

ADMINISTRATIVE GUIDELINES

**NIDDK
CENTERS
OF
EXCELLENCE IN HEMATOLOGY**

2004



National Institute of Diabetes and Digestive and Kidney Diseases

PART I - DESCRIPTION AND STRUCTURE OF A CENTER OF
EXCELLENCE IN MOLECULAR HEMATOLOGY

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A. INTRODUCTION

In fulfilling its mission to support research and research training, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) supports a number of grant programs for interested investigators. These programs include various research, program project, and career development awards; institutional training grants and individual training fellowships; and Center grant programs. This document describes the administrative guidelines for the Centers of Excellence in Molecular Hematology (CEMH) program. This program was initiated by the NIDDK to provide a needed resource for the hematology research community.

CEMH awards are funded by the Core Center grant (P30) mechanism and provide a means for integrating, coordinating, and fostering interdisciplinary research in hematology and related disorders by a group of established investigators actively conducting programs of important, high-quality research that relates to a common theme. The Division of Kidney, Urologic and Hematologic Diseases (DKUHD) within the NIDDK currently supports three CEMH grants.

B. DESCRIPTION and BASIC REQUIREMENTS

A CEMH (hereafter known as a Hematology Core Center) must be an identifiable organizational unit within a single university medical center or within a consortium of cooperating institutions with a university affiliation. The overall goal of a Hematology Core Center is to bring together, on a cooperative basis, basic science and clinical investigators to enrich the effectiveness of research on hematologic and related disorders. The mechanism for accomplishing this is the P30 Core Center grant that provides support for shared resources, termed "cores", which enhance productivity or benefit a group of investigators working to accomplish the stated goals of the Hematology Core Center. Thus, the purpose of a Hematology Core Center grant is to provide an added dimension: the capability and the potential for accomplishments greater than those that would be possible by individual research project grant support alone.

To qualify for a Hematology Core Center grant, the applicant institution **must** already have a substantial base of ongoing, independently supported, peer-reviewed research projects related to hematology. This currently funded research base provides the major support for a group of investigators who would benefit from shared resources. Hereafter in these guidelines, this body of biomedical research in hematology and related disorders will be termed "research base" and will include only currently funded, peer reviewed research grants awarded to the applicant institution. These may be federally or privately funded awards; training grants and fellowship awards are not considered part of the research base. (For new Hematology Core Center grant applications, see Part I, section D.)

Scientific/technical merit must be the most important element considered during the peer review process. The research base existing prior to the submission of an application also is among critical elements to be considered. Focus, relevance, interrelationships, quality, productivity, and, to some extent, quantity, are all considerations in judging the adequacy of the research base. Collaborations with investigators outside the applicant institution/consortium are encouraged.

Multi-institutional domestic applications are encouraged. Such applications must feature existing collaborations among investigators, and specific documentation of existing collaborations must be included in the application. Multi-institutional Center applications will be required to encourage regional or national use of cores.

The Hematology Core Center must have a central research focus or theme. This central focus must be a hematologic disease or group of diseases, or functional studies relating to hematology.

The majority of the research base must relate to this central focus. Areas addressed by the NIDDK Hematology Core Center programs should relate to announced hematologic research emphases of the NIDDK including:

- the molecular and cellular biology of hematopoiesis and hematopoietic stem cell biology
- erythropoietin and hematopoietic growth factors
- receptor biology and signaling
- blood cell metabolism; membrane biology and ion transport, or heme metabolism
- globin biosynthesis and its genetic regulation
- iron absorption, storage and metabolism; pathophysiology of iron overload, and strategies for therapeutic intervention
- approaches and techniques for gene therapy using hematopoietic cells.

Potential applicants must consult with NIDDK staff concerning plans for the development and organization of a Center, to determine whether its scope fits within the NIDDK mission related to hematology.

The previously mentioned cores are shared facilities that serve to enhance or make more cost effective services, techniques, or instrumentation to the investigators within the Hematology Core Center. Cores should extend, support, and contribute to the work of the Center members. A Center should have a minimum of three cores in addition to the Administrative Core (described below). The latter is a required element for every Hematology Core Center.

A new category of Cores that is being encouraged is the Regional/National/International Core. These Cores serve specific scientific communities on a regional, national or international level. The research base for cores used as a regional, national or international resource should be considered the "extended research base". The extended research base could include all investigators who might expect to use the core in some way. This may include investigators who would be expected to fully compensate the core service through a charge-back, and thus would not be obtaining direct financial assistance from the Center. The list may include investigators who use the core services but otherwise have no collaborative interactions with other Center investigators. The extended research base should be defined as an entity separate from the institutional research base. For review purposes it should be evaluated as part of the core, in order to distinguish it from the local institutional research base.

In addition to cores, the other two activities that may be supported by Hematology Core Center

funds are a pilot and feasibility (P&F) program and an enrichment program.

The P&F program provides modest support for new initiatives or feasibility projects for either new investigators or for established investigators who are moving into research areas of direct interest to the Hematology Core Center. These areas may include biomedical, molecular biologic, or biochemical research as they pertain to the Hematology Core Center goals.

The enrichment program provides limited funds to sponsor activities such as seminars, visiting scientists, workshops, and mini-sabbaticals for Center members. These activities are aimed at fostering scientific exchange of ideas to enhance the productivity and efficiency of the Hematology Core Center.

Eligibility for an award is limited to domestic institutions, although participation by foreign investigators is permitted.

C. ADMINISTRATIVE CORE COMPONENT

Description

Since a Hematology Core Center will involve the interaction of personnel in several departments and the allocation of resources within the institutions involved, lines of authority and sanction by the appropriate institutional officials must be clearly specified. The Administrative Core will have the responsibility for maintaining these lines of authority, coordinating the various functions of the Hematology Core Center, and serving as the visible contact point between the university community and the Hematology Core Center. Therefore, each Hematology Core Center must contain an Administrative Core.

Requirements

Each applicant institution specifies a Core Center Director to be responsible for the scientific and administrative leadership of the Center. The Director should be an experienced and respected scientist with a proven track record for obtaining NIH funding. He/she must be able to coordinate, integrate, and provide guidance in the establishment of new programs in cystic fibrosis research. This commitment will require significant effort from the Center Director. Each Center Director is expected to commit 20% overall effort to the Center. One or more Associate Directors should be named who will be involved in the administrative, scientific, or training efforts of the center and will serve as Acting Center Director in the absence of the Director. An administrative assistant may also be proposed.

It is expected that the organization of the Administrative core should encompass a supportive structure sufficient to ensure accomplishment of the following:

- (1) coordinating and integrating the Center components and activities,

- (2) overseeing the solicitation, review and selection of pilot and feasibility studies,
- (3) reviewing the utilization and quality of core resources
- (4) interacting with the scientific and lay communities and the NIDDK in developing goals.

The final administrative structure of the Center will be left largely to the discretion of the applicant institution (subject to review by NIH peer review mechanisms). However, NIH experience has demonstrated that the effective development of the Center programs requires close interaction between the Center director, the principal investigators, appropriate institutional administrative personnel, the staff of the awarding agency, and the members of the community in which the Center is located. Therefore, each Center applicant should establish an administrative structure which will permit the development of such interaction. Within this structure, each applicant institution must also establish a mechanism to oversee the use of funds for the proposed pilot and feasibility program. This mechanism must include the use of appropriate consultants for review from the scientific community outside the Center institution or consortium institutions. Consultants who will serve on advisory committees should not be specifically identified in the application but the process by which they will be selected should be described. These same consultants may be utilized, if desired, for review of other activities of the Center.

The mechanism for reviewing the use of the pilot and feasibility funds will be considered by the initial review groups in the evaluation of the Center applications. Further details regarding this mechanism will be found below in the discussion of the pilot and feasibility program. The projects selected to receive these funds will be described by the Centers in their annual reports and will be reviewed by the NIDDK Staff for eligibility in its annual evaluation of the Center program. Funds for the Pilot and Feasibility program should be listed in the "Other" category in the budget of the Administrative Core. The Center grant may also include limited funds for program enrichment (e.g., for seminars, visiting scientists, mini-sabbaticals, yearly scientific retreats, etc.), that organizationally should be included within and administered through the Administrative Core. Plans for program enrichment must be included in the application.

The initial base of research projects to be served by the cores must be clearly defined in the application. The process by which additional projects will be selected to utilize the core resources and by which selected projects will be prioritized must be delineated. There should be well defined criteria for designating an investigator as a Center participant. Each Center, however, is expected to formulate these definitions based on its own situation.

Centers need to develop policies and procedures for change of core functions. Examples include: new technologies or services that should be supported might appear; existing technologies might become less important; or economic changes might obviate the need for core services, such as the availability of cost-effective commercial services or core services provided by the research institution. Cores should address the issue of allocation of resources to development of new technologies in comparison to provision of services with existing technologies.

Although facilities available should be described for each element of the application, a more general description of overall facilities and a statement regarding institutional commitment to the Center should also be included here.

Criteria for designating an investigator as a Hematology Core Center participant (Hematology Core Center investigator or member) should be clearly defined. Subsets of members based on their degree of participation or other quantitative measures are acceptable. Suitable criteria include peer-reviewed independent funding or participation in hematology-related research.

