



Introduction to Enhanced Peer Review



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Scientific Review Officer





OBJECTIVES

- To make you aware of the enhanced PEER REVIEW process
 - To assist you in the preparation of your application
 - To help you understand how the scientific merit of your application is determined
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Assignment of Study Section

- Referral officer determines appropriate study section for your application using guidelines
- Nursing and Related Clinical Sciences study section (NRCS)
- Assigns application to NIH Institutes or Centers best suited to fund it





Where are NINR Applications Reviewed?

WHERE REVIEWED

Center for Scientific Review
(CSR)

NINR
(Office of Review)

APPLICATIONS REVIEWED

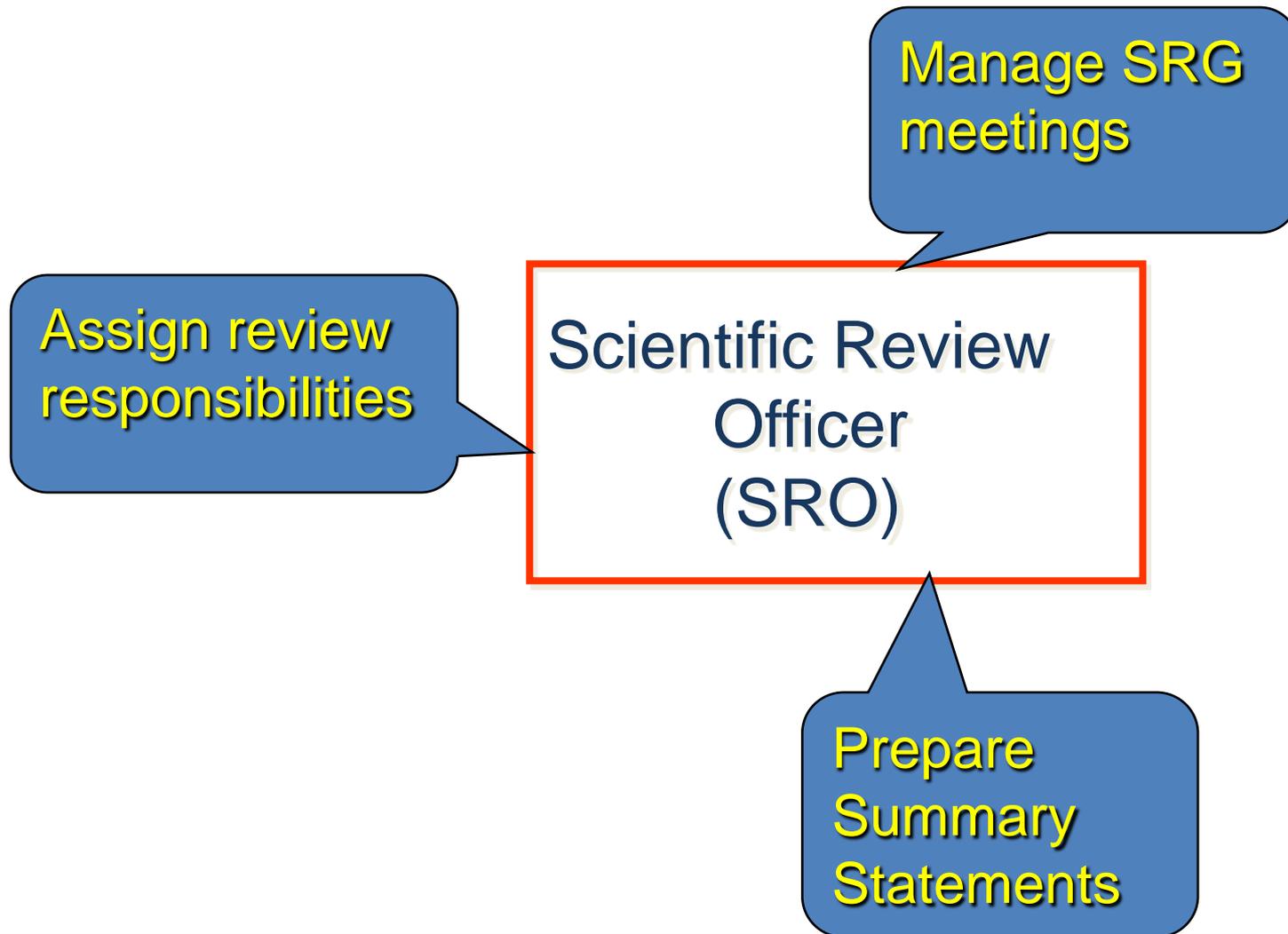
- Research Projects (R01, R21, R03)
 - AREA (R15)
 - Small Business Innovation Research (R41, R42, R43, R44)
 - Pre- and Post-doctoral Fellowships (F31, F32, F33)
 - Career Development Awards (K01, K22, K23, K24, K99/R00)
 - Institutional Training Grants (T 32)
 - Special Initiatives (RFAs)
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Initial Review of Application

