



**Center for
Scientific Review**

Quality Evaluations of Stakeholder Satisfaction through Focus Groups and Executive Interviews

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CSR Mission



To see that NIH grant applications receive fair, independent, expert, and timely reviews – free from inappropriate influences – so NIH can fund the most promising research.

NIH reviewed over 81,000 grant applications in fiscal year 2015

The Center for Scientific Review:

Received all NIH grant applications

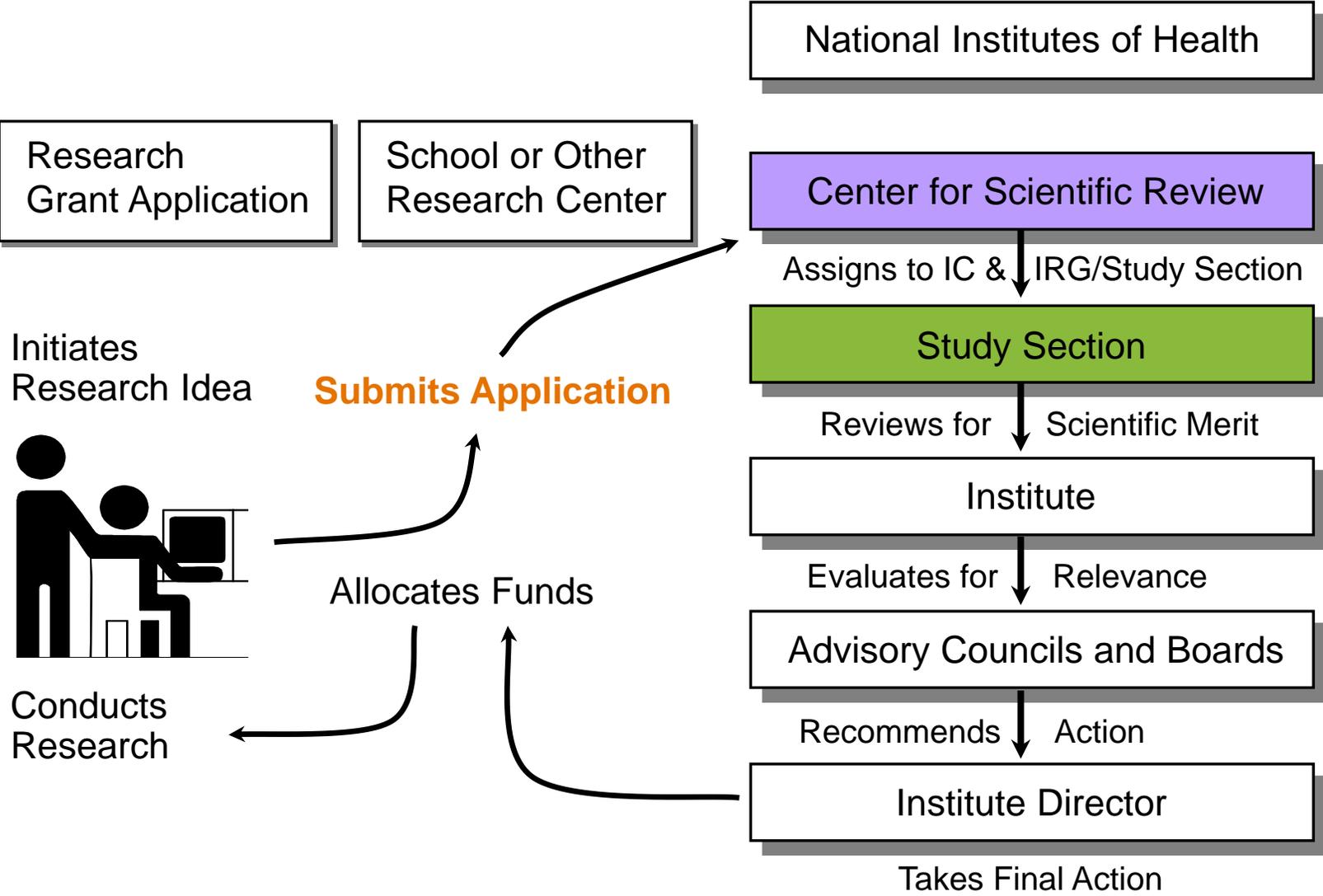
Reviewed 75% of them, over 60,000, a new high

Recruited 17,000 reviewers

Held 1,500 review meetings

Managed the process with 247 Scientific Review Officers

Review Process for a Research Grant



Why Conduct an Evaluation of the Peer Review Process?

Goal - To identify strengths and challenges of peer review as well as potential strategies to continue to strengthen the procedures NIH uses to identify and fund high quality, impactful science.