D. BIOMEDICAL RESEARCH COMPONENT (Research Base)

Since the Hematology Core Center grant provides a mechanism for fostering interdisciplinary cooperation among a group of established investigators conducting high quality research involving the etiology, treatment, and prevention of hematologic and related disorders, the existence of a strong hematology research base is a fundamental requirement for and the most important aspect of a Hematology Core Center.

At least 50 percent of the already funded research base in a new application must be supported by the NIH. In competing continuation applications the percent may be less than 50 percent due to, for example, a growing research base of investigators entering hematologic diseases from other fields. Applicants should include an overview of current hematology-related research being conducted at their institution in sufficient detail to allow reviewers to judge its extent and the interrelationship of ongoing research.

Details on preparing an application for a Hematology Core Center can be found in Part II of these guidelines.

E. CORE FACILITIES

Definition

A biomedical research core in a Hematology Core Center is a shared facility or resource that provides services needed by Hematology Core Center investigators. Cores enhance productivity, or in other ways benefit research programs by investigators working to accomplish common goals, and enable investigators to conduct their independently funded individual research projects more efficiently and/or more effectively. Cores should be designed to furnish a group of investigators with some technique, determination, clinical service, expertise, or instrumentation that will enhance the research progress, consolidate manpower, and contribute to cost effectiveness. A minimum of three service cores in addition to the Administrative Core are required to justify the existence of a Hematology Core Center.

Some of the principal reasons to establish shared resources are to:

- Avoid duplication of effort and to enhance cost-effectiveness;

- Promote optimum utilization and improve availability of scarce or expensive resources or scarce expertise;
- Provide technical assistance, training and other staff enrichment;
- Achieve standardization of reagents or methods to improve comparability of research findings.

Cores may be proposed in relation to any acceptable research activity of the Hematology Core Center. The characteristics of shared resources depend primarily on the organizational structure within which the investigators are located. Examples of types of shared resources provided by Centers include:

- Collection, storage and distribution of data and samples;
- Provision of specialized tools and technologies or access to specialized expertise;
- Development, standardization and distribution of reagents and/or protocols;
- Provision of technical assistance, training, and enrichment programs;
- Recruitment of patients and coordination of patient studies;
- Beta-testing and dissemination of specialty assays, methods, and services on an institutional level;
- Increase interdisciplinary interactions at the institution through cross-project/ laboratory exchange;
- Sharing of specialized tools, technologies and expertise among collaborating investigators.

Three major categories of shared resources have been identified:

1. National Shared Resources - these represent cores that serve specific scientific communities on a national level.
2. Institutional Cores - these cores serve the scientific communities at the level of a single institution or sometimes a set of cooperating institutions, similar to the National Shared Resources.
3. Project Cores - these facilities serve a specific group of investigators working on interacting projects.

Cores are not intended to supplant investigator capabilities, but rather to enhance them and provide opportunities for investigators and their staffs to learn and then become proficient in

technologies available through the core. Teaching investigators and/or their staffs complex techniques and methodologies is an important function of a core.

In addition to providing products or services, a core must maintain appropriate quality control. **Limited developmental research** is an appropriate function of a core facility as long as it is directly related to enhancing the function or usefulness of the core and is not an undertaking that should more appropriately be funded through other mechanisms.

Requirements

The establishment of and continued support for a biomedical research core within a Hematology Core Center is justified solely on the basis of use by independently funded Hematology Core Center investigators (i.e. members of the research base). The minimum requirement is **significant usage by two or more** principal investigators (including the core director if he/she is part of the research base), each with an independently funded peer-reviewed project. Use by two members funded by the same grant does not constitute adequate usage of a core; the **number of projects** being supported also will be considered in the justification for establishing a core. Investigators holding awards from the Hematology Core Center P&F program are appropriate users of the core facilities, but their use **will not** contribute substantially to the justification for establishing or continuing a core.

A core with a minimum number of users must be justified adequately and plans to broaden the number of core users should be outlined for any core that is not used extensively but is considered essential by the Hematology Core Center administration.

A director must be designated for each core. Core directors usually will be acknowledged experts with independently funded research programs who will use the core services themselves. Therefore, the percent effort for the core director requested from the Hematology Core Center will be relatively low, typically 10 to 20 percent. While it is expected that all core directors and co-directors will be Center members, occasionally experts in the specialty area required by the core who are not part of the research base may be appropriate core directors. Sufficient and compelling reasons must be given for appointing any core director/co-director who is not a Center member.

A core director also may be a junior scientist (who may or may not be a part of the research base) with appropriate expertise that devotes a significant effort to the core. However, an established expert must be included as a consultant to the core when a junior scientist assumes the role of core director. Furthermore, the career potential and institutional commitment to junior scientist core directors will be considered in the review of the Hematology Core Center (see Part III).

Research assistants, associates, analysts, technicians, and other qualified individuals are acceptable personnel for a core when appropriate for the volume and type of work anticipated. Research fellows on National Research Service Awards (NRSA) are not appropriate as personnel

for a core.

Access and reimbursement

Applications must precisely discuss policies regarding access to core services, including: investigator eligibility requirements for services; policies and procedures for prioritization of services when demand exceeds capacity; and financial considerations, such as calculations that justify investment of funds in core services and policies regarding charges to investigators for use of services.

Sufficient space for core activities along with access to appropriate facilities must be arranged for a Center to exist. Centers are strongly encouraged to enter into cooperative arrangements with cores established as parts of other Centers at the institution, or other Centers in close proximity, which offer a similar type of service. A charge-back system may be developed to allow investigators to utilize the shared facility. These arrangements are important whenever greater efficiency or cost savings can be realized by such an agreement. Charge-back fees are allowable budgetary items in the investigators' individual research project grants. Mechanisms must be established to monitor budgetary adjustments and provide assurance that Hematology Core Center investigators using cores can provide a clear and satisfactory explanation of their relationship to the Hematology Core Center in their individual grants.

Occasionally, it is advantageous for a Hematology Core Center to provide support for appropriate personnel to work specifically for Hematology Core Center members in an existing facility (e.g. transgenic animal core) at the institution. In this case, the designated Hematology Core Center core director must work closely with the parent facility core director to coordinate services.

Independently functioning core facilities are most usual, however. It is acceptable for the Hematology Core Center to charge nominal fees to individual users for core services in this instance, also. Fees generated by such charges are considered "program income". Policies relative to program income may be found at

http://grants1.nih.gov/grants/policy/nihgps_2003/NIHGPS_Part8.htm#_Toc54600138

Each core must have a pre-established plan for its operation. Qualifications required for using the core facility and plans for prioritizing use must be clear. Limited use of cores by established investigators in other fields is encouraged. The Hematology Core Center must decide upon the approach to and extent of training being performed in each core; training is an appropriate and worthwhile activity of a core and is encouraged.

Changes in services

Project cores need to develop policies and procedures for change. Examples include: new technologies or services that should be supported might appear; existing technologies might become less important; or economic changes might obviate the need for core services, such as the availability of cost-effective commercial services or core services provided by the research

institution. Cores should address the issue of allocation of resources to development of new technologies in comparison to provision of services with existing technologies.

Intellectual property (IP) policies

Cores must have well defined policies to ensure that intellectual property is identified and appropriately protected, but that IP issues do not impede sharing of resources.

When a Hematology Core Center is established, individual investigator-initiated research project grants may include funds for services that ultimately will be available through the cores. At the time of their next competing or noncompeting continuation application, investigators must remove from their individual research project grant budgets all costs associated with services received from the established cores for which they are not charged. The elapsed time before this adjustment should constitute a minor overlap since developing a functional core takes time. Charge back fees to the Core Center should be included in the budget of the research project grant once the cores are running, since these are a necessary expense and are justified by savings.

F. PILOT AND FEASIBILITY STUDIES

Background

Although research projects associated with a Hematology Core Center will be funded from other resources, usually R01 and P01 grants from the NIH and similar project funding from other Federal agencies or non-Federal sources, there is one exception -- pilot and feasibility (P&F) studies.

The P&F program is a vital component of P30 Center grant programs. P&F projects can have a major impact on the visibility of a Center at an institution and should provide a means of developing new ideas and encouraging new members to join the Center. P&F programs traditionally accomplish three major program goals: 1) provide opportunities for new investigators to develop preliminary data that become the basis for an application for further support; 2) provide opportunities for established investigators outside the Center to apply their expertise to a research area of interest to the Center; and 3) provide established investigators within the Center an opportunity to pursue high impact/high risk projects, or projects that are a significant departure from their usual work. In general, P&F programs have utilized their limited funds to accomplish all of these goals, with emphasis on new investigators.

Definition

P&F project funds provide modest support for a limited time to enable eligible investigators to explore the feasibility of a hematology-related research concept. P&F projects are intended to provide support for investigators to collect preliminary data sufficient to support an application

for independent research support through conventional grant mechanisms. P&F studies may (1) provide initial support for new investigators; (2) encourage investigators from other areas of biomedical research to use their expertise for hematologic research; and (3) allow exploration of possible innovative new directions for established investigators in hematologic research that represent a **significant departure** from their ongoing, funded projects.

