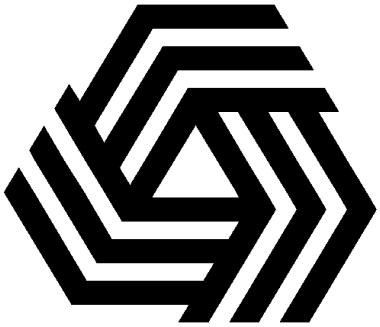

National Center for Research Resources
National Institutes of Health
Department of Health and Human Services

Clinical Research

Guidelines for the General Clinical Research Centers (GCRC) Program

Supplement III: Information and Instruction for GCRC Site Visitors

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INFORMATION AND INSTRUCTION FOR GCRC SITE VISITORS

I. INTRODUCTION

A project site visit to the applicant institution is part of the evaluation of an application for a General Clinical Research Center (GCRC) grant. Written critiques from site visit teams and their recommendations are incorporated into a report which is presented to the next meeting of the GCRC Review Committee. This site visit report is essential to the GCRC Review Committee's evaluation of the application and serves as the basis for its recommendation (Summary Statement) to the National Advisory Research Resources Council (NARRC). Following GCRC Review Committee action, the Summary Statement with its priority score is sent to the Principal Investigator (PI). It is the policy of the National Institutes of Health (NIH) to treat applications and their supporting materials in confidence, unless a request is made for them under provisions of the Freedom of Information Act after the grant has been funded. Deliberations of review committees are considered confidential.

II. FACTORS IN THE EVALUATION

Factors considered by project site visitors include: l) scientific merit and biostatistical design of the clinical research proposals; 2) peer-reviewed funding held by participating investigators; 3) diversity of scientific areas and interaction between basic and clinical departments; 4) opportunities for junior investigators to gain expertise enabling them to become independent investigators; 5) the collective impact of the individual proposals on clinical research at the institution; 6) the budget; 7) the administration of the GCRC; 8) the physical facilities of the GCRC; and 9) the opportunities for medical students, house staff and fellows for research exposure on the GCRC and participation in research projects. Certain specific areas should be considered in evaluating these elements.

A. Specific Research-Related Factors:

1. Quality: whether the research projects are hypothesis-oriented, incorporate adequate biostatistical design, and are likely to provide new scientific information.

2. Peer-reviewed funding of investigators: whether a significant number of investigators have independent grant support, especially from the NIH or other peer-reviewed funding sources.

3. Breadth: the extent to which utilization of the GCRC will be multidepartmental and multicategorical, and whether there is interaction among investigators from multiple disciplines, including basic and clinical departments.

4. Impact of the Award:

a. Need - whether the GCRC is necessary for the proposed studies, or whether they could be done as well elsewhere in the institution.

b. Importance - significant new research contributions by GCRC-based investigators and evidence of bidirectional translation of basic and clinical research activities.

c. Resources - the number of research inpatient days and outpatient visits to be provided for scientifically meritorious projects. Assessment of GCRC resources requested for support, and the number, breadth, and quality of projects utilizing the Core Laboratory, Informatics Core, and biostatisticians, and research bionutrition resources.

d. Productivity and Accomplishments - the number and quality of publications of proposed or current GCRC investigators over the previous five years.

e. Junior Investigators - opportunity for junior physician-investigators to gain the expertise to develop into independent investigators capable of successfully competing for independent research funding. Quality of research proposals submitted by Clinical Associate Physicians (CAPs) and the current research activities and research support of CAPs and Minority Clinical Associate Physicians (MCAPs) previously supported at the Center.

f. Training and Career Development - the extent to which the GCRC is or will be utilized as a research training environment for medical students, house staff, fellows, technicians, nurses, social workers, and bionutritionists.

g. Industry - relative balance of investigator-initiated as compared with industry-initiated research projects utilizing the GCRC and appropriate categorization of research projects by the local GCRC Advisory Committee (GAC).

B. Physical Facility:

Reviewers will evaluate whether the inpatient and outpatient research areas are suitable for the nature of patient research in the age groups (e.g., infants, adolescents, the aged) and research complexity required for the proposals. In some cases, specialized facilities within the GCRC may be required for patient safety or for specialized studies. Unless otherwise justified, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO)-approved unit should be discrete, and be within the main patient care area of the hospital, close to the administrative offices of the Program Director (PD) and Administrative Manager. The Informatics Core area should be convenient and efficient, with terminals readily accessible to investigators. The Core Laboratory should be an appropriate size for its proposed function. Bionutrition research facilities, if required, should be within one discrete facility or immediately juxtaposed to the patient research area.

C. Administration:

l. Principal Investigator: individual with authority which transcends departmental boundaries, and is usually the Dean of the medical school to which the GCRC is awarded. The PI appoints the PD and members of the GAC, including its chairman. The PI derives no salary support from the GCRC award.

