16時00分～18時00分

免疫アレルギー疾患等実用化研究事業（移植医療分野）に関連する研究開発管理の実施・評価に関する研究
（H26-特別-指定-021）・研究代表者　北村　惣一郎
・造血幹細胞移植分野プログラムディレクター　小寺良尚

別　刷

米国に於いてＮＩＨから研究費を
支給されている一主要研究機関
－ＣＩＢＭＴＲ－の実情に関する調査研究

平成 26 年度

免疫アレルギー疾患等実用化研究事業（移植医療分野）に関連する
研究開発管理の実施・評価に関する研究

米国に於いて NIH から研究費を支給されている一主要研究機関－CIBMTR－の実情に関する調査研究

The status of a major institute who receives NIH grants in the US

造血幹細胞移植分野
プログラムディレクター
小　寺　良　尚

2015 年 2 月

巻頭言

医学医療領域の班研究は 2015 年度からその姿を大きく変え、一度は“NIH 型”と呼ばれる新しい仕組み、“省庁単位で言えば厚生労働省、文部科学省、経済産業省がそれまでは縦割りで管轄してきた班研究を統合的に運用する”、になることが政府として打ち出された。その後諸々の理由からこの”NIH 型“という呼称は使われなくなったが、本研究班としてはこれを機に強大な研究費配分機構である National Institute of Health から研究費を受け取る側の米国一研究機関において、どのように研究費申請を行い、どのように審査・承認を受け、どのように研究費を使い、どのように中間報告を行っているのかを調べてみることにした。それにより研究費を配る側、それを貰い使う側双方の真摯度が分かると思ったからである。受け取る側の研究機関としては、米国における造血幹細胞移植領域では最も安定している研究機関の一つと考えられる CIBMTR(Center of International Blood and Marrow Transplant Research)を選んだ。CIBMTR は我が国の JDCHCT(Japanese Data Center of Hematopoietic Cell Transplantation,日本造血細胞移植データセンター)が色々な意味で手本としている機構であるが、最大の違いは CIBMTR の場合、そこに蓄積される造血細胞移植データを対象とした多数の研究も実施している点にある。その意味では現在我が国で行われている造血細胞移植関連計１２班研究と JDCHCT が合体したような機構であり、調査に値すると考えた。調査に当たっては、CIBMTR Scientific Director である Mary Horowitz 教授, 長年 CIBMTR で諸事務を担当してきた Ms. Paula Watry, NIH Program Director である Nancy L DiFronzo 博士の協力を得た。ここに深謝するものである。

2015 年 2 月

小寺良尚

目次

Department of Promotion for Blood and Marrow Transplantation (DPBMT)
Aichi Medical University School Medicine
1-1, Yazakokarimata, Nagakute, Aichi 480-1195, JAPAN

Dear the colleagues of CIBMTR:

I am writing a letter to ask any corresponding person to answer the attached questionnaires.

The aim of the questionnaires is to know the situations of a major institute who receives the grant from NIH.

In Japan, the national government is creating a new system to provide grant money for further advances of medical research. It is called "NIH style" and I am the program director for planning a new system in the field of HSCT. I know that the outline of the new system is not resemble to the system of NIH from the points of view of the competent authorities and of the amount of fund but at this opportunity, I try to collect the information from a major institute who is offered the grant from NIH. I believe our new system to allocate the grants to promote medical research should be a) fair, b) cost effective and c) less burden to researchers. Your institute is the largest HSCT related center in the US and in the world. I believe your experiences how to handle the grants from NIH should be highly informative to us.

I hope you generously accept our requests and answer the questionnaires.

Yoshihisa Kodera

Program Director

Special Research of MHLW, HSCT Field, Japan

愛知医科大学医学部造血細胞移植振興寄附講座
愛知県長久手市岩作雁又１－1（〒480-1195)
Tel:0561-62-3311（2375） Fax:0561-61-3180
e-mail: ykodera@river.ocn.ne.jp
Cell phone: 090-8865-8980