P&F project support is not intended for the extension of projects by established investigators for which it would be appropriate to submit separate research project grant applications. P&F funds are also not intended to fund or supplement ongoing supported research of an established investigator.

P30 Center resources typically provide shared access to specialized technology for basic research to a much greater extent than for clinical or translational research. In part, this reflects the very strong base of fundamental research that is characteristic of sites with P30 Centers. Moreover, while Centers often are led by physician scientists and include strong clinical researchers among their senior faculty, P&F projects traditionally have provided support primarily for basic research.

Clinical and Translational research

While it is anticipated that the majority of Hematology Core Center support will be focused on basic research issues, in some Centers, the P&F program could be used to encourage clinical projects or translational research. By establishing ties with the institution's General Clinical Research Centers (GCRCs), the P&F project funds could be leveraged effectively to pursue such projects. The National Center for Research Resources (NCRR) supports approximately 80 GCRCs nationwide, which provide services and resources to enhance clinical research (www.ncrr.nih.gov/clinical/cr_gcrc.asp). Research Centers supported by the NIDDK and other NIH Institutes are encouraged to collaborate with GCRCs to avoid duplication of effort and enhance utilization of services and resources.

Pilot and feasibility projects provide short term, modest support for new investigators or established investigators pursuing a new line of inquiry. Since the career development of new clinical investigators is a high priority of the NIDDK, Centers are encouraged to use P&F support to provide opportunities for new clinical investigators to develop preliminary data for further support. The NIDDK also strongly encourages the use of P&F support to foster bench to bedside translation of fundamental discoveries. For this purpose, the high impact/high risk P&F programs described in (3) above could be effective.

Eligibility Criteria

Applicants for P&F studies should be United States citizens or possess a permanent visa.

Investigators eligible for P&F funding fall into three categories:

(1) New investigators without current or past NIH research project support (R01, R21, P01) as a principal investigator (current or past support from other sources should be modest);

(2) Established, funded investigators with no previous work in hematology or hematologic disease-related areas who wish to test the applicability of their expertise to a hematologic disease-related problem; and

(3) On rare occasions, established investigators in hematology or hematologic disease-related areas who wish to test the feasibility of a new or innovative idea which constitutes a significant departure from their funded research. (Generally, this does not mean repeating an experiment using just a different cell type or animal model.)

The NIDDK expects that the majority of P&F project investigators will fall into the first category and only in exceptional circumstances will category 3 investigators be supported.

Trainees who are recipients of an NRSA individual award (F32) or are supported by an institutional training grant (T32) are eligible for P&F funds, but only if they are in their last year of training, have had at least one year of research laboratory experience, and have suitable expertise and independence to design and carry out the planned experiments. Trainees requesting P&F funds should have a commitment from a senior scientist to sponsor the project. P&F funds cannot be used to supplement NRSA stipends, but may be used for supplies, technical support, special services, etc.

Each P&F project should state clearly the justification for eligibility of the investigator under one of the three categories listed above. A proposed P&F project should present a testable hypothesis, clearly delineate the question being asked, should detail the procedures to be followed, and discuss how the data will be analyzed. The research must be on a hematology-related topic relevant to the focus of the Hematology Core Center.

P&F projects should be submitted for Center review in the general format of NIH research project applications (R01). Projects should be highly focused, since funding for them is modest. The period of support is limited to three years or less with available funds usually ranging from \$1,000 up to \$20,000 per year. Individual investigators may receive P&F support only once in any five-year funding period.

Administration of P&F Program

While the administrative framework for management of the P&F program is left to the discretion of the Director of the Hematology Core Center, the management of the program must include the provisions listed below.

1. A mechanism must be established to ensure preparation and appropriate distribution of announcements to advertise the availability of P&F funds.

2. A mechanism for the scientific merit review of P&F projects must be established. At least one reviewer from outside the Hematology Core Center must be used to evaluate each project. Details of handling the review will be left to the Hematology Core Center, although all reviewers should assign priority scores in accordance with the NIH system. Copies of all of the projects with written documentation of the reviews, priority scores, and final action should be retained by the Hematology Core Center. These records should be available to outside reviewers and NIH staff if requested.
3. A mechanism for making recommendations to the Hematology Core Center Director for funding decisions should be outlined. A record of actions should be documented.
4. A mechanism for the oversight and review of ongoing P&F projects should be developed.
5. A mechanism that provides for the termination of P&F projects must be established. Studies may be terminated by the Hematology Core Center administration before their approved time limit for various reasons such as (1) the investigator received outside funding for the project; (2) the project was found not to be feasible; or (3) the investigator left the Hematology Core Center institution. When such situations result in the termination of a study, the Hematology Core Center may make new awards for P&F projects with the remaining funds.
6. A mechanism to ensure the maintenance, whenever possible, of a record of success of the P&F program should be established. Records of scientific publications, abstracts, and R01 applications are useful, as well as information on whether the investigator remains in hematology-related research. Staff of the NIDDK may use this record to determine whether the P&F program is a useful component of the Center and serves to encourage investigators to remain in hematologic-diseases related research.

Each Hematology Core Center Director is encouraged strongly to involve the external advisory group in the management of the P&F program. P&F grant recipients are encouraged to collaborate or consult with any biostatistics or bioinformatics component supported by the Hematology Core Center or available at the applicant institution and to utilize the core facilities of the Hematology Core Center.

The overall P&F funds available to a Hematology Core Center currently are "capped" at \$100,000 per year and their use is restricted as indicated in the Notice of Grant Award. Prior approval from the awarding unit is necessary to transfer funds from the P&F category to the cores or from the cores to the P&F program.

G. ENRICHMENT PROGRAM

The Hematology Core Center grant can provide limited support for an enrichment program under the auspices of the Administrative Core. Support for visiting scientists, seminars, and research forums are appropriate items for inclusion in an enrichment program. Also, limited travel

support may be requested to allow Hematology Core Center investigators to travel to present scientific findings, to learn new laboratory techniques, to develop new collaborations, or to engage in scientific information exchange. Mini-sabbaticals to allow Center investigators to enhance their scientific and technical expertise are allowable expenses. In all cases, the enrichment program should further the overall aims and objectives of the Hematology Core Center as well as its cores.

Enhancement of clinical and translational research efforts

The Center mechanism provides flexible funds for activities such as educational initiatives for investigators. Such programs could include seminars and didactic sessions focused on enhancing training relevant to clinical research, and on fostering collaborations between basic and clinical researchers. Institutions that have K12 and K30 programs (<http://grants2.nih.gov/training/k30.htm>) are encouraged to integrate clinical enrichment activities at the Center with courses and other activities supported by the K program.

H. INTERACTIONS WITH RESEARCH TRAINING AND CAREER DEVELOPMENT PROGRAMS

Background

Authorizing language for NIH Centers programs precludes the use of Center funds for the training of pre- or postdoctoral fellows, but this does not mean that 'training' is not essential to the vitality of a Center.

Most NIDDK-funded Centers are at institutions where the training of new investigators is a priority. The presence of a Center, with the resources it provides, should enrich any training experience and should be a positive factor when recruiting postdoctoral fellows and junior faculty.

Opportunities for Enhancement

Access to shared resources

The NIDDK encourages the use of Center core facilities by both trainees and junior faculty. While postdoctoral fellows and Research Career Grant (K series) awardees are not part of the research base of a Center, the development of a cadre of future independent investigators is essential for the continued vitality of NIDDK-supported research. Core facilities, and the expertise, services, instruction, and opportunities for collaboration that they offer provide a rich environment for new investigators. When appropriate, a Center may waive, or significantly reduce, fee-for-service payments for Core services for fellows and junior faculty.

Enrichment Programs

Students, fellows, and junior faculty should be encouraged to take full advantage of all Center-sponsored seminars, courses, workshops, and symposia. If appropriate, Centers may waive fees for attendance at such events for interested students, fellows, and junior faculty members. Enrichment program-sponsored mini-sabbaticals, or other instructional opportunities, also may be appropriate for postdoctoral fellows. Stipends for fellows are never an allowable Center expense, but travel, per diem, and registration expenses may be paid from enrichment program funds.

Pilot and Feasibility Programs

Fellows supported by National Research Service Awards (e.g., T32 and F32 fellows) may apply for P&F funds only in the final year of their training. In addition, the fellow must be sponsored by a Center member. Other postdoctoral fellows, if they otherwise meet the P&F eligibility requirements for the Center, may apply. While K-awardees are eligible for P&F funds, junior faculty without extramural funding should be the primary target for the limited funds available. Fellows and new faculty would usually benefit most from programs that provide opportunities to develop preliminary data than from P&F programs to pursue high impact/high risk projects.

PART II: APPLICATION PROCESS - FORMAT AND CONTENT

A. GENERAL INSTRUCTIONS

Pre-Application Process

Applications for Hematology Core Center awards are accepted only in response to a Request for Applications (RFA) published in the NIH Guide for Grants and Contracts.