- Scientific Review Group (SRG):
First level of review
- Independent outside reviewers
- Evaluate scientific merit
- Scientific Review Officer (SRO)
manages the process

Roles of the Scientific Review Officer



Scientific Review Group: Initial Level

Confidentiality and COI

- All materials, discussions, documents
- All questions referred to Scientific Review Officer (SRO)
- Review is closed to the public
- Program staff may observe
- Reviewers in conflict not in the room



Make recommendations:

- Scientific and technical merit
- Budget and project duration
- Judge human subjects, vertebrate animals, biohazards
- Resource Sharing Plans
- Other administrative factors
- ✓ Provide written critiques
- ✓ Overall Impact scores

Study Sections
do not make
funding
decisions!



Enhanced Review Criteria: R Awards

Overall Impact

- **Assessment of the likelihood for the project to *exert a sustained, powerful influence on the research field(s) involved***

Criteria for evaluating research applications

- **Significance**
- **Investigator(s)**
- **Innovation**
- **Approach**
- **Environment**

SIGNIFICANCE

Scored Review Criteria

Significance

Does the project address an important problem or a critical barrier to progress in the field?

If the aims are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved?

How will completion of the aims change the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?



INVESTIGATOR

Scored Review Criteria

Investigator(s)

Are the PD/PIs, collaborators, and other researchers well suited to the project?

If Early Stage Investigators or New Investigators,, 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 multi-PD/PI, do the investigators have complementary and integrated expertise; are their leadership approach and organizational structure appropriate for the project?



INNOVATION

Scored Review Criteria

Innovation

Does the application challenge and seek to shift current research or clinical practice paradigms by using novel concepts, approaches, instrumentation, or interventions?

Are the concepts, approaches, instrumentation, or interventions novel to one field or novel in a broad sense?

Is a refinement, improvement, or new application of concepts, approaches, instrumentation, or interventions proposed?



APPROACH

Scored Review Criteria

Approach

Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the project?

Are potential problems, alternative strategies, and benchmarks for success presented?

If the project is in the early stages, will the strategy establish feasibility and will particularly risky aspects be managed?

ENVIRONMENT

Scored Review Criteria

Environment

Will the environment in which the work will be done contribute to the probability of success?

Are the institutional support, equipment and other 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?

Alignment of Review Criteria with Application

Core Review Criteria

Addressed in these sections of the Application

Significance

Research Strategy
a. Significance

Investigator(s)

Biosketch
Personal Statement

Innovation

Research Strategy
b. Innovation

Approach

Research Strategy
c. Approach

Environment

Resources
Environment



Other Criteria: Factored into Impact Score

- Protection of Human Subjects
 - Vertebrate Animal Welfare
 - Inclusion of Women, Minorities and Children
 - Biohazards
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Other Criteria: NOT Factored into Impact Score

- Budget
- Foreign Institution
- Resource sharing
- Other



Enhanced Review Criteria: F Awards

Overall Impact

- **Assessment of the likelihood that the fellowship will enhance the candidate's potential for, and commitment to, a productive independent research career in a health-related field.**

Criteria for evaluating research applications

- **Fellowship Applicant**
- **Sponsors, Collaborators and Consultants**
- **Research Training Plan**
- **Training Potential**
- **Institutional Environment and Commitment**



Enhanced Review Criteria: K Awards

Overall Impact

- **Assessment of the likelihood for the candidate to maintain a strong research program, taking into consideration the criteria below in determining the overall impact/priority score.**

Criteria for evaluating research applications

- **Candidate**
- **Career Development Plan**
- **Research Plan**
- **Mentors, Consultants and Collaborators**
- **Environment and Institutional Commitment**



Template-Based Critiques

- The application should not be summarized
 - Reviewers write evaluative statements
 - Comments should be in a bulleted format
 - Short narratives are also acceptable
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Template-Based Critique

OVERALL IMPACT SECTION

Overall Impact *Write a paragraph summarizing the factors that informed your Overall Impact score.*

Text, not bullets.

