a number of applicants and peer reviewers were interviewed. Nearly everyone expressed support for the concept and offered constructive comments that have been incorporated into the instructions and review criteria shown below. During the Pilot, peer reviewers expressed the following reservations about applications that included teams of scientists:

- In some cases, applications described projects that included PIs that did not have an identified function within the leadership team based on their expertise and the nature of the project.
- In some cases applications identified PIs who seemed too junior to function in a leadership role and in other cases it appeared that senior PIs were included in what might be a considered a "courtesy role".
- In other cases, it appeared that the leadership team had been expanded only to justify additional salary support for involved personnel.

In each of these cases, reviewers felt that the multiple PI approach detracted from the perceived merit of the application.

Reviewers expressed hope that NIH would provide sufficient guidance to future applicants so that the decision to use a team approach was driven by the nature of the project and carefully justified in the Leadership Plan section of the application. Although the multiple PI option can facilitate interdisciplinary and other types of team research, PIs should take care to explain how the members of the leadership team will function on the project and how their inclusion will facilitate the accomplishment of the identified aims of the project.

Based on information received, the NIH developed the following definitions and instructions for the initial roll-out of the multiple PI option. It is expected that the NIH will continue to learn about collaborative approaches. Future input will lead to additional refinement of instructions and policies. The following information has been incorporated into the templates for RFAs and PAs as well as the instructions for completing the PHS 398 and the SF424 R&R application forms. In addition, the standard five NIH review criteria have been modified to accommodate both single-PI and multiple-PI applications and are shown below. To adjust to electronic applications and the SF424 R&R, the PI is referred to as the Program Director/Principal Investigator (PD/PI) in these instructions to accommodate a broader range of application types. Additional information including Frequently Asked Questions (FAQs) has been updated on the NIH Multiple PI website at [http://grants.nih.gov/grants/multi\\_pi/index.htm](http://grants.nih.gov/grants/multi_pi/index.htm)

**NIH Definition of a Principal Investigator:** The individual(s) judged by the applicant organization to have the appropriate level of authority and responsibility to direct the project or program supported by the grant. The applicant organization may designate multiple individuals as PD/PIs who share the authority and responsibility for leading and directing the project, intellectually and logistically. Each PD/PI is responsible and accountable to the applicant organization, or, as appropriate, to a collaborating organization, for the proper conduct of the project or program including the submission of all required reports.

The presence of more than one identified PD/PI on an application or award diminishes neither the responsibility nor the accountability of any individual PD/PI.

**Deciding to Use the Multiple PI Option:** The decision to apply for a single PD/PI or multiple PD/PI grant is the responsibility of the investigators and the applicant organization and should be determined by the scientific goals of the project.

Applications for multiple PD/PI grants will require additional information, as outlined in the instructions. The NIH review criteria for approach, investigators, and environment have been modified to accommodate applications involving either a single PD/PI or multiple PD/PIs. When considering multiple PD/PIs, please be aware that the organizational structure and governance of the PD/PI leadership team as well as the knowledge, skills and experience of the individual PD/PIs will be factored into the assessment of the overall scientific merit of the application. Multiple PDs/PIs on a project share the authority and responsibility for leading and directing the project, intellectually and logistically. Each PD/PI is responsible and accountable to the grantee organization, or, as appropriate, to a collaborating organization, for the proper conduct of the project or program, including the submission of required reports. For further information on multiple PD/PIs, please see [http://grants.nih.gov/grants/multi\\_pi](http://grants.nih.gov/grants/multi_pi).

**Multiple PD/PI Leadership Plan:** For applications designating multiple PD/PIs, a new section of the research plan, entitled "Multiple PD/PI Leadership Plan" (section 14 of the Research Plan Component in the SF424 R&R or Section I of the

Research Plan in the PHS 398), must be included. A rationale for choosing a multiple PD/PI approach should be described. The governance and organizational structure of the leadership team and the research project should be described, including communication plans, process for making decisions on scientific direction, and procedures for resolving conflicts. The roles and administrative, technical, and scientific responsibilities for the project or program should be delineated for the PD/PIs and other collaborators. If budget allocation is planned, the distribution of resources to specific components of the project or the individual PD/PIs must be delineated in the Leadership Plan. In the event of an award, the requested allocation may be reflected in a footnote on the NOGA.

#### **Standard Review Criteria Modified to Accommodate Applications with and without Multiple PIs:**

**Significance:** Does this study address an important problem? If the aims of the application are achieved, how will scientific knowledge or clinical practice be advanced? What will be the effect of these studies on the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?

**Approach:** Are the conceptual or clinical framework, design, methods, and analyses adequately developed, well integrated, well reasoned, and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative tactics? For applications designating multiple PD/PIs, is the leadership approach, including the designated roles and responsibilities, governance and organizational structure consistent with and justified by the aims of the project and the expertise of each of the PD/PIs?

**Innovation:** Is the project original and innovative? For example: Does the project challenge existing paradigms or clinical practice; address an innovative hypothesis or critical barrier to progress in the field? Does the project develop or employ novel concepts, approaches, methodologies, tools, or technologies for this area?

**Investigators:** Are the PD/PI(s) and other key personnel appropriately trained and well suited to carry out this work? Is the work proposed appropriate to the experience level of the PD/PI(s) and other researchers? Do the PD/PI(s) and the investigative team bring complementary and integrated expertise to the project (if applicable).

**Environment:** Do(es) the scientific environment(s) in which the work will be done contribute to the probability of success? Do the proposed studies benefit from unique features of the scientific environment(s), or subject populations, or employ useful collaborative arrangements? Is there evidence of institutional support?

## **Inquiry**

For additional information please visit the Multiple Principal Investigator website at [http://grants.nih.gov/grants/multi\\_pi/](http://grants.nih.gov/grants/multi_pi/) and feel free to send email to [multi\\_PI@mail.nih.gov](mailto:multi_PI@mail.nih.gov).

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