The status of a major institute who receives NIH Grants in the US

The questionnaires to CIBMTR who obtained the grants from NIH
（ＣＩＢＭＴＲに対する質問項目）

1. The department to which NIH grants are offered
2. The projects to which NIH grants are offered
3. The amount of grants from NIH per each department
4. The amount of grants from NIH per each project
5. The items to which NIH grants can be used:
   a) Facilities
   b) Equipment
   c) Consumables
   d) Trust money
   e) Travel fee
   f) Honorarium
   g) Salary
   h) Others
6. Subjects to be applied from CIBMTR in 2014
7. How are they applied (Application process)?
8. Are they competitive applications?
9. Can we see the template of application form?
10. The system of NIH to examine the applications
11. Who examine the grant application?
12. The forms that you receive when your application is approved.
13. Any site visit or hearing during the grant term?
14. Should you submit any interim report? If yes, how frequently? May I have any example in the past?
15. May I have any example of the final report?
16. How many years for a single term of a NIH grant? How difficult to expand the next term?
17. Percentage of the grants for HSCT among total amount of grants in CIBMTR.

The status of a major institute who receives NIH Grants in the US

The questionnaires to CIBMTR who obtained the grants from NIH
(質問項目に対する CIBMTR からの回答:赤字、太字は資料あり)
Answered by Paula Watry

1. The department to which NIH grants are offered :
   Any researcher at Medical College may apply to NIH grant of his/her expertise. All NIH grants are listed on their website and researchers are responsible for watching/scanning currently released "requests for proposals". We have had such a close relationship with our project officers for so long that they often will give us advance notice.

2. The projects to which NIH grants are offered:
   Projects are made available to the public by the NIH system/websites and all details are completely dictated by the NIH grants office. The various institutes have people assigned to identify projects.

3. The amount of grants from NIH per each department –
   Completely determined by NIH and are the result of monies made available to them by the US government budget process. How NIH allocates the money across all the institutes is also completely in their hands. See website for list of all institutes that are part of NIH.

4. The amount of grants from NIH per each project –
   Completely determined by NIH Executive and budget Committees.

5. The items to which NIH grants can be used:
   a) Facilities : Yes
   b) Equipment : Yes
   c) Consumables : Yes
   d) Trust money : ?????; in those I've been involved with this has never been a line item in the project budget.
   e) Travel fee : yes
   f) Honorarium: ?????; in those I've been involved with this has never been a line item in the project budget.

g) Salary: Yes
h) Others

6. Subjects to be applied from CIBMTR in 2014;
   Am awaiting the full list from our business manager.

7. How are they applied (Application process)? –
   Each project CIBMTR chooses to apply for brings with it its own requirements within the application itself so is totally project specific. The "Request for Proposals" document is the official invitation on the **NIH website (1)** to which people respond by submitting an application. It explicitly details what must be addressed in the application. See website for samples of application process.

8. Are they competitive applications? –
   This is determined by NIH – some are, some are not (the grant that CIBMTR has had with NIH since 1985 that covers data collection is no longer competitive). Some have "limited" competition so confined to certain specific applicant requirements.

9. Can we see the template of application form?
   You can see some on the website I gave you, but I will ask Mary if I can send you **a copy of a recent application (2).** Some information on those applications is quite private.

10. The system of NIH to examine the applications:
    It goes before a review committee of experts that NIH selects and invites (I believe they are paid a small stipend); this gets increasingly difficult for NIH about CIBMTR because we are so well known so it is hard to eliminate bias. An NIH specific ratings system is used (I can find it on the website for you) in determining the application score. If the score is good enough to warrant funding the project officer of that specific project then deliberates with the higher budget committee (and project specific "contract officer") about acceptance (or rejection) and amount of money allocated.

11. Who examines the grant application?
See above. The review committee uses a NIH standard evaluation form. I can send it to you.

12. The forms that you receive when your application is approved.
A grant approval document (**"NOGA" = notice of grant approval (3)**) is sent to our business manager (Sue Lorenz) which includes exact amount allocated (may be less than originally determined on the "request for proposal") and she handles the remainder of the financial communication with NIH and the project specific "contract officer".

13. Any site visit or hearing during the grant term?
In the early years of our primary, old grants that may have been true but no longer is. There is very close communication with our NIH project officers and CIBMTR leadership – and NIH project officers have historically been non-voting members of the CIBMTR Board (*Nancy L. DiFronzo, Ph.D, NIH National Heart, Lung and Blood Institute, この人が Program Director と呼ばれており、2月 10, 12 日に面談した。働き盛りの女性である。*) Annual Progress Reports are required for all NIH grants.

14. Should you submit any interim report? If yes, how frequently? May I have any example in the past?
See above. I will ask Mary if OK to send you **a copy of a version provided to the government (4).** What we publish publicly is a very different, revised version though some information is the same. But the tone of the public version writes to a completely different reading audience. These are all available on the CIBMTR website.