The date for receipt of applications is indicated in the RFA. Individuals from institutions with an interest in applying for a Hematology Core Center grant should contact the NIDDK staff as early as possible in the application preparation process. This consultation between NIDDK staff and potential applicants prior to submission of the formal application is crucial. Applicants should not construe advice given by the NIDDK staff as assurance of a favorable review and/or possible funding. The staff will not evaluate or discuss the merit of the scientific aspects of the application.

Application Format and Content

It is necessary for applications to be arranged in a specific format. This not only makes it easier for NIDDK staff and reviewers to evaluate the application, but also provides a checklist for the applicant institution when preparing the application. Applicants should keep in mind that the written application is the basis for the scientific merit review of the proposed Hematology Core Center since it is not possible to conduct a site visit.

The format is described both for new and for competing continuation applications. Competing continuation applications should include accomplishments and history of the Center.

The PHS Form 398 (Revised 05/01 - Updated 09/09/03) must be used for the application. The arrangement of materials for the Hematology Core Center grant should follow both the instructions in the PHS Form 398 application kit and the more specific instructions detailed below. The original and **three identical copies** of the completed application should be mailed to the Center for Scientific Review (CSR); address labels are included in the application kits. **Be sure to attach the RFA label that is included in the PHS Form 398 packet.** Appendix materials should NOT be sent to CSR.

At the time of submission, **two additional copies** of the application, along with **six copies of appendix materials**, must be sent under separate cover to:

Chief, Review Branch, DEA, NIDDK
6707 Democracy Boulevard, Rm.752, MSC 5452
Bethesda, MD 20892-5452
(For express/courier service: Bethesda, MD 20817)

Applicants should read Part III of these guidelines to understand the criteria used for evaluating Hematology Core Center applications.

B. SPECIFIC INSTRUCTIONS - Forms (PHS Form 398, Section I, C)

Number the pages consecutively throughout the application.

Face Page:

Items 1-15 (See PHS Form 398)

NOTE: Awards for Hematology Core Center grants are made for five-year project periods.

Form Page 2:

Description, Performance Sites, and Key Personnel (self-explanatory)

Form Page 3:

Table of Contents

Provide a Table of Contents following the basic format shown in the 398 kit but modified to be appropriate for the items submitted for a Center application.

Form Page 4:

Provide a consolidated budget for first year of requested support (See Sample Exhibit I). (Separate budgets for each element for which support is requested should immediately precede the narrative of that element.)

Form Page 5:

Budget for Entire Proposed Project Period. **The total funds requested for the P&F grant program should be included in the "other expenses" category of the budget for the Administrative Core.** This request may not exceed \$100,000 for the entire project period. The individual P&F project budgets should be included before the narrative of each P&F project.

Form Page 6:

Provide biographical sketches for all Hematology Core Center investigators (key personnel, research base investigators, consultants, and collaborators). Biographical sketches for principal investigators on P&F projects should be included with the P&F project.

A summary of the distribution of percent of professional effort for this application is useful for reviewers and may be included after form page 6. (See Sample Exhibit II for a suggested format).

Form Page 7:

Other Support (see PHS form instructions). Include all of the other support for the key personnel listed in the application.

A summary of total current and pending support for all Hematology Core Center investigators, including percent efforts aids in the review process when presented as suggested in Sample Exhibits III-A through -D, with hematology-related research support listed first followed by non-hematology-related support. K08 or K01 awards may be included here. Institutional Training Grants (T32) and Individual Fellowship Awards (F32) are not part of the research base but may be listed separately in III A and B.

Form Page 8:

Resources and Environment: general overall description of research facilities (space, equipment, collaborations, etc.) and institutional commitments should be provided.

Specific facilities, equipment, and special resources should also be listed in each core component.

C1. SPECIFIC INSTRUCTIONS - Research Plan (PHS Form 398, Section IV, C)

For Initial (NEW) applications refer to this section. For Competing Continuation applications see section C2.

Administrative Core (New applications)

Include a budget for the Administrative Core with a comprehensive budgetary justification. Most Centers find that the size and complexity of a Hematology Core Center warrants inclusion of a full or part-time program administrator. Other budgetary items that, if requested, should be included here are funds for enrichment programs, and travel funds for the annual meeting of Hematology Core Center directors with NIDDK staff.

A description of the focus of the Hematology Core Center and any unique aspects must be presented along with a brief narrative describing the qualifications of the Director and Associate Director, and a plan for replacing the Director should this become necessary.

A description of the administrative structure of the Hematology Core Center, including chain-of-command, committee structures (including the committee for review and approval of the P&F projects), core management, etc. should be included.

List the areas of expertise necessary for inclusion in the external advisory group, **not** the names of the individuals with those areas of expertise whom you plan to recruit.

An outline of the relationship of the Hematology Core Center to the institution and the reporting lines of the Director to appropriate institutional officials should be presented. If this is presented in diagrammatic form, also provide a brief explanation in narrative form.

A description of the mechanism for monitoring budgetary overlap between separately funded individual research projects included in the research base and the funds for the Core facilities of the Hematology Core Center should be included. A mechanism must be proposed in the application to monitor the budgetary adjustments made necessary by the use of core services and to ensure that Hematology Core Center investigators using cores can provide a satisfactory explanation of their relationship to the Hematology Core Center and their use of charge-back fees to the cores in their individual grants.

Facilities (space, equipment, library, etc.) must be described clearly for each element of the application. A general description of the overall facilities and a statement of institutional commitment to the Hematology Core Center should be included in the description of the Administrative Core.

Enrichment Program (New applications)

Plans for the enrichment program should be described in as much detail as possible.

Biomedical Research Component (Research Base)(New applications)

Applications must include an overview of current research activities in hematologic and related disorders being conducted at the institution. An appropriate and clear presentation of the ongoing research base is paramount for funding consideration since it will show the research focus of the Hematology Core Center and the interrelationships and potential for collaborations among investigators. Since the research base will have already undergone separate peer review, the quality of the individual funded projects will have been established and will not be re-evaluated.

Sufficient detail should be provided to assist reviewers in judging the extent and the interrelatedness of ongoing research. The anticipated impact of the establishment of a Hematology Core Center on the research base should be emphasized. An indication of how the

establishment of a Hematology Core Center will provide added dimensions and new opportunities for hematology-related research, along with increased cooperation, communication, and collaboration among investigators should be detailed.

Hematologic disease-related research projects should be grouped into aggregates of projects with similar overall goals and objectives. A majority of the research base should have a central focus or theme that is a hematologic disease or related disorder, group of diseases, or functional studies relating to hematology. Expansive research presentations will not be possible in either the application or in any potential presentation before a review group.

Presentation of the research base in the application is best done in two ways to assist in the review process: (1) by providing information that will assist in the review of the application, in a format such as that shown in Sample Exhibits III, and (2) by providing narrative description of no more than, on average, one and a half pages per research base investigator. Limiting each to less than one page is encouraged, but not always feasible. These narratives should include: (1) grant numbers, titles, and a few descriptive sentences, and (2) a list of the core(s) which will be used with a brief sentence indicating what aspect of the research justifies usage of each core. **ONLY** those grants awarded to investigators at the applicant institution or the applicant consortium, not to investigators at other locations, should be included in the description of the research base. It is particularly important to provide a few sentences indicating the relatedness of a cited grant to hematology research when this is not readily apparent from the title of the grant.

To augment the information available to the Scientific Review Group (SRG), applicants may include a few reprints (**no more than a total of 12**) as appendix material. These publications should result from the most significant research being conducted within the research base.

Documentation of collaborative efforts may be done using a format such as in Sample Exhibit IV, although pre-existing extensive collaborations are not a prerequisite for new applications.

Biomedical Research Cores (present each Core separately) (New applications)

Include a budget with comprehensive justifications for: (1) initial budget period, and (2) proposed future years. When providing the justification for the core personnel, detail the qualifications of the core director and the duties and qualifications of other personnel, including technical support staff. In the event a core director is not an established investigator (see Part I), the institutional commitment to and career plans for the individual should be highlighted.

The description of each core facility should include the rationale for establishing the core, the facilities to be used, the investigators responsible for the core, and the functions and activities of the core. Short descriptions of the services provided and the projects that will use the core are necessary. The description of the physical arrangements and instrumentation for the cores should be given special attention in new applications.

The organization and proposed mode of operation of each core should be presented. Plans for assuring quality control should be established along with a plan for prioritization of investigator use of the core and a definition of qualified proposed and potential users. Funded Center investigators who will use the core and the expected extent of their proposed use should be detailed. Sample Exhibit V is given as an example of how this may be accomplished. The anticipated benefits that investigators will derive from using core facilities should be emphasized.

Limited use of the Core by established investigators in other fields is encouraged but rules to regulate this usage should be defined. Plans to monitor core usage should be identified. If the core is used for training, the approach to and extent of the training should be detailed. Use of the core for training Center members is encouraged.

Use of the core for any limited developmental research should be clearly described. The relevance of this research to core services and effectiveness should be addressed.

Since cores are strongly encouraged to enter into cooperative arrangements with established cores at the applicant institution or in other Centers offering a similar type of service to achieve greater efficiency and cost effectiveness, the nature of these cooperative arrangements, the prioritization plan, and the methods to monitor usage should be clearly described.

When cores use human subjects or animals, the appropriate sections in the 398 kit, C.9e and/or C.9f, must be included.