2. Financial Management: includes a determination of whether the local GAC has classified inpatient days appropriately as Categories A, B, C, or D, and appropriately classified research subjects as inpatients or outpatients. These classifications are important because an appropriate use of Categories B, C, and D patients conserves program funds and makes the GCRC operation more cost-effective. Other factors to be considered, primarily by the administrative reviewer, include the quality of the operational relationships between GCRC and institutional staff, the qualifications of the Administrative Manager, and the capacity of the institution to provide adequate cost-accounting data.

3. Program Directorship: The PD should be an individual with relevant knowledge, scientific expertise, and evidence of administrative skills. In addition, the PD should be involved in the conduct of GCRC-based research, and be a recipient of independent peer-reviewed research funding. If there are Associate or Assistant PDs, their qualifications, research activities on the GCRC, sources of research support and their administrative functions are also reviewed. Associate and Assistant PDs are active investigators at the GCRC and recipients of peer-reviewed funding as PD or Co-investigators. The PD is ultimately responsible for the day-to-day oversight of GCRC activities. Other GCRC personnel are directly or indirectly responsible to the PD.

4. GCRC Advisory Committee: The composition and functions of the GAC and the content of its minutes are reviewed. The GAC is directly responsible to the PI and works closely with the PD. The GAC assesses the utilization of GCRC resources--such as inpatient days, outpatient visits, Core Laboratory, Informatics Core, bionutrition research--by investigators and reviews financial management. In addition, the GAC should make a genuine effort to improve the scientific merit of the projects, review biostatistical design, address ethical concerns and classify all patients as appropriate for Categories A, B, C, or D.

5. Institutional Review Board: Membership, attendance records, and minutes of the IRB are also examined by reviewers. The minutes should document significant issues discussed and not simply state "approved," "deferred" or "rejected."

6. Patient Care: quality of professional medical and nursing coverage of patients hospitalized in the GCRC or participating in outpatient research. Patient charts should have adequately detailed histories and physical examinations along with progress notes. The project principal investigator or his/her designee should have appropriate notes on the patient chart in addition to house staff and fellows' notes. A signed informed consent statement should be on

each patient's chart and/or copies maintained in the GCRC administrative office. All projects should have received full approval from the IRB and GAC. Reviewers should examine informed consent statements.

7. Animal Care: If GCRC funds support animal related research activities, reviewers should determine whether the proposed use of the animals is justified, and at least one of the site visitors will visit the animal care facility.

D. Budget:

The requested budget is organized into the following categories: Personnel, Consultant Costs, Equipment, Supplies, Travel, Patient Care Costs, Alterations and Renovations, and Other Expenses. In general, it is the responsibility of the site visitors to determine whether budgetary items are justified by worthwhile scientific projects in the application, not simply whether the costs are properly estimated. For example, the review process should determine how much support for program directorship is justified and how many nurses are required by the projects approved. Reviewers should also determine whether equipment requests are justified, not simply the equipment costs, and how many inpatient days and outpatient visits are necessary. Ordinarily, no more than 50 percent of the PD's time is supported for the administrative oversight of the GCRC; exceptions are considered on a case-by-case basis. Associate and Assistant PDs may also be supported for administrative oversight, not usually in excess of 25 percent of time for each individual unless unique GCRC needs require support up to 50 percent of time of an established, funded investigator as an Associate Director. In general, support for total program directorship of a GCRC does not exceed l.0 full-time equivalent (FTE), although this may be exceeded for very large or complex GCRCs. The level of support for laboratory supplies depends on the nature of the technology in the Core Laboratory. Routine chemistries (such as CBC, urinalyses, SMA 24, liver function tests) are not to be supported in the Core Laboratory, but rather to be paid as patient research ancillaries or by third parties if the patient category is B, C, or D. Alterations and renovations are also sometimes the subject of cost recommendations by site visitors. Using advice from expert consultants, these recommendations are based on scientific merit of GCRC-based research, need for the alterations and cost-effectiveness.

Site visitors are asked to make a recommendation on each request in the application. Decisions should be deferred only if key information which is needed by reviewers is not available but can be provided by the applicant in a reasonable period of time. A failure of the applicant to provide adequate justification for budget items may result in disapproval, not deferral.

III. SITE VISIT CONDUCT

A. Nature and Purpose:

The site visitors function as a fact-finding team and group of expert consultants for the Initial Review Group, the GCRC Review Committee. Usually two or more members of the GCRC

Review Committee are among the site visitors, and one of them serves as Chairperson. The remainder of the site visitors are scientists with specific expertise for particular areas of research described in the application, and an administrative reviewer. The Chairperson serves as moderator, conducts the executive sessions, and is primarily responsible for presenting the application and the report of the site visit team to the next meeting of the GCRC Review Committee.