15. May I have any example of the final report?
Again – I will ask Mary if I can send you **a copy of the government/NIH version.**

16. How many years for a single term of a NIH grant? How difficult to expand the next term?
This is entirely determined by NIH per project and can be changed at the time of application renewal – we are never in a position to request

expanded terms. In fact – in 2012 both the SCTOD (funding not from NIH but from HRSA) and the NIH "U24" grant that covers data collection were up for renewal and terms were changed so both are due this year. AND the clinical trials grant (also from NIH) also happens to be due in 2015. This will be a very difficult challenge for CIBMTR.

17. Percentage of the grants for HSCT among total amount of grants in CIBMTR.

All CIBMTR grants with the NIH are HSCT specific in some way. I can provide **a full listing of grants held by CIBMTR (5)** later this week.

資料説明－1

NIH から CIBMTR への応募要請

これは競合相手が居ない CIBMTR の研究課題 “A data Resource for Analysing Blood and Marrow Transplants”に対する、NIH からの応募要請である。この様なことが米国では起こり得るということであろう。

Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)	National Institutes of Health (NIH)
Components of Participating Organizations	National Cancer Institute (NCI) National Heart, Lung, and Blood Institute (NHLBI) National Institute of Allergy and Infectious Diseases (NIAID)
Funding Opportunity Title	**A Data Resource for Analyzing Blood and Marrow Transplants (Limited Competition U24)**
Activity Code	U24 Resource-Related Research Projects – Cooperative Agreements
Announcement Type	Reissue of RFA-CA-07-506
Related Notices	None
Funding Opportunity Announcement (FOA) Number	**RFA-CA-12-503**
Companion FOA	Not Applicable
Number of Applications	Eligible applicant organization may submit only one application in response to this FOA. Section III. 3. Additional Information on Eligibility.
Catalog of Federal Domestic Assistance (CFDA) Number(s)	93.395, 93.839, 93.855
FOA Purpose	The purpose of this Funding Opportunity Announcment (FOA) is to continue the support for the Center for International Blood and Marrow Transplant Research (CIBMTR). This database resource collects consecutive outcomes data from transplant centers worldwide and makes them accessible to transplant investigators, patients, and healthcare policy makers. In addition, the CIBMTR provides quality data to transplant researchers for observational research studies on patients who had blood and marrow transplants.

Key Dates

Posted Date	March 30, 2012
Letter of Intent Due Date	May 11, 2012
Application Due Date(s)	June 11, 2012
AIDS Application Due Date(s)	Not Applicable
Scientific Merit Review	October-November 2012
Advisory Council Review	January 2013
Earliest Start Date(s)	March 1, 2013
Expiration Date	June 12, 2012
Due Dates for E.O. 12372	Not Applicable

Required Application Instructions

It is critical that applicants follow the instructions in the PHS398 Application Guide except where instructed to do otherwise (in this FOA or in a Notice from the *NIH Guide for Grants and Contracts*). Conformance to all requirements (both in the Application Guide and the FOA) is required and strictly enforced. While some links are provided, applicants must read and follow all application instructions in the Application Guide as well as any program-specific instructions noted in Section IV. When the program-specific instructions deviate from those in the Application Guide, follow the program-specific instructions. **Applications that do not comply**

with these instructions may be delayed or not accepted for review.

Note: A new version of the paper PHS 398 application form and instructions (revised 6/2009) must now be used. Download the new application form and instructions from http://grants.nih.gov/grants/forms.htm.

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Part 2. Full Text of Announcement

Section I. Funding Opportunity Description

Purpose

The National Cancer Institute (NCI), the National Heart, Lung, and Blood Institute (NHLBI), and the National Institute of Allergy and Infectious Diseases (NIAID) solicit a renewal application from the Center for International Blood and Marrow Transplant Research (CIBMTR) for the continued support of the established Data Resource for Analyzing Blood and Marrow Transplants, currently funded by a cooperative agreement resource (U24) award. The purpose of this Limited Competition Funding Opportunity Announcement (FOA) is to ensure the continued availability of the CIBMTR database as a resource to investigators and healthcare policy makers.