Pilot and Feasibility Studies Program (New applications)

Provide a composite budget with justifications for (1) initial budget period, and (2) proposed future years. The annual budget for the P&F program should be listed in the "other expenses" category in the budget for the Administrative Core.

The management plan for the P&F grant program, including both internal and external review mechanisms should be described along with an outline of the plans for future years of the P&F program. This should include how applications will be solicited, reviewed, awarded, and, if required, terminated.

Include **no more than four** P&F projects with the application. These will be reviewed as a group by the SRG. Each should be no longer than 10 pages of narrative text. For each P&F project proposed provide:

- a. budget with justifications for: (1) initial budget period, and (2) entire proposed project period
- b. justification for eligibility of the P&F project (how it fits with the Hematology Core Center goals) and justification for eligibility of the investigator (see Part I-F)

c. justification for core use.

These initially proposed P&F projects must have been reviewed by the Hematology Core Center in the manner proposed for review of future studies so that only those considered to be of the highest quality are included in the grant application. Indicate the number of applications that were submitted. An assessment of the relevancy of the proposed individual P&F projects to the Hematology Core Center specific goals and objectives is important.

Also see Part III-E for Specific Instructions regarding the Budget.

C2. SPECIFIC INSTRUCTIONS - Research Plan (PHS Form 398, Section I, C 9)

For Competing Continuation applications, use this section. For New applications see Part II-C1.

Administrative Core (Competing Continuations)

Provide a brief history of the Hematology Core Center including any changes in the research base and how such changes affect the Hematology Core Center or are attributed to the Hematology Core Center, as well as a synopsis of accomplishments, and all current and proposed initiatives.

If the yearly budgets awarded were less than those recommended, describe the effect of this reduction on the Center as a whole. In the descriptions of individual cores, include specifics as to how these budget reductions affected the services provided.

Provide current information as requested in section C9.

Provide a master list of all publications (author, full title, and reference) resulting from research supported by the Center. **Include peer-reviewed publications only, and underline, bold, or otherwise indicate those authors who are Hematology Core Center members.** Invited papers, book chapters, abstracts, symposia proceedings, etc. may be included in a separate list. In addition, the publications arising from the use of a specific core **also should be included** in the description of that core. While not mandatory, this duplication expedites the review process.

Since the external advisory group already is established, names of the members and their areas of expertise should be listed. Also, indicate any changes in membership that have occurred during the previous funding period or are planned for the upcoming funding period.

Enrichment Program (Competing Continuations)

Describe plans for the enrichment program. Funds for the enrichment program should be included in the budget for the Administrative Core.

Briefly describe how the Hematology Core Center and its investigators have benefited from the enrichment program. Indicate how the program has grown or been adapted to serve Center members' needs better during the past funding period.

Biomedical Research Component (Research Base)(Competing Continuations)

Provide a summary progress report that encompasses the following areas:

(1) interactions and interrelationships of the research efforts; (2) uses and benefits of core services; and (3) plans to develop productive collaboration among Hematology Core Center investigators. Describe the evolution of the research base and the Hematology Core Center contribution to this ongoing development.

Presentation of the research base in the application is done best in two ways: (1) by providing information that will assist in the review of the application, in a format such as that shown in Sample Exhibits III, and (2) by a descriptive narrative of the hematologic-disease related activities at the applicant institution and any collaborating institutions. Sample Exhibits III-A through D do not substitute for the 'other support' pages requested in the 398 application kit and are not required, but aid greatly in the review process.

The narrative presentation of the research base should be organized to bring out the focus and interrelationships of research being conducted by Hematology Core Center investigators. **A narrative description of no more than an average of one and a half pages per research base investigator should be provided; try to limit each to less than one page.** These narratives should include: (1) the grant number, title, and a few descriptive sentences, and (2) a list of the core(s) used with a brief sentence indicating what aspect of the research justifies usage of each core. **ONLY** those grants awarded to investigators at the applicant institution or consortium, not to investigators at other locations, should be included in the description of the research base. It is particularly important to provide a few sentences indicating the relation of a cited grant to hematology research when this is not readily apparent from the title of the grant. Since the research base already will have undergone separate peer review, the quality of the individual funded projects will have been established and will not be re-evaluated.

Documentation of collaborative efforts may be done using a format such as Sample Exhibit IV to aid in the review process.

Biomedical Research Cores (present each core separately)(Competing Continuations)

For competing continuation applications, information regarding the cores generally should cover the same points as in the initial application with the addition of information on past performance of the core and its usefulness to Hematology Core Center investigators. The effect of the services provided by a core on investigator productivity in meeting stated goals and objectives and in promoting cost effectiveness should be addressed. The past and future benefits to investigators derived from the use of core facilities should be emphasized.

Include budgets with comprehensive budgetary justifications for: (1) initial budget period, and (2) entire proposed project period.

Detail the objectives in continuing/establishing the core facility and describe the core. The description should include the facilities used, the investigators responsible for the core, and the functions and activities of the core. Short descriptions of the services provided and the projects that use the core are necessary. Any changes that have taken place since the last competitive review should be clearly and carefully documented. Since the awarded budget for the Center may have been less than that recommended by the previous review group, the effect of this reduction on the core should be described.

Details of the core management, including measures to assure quality control, to prioritize usage, and to monitor use should be provided. A list of the investigators who will use the core and the expected extent of their proposed use should be described. Sample Exhibit V A may be helpful. Past usage must also be documented. Sample Exhibit V B may be helpful.

A list of publications that were made possible due to core usage should be provided. This should be a subset of the references listed in the Administrative Core master list. Include titles of publications and indicate which core services were utilized. Also, if appropriate, **the Hematology Core Center should have been credited as a resource in all publications.** This acknowledgement provides the SRG evidence of core usage.

In the case of cores for which further funding is not being requested, provide information on its past usage (see Sample Exhibit V B). Also provide a brief explanation of the reasons for deleting cores, combining facilities, or creating new cores.

Pilot and Feasibility Studies Program (Competing Continuations)

The competing continuation application should include an historical overview of the P&F grant program since the inception of the Hematology Core Center. For only the most recent 10 years, a summary of the number of P&F recipients (a) who have had publications as a result of the projects, (b) who have received peer-reviewed funding as a result of the studies, and (3) who are still active in the area of hematology should be provided. **To aid in the review process, a format such as shown in Sample Exhibit VI is helpful in depicting the P&F program success.**

Contacts that resulted in lasting collaborations, acquisition of new skills by the P&F recipient, or other significant outcomes should be identified. The relationship of the scope of various studies to that of the Hematology Core Center should be emphasized as well as the benefits of the program to the Hematology Core Center. A statement should be included that outlines how the Hematology Core Center has benefited from the P&F grant program, e.g., increased the research base, or spawned a new area of research.

Supporting documentation should not be included in the application.

The current management system of the P&F program should be presented in detail, including its integration with and relationship to the rest of the administrative structure. Internal review mechanisms should be described. The way in which consultants are used for review should be included in the discussion. Plans for future years of the P&F program, including how applications will be solicited, reviewed, awarded, and, if required, terminated should be included here, not in the write-up of the Administrative Core.

Reports on **all** P&F projects conducted during the **previous five year project period** should be included. These reports should be brief (one page narrative) and should provide: (a) the name of the investigator, degree(s), professional career status at the time of the award, and current professional career status (if known); (b) an overview of the project, including its significance and salient results; (c) a list of publications resulting from the project; (d) the current status of the investigator's funding, and whether in the same or a related area; and (e) any other significant and pertinent information (such as amount and time period of support and future plans of investigator). Projects currently funded should be included in abbreviated form.

Provide an overall budget with justifications for proposed future years. The annual budget for the P&F program should be listed in the "other expenses" category in the budget for the Administrative Core.

Include no more than four P&F projects with the application. These will be reviewed as a group by the SRG. Each should be no longer than 10 pages of narrative text. For each P&F project proposed provide:

- a. budget with justifications for: (1) initial budget period, and (2) entire proposed project
- b. justification for eligibility of the P&F project (how it fits with the Hematology Core Center goals) and justification for eligibility of the investigator (see Part I-F)
- c. justification for core use.

These P&F projects must have been reviewed by the Hematology Core Center in the manner described in the application and allow the SRG to evaluate the effectiveness of the process. An assessment of the relevancy of the proposed individual P&F projects to the Hematology Core Center specific goals and objectives is important.

Due to the timing of the RFA, some or all of the P&F projects **may be** those which are funded currently. If at all possible, however, the P&F projects **should be** new ones. It is important for the SRG to be able to evaluate the Center's review "process" by the merit of the P&F projects selected for funding. In either case, provide a list of currently funded P&F projects. It also is important to include the number of applications received during the most recent five year funding period.

D. SPECIFIC INSTRUCTIONS - Appendix (PHS 398, Section I, C 10)

(New Applications)

No more than 12 pertinent publications may be included as an appendix to highlight the major scientific accomplishments from proposed Center investigators.

(Competing Continuations)

Include the narrative portion of the non-competing continuation (Type 5) application Annual Progress Report from the last budget period. Depending upon the RFA receipt date, this may be similar to the one from the project period just prior to the one in which the competing continuation application is being prepared. As with new applications, a limited number of reprints may be included.