A member of the NCRR Office of Review (OR) attends all site visits as Scientific Review Administrator (SRA), and provides necessary administrative information to the site visit team, communicates between GCRC personnel and the site visit team, instructs the visitors in their duties, monitors the process and conduct of the review, interprets review and program policy, collects review materials generated by members of the site visit team, and formulates the report for the GCRC Review Committee. An NCRR Grants Management Specialist may also be present at the site visit to provide assistance to reviewers. In addition, a member of the GCRC Program staff usually attends the site visit and serves as an information resource on interpretation of program policies for the members of the site visit team.

At an executive session at the beginning of the site visit, the team discusses the agenda, addresses potential concerns raised in preliminary review of the submitted application, and may ask the SRA to request specific documents (e.g., patient consent forms, correspondence and other documents which relate to industry-related research).

B. Site Visit Agenda:

The following is a typical site visit agenda for most GCRCs The schedule is sometimes modified to suit very large GCRCs.

DAY 1:	7:45 a.m.	Preliminary executive session of site visitors.
8:15 -	9:00 a.m.	Brief outline by the Principal Investigator and Program Director of GCRC activities since the last review (renewals only) and proposed future utilization. Overview of resources which impact GCRC.
9:00 -	9:30 a.m.	Core Laboratory Presentation (if applicable)
9:30 -	10:00 a.m.	Informatics Core Presentation and justification and role of Biostatistician (if applicable)
10:00 -	10:15 a.m.	Break
	10:15 a.m.	Administrative meeting of administrative reviewer with institutional officials (concurrent with scientific presentations).
10:15 -	10:45 a.m.	Scientific Presentation #1

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 10:45 - 11:15 a.m.     Scientific Presentation #2
 11:15 - 11:45 a.m.     Scientific Presentation #3
 11:45 - 12:15 p.m.     Scientific Presentation #4
  12:15 - 1:00 p.m.     Lunch
   1:00 - 1:45 p.m.     Tour of Facilities
   1:45 - 2:15 p.m.     Scientific Presentation #5
   2:15 - 2:45 p.m.     Scientific Presentation #6
   2:45 - 3:15 p.m.     Scientific Presentation #7
   3:15 - 3:45 p.m.     Scientific Presentation #8
   3:45 - 4:00 p.m.     Break
   4:00 - 6:30 p.m.     Executive Session
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DAY 2:

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  7:30 - 11:30 a.m.     Executive Session
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For very large GCRCs, such as GCRCs with satellite(s), more than eight projects may be presented. This must be discussed with and approved by the SRA of the GCRC Review Committee or the site visit SRA. Questions arising during the executive session may require a meeting with the PD, other administrative staff as well as investigators, who may or may not have presented on the preceding day; all should remain available until the site visit team leaves.

C. Scientific Content:

1. Project presentations are to be hypothesis-oriented and include justifications for GCRC resources requested for carrying out the studies. The resources required for those research projects judged to be of high scientific merit determine the overall configuration of resources for the GCRC. All projects must have IRB approval within 60 days of submission of the application or have IRB approval prior to the site visit, whichever occurs first. If a project has not been approved by the IRB, the project and request for support may not be presented and will be withdrawn automatically. "IRB approval" means full, final IRB approval including the IND assignment from FDA (Food and Drug Administration) if an IND is required. "Provisional" IRB approval is not acceptable.

2. Scientific presentations are limited to 15 minutes, with l5 additional minutes for discussion between site visitors and investigators.

3. Presentations may begin with a brief review of previous work (no more than three-to-five minutes) but should proceed rapidly to a clear statement of the questions proposed for future investigation. The experimental protocol should be described in some detail. Each presentation should consist of a description of how the GCRC will be used for the research project and a justification for requested resources (e.g., number of research patient days or visits by category, Informatics Core, etc.), and preliminary data.

4. For each presentation, reviewers will evaluate the scientific merit of the project and its inpatient day, outpatient visit, laboratory, Informatics Core, bionutrition research, nursing, and any other GCRC resource needs. In addition to asking questions about projects that are presented, reviewers may question investigators about projects described in the application but not presented.

During the scientific presentations, the administrative consultant will meet with institutional representatives, the GCRC Administrative Manager, Nurse Manager, and Bionutrition Research Manager.

D. Executive Sessions:

During this time, the administrative consultants will present a summary of GCRC administration and fiscal management to the site visit team. The primary reviewers of presented projects and specific GCRC resources (e.g., Informatics Core, biostatistician, Core Laboratory) will present their critiques, including their evaluations of scientific merit and need for the GCRC resources. Following these presentations and discussion, reviewers will individually score (in a closed ballot, using the numerical ranges described below) each of the presented projects, both for "Scientific Evaluation" and "Center Resource Needs," and will then collectively make their recommendations on each of the items requested in the budget: inpatient days and outpatient visits (Categories A and B), grant-supported positions, equipment, supplies, renovations, etc. In addition, site visitors will be assigned projects to review that are not presented at the site visit to assess their scientific merit, need for Center resources, inclusion of women, minorities and children, and whether any human subject concerns exist. The PD should be available to address any questions raised during the executive session.