Background

The CIBMTR collects consecutive data for transplant outcomes from transplant centers throughout the world. These data cover essentially all of the allogeneic hematopoietic stem cell (HSC) transplants and approximately 60% of the autologous transplants in the United States (U.S.). Data are collected for about 18,000 HSC transplant recipients per year, and the database now contains information on over 400,000 HSC transplant recepients. More than 450 transplant centers in 48 countries are currently submitting data to the CIBMTR. Approximately 85% of allogeneic transplants and greater than 99% of autologous transplants performed in the U.S. are for treatment of patients with hematologic malignancies.

The CIBMTR has a proven system for facilitating the use of its database for research, and a record of collaborations with investigators, government agencies, professional groups, international partners, and patient organizations. Currently, the CIBMTR has 19 working committees that function to facilitate the use of CIBMTR data by transplant researchers. These committees assist investigators in answering key observational research questions that can only be addressed by using an updated and contemporary database of outcomes of transplants. Studies that utilize the CIBMTR database provide information relevant to: developing approaches to evaluate transplant outcomes; comparing transplant regimens; planning new transplant clinical trials and amending ongoing trials; assessing variabilities in transplant diagnosis, outcomes and procedures; evaluating transplant costs and cost-effectiveness; and identifying prognostic factors for transplant recipients.

Research Objectives

The overall goal that the applicants responding to this FOA must address is to ensure that CIBMTR continues to serve as a robust and efficient research resource for collection and utilization of data on transplant patient outcomes. The proposed continuation of CIBMTR must provide wide and sustaining value to the scientific and lay communities and be properly optimized to meet new challenges and emerging opportunities in transplant research.

Applicants must propose the following two Programs in their applications:

- **Resource Development Program; and**
- **Resource Utilization Program.**

The applicant team is expected to address at a minium the topics provided below in two respective lists. However, these lists of required topics are by no means inclusive. Applicant team is encouraged to include other relevant aspects consistent with the overall objectives of the FOA.

Resource Development Program is expected to focus on optimization and enhancing the quality and scope of the database in aspects relevant to malignancies as well as in other aspects relevant to the mission of NIAID and NHLBI. Particularly important are issues of data collection and management as well as on further development and optimization of information technology. Required topics to address include:

- Optimization of data submission across a wide variety of U.S. transplant centers, including those at cancer centers and smaller hospitals using "A Growable Network Information System" (AGNIS, http://www.agnis.net/);
- Global expansion of database communications via AGNIS, and global influence of CIBMTR expertise;
- Data retrieval from the CIBMTR database for use by CIBMTR investigators and other interested parties ("data back to centers" functionality);
- Optimization of interactions between the CIMBTR and patients and patient advocates to facilitate the design of quality-of-life studies as well as overall information access for involved parties;
- Strategies to enhance the collection of data for alternative therapeutic applications other than for hematopoietic malignancies, and specifically for rare diseases including but not limited to transplant for hemoglobinopathies, primary immune deficiencies, metabolic diseases, and autoimmune diseases

Resource Utilization Program should address optimization of the following aspects, at a minimun:

- The formation, function, and leadership of the scientific working committees and the procedures for their review;
- The process of final review, prioritization and implementation of the proposed studies received and evaluated by the Working Committees;
- Timeline of movement of research ideas from CIBMTR investigators to review of proposals for studies using resource data, final activation of such studies, and to publication of results;
- The process by which observational studies emanating from the scientific agenda in the CIBMTR are linked to decisions for prospective clinical trials design and/or amendment of such trials;
- Use of data from immunobiological and immunogenetic studies, such as for studies of graft-versus- host disease and minimal residual disease, from biospecimens obtained from the The National Marrow Donor Program (NMDP) repository (such experimental studies are welcomed but remain beyond the scope of this FOA);
- The selection of an alternative donor when a matched sibling or well-matched unrelated donor is not available for allogeneic transplant, for example, use of data on haploidentical and cord blood transplants as well as donor selection based on natural killer cell receptor genes;
- Use of data to assess the effect of patient age on outcome of transplant in various disease settings;
- New statistical methodologies for studies on HSC transplant patients;
- Alternative therapeutic applications other than for hematopoietic malignancies, and specifically for rare diseases including but not limited to transplant for hemoglobinopathies, primary immune deficiencies, metabolic diseases, and autoimmune diseases
- Assistance (e.g., data collection) in long-term follow-up studies for patients participating in prospective clinical trials conducted beyond the scope of this FOA.