E. SPECIFIC INSTRUCTIONS - BUDGET CATEGORIES (both New and Competing Continuation)

Allowable costs and policies governing the research grant program of the NIH will prevail for Hematology Core Center applications.

Professional Personnel

This category should include support for salaries of key personnel within the Hematology Core Center who contribute to allowable activities of the Center. Salaries of professional personnel engaged in research activities supported by P&F funds of the grant are an allowable budgetary item, as are salaries of professional personnel in core facilities. The amount charged to the Hematology Core Center grant must be commensurate with the time spent on the grant-supported project. The salaries derived from the grant will depend on the effort provided and on institutional salary policies; however, current NIDDK practice limits annual increases to 3 percent. The Director is expected to devote an appropriate proportion of his/her time to the Hematology Core Center (**no less than 20 percent effort**). The application should not include salaries for individual principal investigators supported by separate research or training grants unless these investigators provide an essential function for Hematology Core Center activities (e.g. core director). No overlap of time or effort between a Hematology Core Center activity and separately funded research projects is permitted.

Overlapping support between Hematology Core Center support and individual projects, including research project grants (R01), program project grants (P01), Mentored Clinical Scientist Development Awards (K08), Small Business Technology Transfer awards (R41, R42), and contracts, will be reviewed administratively and, if appropriate, will be adjusted to avoid duplication of funding.

Stipends for professional trainees in research are not available through the Hematology Core Center. Such funding must be sought through other grant mechanisms.

Technical and Support Personnel

This support may include salaries for identified positions to be filled within the core facilities or the P&F projects. No overlap of time or effort between the Hematology Core Center and separately funded research projects is permitted.

Equipment

Where items of equipment in excess of \$5,000 are requested, the applications must identify similar equipment already available within the institution and provide a clear justification for purchase in terms of core service to be provided to all Hematology Core Center investigators. General purpose equipment needs should be included only after ascertaining the availability of such items within the institution. Adequate justification must be given for all pieces of equipment for which funds are requested, both in the initial budget period AND in future years.

Supplies

Consumable supplies directly related to the operational aspects of the Hematology Core Center core facilities are an allowable expense. This includes office materials as well as scientific supplies. The respective supply budgets of separately funded individual research projects must be reduced to reflect such support.

Research Patient Care Costs

Research patient care costs (both in-patient and out-patient expenses) will be considered in the context of other existing institutional clinical resources. Attempts should be made by the applicant institution to utilize existing clinical facilities, such as those in **General Clinical Research Centers** (GCRC) and individually supported beds. If the GCRC is to be used, a letter of agreement from either the GCRC program director at the National Center for Research Resources, NIH, or from the principal investigator of the GCRC must be included with the application.

Costs relating to the clinical research efforts of Hematology Core Center investigators may be requested through the Hematology Core Center grant provided that there is no overlap of funding. Costs already budgeted in individual projects should be reduced accordingly if such costs are to be transferred to the Hematology Core Center budget. The Hematology Core Center is not intended to be a facility for health care delivery; thus, only those patient costs directly related to research activities may be charged to the Center.

Alterations and Renovations

Funds for the alteration and renovation of an existing structure to provide suitable space for core facilities may be requested.

Consultants

Consultants and any associated costs (consultant fees, per diem, and travel) may be included when their services are required by the Hematology Core Center.

Travel

Domestic and foreign travel of project personnel directly related to the core activities of the Hematology Core Center is an allowable cost. Travel costs for Hematology Core Center participants to attend the annual Hematology Core Center director's meeting should be included in the budget of the Administrative Core.

Total Requested Amount

Total costs (direct plus indirect) requested may not exceed \$1,000,000 per year.

Other:

Budget supplements to a Hematology Core Center grant will be accepted only under extraordinary circumstances, and consultation with the NIDDK Hematology Centers program director is required prior to the submission of a formal request for a budget supplement.

PART III: REVIEW AND ASSESSMENT

A. REVIEW CONSIDERATIONS

Upon receipt, applications will be examined by the Center for Scientific Review (CSR) staff for completeness. Incomplete applications will be returned to the applicant without further consideration. Evaluation for responsiveness to the program requirements and criteria stated in the RFA is an NIDDK staff function. If the application is not responsive to the RFA, NIDDK staff will contact the applicant.

Applications that are complete and responsive will be evaluated in accordance with the criteria stated below for scientific/technical merit by an appropriate peer review group convened by the NIDDK. If the number of applications is large compared to the number of awards to be made, a preliminary scientific peer review ("triage") may be conducted by a scientific review group (SRG). Applications will be withdrawn from further competition when they are not competitive for an award. The NIDDK will notify both the applicant and the institutional official of this action.

Applications will not be reviewed by a site visit team; therefore, the written application must be complete enough to facilitate review without a site visit.

The importance of the research base cannot be overemphasized. The SRG's evaluation of the overall merit of the research base (i.e., outstanding, excellent, very good, good, or acceptable) will be one of the critical elements in the final assessment of the Center's ability to compete for support in the Hematology Core Center program.

Following the initial review of both new and competing continuation applications, the applications will be given a second level review by the National Diabetes and Digestive and Kidney Diseases Advisory Council unless not recommended for further consideration by the SRG. Applications recommended by the Advisory Council will be considered by the NIDDK for funding on the basis of 1) overall scientific and technical merit as determined by peer review, 2) program needs and balance, and 3) availability of funds.

Review Criteria

Specific review criteria for the SRG evaluation of Hematology Core Center applications are given below.

Research Base

o The scientific excellence of the Hematology Core Center **research base** (its strengths, breadth, and depth) as well as the relevance and interrelatedness of these separately funded research projects to the central theme(s) or focus of the Hematology Core Center will be

evaluated. The likelihood for meaningful collaboration among Hematology Core Center investigators will be assessed. The existence of a base of established, independently supported biomedical research of high quality is a prerequisite for the establishment of a Hematology Core Center and is the most important component of the application during the review. In competing continuation applications, the degree to which the research base has expanded or been strengthened since the last competing continuation will be considered.

- o The qualifications, experience, and commitment of the Hematology Core Center **investigators** responsible for the individual research projects, and their willingness to cooperate with each other and contribute to the overall objectives of the Hematology Core Center will be considered. In competing continuation applications the degree to which new projects have arisen from effective collaborations fostered by the Center and its cores will be considered.

Cores

- o The appropriateness and relevance of the proposed **cores** and their modes of operation (such as how requests for services will be prioritized), facilities, and potential for contribution to ongoing research will be evaluated. Competing continuation applications will be evaluated on past use, utility, quality control, cost effectiveness, and proposed future use of each core for which continuation is requested. Productivity and appropriateness of each core will be judged in part by the list of publications arising from projects using that core. The acquisition of new services, as appropriate, and the deletion of services no longer required will also factor into the evaluation of existing core facilities.

- o Although a minimum of two users is sufficient to establish a core, a greater number of users generally will be regarded as being more cost effective. Should a core be proposed for which only the minimum number of users exists, the description of the efforts made (for existing cores in competing continuation applications) or to be made (for new applications and for new cores in competing continuation applications) to broaden the number of core users, and thus enhance the core's productivity and cost effectiveness, will be carefully considered. When a competing continuation application is reviewed, this enhancement of core usage will weigh heavily in the determination of the productivity of the core.

- o The qualifications of the core director and other personnel will be evaluated.

Pilot and Feasibility Studies

- o For **both** new and competing continuation applications, a maximum of **four P&F projects** will be evaluated briefly by the SRG in the context of the overall P&F program. Of key importance is whether each applicant is eligible (i.e. is a new investigator, an established investigator new to hematologic research, or a hematology researcher changing directions, see Part I-F), whether the proposed hypotheses are reasonable, whether the project relates to the focus of the Hematology Core Center, and whether the projects are feasible.

- o In new applications, the P&F projects described will be assumed to be the best selections made using the proposed evaluation procedures.
- o In competing continuation applications, the submitted P&F projects will be assumed to be the best selections made using the Center's existing review procedures.
- o In the event a Hematology Core Center grant is awarded, the amount of P&F funds provided for the initial year will be based on the review of the approved projects (within the \$100,000 cap). Amounts for future years will be recommended by the SRG on the basis of the quality of the proposed P&F projects, the proposed method for management and review (as evidenced by the submitted set of projects), and the SRG's assessment of the potential needs and opportunities for P&F support at the applicant institution during the remainder of the approved project period.
- o In competing continuation applications, the recommendation of the SRG to allow a requested increase in P&F support, to maintain the current level of support, or to reduce the level of support, will be based on their assessment of the Hematology Core Center overall P&F program. Taken into account in this recommendation will be: (1) the extent to which P&F funds were fully utilized during the previous project period; (2) the extent to which awards were made to investigators who fully met the eligibility criteria for P&F project support as outlined previously; (3) the extent to which the awards made are considered to be hematology or Hematology Core Center-related; (4) the extent to which previously supported P&F projects are considered to have been successful (e.g., the P&F recipients are currently funded; a new investigator was attracted into hematologic disease-related research; or peer-reviewed publications or presentations resulted); and (5) whether the investigators have remained in hematologic disease-related research.

