

Re-Viewing Peer Review



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Re-Viewing Peer Review



**A Self-Study by the NIH
in Partnership with the Scientific Community
to Strengthen Peer Review in
Changing Times**

Principles Behind the Study

- Over the last 60 years, peer review has been studied many times to ensure it provides the best possible results
- Peer review is so important that it requires constant vigilance to maximize its effectiveness
- The increasing breadth, complexity, and interdisciplinary nature of biomedical science are creating new challenges for review

Principles Behind the Study (cont.)

NIH must:

- Continue to adapt to rapidly-changing fields of science and ever-growing public health challenges
- Work to ensure that the processes of review as efficient and effective as possible for applicants and reviewers alike
- Continue to draw the most talented reviewers

The Approach to the Study

- NIH will seek input from the scientific community, including:
 - investigators
 - scientific societies
 - grantee institutions
 - voluntary health organizations
- NIH will also seek input from its own staff

Core Framework for Study

- *Context* – how best to convey scientific context to reviewers, program staff, and (potentially) applicants?
- *Criteria* – how best to structure review criteria to ensure that creativity, impact and significance are emphasized in the review of applications?
- *Culture* – how best to change the culture of peer review to ensure that the most accomplished scientists want to serve on study sections?
- *Caveat* – the two-tiered review system of peer review must not be compromised

Core Questions

- Does review consistently identify the best science?
- Are we engaging the best reviewers?
- Should we increase program flexibility to enhance peer review? If so, how?
- Should we increase review flexibility to enhance peer review? If so, how?

Considering Peer Review in a Systems Context

- **The peer review process is only one component of a complex and interdependent process**
- **The original system was conceived at a time when a single grant was sufficient to support a meaningful research effort by an investigator**
- **Today, many investigators are expected to secure multiple grants - in part, this relates to shared support for faculty salaries and, in part, this relates to stability - multiple grants with staggered end dates provides stability for the research team**

Considering Peer Review in a Systems Context (cont.)

- Is our current system of review the one we would design to deal with the realities of today's research?
- Are there recommendations that affect factors other than peer review such as grant size and mechanisms or others that could enhance the quality of peer review
- How can we reduce unproductive efforts such as repeated and numerous applications and lessen "bureaucratic" burden on scientists

Milestone: Preparation

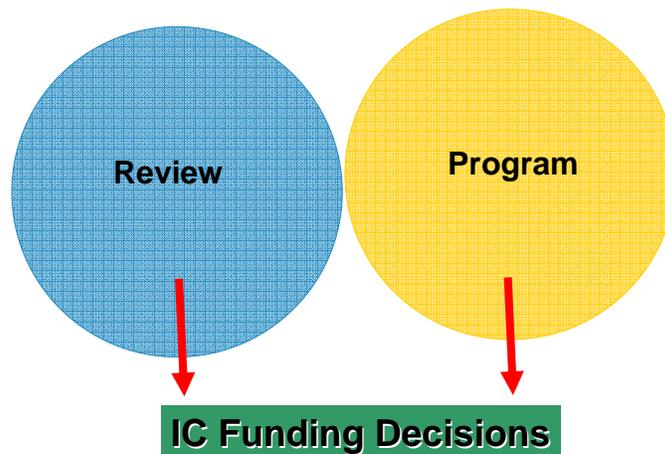
- At the Fall 2006 NIH Leadership Forum, IC Directors resolved that enhancing the NIH Peer Review system is a top priority (*completed*)
- NIH holds brainstorming sessions with IC Directors and Extramural Review and Program Staff to lay the foundation for the process (*completed*)
- CSR initiatives already underway will work synergistically with this process (*continuing*)

Current Major CSR Initiatives

- Shortening the Review Cycle
- Immediate Assignment of Applications to IRGs
- Realignment of Study Sections
- Electronic Reviews
- Shortening the Size of Applications
- Abolish Submission Deadlines
- Editorial Board Reviews for Fellowships