Current CSR Studies - CSR is committed to better understand the quality of the NIH peer review process. Our goal for assessments is to obtain actionable feedback to enhance CSR's best practices for achieving the mission.

Specific Peer Review Evaluation Objectives

to determine...

The extent to which current CSR best practices are optimal for achieving our mission.

Identify areas of success and improvement in the quality of peer review.

Stakeholders in the NIH Peer Review Process

CSR is the Focal Point for Initial Review at NIH



- Applicants
- SROs
- Reviewers
- NIH Program Officers
- Institute and Center Directors

Focus on Six Key Areas of the Peer Review Process

- Stakeholder Assessment of the Peer Review Process and Outcomes
- Quality/Effectiveness
- Study Section Process
- Meeting Formats, Logistics, and Support
- Areas and Strategies for Improvement
- Recommendations for Strengthening the Peer Review Process

Evaluating the CSR Peer Review Process

Quick Feedback for CSR from Reviewers

- Pilot 1 - February/March 2014 – 2 CSR IRGs
- Pilot 2 - May/June 2014 – 2 CSR IRGs
- Pilot 3 - September/October 2014 – CSR Chartered SRGs
- Pilot 4 - March/April 2015 – Alternative Meeting Formats
- Pilot 5 – September/October 2015 – All CSR SRGs

Quick Feedback for CSR from Program Officers

- Pilot 1 - January 2015

Evaluation of the Peer Review Process from Stakeholders

- **Focus Groups – SROs, POs, Reviewers, Applicants**
- **Personal Interviews – NIH Institute and Center Directors**
- Survey of NIH Grant Applicants' Experiences

Other Studies

- Half-Point Pilot
- Ranking Pilots
- Anonymization Study

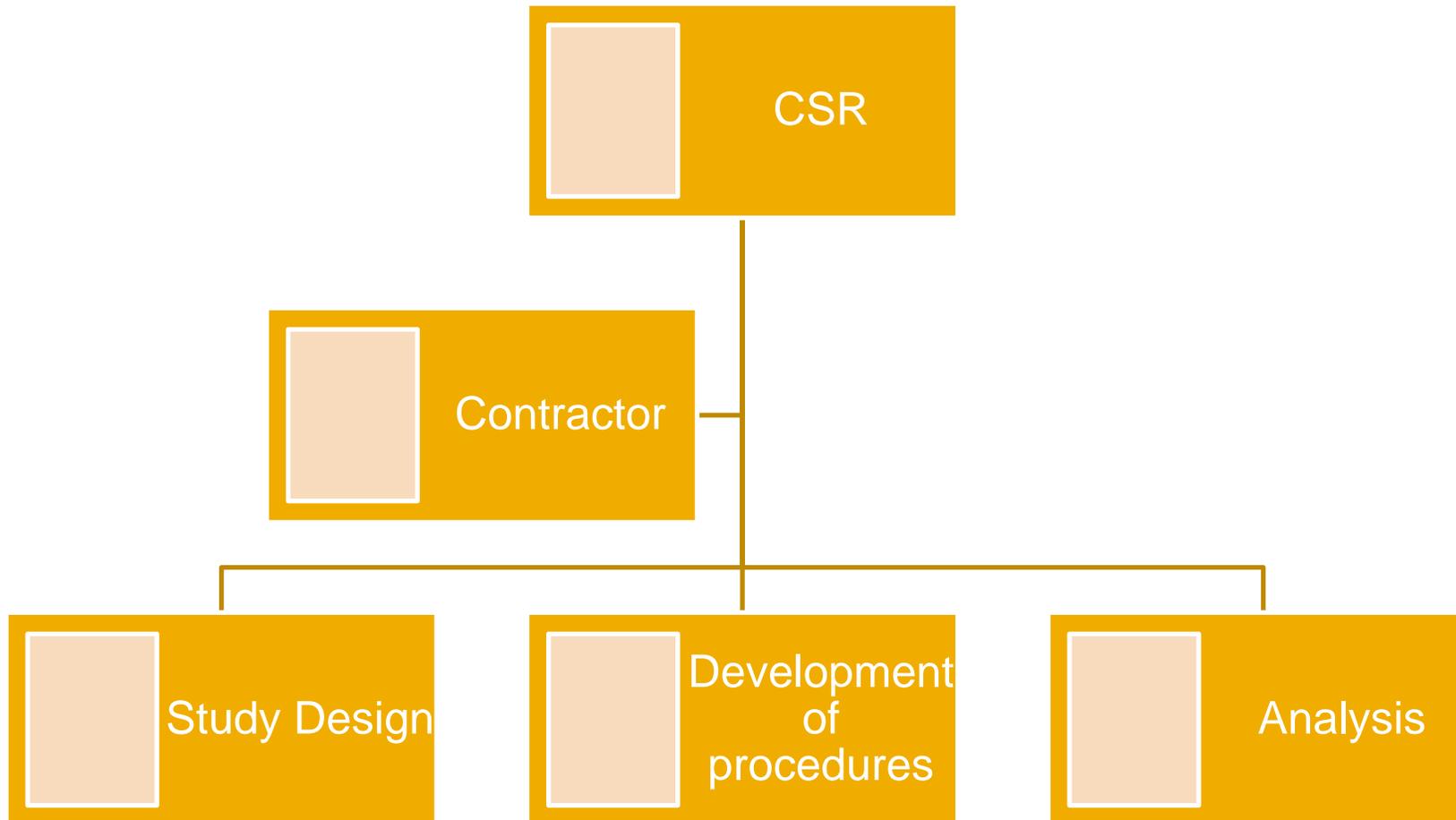
What are Stakeholder Focus Groups?