Need to justify comments and score, not cut and paste from comments.

SCORED REVIEW CRITERIA SECTIONS: The five review criteria, Significance, Investigators, Innovation, Approach, Environment, with a separate score for each.

1. Significance

Strengths

-

Weaknesses

-



Scoring using a Nine-point Scale

- Applications scored on **each review criterion** using a scale of 1-9.
- Determine a score for the **overall impact of the** application using 1-9 scale.
- The Overall Impact Score **should not** be the average of the criterion scores

Scoring System

Impact	Score	Descriptor
High Impact	1	Exceptional
	2	Outstanding
	3	Excellent
Moderate Impact	4	Very Good
	5	Good
	6	Satisfactory
Low Impact	7	Fair
	8	Marginal
	9	Poor

Scoring Example for an Application

Criterion	Rev. 1	Rev. 2	Rev. 3
<i>Overall Impact Score: 5</i>		1	2
Significance	2	1	2
Investigator	2	3	1
Innovation	3	1	2
Approach	6	4	5
Environment	2	2	2
Average score: 3		2.5	2.4

Study Section Meeting



Deriving Final Overall Impact Score

- Applications receive an overall impact score from each eligible panel member.
- Assigned reviewers give range
- Panel Votes according to the range (voting outside the range is allowed)
- SRO calculates the final score

EXAMPLE: Three reviewers scores: 5,1,2
Seven other reviewers on panel vote within range of 1-5:
(1, 2, 3, 2, 2, 3, 1 = 14 total score)
Calculate final score: $(14 + 8)/10 = 2.2$

Final score $2.2 \times 10 = 22$ →



**Summary
Statement**

Scores will thus range from 10 to 90



Summary Statement

- Summary statement is the official record of the evaluation and recommendations made by study sections
- Summary statement from New Investigators are prepared within 10 days of the review meeting
- All remaining summary statements are due within 30 days of the review meeting



Summary Statement

Three sections in the Summary Statement

- Front page
 - Body (shown in the next two slides)
 - Roster
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Summary Statement Format

- 1R01NR012345-01 Fonda, Jane
- New Investigator
- Resume or Summary of Discussion
- Description (provided by applicant)
- Public Health Relevance
- Critique 1
- Critique 2
- Critique 3



Summary Statement Format

THE FOLLOWING RESUME SECTIONS WERE PREPARED BY THE SCIENTIFIC REVIEW OFFICER TO SUMMARIZE THE OUTCOME OF DISCUSSIONS OF THE REVIEW COMMITTEE ON THE FOLLOWING ISSUES:

PROTECTION OF HUMAN SUBJECTS (Resume): ACCEPTABLE

INCLUSION OF WOMEN, MINORITIES AND CHILDREN PLAN (Resume): ACCEPTABLE

COMMITTEE BUDGET RECOMMENDATIONS: The budget was recommended as requested

SCIENTIFIC REVIEW OFFICER'S NOTE:



What is a Percentile ?

- Percentile indicates a relative rank, generally within a Scientific Review Group
 - Percentile ranks your application relative to the other applications reviewed by your study section at its last 3 meetings
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Why Percentiles?

- To counter a phenomenon called “score creep”
 - Study sections may score either more harshly or more favorably
 - Percentiles rank application relative to others scored by the same Study Section
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Why Percentiles?

- Percentiles spread out scores across all possible rankings
- Percentiles enhance fairness to applicants

Percentile (formula)

$$P = \frac{K - 0.5}{N} \times 100 \quad \frac{20 - 0.5}{200} \times 100 = P_{10}$$

P, percentile value

K, numerical rank of the priority score

N, number of applications in the base



Questions





“There is no amount of Grantsmanship that will turn a bad idea into a good one... but there are many ways to disguise a good idea”.

Dr. William Raub

Past Deputy Director, NIH