The Steering Committee *Ad Hoc* WG will coordinate their efforts with CSR's initiatives

Both Review and Program Impact IC Funding Decisions



Milestone: Working Groups

External (ACD WG on Peer Review)

- Keith Yamamoto, Ph.D., UCSF, Co-Chair, ACD, Boundaries Report
 - Lawrence Tabak, D.D.S., Ph.D., NIDCR, Co-Chair
 - Bruce Alberts, Ph.D., UCSF, Chair, Boundaries Report
 - Mary Beckerle, Ph.D., U. Utah, ACD
 - David Botstein, Ph.D., Princeton, ACD
 - Helen Hobbs, M.D., UTSW, HHMI
 - Erich Jarvis, Ph.D., Duke
 - Alan Leshner, Ph.D., AAAS, ACD
 - Philippa Marrack, Ph.D., Natl. Jewish Med., HHMI, Boundaries Report
 - Marjorie Mau, M.S., M.D., U. Hawaii, COPR
 - Edward Pugh, Ph.D., U. Penn., PRAC
 - Tadataka Yamada, M.D., Gates Foundation, ACD
- Ex officio**
- Norka Ruiz Bravo, Ph.D. OD/OER
 - Toni Scarpa, M.D., Ph.D., CSR

Milestone: Working Groups

Internal (Steering Committee WG on Peer Review)

- Jeremy Berg, Ph.D., NIGMS, Co-Chair
 - Lawrence Tabak, D.D.S., Ph.D., NIDCR, Co-Chair
 - Marvin Kalt, Ph.D., NIAID
 - Story Landis, Ph.D., NINDS (Co-chair EAWG)
 - Roderic Pettigrew, Ph.D., M.D., NIBIB
 - Norka Ruiz Bravo, Ph.D., OD/OER (Co-chair EAWG)
 - Toni Scarpa, M.D., Ph.D., CSR
 - Lana Skirboll, Ph.D., OD/OSP
 - Brent Stanfield, Ph.D., NIDDK
 - Jane Steinberg, Ph.D., NIMH
 - Betty Tai, Ph.D., NIDA
- Ex officio**
- John Bartrum, OD/OB
 - Jack Jones, Ph.D., Acting CIO
 - Catermine Manzi, OGC
 - Jennifer Spaeth, OD

Phases for Review

- Diagnostic Phase
 - NIH puts out an RFI and creates an interactive web site for soliciting opinion (June 2007)
 - ACD Working Group holds a series of regional town meetings (July to October 2007)
 - SC Working Group hold a series of consultative meetings within NIH and creates an interactive web site for soliciting opinion (July to October 2007)

Phases: Diagnostic

- To ensure understanding and encourage input from the stakeholder community, NIH will:
 - Issue a press release at the time the committees are being charged
 - Release a Director's newsletter, desk-to-desks, an editorial in professional journals, and CSR and OER newsletters
 - Inform Congressional staff about the process and progress

Phases: Diagnostic

- ACD Working Group presents results to ACD (December 2007)
 - SC Working Group presents results to Steering Committee (December 2007)
 - Joint meeting of ACD and SC Working Groups to form recommendations for next steps (January 2008)
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Phases: Piloting

- NIH leadership will consider input from the working groups and determine next steps, including pilots (February 2008)
 - Design and initiate pilot(s) and associated evaluation(s) (March 2008)
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Phase: Implementation

- Implementation plan developed, informed by pilots and associated evaluations
- Briefings for NIH staff
- Briefings for ACD, COPR, PRAC
- Briefings for scientific societies, trade press, advocacy organizations
- Legislative briefings
- Expansion of successful pilots
- Development of new NIH Peer Review Policy

Results

- The full NIH stakeholder community, internally and externally, has been involved in the examination of peer review
- The examination reflects the needs of a peer review system functioning in a new era of complex science and greatly increased number of application(s)
- Peer review is continuously improved