IV. RESPONSIBILITIES OF THE SITE VISIT CHAIRPERSON

The Chairperson of the site visit team, usually a member of the chartered GCRC Review Committee, should be a senior clinical investigator experienced in the review of complex multidisciplinary applications and generally knowledgeable in the scientific areas to be reviewed. When there is to be no subsequent review by the chartered GCRC Review Committee, due to conflict of interest or other reasons, the site visit team will also constitute a Special Emphasis Panel and the site visit Chairperson becomes the Chairperson of that Panel. It is expected that the Chairperson is to become thoroughly familiar with the entire application prior to coming to the site visit.

At the site visit, at the beginning of each of the executive sessions of the site visitors, the site visit SRA together with the Chairperson, brief the site visitors on each of their responsibilities and answer questions from the site visitors. The Chairperson may find it necessary to request additional information from the PD. This is done through the site visit SRA.

During the presentations at the open sessions of the site visit, the Chairperson moderates the flow of the presentations, makes sure that the presenters keep to the predetermined schedule, and assures that the presenters leave adequate time for questions. At the end of each presentation, the Chairperson invites the members of the site visit team to address questions to the presenter on issues that need further clarification. The site visitors should be thorough in their efforts to obtain all information necessary for adequate evaluation of the proposal, but the questions asked are to be relevant to the presentations, and the Chairperson must remain alert not to allow the discussion to develop into a confrontation. The Chairperson is to assure that, at all times, the site visit remains a friendly, non-adversarial, fact-finding mission. The reviewers are asked to rate every administrative or scientific section according to a scale provided by the SRA.

During the concluding executive session of the site visit, the Chairperson moderates the discussion on the scientific presentations and on various programmatic issues and decides when to cut off discussion on each topic and proceed to scoring or voting. The Chairperson leads the discussion on the budget with the assistance of the site visit SRA and other NCRR staff, assuring that recommended deletions from the requested budget are justified.

V. PREPARATION OF REVIEWS OF SCIENTIFIC PRESENTATIONS

Reviews of all projects presented at the site visit at a GCRC should be written in a uniform format. Additionally, each project receives two priority scores. The first priority score reflects the scientific merit and the second, the need for GCRC resources. The projects presented at the site visit should reflect a significant portion of the resources requested within the GCRC's application.

Each project will be individually reviewed, and the assigned primary reviewer(s) will read his/her critique of the project with suggested recommendations to the entire site visit team. If, after discussion among the site visitors, a majority of the members of the site visit team disagree with the critique, the level of enthusiasm for scientific merit, or GCRC resource needs expressed by the primary reviewer(s), then the written critique will be changed to reflect the view of the majority. A detailed written summary, in the format provided below, will have been completed and given to the SRA at the close of the site visit. It is strongly recommended that primary reviewers prepare their reports ahead of time, typewritten, double-spaced. The reports should be edited and modified as necessary (handwritten) at the time of the site visit to reflect the site visit team's evaluation and recommendations.

FORMAT FOR SCIENTIFIC PROJECT REVIEW

A. Protocol Title:

B. Investigator Name(s):

C. Summary of Investigator Credentials: Describe the professional background and training of investigator(s), publications in peer-reviewed journals, and current research grant support.

D. Summary of Proposal: You need not supply a summary of the proposal, as this will be taken from the abstract supplied by the investigator in the grant application. However, if there are major changes in the project as presented at the site visit compared to that in the grant application, the reviewer should add text indicating the changes.

E. Critique: Do not include descriptive information in this section. Please address in five individual sections each of the criteria listed below. Under each criterion are sample questions. These are examples only, and you need not feel constrained to address each query. For competing continuation (renewal) applications, include an evaluation of progress over the past project period. For amended application, evaluate progress, changes, and responses to the critique in the summary statement from the previous review. Indicate whether the application is improved, the same as, or worse than the previous submission.

(1) Significance
Does this protocol address an important problem? If the aims of the application are achieved, how will scientific knowledge be advanced? What will be the effect of these studies on the concepts or methods that move this field forward?

(2) Approach
Are the conceptual framework, design, methods, and analyses adequately developed, well-integrated, and appropriate to the aims of the protocol? Does the applicant acknowledge potential problem areas and consider alternative tactics?

(3) Innovation
Does the protocol employ novel concepts, approaches or methods? Are the aims original and innovative? Does the project challenge existing paradigms or develop new methodologies or technologies?