Governing and Administrative Structure. The CIBMTR must have appropriate organizational and managerial structures for the programmatic goals defined above. It is expected that the CIBMTR will have an Executive Committee for providing scientific and policy advice to the Chief Scientific Officer and Statistical Center, and a larger Advisory Committee, to provide oversight for all CIMBTR policies, agendas and long-term mission. In addition, it is anticipated that the current topical Scientific Working Committees will continue to function for the design and implementation of research studies in the CIBMTR.

Section II. Award Information

Funding Instrument	The Cooperative Agreement (U24) mechanism will be used to support this research. For this mechanism, there will be substantial Federal scientific or programmatic involvement. Substantial involvement means that, after award, NIH staff will assist, guide, coordinate, or participate in project activities, but will not direct activities proposed by the grantee.
Application Types Allowed	Renewal for the award made under RFA-CA-07-506. The OER Glossary and the PHS398 Application Guide provide details on these application types.
Funds Available and Anticipated Number of Awards	The NIH intends to fund one award, contingent upon NIH appropriations, and the submission of a meritorious application. The following NIH components intend to commit the following amounts (in total costs) in FY 2013: NCI intends to commit $2.35 million; NHLBI plans to contribute $970,000; NIAID will contribute $300,000. The amount of funding over the 5 year project period is expected to be up to $18.1 million (total cost).
Award Budget	The budget requested for the initial project period must not exceed $3.62 million (total costs).
Award Project Period	A project period of 5 years may be requested.

NIH grants policies as described in the *NIH Grants Policy Statement* will apply to the applications submitted and awards made in response to this FOA.

Section III. Eligibility Information

1. Eligible Applicants

Eligible Organizations

This is a limited competition FOA. Only the current CIBMTR awardee institution is eligible to apply.

Foreign Institutions

Foreign components, as defined in the *NIH Grants Policy Statement*, are allowed.

Required Registrations

Applicant organizations must complete the following registrations as described in the PHS398 Application Guide to be eligible to apply for or receive an award. Applicants must have a valid Dun and Bradstreet Universal Numbering System (DUNS) number in order to begin each of the following registrations.

- Central Contractor Registration (CCR) – must maintain an active registration, to be renewed at least annually
- eRA Commons

All Program Director(s)/Principal Investigator(s) (PD(s)/PI(s)) must also work with their institutional officials to register with the eRA Commons or ensure their existing eRA Commons account is affiliated with the eRA Commons account of the applicant organization.

All registrations must be completed by the application due date. Applicant organizations are strongly encouraged to start the registration process at least 4-6 weeks prior to the application due date.

Eligible Individuals (Program Director(s)/Principal Investigator(s))

Any individual(s) with the skills, knowledge, and resources necessary to carry out the proposed research as the Program Director(s)/Principal Investigator(s) (PD(s)/PI(s)) is invited to work with his/her organization to develop an application for support. Individuals from underrepresented racial and ethnic groups as well as individuals with disabilities are always encouraged to apply for NIH support.

Any individual with the skills, knowledge, and resources necessary to carry out the proposed research as the Program Director(s)/Principal Investigator(s) (PD(s)/PI(s)) is invited to work with the CIBMTR awardee institution to develop an application for support. Individuals from underrepresented racial and ethnic groups as well as individuals with disabilities are always encouraged to apply for NIH support.

If proposing multiple PD(s)/PI(s), visit the Multiple Program Director(s)/Principal Investigator(s) Policy (http://grants.nih.gov/grants/multi_pi) and submission details in the Senior/Key Person Profile (Expanded) Component of the PHS398 Application Guide. Underrepresented racial and ethnic groups as well as individuals with disabilities are always encouraged to apply.

2. Cost Sharing

This FOA does not require cost sharing as defined in the *NIH Grants Policy Statement.*

3. Additional Information on Eligibility

Number of Applications

Eligible applicant organization may submit only one application.

Section IV. Application and Submission Information

1. Address to Request Application Package

Applicants are required to prepare applications according to the current PHS 398 application forms in accordance with the PHS 398 Application Guide.

2. Content and Form of Application Submission

It is critical that applicants follow the instructions in the PHS398 Application Guide, except where instructed in this funding opportunity announcement to do otherwise. Conformance to the requirements in the Application Guide is required and strictly enforced. Applications that are out of compliance with these instructions may be delayed or not accepted for review.

Letter of Intent

By the date listed in Part 1. Overview Information, the prospective applicant is asked to submit a letter of intent that includes the following information:

- Descriptive title of proposed research;
- Name, address, and telephone number of the PD(s)/PI(s);
- Names of other key personnel;
- Participating institutions; and

- Number and title of this funding opportunity.