- A qualitative research method. Used evaluation funds.
- Inductive approach to better understand stakeholders satisfaction with CSRs peer review process.
- Used extensively by academics and government since 1980s.
- Carefully planned series of discussions relative to purpose, size, composition, and procedures, designed to obtain reviewers perceptions on defined areas of interest.
- 5-10 participants per group led by a skilled interviewer.
- Sessions are typically about 90 minutes.
- Carefully analyzed for current themes and trends.

Quality Factors (QFs) in Maximizing the Value of Focus Groups

- Team approach
- Involving senior management involved
- Ensuring confidentiality
- Methodical and careful data handling
- Ensuring actionable results
- Communicating results throughout the organization

QF1: Team Approach



QF2: Involving Senior Management

- **Formal**

- Personal Interviews with NIH Directors
 - Interview schedules
 - Former NIH Institute Director moderated the interview
- Focus Groups with applicants, SROs, reviewers, NIH Program Officers
 - Moderator guides
- Evaluation Advisory Council
 - Input from CSR Advisory Council members and CSR senior staff

- **Informal**

- Meetings with CSR senior staff, Chiefs, SROs
 - Immediate management questions
 - Actionable results

QF3: Ensuring Confidentiality

- **...”Honest and open communication between the moderator and participants is crucial” ...**
- Email recruitment letters with message from CSR Director
- Confirmation letter
- Same facilitator moderated all sessions
- Informed consent
- Data Usage Agreement – for NIH applicant data elements
- OMB clearance – reviewers and applicants
- Verbal explanation at sessions

QF4: Methodical and Careful Data Handling

- Statement of work
- Careful selection of contractor
- Collegial working relationship
- Communication
- Data security
- Preliminary kick-off meeting
- Preliminary results
- Final reporting

Methods Snapshot

Stakeholder Group	Number of Discussions & Participants	Dates Conducted	Special Characteristics
Scientific Review Officers (SROs)	7 (N=55, M=8)	April 2015	CSR only: 4 IC only: 2 Mixed: 1
Program Officers (POs)	6 (N=39, M=7)	May - June 2015	Small portfolio: 3 Large portfolio: 3
Reviewers	6 (N=37, M=6)	June - July 2015	
Applicants	8 (N=68, M=9)	July - Aug 2015	North: 2 South: 2 East: 2 West: 2
Institute and Center Directors	10	Nov - Dec 2015	Small IC: 4 Medium IC: 3 Large IC: 3

Analysis Plan

- **Detailed notes and verbatim transcripts.**
- **Inductive approach**
 - Extraction of key themes and topics.
 - Open ended coding and review of codes for reliability.
 - Analysis of codes to synthesize themes related to current practices, strengths, and challenges of the peer review process.

QF5: Ensuring Actionable Results

- Focus groups and personal interviews must provide recommendations for actionable results by senior management.
- Project team is responsible for making this happen.
- Involving senior management in the focus group process cannot be over-emphasized.
- Results should serve as feedback to quantitative studies.