Enrichment Program

- o Efficient and effective use and/or planned use of the limited **enrichment** funds, including the contribution of these activities to fostering the objectives of the Hematology Core Center will be evaluated.

Program Director and Administration

- o The **scientific and administrative leadership** abilities of the proposed Hematology Core Center Director and Associate Director and their commitment and ability to devote adequate time to the effective management of the program will be assessed.
- o The appropriateness of the criteria used to include individuals as Center members, associate members, etc. will be considered.
- o The SRG will evaluate the organization proposed for the following:

- (1) coordination of ongoing research between the separately funded projects and the Hematology Core Center, including mechanisms for monitoring collaborative efforts and for encouraging acknowledgements of the Hematology Core Center contributions to the research efforts in all publications arising from the use of core facilities;
- (2) establishment and maintenance of internal communication and cooperation among the Hematology Core Center investigators;
- (3) mechanism for selecting and replacing professional or technical personnel within the Hematology Core Center, including the Director;
- (4) mechanism for reviewing the use of and administering funds for the P&F program as reflected by the general quality of P&F projects submitted with the application; and
- (5) management capabilities that include fiscal administration, procurement, property and personnel management, planning, budgeting, and other appropriate capabilities.

o The institutional commitment to the Center, including lines of accountability and contributions to the management of the Hematology Core Center will be assessed. In addition, the institutional commitment to new individuals responsible for conducting essential Hematology Core Center functions as well as the commitment to establish new positions specifically designed to enhance the operation of the Hematology Core Center will be considered.

o The academic environment in which the Hematology Core Center activities will be conducted, including the availability of space, equipment, facilities, and the potential for interaction with scientists from other departments and institutions will be considered.

Budget

o The appropriateness of the budgets for the proposed and approved work to be done in core facilities, for P&F projects (these are restricted funds and are capped at \$100,000 per year), and for enrichment activities in relation to the total Hematology Core Center program will be evaluated. Total Costs (Direct plus Indirect) are limited to \$1,000,000 per year.

o In competing continuation applications, consideration will be given for any reductions taken in accordance with NIDDK administrative policy.

B. ASSESSMENT AND REPORTING REQUIREMENTS

Background

An evaluation of the Hematology Core Center program will be performed each year by the NIDDK staff. It will be necessary to document the activities and accomplishments of each Hematology Core Center using several approaches. The annual progress report will serve to document the fulfillment of the potential described in the initial application. Particular attention will be paid to documenting the changes and progress made by each Hematology Core Center in fulfilling the purpose of the program. Each Hematology Core Center will be reviewed for accomplishments, including contributions of individual investigators, significance of their research, effectiveness of communication and collaboration, use of P&F funds, and overall program productivity.

In addition, staff of the NIDDK are responsible for periodic assessment of the Hematology Core Center program as a whole and for preparing reports for the NIDDK and its National Advisory Council. These interim assessments generally will be based on progress reports from the Hematology Core Center. However, visits by the Director, Hematology Centers Program, NIDDK, and other staff or consultants may be used to provide both Hematology Core Center participants and NIDDK program staff an opportunity for a closer look at various aspects of the Hematology Core Center operation.

General Plan for Interim Assessment

To assist in interim assessments of the Hematology Core Center, the following items are helpful to the NIDDK staff:

- (a) Minutes of Hematology Core Center meetings - copies of the minutes of Executive Committee meetings and the External Advisory Group meetings;
- (b) Newsletters - current newsletters from the Hematology Core Center or from the parent institution which mention the Hematology Core Center.
- (c) On-Site Visits - About 18 to 24 months after a Hematology Core Center has been awarded, the Center may be visited by a small group of ad hoc consultants, together with NIDDK program staff. The purpose of the visit will be to assess progress at the Hematology Core Center toward (1) fulfilling the requirements of a Hematology Core Center and (2) attaining the scientific goals stated in the grant application. Site visitors will not concern themselves with adjusting budgets and will be provided with only the total direct costs of each project and Core unit.

At the end of the on-site meeting, the consultants will prepare a detailed report of their observations, their impressions of strengths, weaknesses and potential problems, and may

suggest corrective measures. The report of the site visitors will be for the information of (1) the Director, Hematology Centers program, (2) the Division of Kidney, Urologic and Hematologic Diseases staff, and (3) the Director and Associate Director of the Hematology Core Center. The report will not be made available to consultants who participate in subsequent reviews of applications for supplements or for competing continuation applications.

(d) In-House Assessments - The Director of a Hematology Core Center may devote a portion of an external advisory group meeting to an assessment of the activities and programs of the Hematology Core Center. This assessment may be included as part of the annual progress report.

(e) Annual Progress Report - The annual Type 5 Application for a Non-competing Continuation Grant (Progress Report), which is due two months before the anniversary date of the award, must be submitted as described in the PHS Form 2590 application kit. NIH no longer notifies grantees of the need to file noncompeting continuation applications. Instead grantees now must access a website maintained by the Office of Policy for Extramural Research Administration, OER, NIH.

The format suggested for the narrative portion of the report follows below in Section C. The information requested is to be included in the Progress Report Summary--PHS Form 2590. The report should also include a table of contents.

For applicants preparing a competing continuation application in response to an RFA, an abbreviated version of the progress report may be submitted for the year of support in which the competing continuation application is being submitted. While the Type 5 application may be attenuated, it **MUST** contain the following elements: face page signed by the appropriate University officials; budget pages, with justifications; list of cores and names of core directors; list of faculty, departmental affiliations, and research interests [can be one sentence]; titles, principal investigator's name, and dates for P&F studies for the last budget period and for those projects that are continuing or are planned for support; a brief [2-5 page] summary of Center core activities, including any changes in services offered; at least a one page report on the most significant scientific advances from the Center in the past year, along with the appropriate publication citation, in layman's terms; all the usual assurances; personnel changes; and checklist.

B. FORMAT FOR ANNUAL PROGRESS REPORTS

This outline should be used in conjunction with the narrative portion of the Annual Progress Report (Application for Continuation of a Public Health Service Grant--PHS Form 2590) to provide information about the Hematology Core Center and its progress.

All information should begin from the time of the last Progress Report.

Biomedical Research Component

Include the following items:

- (a) concise statement of **any changes** in the goals and objectives of the Hematology Core Center;
- (b) summary of any changes in the research base (loss or addition of Hematology Core Center investigators), the reason for changes, and how these changes affect the Hematology Core Center;
- (c) significant research advances and accomplishments made possible by the presence of the Hematology Core Center (e.g. through core usage, collaborations fostered by the Hematology Core Center, etc.);
- (d) a consolidated list, including titles, of scientific manuscripts and abstracts published by investigators comprising the Hematology Core Center research base and/or by investigators funded by the P&F grant program;
- (e) description of current P&F projects supported by the Hematology Core Center (include beginning date; **one page** progress reports for ongoing projects and the abstract for new projects are suitable; see sample format at end of these guidelines); and
- (f) a list of P&F projects terminated since the last progress report (include the reason for termination).

Core Facilities

Include the following items for each core:

- (a) concise statement of **any changes** in the purpose of the core and the services provided; and
- (b) utilization (users, frequency and extent of use, collaboration among investigators fostered by the availability of the core facility).

Enrichment Program

Include the following items:

- (a) concise statement of **any changes** in the objectives of the enrichment program for the Hematology Core Center;
- (b) any special aspects of the enrichment program (e.g., mini-sabbaticals);

- (c) list of speakers and topics, visiting investigators, and the purpose of the visit (collaboration, training, information exchange, or other); and
- (d) any examples of how the enrichment program has positively affected the Hematology Core Center.

Administrative Information

Include the following items:

- (a) concise statement of **any changes** in eligibility requirements for investigators to use the core facilities;
- (b) list of investigators comprising the Hematology Core Center research base in the reporting year. If the Hematology Core Center distinguishes between different levels of participation, that should be clearly indicated with appropriate lists. It is important to be concise regarding the hematologic disease-related research base;
- (c) a list of awards, honors, and special recognition(s) earned by the Hematology Core Center investigators since the last report;
- (d) a list of research applications submitted or support received based on results of P&F projects since the last report;
- (e) an indication of other support to the Hematology Core Center from donations, gifts, funds from the institution, or other special sources;
- (f) a brief summary of external advisory group meeting(s); and
- (g) a statement regarding the impact of the Hematology Core Center on the institution/community.

Special Information

Each Hematology Core Center is asked, but not required, to provide a special summary report, in layman's terms, of the **most significant research advances** made possible by the existence of the Center. The significance of these advances, and their possible relevance to understanding the cause(s) of hematologic and related disorders should be discussed. To the extent possible, the report should also describe the relationship of these advances to the early detection, treatment, and possible prevention of hematologic and related disorders. Where applicable, the ability of Center advances to impact on improved patient care should be highlighted. This information is important to the NIDDK staff for preparation of annual and/or specially requested reports on the Hematology Core Center program and its accomplishments

D. SPECIAL CONSIDERATIONS

While each Hematology Core Center will be expected to develop its own program in accordance with the local talents, interests, and resources available, each Hematology Core Center must be responsive to national needs in hematology and must be willing to work with the NIDDK and other organizations in furthering the overall goals of the Hematology Core Center program. In this regard, Hematology Core Center directors and selected other Hematology Core Center participants may be invited to meet periodically with NIDDK staff and its consultants to review progress, identify emerging needs and opportunities, and plan approaches for future investigations.