(4) Investigator
Is the investigator appropriately trained and well suited to carry out this protocol? Is the work proposed appropriate to the experience level of the principal investigator and other researchers (if any)?

(5) Environment

Does the scientific environment in which the protocol will be performed contribute to the probability of success? Do the proposed experiments take advantage of unique features of the scientific environment or employ useful collaborative arrangements? Is there evidence of institutional support?

Overall evaluation: Briefly summarize the strengths and weaknesses of the protocol and recommend an overall level of merit, weighting the above criteria as you feel appropriate. A protocol does not need to be strong in all categories to be judged likely to have a major scientific impact. For example, an investigator may propose to carry out important work, that by its nature is not innovative, but is essential to move a field forward.

Provide a detailed narrative based upon the written proposal and the additional information obtained at the site visit. Do not include questions in your critique; any questions you have should be asked during the site visit and your evaluation of the answers made part of your write-up. In preparing your evaluation, please be concise, refrain from referring to the investigator's name or Principal Investigator (except in section specifically designed to discuss the investigator's qualification); address the science, etc., in third person; state what is missing, what remains unclear; avoid any use of pejorative language. If in your preliminary evaluation you have noted deficiencies in the proposal or issues requiring clarification which are adequately dealt with during the site visit, this portion of your review should be modified or deleted.

F. Scientific Recommendation: The scientific merit of the proposal is the major determinant in the assignment of a score. The track record of the investigator, while an important factor, does not justify a high level of enthusiasm for projects with serious scientific deficiencies. The recommendation should be a numerical score ranging between 1.0 and 5.0 (1.0 being the best) or, if the proposal does not have substantial and significant merit, a motion may be entertained for "not recommended for further consideration."

G. Center Resource Needs: Here use one of the descriptors listed below in your recommendation.

Descriptor	Numerical Range
Cannot be carried out without Center resources	(1.0 - 1.5)
Unlikely to be carried out without Center resources	(1.6 - 2.5)
Could possibly be conducted off-Center, but Center resources would facilitate study	(2.6 - 3.5)
Minimal need for Center resources	(3.6 - 5.0)

No apparent need for Center resources (No Score)

H. Human Subjects Issues: Indicate whether any additional restrictions or clarifications for patient enrollment in the proposed study should be considered, and whether ethical issues exist. If none, state so specifically. Reviewers should examine patient consent forms.

I. Inclusion of Women, Minorities and Children: Indicate whether inclusion of women, minorities and children is properly addressed in the project, and provide the appropriate code.

GENDER CODE	MINORITY CODE	CHILDREN CODE
First Character: G	First Character: M	First Character: C
Second Character	Second Character	Second Character
1=both genders	1=minority and nonminority	1=both children and adults
2=only women	2=only minority	2=only children
3=only men	3=only nonminority	3=no children included
4=gender unknown	4=minority representation unknown	4=representation of children unknown
Third Character	Third Character	Third Character
A=scientifically acceptable	A=scientifically acceptable	A=acceptable
U=scientifically unacceptable	U=scientifically unacceptable	U=unacceptable

J. Animal Use Issues: If animals are involved, state whether their use and care are appropriate for the proposed studies.

K. Summary of Resources Requested and Recommended: Provide a summary of the resources requested by the investigator (category A and/or B inpatient days and/or outpatient visits, Core Laboratory usage, etc.), and your judgment of what is needed. For industry-related projects, state whether the study is investigator-initiated or industry-initiated.

Important Note: At the site visit, you should modify the review you wrote prior to coming to the site visit to take into account additional information presented at the site visit, as well as the discussion and consensus of the site visit team. Please edit your written review accordingly and give it to the SRA by the close of the meeting. Provide the SRA a “hard copy” of the critique and on a disc in WP6.1 or MSWord.

VI. PREPARATION OF REVIEWS OF ADMINISTRATION AND INFRASTRUCTURE

The administrative reviewer of the GCRC site visit team should use the following format to prepare the written critique for the site visit. You are requested to write up the following sections: A. BACKGROUND; B. ORGANIZATION AND ADMINISTRATION; C. NURSING; D. BIONUTRITION RESEARCH; and E. PHYSICAL FACILITY. Other members of the site visit team will provide evaluation of: F. PROGRAM DIRECTORSHIP; G. ACCOMPLISHMENTS; H. GAC; I. IRB; J. PATIENT CARE; K. TRAINING AND CAREER DEVELOPMENT; L. CORE LABORATORY; M. BIOSTATISTICS; and N. INFORMATICS CORE. Each of these categories is reviewed according to the instructions given below and given a verbal descriptor. The list of descriptors and corresponding priority scores is:

Descriptor	Numerical Range
Outstanding	(1.0 - 1.5)
Excellent	(1.5 - 2.0)
Very good	(2.0 - 2.5)
Good	(2.5 - 3.5)
Acceptable	(3.5 - 5.0)