Although a letter of intent is not required, is not binding, and does not enter into the review of a subsequent application, the information that it contains allows NCI staff members to estimate the potential review workload and plan the review. The letter of intent should be sent to:

Dr. William D. Merritt
Clinical Grants and Contracts Branch
Cancer Therapy and Evaluation Program
Division of Cancer Treatment and Diagnosis
National Cancer Institute
6130 Executive Blvd, EPN Rm 7009, MSC 7432
Bethesda, MD 20892-7432 (for U.S. Postal Service regular or express mail)
Rockville, MD 20852 (for non-USPS delivery)
Telephone: 301-496-8866
Email: merrittw@mail.nih.gov

Application Submission

Applications must be prepared using the PHS 398 research grant application forms and instructions for preparing a research grant application. Submit a signed, typewritten original of the application, including the checklist, and three signed photocopies in one package to:

Center for Scientific Review
National Institutes of Health
6701 Rockledge Drive, Room 1040, MSC 7710
Bethesda, MD 20892-7710 (U.S. Postal Service Express or regular mail)
Bethesda, MD 20817 (for express/courier service; non-USPS service)

At the time of submission, two additional paper copies of the application and all copies of the Appendix files must be sent to:

Referral Officer
Division of Extramural Activities
National Cancer Institute
6116 Executive Boulevard, Room 8041, MSC 8329
Bethesda, MD 20892-8329 (for U.S. Postal Service regular or express mail)
Rockville, MD 20852 (for non-USPS delivery)
Telephone: (301) 496-3428
FAX: (301) 402-0275
Email: ncirefof@dea.nci.nih.gov

In addition, applicants are encouraged to include in the submission to this address an electronic version of the application (in pdf format with text attributes on a CD).

Page Limitations

All page limitations described in the PHS398 Application Guide and the Table of Page Limits must be followed, with the following requirements:

- Specific Aims is limited to 1 page.
- Research Strategy section is limited to 12 pages for Resource Overview, 12 pages for Resource Development Program, and 12 pages for Resource Utilization Program.

Resources

Include the full list of transplant centers which contribute data for their patients to the CIBMTR.

Research Plan

All instructions in the PHS398 Application Guide must be followed, with the following additional instructions:

Table of Contents. Modify Form Page 3 of the PHS 398 (Table of Conents) to include under Section 3 "Research Strategy" the following subsections:

A. Overview of the Resource;

B. Resource Development Program; and

C. Scientific Resource Utilization Program

Research Strategy. Section 3. Research Strategy of the PHS 398 Research Plan must consist of the following Subsections A-C (corresponding to individual application components, see details below).

Subsection A. Overview of the Resource (12 pages)

In this section, describe the following aspects:

- Overview of the formation and evolution of the CIBMTR and general makeup of the participation sites;
- Organizational and leadership structure of the CIBMTR, including the composition and function of the significant administrative and scientific bodies such as the Executive Committee and Advisory Committee,.
- Overview of data collection and management and accrual;
- Current transplant data archive (basic and comprehensive);
- Progress in the current funding period in the areas of:
  - Data collection technology related to simplification of data reporting from centers as well as enhancement of data quality;
  - Data retrieval by centers for enhanced speed of data utilization;
  - Community outreach such as development of web-based applications;
  - Information technology advances to enhance speed and throughput of the CIBMTR;
  - Efforts to enlist additional institutions (U.S. and global) to submit data to CIBMTR; and
  - Plans for interactions with other relevant data collection initiatives, e.g., Stem Cell Therapeutic Outcomes Database.
- *Progress in the current funding period in regard to use of the CIBMTR data by the statistical center and the scientific working* committees to:
  - Enhance knowledge of outcomes of hematopoietic cell transplant for various malignancies and non-malignant blood disorders, solid tumor transplants, non-malignant indications and rare indications;
  - Further develop and enhance the role of CIBMTR studies in the field of hematopoietic cell transplantation;
  - Support prospective multi-site clinical trials;
  - Provide novel biostatistical approaches to transplant research;
  - Expand health services research on hematopoietic stem cell transplantation
  - Expand data on quality of life and late effects of HSC treatment;
  - Facilitate collaborations of working committees with other organizations; and
  - Utilize the NMDP tissue bank using paired donor-recipient specimens for studies in immunology and genetics of transplant linked to clinical outcomes.

