

Peer Review of NIH Research Grant Applications

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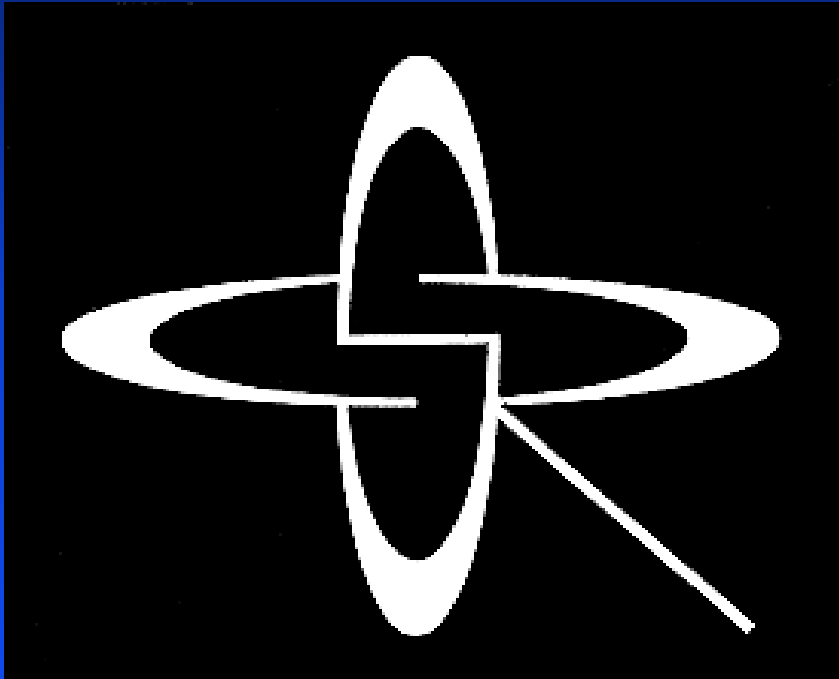
National Institutes of Health

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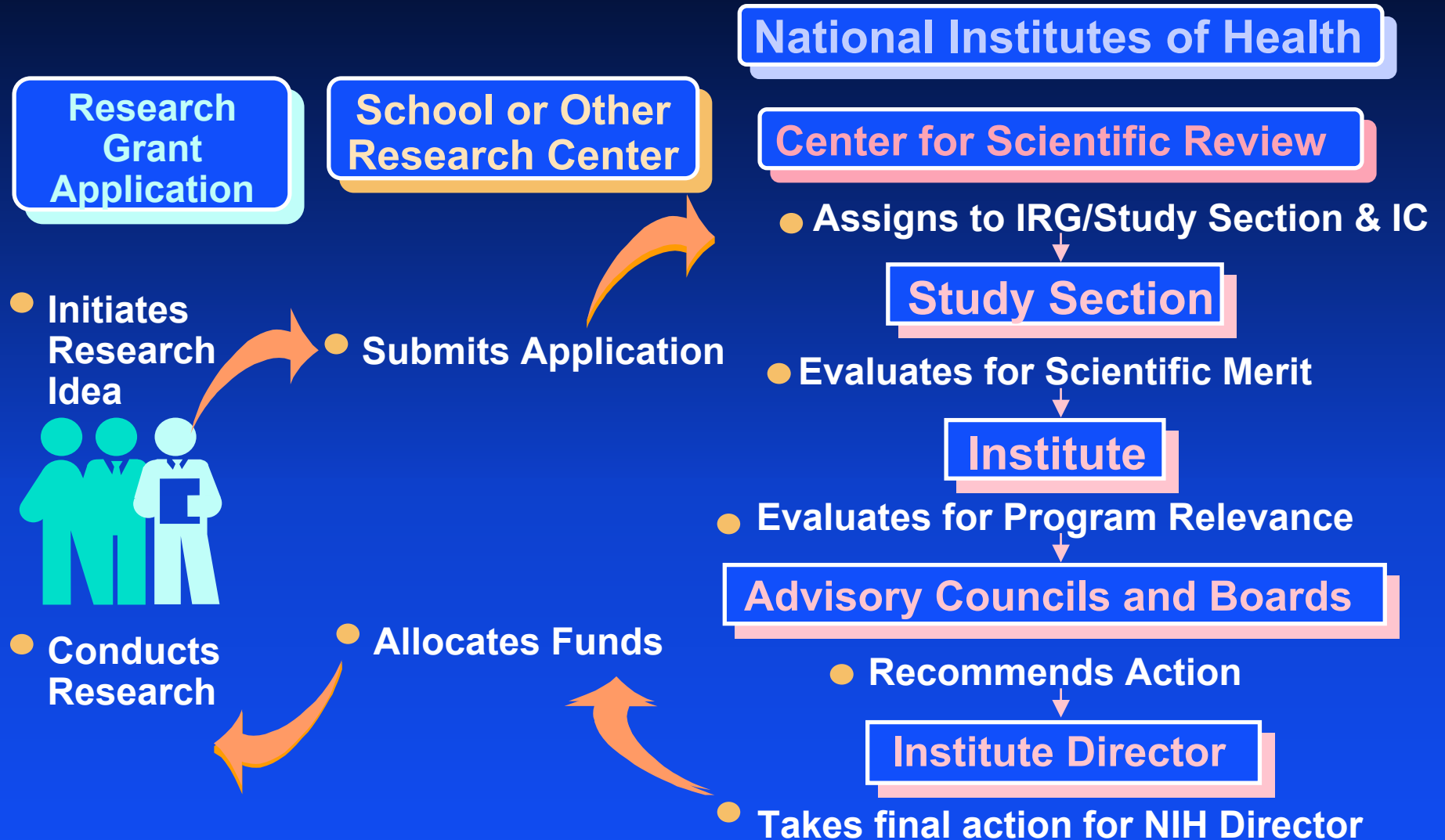
Center for Scientific Review (CSR)