Preliminary Results - Success of Peer Review

- Current system is fair, rigorous, and the best available
 - “In general, it’s the most fair, unbiased system in place in the world.” – SRO*
 - “Having reviewed for a number of different agencies, the NIH standard is pretty much the gold standard.” –PO*
- Indicators of a successful review
 - Consensus and rich discussion among reviewers (SROs; Reviewers; Applicants)
 - Scores are predictive of funding decisions (Reviewers; SROs; POs)
 - Ensuring appropriate expertise on study sections (Directors, SROs, POs, Applicants)
 - Providing timely reviews for program staff and council to make decisions (SROs; POs)
 - Summary statements that are clear, detailed, and consistent (POs, Applicants)
 - No appeals or disputes of reviews (SROs)
 - Grants that are renewed (Reviewers)
 - Funding science that is productive, innovative, and advances field (Directors, POs, SROs, Reviewers)
 - Impactful publications resulting from funded projects (Directors, Reviewers)

Preliminary Results - Areas of Challenge

- Perceived bias against certain types of research (All groups)
- Recourse for reviews that are considered inaccurate (Applicants)
- Reviewers not thoroughly reading applications (Applicants; POs)
- Balance between diversity and expertise of reviewers (POs, Applicants, Directors)
- Adequate IC input about who serves as reviewers (Directors, POs)
- Volume of applications and reviews (All groups)
- With current paylines, some of the best science is not funded (All groups)
 - *“The paylines are so low that no matter how independent and unbiased reviewers are, the tight competitive environment doesn't allow for enough good science to get funded.”* –SRO

Recommendations for SROs

- Consider gradations in the scoring system and ranking of applications.
- Provide more uniform guidance to reviewers on the approach to scoring and differing evaluation criteria for various mechanisms (SROs, POs, Reviewers).
- Allow more time for SROs to complete Summary Statements and clarify the 30-day policy (SROs).
- Enable SROs to reject Summary Statements with inconsistencies between scores and comments and return to the panel for revision (POs).
- Strengthen efforts to send SROs to scientific meetings to build relationships and trust in the scientific community (SROs).
- Develop a program to help SROs more easily identify conflicts of interest.

Recommendations for Program Officers

- Create or eliminate study sections as needed to better fit the proposed research areas (POs).
- Use time management and organization strategies to ensure applications are thoroughly discussed, e.g., discuss applications with divergent scores first (POs).
- Provide clarification on how to evaluate applications for differences in mechanisms and types of research (SROs, POs, Reviewers).
- Use a trainee model to help new reviewers and early career stage investigators become familiar with the review process (Reviewers).
- Create a tiered or weighted system for evaluation criteria and funding instead of using impact scores (POs).
- Provide more information to POs about SROs' accessibility and encourage SROs to communicate this to POs (POs).

Recommendations for Reviewers

- Use time management, facilitation, and organization strategies to ensure applications are thoroughly discussed (POs).
- Indicate specific reviewer expertise before meetings so applicants can choose appropriate study sections and reviewers are aware of expertise around the table (Applicants, Reviewers).
- Increase the number of assigned reviewers (Applicants, Reviewers).
- Explain divergent scores; prioritize comments as minor, moderate, or major; make critiques consistent with scores (Reviewers, Applicants).
- Create reviewer metrics to evaluate scoring and critic quality (Reviewers, Applicants, Directors).
- Monitor and evaluate the functioning of Study Sections (Reviewers, Applicants, Directors).
- Evaluate the effectiveness of alternative review formats versus in-person meetings (Directors).
- Require funded investigators to serve on study sections (SROs, POs, Reviewers).

Recommendations for Institute and Center Directors

- Clarify Directors role in the process of selecting reviewers (Directors).
- Create a formal process to allow ICs to make recommendations about reviewers (Directors).
- Increase flexibility for ICs to conduct reviews in areas often neglected during large traditional study sections (Directors of small ICs).
- Increase flexibility of having focused study sections for applications that might not fit in mixed study sections (Directors).
- Address the challenge of increasing application volume and implications for burden to the NIH, reviewers, and applicants (Directors).
- Place limits on the number of applications one applicant can submit in a given time to help reduce reviewer and applicant burden (Directors).
- Create a system whereby universities share in the burden of improving the quality of applications by encouraging universities to review applications before submitting and creating partnerships between high and low intensity research institutions (Directors).

What Is CSR Doing In Response to Evaluation Results?

- Comparing results of focus groups and personal interviews with ongoing Quick Feedback surveys to monitor and track study section performance.
- Examining the utility of alternative scoring methods: Half-point pilot and ranking studies.
- Conducting a study to better understand the roles of race, gender, career stage, and institution in application outcomes.
- Examining the distribution of best applications across CSR study sections to improve study section assignment alignment.
- Improving program access to review discussions.
- Improving communication among stakeholders.
- Continuing to pursue the need for coffee/refreshments in face-to-face meetings.

QF6: Communicating Results Throughout the Organization

- **Briefings and presentations with ...**
 - Eval SIG
 - NIH EPMC
 - CSR Advisory Council
 - CSR senior staff
 - CSR Chiefs
 - American Evaluation Association
 - Other members of the professional community

Suggestions or Questions?

Thank you!