Subsection B. Resource Development Program (12 pages)

In this section, the plans proposed to:

- *Optimize the overall quality and scope of the database;*
- Optimize collaborative ventures with U.S. medical centers to enhance database connectivity and improve data transmission rates/throughput and reliability as needed;
- Further international collaborations as related to the global influence of the CIBMTR;
- Enhance data retrieval functionality for transplant centers as well as community-based physicians including web-based access;
- Optimize collection of research data from patients undergoing hematopoietic cell transplants for non-malignant indications and with multiple, novel, or genetically-modified cellular products; and
- Initiate collection of research data on patients with myelodysplastic syndromes who do not undergo transplant.

Subsection C. Resource Utilization Program (12 pages)

In this section, describe the plans proposed to:

- Provide novel observational studies in hematologic malignant and non-malignant blood disorders, including use of genetically engineered cellular products;
- Optimize the process of the review and prioritization of proposals emanating from the scientific working committees, the *communication of these committees with senior leadership, and the timeline for publication of studies;*
- Improve the scientific basis for selection of an alternative donor when a matched sibling or well-matched unrelated donor is not available;and use CIBMTR data in novel ways to obtain further information on engraftment, GVHD and outcomes, for example outcomes as related to aspects of natural killer (NK) cell-KIR ligand mismatch;
- Enhance interactions with investigators at relevant clinical entities supported by the NIH for use of CIBMTR data in the design of prospective clinical trials;
- Link outcomes data to immunological data obtained from biospecimens;
- Optimize the data analysis process through enhanced biostatistical analyses;
- Assess transplant outcomes for patients with extremely rare disorders, including non-malignant diseases;
- Assess the effect of patient age on transplant outcomes in various disease settings;
- Use the data from patients with myelodysplastic syndromes who do not undergo hematopoietic cell transplant in a prospective study to adhere to "Coverage with Evidence Determination" guidance (https://www.cms.gov/CoverageGenInfo /03_CED.asp) issued by the Centers for Medicare & Medicaid Services (CMS); and
- Provide health services research on hematopoietic stem cell transplantation.

Resource Sharing Plan

Individuals are required to comply with the instructions for the Resource Sharing Plans (Data Sharing Plan, Sharing Model Organisms, and Genome Wide Association Studies (GWAS)) as provided in the PHS398 Application Guide, with the following modifications:

- This application should address a Data Sharing Plan (specific data sharing aspects may be appropriate to mention in other sections of the application as well).

Appendix

Do not use the Appendix to circumvent page limits. Follow all instructions for the Appendix (please note all format requirements) as described in the PHS398 Application Guide.

3. Submission Dates and Times

Part I. Overview Information contains information about Key Dates.

Information on the process of receipt and determining if your application is considered "on-time" is described in detail in the PHS398 Application Guide.

Applicants may track the status of the application in the eRA Commons, NIH's electronic system for grants administration.

4. Intergovernmental Review (E.O. 12372)

This initiative is not subject to intergovernmental review.

5. Funding Restrictions

All NIH awards are subject to the terms and conditions, cost principles, and other considerations described in the *NIH Grants Policy Statement*.

Pre-award costs are allowable only as described in the *NIH Grants Policy Statement*.

6. Other Submission Requirements and Information

Application must be received on or before the due dates in Part I. Overview Information. If an application is received after that date, it will not be reviewed.

Upon receipt, the application will be evaluated for completeness by the Center for Scientific Review and responsiveness by components of participating organizations, NIH. Application that is incomplete and/or nonresponsive will not be reviewed.

Post Submission Materials

Applicants are required to follow the instructions for post-submission materials, as described in NOT-OD-10-115.

Section V. Application Review Information

1. Criteria

Only the review criteria described below will be considered in the review process. As part of the NIH mission, all applications submitted to the NIH in support of biomedical and behavioral research are evaluated for scientific and technical merit through the NIH peer review system.

For this particular announcement, note the following:

The overall goal and priority of this FOA are on ensuring that the CIBMTR continues to serve as a robust and efficient research resource for collection and utilization of data on transplant patient outcomes. The CIBMTR is expected to function as a "living resource" that is responsive to the needs of the communities served and a variety of potential users.

Overall Impact - Overall

Reviewers will provide an overall impact/priority score to reflect their assessment of the likelihood for the Resource to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following review criteria and additional review criteria (as applicable for the Resource proposed).