A. BACKGROUND (Need not be more than a half a page, single spaced).

This section should briefly, but accurately, describe the following: organizational structure of the institution (hospital); 2) the relationship of the medical school to the state or local government (if appropriate), or its relationship to any other entity; 3) institutional chain of command; 4) the different types of health-related professional schools; 5) the approximate size of the faculty; 6) the types of degrees the medical school offers (M.D., Ph.D., M.D./Ph.D., etc.); 7) the number of students, fellows, interns, etc., being trained; 8) the number of beds and bed occupancy of the hospital(s); 9) the administrative and financial structure of the institution; and 10) the administrative lines of responsibility, as related to the administration of the GCRC grant. Describe the financial structure: Medicare, Medicaid, private patient income, etc.

Describe briefly the history of the GCRC. Mention administrative changes (P.I., Program Director, etc.) since the last review of the GCRC and particularly note changes made in response to critiques of the previous review.

B. ORGANIZATION AND ADMINISTRATION

Administration and Financial Management: Briefly describe the lines of responsibility within the Institution and GCRC concerning administrative matters. If there are separate units, such as separated inpatient and outpatient units, list these and give name and rank of persons in charge. Discuss financial management within the Institution and GCRC: 1) office responsible for the preparation of the proposed patient care rates; 2) office responsible for the preparation of the

financial status reports; 3) persons responsible for the authorization of grant expenditures and verification of the charges to the grant; 4) patient bills; 5) costs by project; 6) verification and control of charges to grant; 7) involvement in budget preparation for application; 8) review of routine cost stepdown in patient care rates; 9) census data records by category: A, B, C, D inpatient days, outpatient visits, scatter-bed days; 10) records for annual and expenditure report requirements; and 11) classification of inpatient days and outpatient visits along with the appropriate designation of patients to categories.

C. NURSING

Evaluate whether the requested number of nursing personnel is justified on the basis of the number and intensity of research projects. Your evaluation should include the following: 1) relationship between and hospital nursing administration and the GCRC nursing staff; 2) evaluation of the Head Nurse/Nurse Manager; 3) stability of the staff; 4) involvement of nurses in practical aspects of project planning and in nursing research; 5) staffing patterns; 6) extent of weekend research activity on the GCRC; 7) source of staff coverage for leave and holidays; 8) nursing student training; 9) number of nurses required for outpatient or scatter-bed activities; 10) nursing care required by research subjects and category C and D patients, severity of patient illness, and extent of special nursing problems: children, transplant subjects, acutely ill subjects, patients in isolation, etc.; and 11) adequacy of current number and qualifications of nursing staff and recommendation for any requested increments in nursing positions.

D. BIONUTRITION RESEARCH

Evaluate past utilization of bionutrition research and the future needs, and determine if the request is justified on basis of the projects. Your evaluation should include the following: 1) interaction between hospital dietary staff and GCRC bionutrition research staff; 2) evaluation of bionutrition research manager; 3) stability of staff (rate of turnover); 4) dietary student training; 5) bionutritionist involvement in practical aspects of project development and in bionutrition research; 6) staffing pattern (weekdays and weekends); 7) number of hours the research bionutrition area is open; 8) meals planned, modified, prepared on unit and served - number of formula diets - number of meals served to outpatients; 9) number of meals prepared for category C patients in diet kitchen; and 10) adequacy of current bionutrition research staffing and recommendations for any requested increments of bionutrition research positions.

E. PHYSICAL FACILITY

Evaluate the configuration of the space on the GCRC needed to implement the scope of research activities recommended. Your evaluation must include considerations for outpatient use as well as inpatient use, computing facilities, and all other space on the GCRC.

Components of the GCRC: evaluation of discrete or shared patient care area, square footage for entire GCRC and appropriate space for inpatient beds and outpatient visits, number and type of

patient rooms, nursing station, offices, laboratories, bionutrition research area, outpatient areas, lounge or waiting room, Informatics Core, etc.

Note changes that were made in the physical facility of the GCRC since the last review, and describe the general appearance of the GCRC and ways in which its configuration or maintenance needs to be improved.

Assess the most cost-effective configuration on the GCRC *vis a vis* the site visit recommendation for inpatient research days and outpatient visits, taking into account the complexity of the proposed research for proposals of high scientific merit and the level of illness of research patients. Review the list in the application detailing use and square feet of each room/area proposed for the GCRC and areas that will not be charged to the grant. Review the proposed list of rooms to be used for inpatient and for outpatient studies. Assess cost effectiveness of configuration *vis a vis* the projected number of visits, length of visits, average number of hours per day and days per week. If the proposed configuration is disparate with the resource needs projected by the site visit team recommendation for inpatient research days and outpatient visits, provide an alternative configuration during the executive session of the site visit.

