

# Evaluation Criteria for Peer Review

CARRA Peer Review Training  
2005

# Review Criteria

- **Review criteria vary depending on objective of award mechanism**
  - Research grants (R01, R03, R21)
  - Program Projects (P01)
  - Training (T32, R25) and Career Development (various Ks)
  - Cancer Center (P30)
  - SPOREs, ICMICs, TTURCs and other P50s
  - Clinical Cooperative Groups (U10)
  - Others

## Review Criteria (cont.)

Always compare each application  
to the *review criteria* –

Do not compare applications  
to *each other*

- Types of Applications:
  - Unsolicited research project grants (R01s), small grants (R03s), pilot project grants (R21s), program projects (P01s)
  - Most R01s, R03s, R21s, P01s for RFAs

# NIH Review Criteria for Research Project Grants (cont.)

- Review Criteria:
  - Significance
  - Approach
  - Innovation
  - Investigators
  - Environment

# NIH Review Criteria for Research Project Grants (cont.)

- **Significance:**
  - Does study address an important problem?
  - If application goals are achieved, how will scientific knowledge or clinical practice advance?
  - How will studies affect concepts, methods, technologies, treatments, services or preventive interventions driving this field?

# NIH Review Criteria for Research Project Grants (cont.)

- **Approach:**
  - Are the conceptual **or clinical framework**, design, methods, and analyses adequately developed, well-integrated, **well-reasoned** and appropriate to the aims of the project?
  - Does the applicant acknowledge potential problem areas and consider alternatives?

# NIH Review Criteria for Research Project Grants (cont.)

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

# NIH Review Criteria for Research Project Grants (cont.)

- **Investigators:**
  - Is the investigator appropriately trained to carry out this work?
  - Is the work proposed appropriate to the experience level of the principal investigator and other researchers?
  - Does the investigative team bring complementary and integrated expertise to the project (if applicable)?

# NIH Review Criteria for Research Project Grants (cont.)

- **Environment:**
  - Does the scientific environment contribute to the probability of success?
  - Do proposed studies benefit from the scientific environment or subject populations, or employ useful collaborative arrangements?
  - Is there evidence of institutional support?

# Other Review Considerations

- Considered under “Approach” and in the Score
  - Plans for Protection of Human Subjects from Research Risk
  - Data and Safety Monitoring Plan (required for ALL clinical trials)
  - Plans for Inclusion of Women, Minorities and Children in Clinical Research
  - Animal Welfare Protection
  - Any RFA-specific criteria, if applicable

## Other Review Considerations (cont.)

- Not Considered in the Score
  - Appropriateness of the Budget

# Overall Priority Score

- A single global score is assigned by each review committee member not in conflict for each scored application.
- The score is to reflect the *overall impact that the project could have on the field.*

# Overall Priority Score (cont.)

- Emphasis on each review criterion may vary from one application to another.
- Application does not need to be strong in all criteria to receive a high priority score.

# Review Criteria for Program Project (P01) Applications

- Projects: Significance, Approach, Innovation, Investigators, Environment
- Cores: Need for proposed service by projects, soundness of methods, experience of investigators

# Review Criteria for Program Project (P01) Applications (cont.)

- Overall program:
  - Overall Significance, Approach, Innovation, Investigators, and Environment
  - Program as an Integrated Effort
  - Program Leadership

## General Review Criteria for Career Development ("K") Awards

- Qualifications of the candidate
- Qualifications and appropriateness of mentor(s), if applicable
- Appropriateness of the research plan for candidate at this stage of his/her career

## General Review Criteria for Career Development ("K") Awards (cont.)

- Scientific quality of research plan
- Appropriateness of training environment

# Review Criteria for Cancer Centers (P30s)

- **SRA will explain specific review criteria for applications**
- **Review criteria address**
  - Overall quality of science ongoing in the center
  - Impact of the center on science in general
  - Contributions of center to prevention, diagnosis and treatment of cancer
  - Does the center grant “add value”
  - How do the themes of the center fit together
  - Has the center made effective selections of leaders and members

# Review Criteria for Cancer Centers (P30s) (cont.)

- **Elements evaluated in P30 applications**
  - Programs
  - Shared Resources
  - Senior Leadership
  - Administration

# Review Criteria for Cancer Centers (P30s) (cont.)

- **Elements evaluated in P30 applications**
  - Planning and Evaluation
  - Developmental Funds
  - Protocol Review and Monitoring
  - Protocol Specific Research
  - Six “Essential Characteristics” of cancer centers

# General Review Criteria for Cooperative Clinical Trials Groups (U10)

- SRA will explain specific review criteria for these large complex applications
- Objective = evaluate overall quality of the science and the clinical protocols of the group

# General Review Criteria for Cooperative Clinical Trials Groups (U10)

- **Evaluation of the Operations Office application includes:**
  - Organization and operating procedures
  - Processes for study/protocol development, monitoring and quality control
  - On site auditing, compliance with Federal regulations, adverse event reporting

## Evaluation of the Operations Office Application Includes: (cont.)

- Scientific (disease and treatment modality) committees
- Tissue banks and specimen collection/banking
- Correlative science studies
- Participation in inter-group studies

# General Review Criteria for Cooperative Clinical Trials Groups (U10)

- **Evaluation of the Statistical Center application includes**
  - Organization and facilities
  - Process for study/protocol development, study monitoring and adverse event reporting
  - Data management and data analysis

# General Review Criteria for Cooperative Clinical Trials Groups (U10)

- **Evaluation of the individual Institutional applications includes**
  - Participation in group activities and contribution to group science
  - Patient accrual and participation in inter-group studies
  - Data collection, quality timeliness and management
  - Protection of human subjects

# Review Committee Options for Each Application

- **Scientific Merit Rating (Priority Score)**
  - 1.0 (best) to 5.0 (worst)
  - Assigned reviewers usually recommend a score range
  - Others speak up if they will score significantly differently

# Review Committee Options for Each Application (cont.)

- **Not Recommended for Further Consideration (NRFC)**
  - Lacks significant and substantial merit or has very serious ethical problems re: Human Subjects or Animal use
- **Unscored**
  - Option only available if review involves triage
  - Application not in top half of all applications

# Review Committee Options for Each Application (cont.)

- **Deferred**
  - Option only available for standing committees, not used with one-time RFAs or Special Emphasis Panel reviews
  - Review Committee needs more information to decide on the scientific merit of the application

# What Determines Which Applications are Awarded?

- Scientific merit, as indicated by priority score and/or percentile ranking
- Programmatic considerations of the awarding NIH Institute/Center
  - Balance of models, geographic sites, approaches, etc in portfolio

# What Determines Which Applications are Awarded? (cont.)

- Availability of funds
  - “Payline” for each type of grant mechanism differs
  - RFAs generally indicate approximate number of awards expected