In the event that major changes in a Hematology Core Center occur, it may be necessary to have an interim site visit to discuss the changes and possible budget adjustments.

Because NIDDK resources are limited and Hematology Core Center grants are relatively large, it is unlikely that phase-out support will be provided in the event that a competing continuation application for Hematology Core Center support is not funded.

CONTACTS

These guidelines update the policies covering the Hematology Core Center grants; earlier versions should be discarded. Some redundancy exists within the guidelines to emphasize key issues related to a Hematology Core Center. If questions remain after reading these guidelines, contact the individuals listed below.

Inquiries regarding programmatic issues and requests for the Administrative Guidelines may be directed to:

David G. Badman, Ph.D.
Hematology Program Director
Deputy Director for Basic Program Administration
DKUHD, NIDDK, NIH
2 Democracy Plaza, Room 621 MSC 5458
6707 Democracy Blvd.
Bethesda, MD 20892-5458
301-594-7717
FAX 301-480-3510
db70f@nih.gov
For Courier service, use Zip Code 20817

Inquiries regarding fiscal matters may be directed to:

Aretina Perry-Jones
Grants Management Specialist
NIDDK/GMB
6707 Democracy Blvd
Room 716, MSC 5456
Bethesda, MD 20892-5456
(301) 594-8862
(301) 594-9523 Fax
Perrya@extra.niddk.nih.gov

SAMPLE EXHIBIT I

CONSOLIDATED BUDGET FOR 1st YEAR OF REQUESTED SUPPORT

Budget Category	Core A	Core B	Core C	Core D	Core E	P&F Projects	TOTALS
Personnel							
Consultant Costs							
Equipment							
Supplies							
Domestic Travel							
Foreign Travel							
Patient Care Costs							
Alterations/ Renovations							
Other Expenses							
Contractual Costs							
TOTALS							

SAMPLE EXHIBIT II
DISTRIBUTION OF PROFESSIONAL EFFORT (%) ON THIS APPLICATION

<i>Participating Investigators*</i>	<i>Core A</i>	<i>Core B</i>	<i>Core C</i>	<i>Core D</i>	<i>P&F (Project #)</i>	<i>Application Total</i>	<i>Other Support</i>
<i>Dr. A</i>	<i>*25</i>				<i>25 (3)</i>	<i>50</i>	<i>50</i>
<i>Dr. B</i>		<i>5</i>		<i>5</i>		<i>10</i>	<i>40</i>
<i>Dr. C</i>	<i>5</i>				<i>10 (4)</i>	<i>15</i>	<i>70</i>
<i>Dr. D</i>			<i>10</i>	<i>*10</i>		<i>20</i>	<i>55</i>
<i>Etc.</i>							

**Star the percent effort (See Core A) when that individual is the Core Director*

SAMPLE EXHIBIT III

SUMMARY OF TOTAL CURRENT AND PENDING SUPPORT OF ALL CENTER MEMBERS

SAMPLE EXHIBIT III-A: CURRENT HEMATOLOGY-RELATED RESEARCH BASE SUPPORT

Grants to be included: R03s, R21s, R01s, R37s, K08s, K02s, P01s (if the total funds are already listed for the Principal Investigator of the P01 funds, support for the subproject should be shown in parentheses), specialized Centers (such as P30s, P50s, P60s), and peer reviewed grants funded through other Federal Agencies or non-federal groups. Do not include this Core Center of Excellence in Molecular Hematology.

Training (F32s and T32s) grants related to hematology may be listed separately.

<u>Principal Investigator/ Co-Investigator*</u>	<u>Supporting Organization/ Grant Number</u>	<u>Title</u>	<u>Project Period</u>	Total	Current Annual	Amount**	% Effort
Doe, Joe	NIDDK P01 DK00000	Regulation of Erythropoietin Gene	4/1/97 - 3/31/03	\$600,000	\$125,261	40	
Jones, Sam	NICHHD K02 HD00000	Yolk Sac Stem Cell Origin	6/1/95 - 5/31/99	\$300,000	\$ 75,000		80
Lane, Andrea*	NHLBI R01 HL00000	Blood Flow Studies	7/1/98 - 6/30/02	\$162,518	\$ 50,000		15
etc.							
etc.							
etc.							

** Also sum this column and calculate the % coming from the NIH

SAMPLE EXHIBIT III-B: PENDING HEMATOLOGY-RELATED RESEARCH BASE SUPPORT

Include the same type of grants as listed above in SAMPLE EXHIBIT III-A.

<u>Principal Investigator/ Co-Investigator*</u>	<u>Supporting Organization/ Grant Number</u>	<u>Title</u>	<u>Project Period</u>	<u>Current Total Amount</u>	<u>Annual Amount</u>	<u>% Effort</u>
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------(AS ABOVE)-----

SAMPLE EXHIBIT III-C: ALL CURRENT SUPPORT OTHER THAN HEMATOLOGY-RELATED

T32s and F32s may be included in this EXHIBIT as well as the type of grants listed in above EXHIBITS.

<u>Principal Investigator/ Co-Investigator*</u>	<u>Supporting Organization/ Grant Number</u>	<u>Title</u>	<u>Project Period</u>	<u>Current Total Amount</u>	<u>Annual Amount</u>	<u>% Effort</u>
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------(AS ABOVE)-----

SAMPLE EXHIBIT III-D: ALL PENDING SUPPORT OTHER THAN HEMATOLOGY-RELATED

Include grants as in SAMPLE EXHIBIT III-C.

<u>Principal Investigator/ Co-Investigator*</u>	<u>Supporting Organization/ Grant Number</u>	<u>Title</u>	<u>Project Period</u>	<u>Current Total Amount</u>	<u>Annual Amount</u>	<u>% Effort</u>
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------(AS ABOVE)-----

If co-investigator's name is used, put principal investigator's name in parentheses below.

SAMPLE EXHIBIT IV
COLLABORATIONS AMONG CENTER MEMBERS

	J O N E S	S M I T H	A D A M S	C H U	E V E R S	K N I G H T	O L S O N	S A N D S	T A Y L O R	Z A N E
JONES	X	*		*	*		*		*	*
SMITH	*	X			*		*			*
ADAMS			X	*			*	*	*	
CHU	*		*	X		*				
EVERS	*	*			X			*		
KNIGHT				*		X				
OLSON		*		*			X			*
SANDS			*		*			X		
TAYLOR	*		*						X	
ZANE	*	*					*			X

* Indicates collaboration as evidenced by joint publications, abstracts, or research grants or by joint research projects.

SAMPLE EXHIBIT V

USE OF CORE FACILITIES

CORE: Name

DETERMINATIONS/SERVICES RENDERED

- A.
- B.

<u>USERS</u>	<u>FUNDED PROJECTS WITH IDENTIFYING NUMBER</u>	<u>PERIOD OF PERFORMANCE</u>	<u>DETERMINATIONS/SERVICES</u>	<u>ESTIMATED USE AND COMMENTS</u>
1.				
2.				
3.				

-----EXAMPLE-----

CORE: Chemistry

DETERMINATIONS/SERVICES RENDERED

- A.
- B.
- C.

<u>USERS</u>	<u>FUNDED PROJECTS WITH IDENTIFYING NUMBER</u>	<u>PERIOD OF PERFORMANCE</u>	<u>DETERMINATIONS/SERVICES</u>					<u>ESTIMATED USE AND COMMENTS</u>
			<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	
1. J.F. Smith	R01 DK 67031-02 (renewal not anticipated)	3/7/93-3/7/98	X		X			A. 5 per month for 12 months through 3/7/01 C. 100 per month
2. S.R. Jones	K02 HL00000-00	1/4/93-1/4/95				X		B. 40 per week through 1/4/00
3. R.G. Brown (Feasibility Study)			X					A. 16 per week for 6 months

In competing continuation applications, the above EXHIBIT will be EXHIBIT V-A. There also should be an EXHIBIT V -B with the last column entitled Actual Usage.

SAMPLE EXHIBIT VI

PILOT PROJECT OUTCOME TABLE

PROJECT NUMBER	INVESTIGATOR	DEPARTMENT	FUNDING DATES	AMOUNT	TITLE	PUBS		APPLICATIONS FUNDED			GRANT NUMBER		PROJ. PERIOD	TOTAL DIRECT COST	STILL IN GI RES.	
						Paper	Abst	Yes	No	Pnd					Yes	No
01	John Doe	Physiology	05/97 - 08/97	\$3,500	Mechanism of Red Blood Cell Membrane Transport	1		1			1 R01 HL00000-01	09/98 - 11/03	\$206,929	X		
02	Sam Jones	Biophysics	05/97 - 08/98	\$8,500	MRI Measurement of Cardiac Iron Burden	2	1			1	1 R01 DK00000-01	09/98 - 09/03	\$540,000	X		