Scored Review Criteria Overall

Reviewers will consider each of the review criteria below in the determination of scientific merit, and give a separate score for each. An application does not need to be strong in all categories to be judged likely to have major scientific impact. For example, a Resourcet that by its nature is not innovative may be essential to advance a field.

Significance

Does the Resource address an important problem or a critical barrier to progress in the field? If the aims of the Resource are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved? How will successful completion of the aims change the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?

Specific to this FOA: How well is the Resource Development Program addressing the future needs of transplant researchers,

physicians, and their patients? How significant for the overall goals of the program are the proposed improvements in the overall infrastucture and information technology? How well does the Resource Utilization Program anticipate future research needs in the field of hematopoietic stem cell transplant?

Investigator(s)

Are the PD(s)/PI(s), collaborators, and other researchers well suited to the Resource? If Early Stage Investigators or New Investigators, or in the early stages of independent careers, do they have appropriate experience and training? If established, have they demonstrated an ongoing record of accomplishments that have advanced their field(s)? If the project is collaborative or multi-PD(s)/PI(s), do the investigators have complementary and integrated expertise; are their leadership approach, governance and organizational structure appropriate for the project?

Specific to this FOA: How appropriate are the overall leadership of the CIBMTR and staff of CIBMTR operations and management appropriate for optimal functioning of the CIBMTR? Do the members of the team bring complementary and integrated expertise to the Resource? To what degree do the organization and makeup of the leadership of the working committees and the statistical center ensure optimal scientific productivity in the CIBMTR?

Innovation

Does the application challenge and seek to shift current research or clinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions? Are the concepts, approaches or methodologies, instrumentation, or interventions novel to one field of research or novel in a broad sense? Is a refinement, improvement, or new application of theoretical concepts, approaches or methodologies, instrumentation, or interventions proposed?

Specific to this FOA: How innovative are approaches, methodologies and directions proposed for the collection and use of transplant data from malignant and non-malignant hematologic diseases, and non-transplant data from patients with myeloblastic syndromes?

Approach

Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the Resource? Are potential problems, alternative strategies, and benchmarks for success presented? If the project is in the early stages of development, will the strategy establish feasibility and will particularly risky aspects be managed?

If the Resource involves clinical research, are the plans for 1) protection of human subjects from research risks, and 2) inclusion of minorities and members of both sexes/genders, as well as the inclusion of children, justified in terms of the scientific goals and research strategy proposed?

Specific to this FOA: Are the methods of data collection and information technology adequately developed, well integrated, feasible, and appropriate to the scientific goals of the Resource? Specifically, how suitable and well reasoned are the proposed data submission goals? How appropriate and how well integrated are data retrieval processes proposed? Is expansion of the data resource globally appropriate and well integrated for future development?

Are the Scientific Working Committees with associated biostatistical input structured for optimal and efficient critical consolidation of data and formulation of study proposals? How well is the CIBMTR (as proposed) structured for the optimal prioritization of research problems that can be addressed by observational studies? Will the CIBMTR contributions in that regard sufficiently help drive further research in the field of hematopoietic stem cell transplant for a wide variety of disease settings, including non-malignant disorders? Is there evidence for meaningful collaborative initiatives to enhance linkage to relevant clinical entities supported by the NIH for purposes of running prospective clinical trials in transplant research? Are the plans to connect CIBMTR data with corresponding immunological data taking sufficient advantage of the available biospecimens? How well-defined, appropriate and efficient are the proposed processes for proposal approval, study completion, and timely publication of the results?

Environment

Will the scientific environment in which the work will be done contribute to the probability of success? Are the institutional support, equipment and other physical resources available to the investigators adequate for the project proposed? Will the project benefit from unique features of the scientific environment, subject populations, or collaborative arrangements?

Specific to this FOA: To what degree is the environment of the CIBMTR applicant institutions conductive to the goals for Resource Development Program, including enhancing the information technology required for the observational research? How optimal are the environments of those campuses to the goals of Resource Utilization Program, e.g., with respect to integration and interaction with other relevant programs and activities in the general field of hematopoietic stem cell transplant science and practice? To what degree will these environments help respond to the needs of communities to be served by the Resource?

Additional Review Criteria - Overall

As applicable for the Resource proposed, reviewers will evaluate the following additional items while determining scientific and technical merit, and in providing an overall impact/priority score, but will not give separate scores for these items..

Protections for Human Subjects