If alterations and renovations are requested, provide an explanation for these and make recommendations to the site visit team whether or not the alterations and renovations are justified in terms of the needs of the GCRC.

Review all requests for equipment and for supplies; provide recommendations of the site visit team, and justification for the recommendations.

F. PROGRAM DIRECTORSHIP

The site visitor assigned primary responsibility for reviewing Program Directorship should describe the professional background of the Program Director, Associate Director(s) and/or Assistant Director(s); training, publications in peer-reviewed journals, current research funding, history of demonstrated scientific and administrative leadership, and the extent to which GCRC resources are used. For each individual, detail administrative functions on the GCRC and evaluate the appropriateness of the proposed effort (fraction of FTE).

G. ACCOMPLISHMENTS

This section is only written for GCRC renewals and not for new GCRCs. Highlight major scientific accomplishments of the GCRC since the last competitive renewal. Accomplishments selected should represent advances or achievements that led to the prevention of disease, provided a better understanding of a disease process or of a physiologic mechanism, provided a new or better therapeutic approach, or resulted in a new methodology for the early detection or diagnosis of disease. The narrative should make clear the nature of each accomplishment, its originality, and its significance. If the accomplishment has found application in the health care system, point

this out. Describe any findings which result in more cost-effective approaches to diagnosis or therapy.

H. GAC

Describe the makeup and functioning of the GAC. At the site visit, review minutes of recent GAC meetings. Are minutes complete and informative? Are meetings held regularly? Is attendance adequate? Is the GAC operating properly (i.e., approving projects before they begin; classifying projects as category A, B or D, especially industry-related projects; assuring implementation of the NIH policy on the inclusion of women, minorities and children as study subjects; overseeing the Core Laboratory; setting Center policies)?

I. IRB

Describe the makeup and functioning of the IRB. At the site visit, review minutes of recent IRB meetings and consent forms. Are minutes complete and informative? Are meetings held regularly? Is attendance adequate? Is the IRB often requiring changes in proposed protocols and/or consent forms submitted for its review? Are the consent forms adequate?

J. PATIENT CARE

Delineate responsibilities for medical care delivery by investigators and Program Director's oversight of medical care. Describe the role of interns, residents and fellows in patient care and emergency coverage. At the site visit, inspect some patient charts and comment on adequacy of chart entries including records of histories and physical examinations.

K. TRAINING AND CAREER DEVELOPMENT

The training of health professionals in the methods of clinical investigation should be an integral part of the research effort on every GCRC. The GCRC should provide a major local institutional focus for training in clinical research methodology, bioethics, biostatistics, clinical trial design, epidemiological studies, and other methods, including basic laboratory methods. Formal courses may be set up for this goal and include NRSA fellows and trainees as well as CAPs and junior faculty. Regular rotation on the GCRC by research fellows, house officers, and medical, nursing, and dietary students is encouraged. Because GCRCs are expected to represent models of excellence in contemporary clinical research techniques, they may also be used for other instructional purposes, including programs of continuing education for practicing physicians, nurses and dietitians.

Describe the accomplishments and plans of the GCRC as a training resource for CAPs, medical students, house officers, fellows, faculty, nurses and dietitians.

L. CORE LABORATORIES

The Guidelines for the GCRC Program state that the primary functions of a Core Laboratory are the support of ongoing GCRC clinical research and the development or validation of new methods for this purpose; it may also include clinical research training of investigators, fellows, students, and technicians. Not all GCRCs need a Core Laboratory. Sometimes the only requirement is for a small sample-processing area.

In general, routine blood chemistries, hematologic determinations and urinalyses, available in the hospital's clinical chemistry laboratories or in another Medicare-approved clinical chemistry laboratory, are not supported in the GCRC Core Laboratory, but rather paid as ancillaries. However, such tests may be supported in the GCRC Core Laboratory when this is important for patient safety, timeliness or accuracy which will affect the scientific quality of the results.

Prepare your critique of the Core Laboratory addressing the following issues:

1. The justification for a Core Laboratory in terms of collective needs and cost.

2. The scientific merit of projects and availability of peer-reviewed funding of investigators using or requesting core laboratory function and activities.

3. The types of laboratory determinations to be performed. How decisions are made as to which analyses will be performed?

4. The role, qualifications, and full-time equivalents requested for the Core Laboratory Director and technical staff. Justification for level of effort in terms of Core Laboratory function and complexity.

5. The utility of the Core Laboratory as a resource for a wide spectrum of clinical research by GCRC users. Number of investigators using the GCRC and number using the Core Laboratory. Is there inappropriate dominance of Core Laboratory usage by only one or two investigators or groups?