Focal Point for Initial Review at NIH



- Central receipt point for PHS applications
- Referral to Institutes and to IRGs and Study Sections
- Review of most research and research training applications for scientific merit

Review Process for a Research Grant



Applications Submitted to NIH

- Approximately 52,000 grant applications are submitted to NIH each year, of which 25-30% are funded
- Competing grant applications are received for three review cycles per year



Applications are referred to:

- **Scientific review groups, based on:**
 - Specific review guidelines for each scientific review group
- **Institutes, based on:**
 - Overall mission of the Institute
 - Specific programmatic mandates and interests of the Institute

Peer Review in CSR

- **CSR Study Sections are convened by a Scientific Review Administrator (SRA) who is usually a Ph.D., and who is the Designated Federal Official with overall responsibility for the review process, including:**
- **Performing administrative and technical review of applications to ensure completeness and accuracy**
- **Selecting reviewers based on broad input**
- **Managing the study section meeting**
- **Preparing summary statements**
- **Providing any requested information about study section recommendations to Institutes and National Advisory Councils/Boards**

CSR Study Sections



- Each CSR standing study section has 12-24 members who are primarily from academia
- CSR standing study sections convene face-to-face meetings
- As many as 60-100 applications are reviewed by each study section

Who Does What at Study Section?

- **The Scientific Review Administrator**
- **The Chair**
- **The Reviewers:**
 - ◆ **Write the critiques**
 - ◆ **Inform the review group**
 - ◆ **Discuss the applications**
 - ◆ **Score the applications**
- **The Program Administrator**

Review of Research Grants

REVIEW CRITERIA:

- **Significance**
- **Approach**
- **Innovation**
- **Investigator**
- **Environment**

Overall Evaluation & Score Reflects Impact on Field

Scientific Review Group or Study Section Actions

- **Score - Scientific Merit Rating
(priority score and percentile)**
- **Unscore (lower tier)**
- **Defer**
- **Not recommended for further
consideration**

Action - score

- Scoring range is 1.0 to 5.0
 - 1.0 is the best score
 - 3.0 is the lowest score (with 50% of applications in the lowest tier)
- Final priority score is the mean of the individual scores multiplied by 100
- Percentile – priority score is normalized based on scores from current and prior two meetings

Action - unscore

- Application is unanimously agreed to fall in the lower half
- No priority score is assigned
- The application is not discussed

Procedure at Study Section

- **Chair:**
 - Announces applications – conflicts
 - Calls for initial level of enthusiasm
- **First Reviewer:**
 - Presents overview
 - Cites strengths & weaknesses (5 criteria)
- **Other Reviewers/Readers:**
 - Concur/present other views & additional issues
- **Other Members**
- **End of discussion/summary of discussion**
- **Reassessment of scores**
- **All reviewers vote**

Enhancing The Review Process With Proven Technologies

- **Applications on CD-ROM**

- Placing electronic copies of applications on CD is more efficient than making paper copies and then mailing large packets of materials to reviewers.
- CDs are also more convenient for reviewers to transport and use as a reference at review meetings.

- **Internet Assisted Peer Review (IAPR)**

- CSR now uses an online peer review tool that expedites the identification of applications that require prolonged discussion and facilitates informed discussion among study section members.

Summary Statement

After the meeting the SRA prepares a summary statement which is sent to the PI and to the Institute where a funding decision is made. The summary statement contains:

- Overall Resume and Summary of Review Discussion
(not done for unscored applications)
- Essentially Unedited Critiques
- Priority Score and Percentile Ranking
(not done for unscored applications)
- Budget Recommendations
- Administrative Notes

Some Advantages of NIH System

- Separation of review from program management
- Face-to-face review facilitates full discussion
- Face-to-face review informs program management
- Percentiling balances study section score inflation

Possible Disadvantages of NIH System

- Decisions by committees tend naturally to be conservative
- Convening face-to-face meetings presents logistical hurdles
- Face-to-face review advantages rhetorical skills
- Percentiling assumes quality of science among study sections is similar