6. The performance of the Core Laboratory to date and its proposed future direction as influenced by expected changes in GCRC activity. Its use for training of clinical investigators, students, fellows, and technicians.

7. The adequacy and appropriateness of space and equipment to carry out the work.

8. The cost of the Core Laboratory operation including personnel, equipment to be purchased, and consumable supplies.

9. The adequacy of record keeping**,** confidentiality and quality control procedures.

10. Is there any intermingling of personnel, space, or equipment of the Core Laboratory with other laboratories such as the GCRC Program Director's research laboratory or the hospital's clinical chemistry laboratory? Can those activities be identified and appropriate charges made?

11. Is there appropriate reimbursement to the GCRC grant for those tests for which investigators are provided support through their peer-reviewed funding? (Reimbursement is transferred to the patient care category of the GCRC grant).

12. Cost effectiveness, *per se,* does not provide justification of a Core Laboratory or any of its separate functions and components.

M. BIOSTATISTICS

Is there a biostatistician (with proper qualifications) funded by the GCRC grant? Is he/she a member of the GAC and does he/she review all projects before they are approved to begin on the GCRC? Do the projects in the application (both those presented at the site visit and those not presented) document proper statistical design including appropriate power calculations, sample sizes and stratifications?

N. INFORMATICS CORE

1. Evaluate the scientific merit of GCRC projects using Informatics Core and evidence of peer-reviewed funding of investigators.

2. Evaluate the reasonableness of proposed hardware configuration in light of GCRC size and anticipated investigator use and the plans to accommodate growth or extend usefulness, e.g., local area network within GCRC or institution. Is it/will it be cost-effective?

3. Comment on location of the resource. Include comments on access to Informatics Core by staff and to the Informatics Core Manager for help on technical problems.

4. Comment whether appropriate quality control of data acquisition and data maintenance are employed. Is data security in place?

5. For a renewal application, evaluate information on past use.

    a. Evaluate evidence of appropriate utilization of system and rationale for requested changes. Is data storage and analysis appropriate?

    b. Is there review and oversight by the GAC for utilization of the Informatics Core resource? Is there evidence that the Informatics Core Manager and the Biostatistician have input into project review for needs assessment (statistical analyses; requisite software)?

c. Identity and number of investigators or individuals with hands-on experience.

d. Comment on utilization for collaborative investigations or registries.

e. Evaluate the extent to which the Informatics Core is used for non-GCRC based studies and whether these studies are related to ongoing or proposed research projects at the GCRC.

6. Role/expertise of Informatics Core Manager in implementing/supporting systems at GCRC site.

VII. STRENGTHS AND WEAKNESSES

A summary listing of the GCRC application's strengths and weaknesses will be compiled by the Chairman of the site visit team, and discussed near the conclusion of the site visit meeting.

A. Typical strengths of an excellent GCRC application may include the following:

Hypothesis-oriented projects of high scientific merit and good biostatistical design, with demonstrated need for the GCRC, a substantial number of investigators receiving peer-reviewed grants from Federal agencies; publication of research findings in high quality, peer-reviewed journals; evidence of multidisciplinary research among both basic and clinical departments; a balance of senior and junior investigators; effective efforts to encourage and promote career development of young clinical investigators; scientifically and administratively strong Program Director; good institutional support to the GCRC, Core Laboratory and Informatics Core used by a large number of investigators and projects; well-trained and effective nurses and bionutrition research staff; functional and attractive physical facility; unique patient populations.

B. Typical weaknesses of a GCRC application may include the following:

Minimal peer-reviewed grant support to GCRC investigators; several projects with serious flaws in biostatistical design; several projects with no real need for the GCRC; many papers by investigators proposing to use the GCRC published in journals not subjected to critical peer-review; domination of the GCRC by one research group; many projects are descriptive rather than hypothesis-testing; poor utilization of outpatient facility and research beds; inadequate correction of weaknesses cited at the previous review; few investigative groups active in research; institution not supportive of the GCRC; deficiencies in physical facility; lack of supervision of younger physician-investigators; application or site visit not well prepared; Program Director not actively involved in research and not independently funded; inadequately functioning local GAC and/or IRB; GCRC not used well for training; inadequate inclusion of women, minorities and children in projects.

VIII. SUMMARY AND RECOMMENDATIONS

The Chair will entertain a motion for not recommending the application for further consideration. In the absence of such a motion, the Chair will entertain a motion for the number of years recommended for support. The majority vote carries. If the site visit team is also a Special Emphasis Panel (SEP), all of the reviewers record a final priority score for the GCRC.

The team will then discuss the budgetary recommendation for the GCRC. Reviewers should provide an explanation for any reduction or deletion in the requested budget. Should there be a different of opinion, the majority vote carries.

For a SEP, if there is a split vote (two or more votes of dissent) with regard to not recommending the application for further consideration, a minority report shall be prepared.