Improving NRSA Fellowship Review

AN UPDATE | SEPTEMBER 18, 2023 | BRUCE REED, CSR; ALISON GAMMIE, NIGMS; ERICKA BOONE, NIH OD
BACKGROUND & GOALS
Community Input to Develop an Improved Framework

- **Persistent concerns from the community that fellowship reviews may disadvantage some applicants who are in fact highly qualified**
- **CSR Advisory Council Working Group formed with additional members of the extramural community, and NIH staff**
- **Blog requesting input: 110 comments from applicants, sponsors, reviewers, and professional societies. Content analysis informed the WG**
- **Data requested by the WG supported the concerns raised by the external community**
Submissions are highly concentrated in a few institutions

Applications from schools that submit more applications do better review in review

NRSA review outcomes according to the number of applications the applicant organization submitted in 2021

<table>
<thead>
<tr>
<th>N of Application Submitted</th>
<th>1-10 Apps</th>
<th>11-75 Apps</th>
<th>76+ Apps</th>
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<tbody>
<tr>
<td>High Impact</td>
<td>28.2%</td>
<td>32.9%</td>
<td>43.7%</td>
</tr>
<tr>
<td>Not High Impact</td>
<td>16.4%</td>
<td>20.0%</td>
<td>20.4%</td>
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<tr>
<td>ND</td>
<td>55.4%</td>
<td>47.1%</td>
<td>36.0%</td>
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Summary of WG Findings

• Multiple sources raised concerns about
  • Bias that favors well-known scientists and highly reputed labs/institutions
  • The information used to judge applicants
  • An application that is burdensome to fellowship candidates and reviewers

• The data show that fellowship applications are concentrated in a small number of institutions.
  • This suggests that the knowledge and resources that support writing a competitive F application are very unevenly distributed.

• Applications from those (highly resourced) schools do better.

• Applications with senior sponsors fare better in review than those with sponsors in earlier career stages.

• NIH is potentially leaving out highly promising young scientists because of a process that too heavily favors elite institutions, senior, well-known scientist sponsors, and an overly narrow emphasis on traditional markers of early academic success.
The new review framework was developed with input across NIH and approved at multiple levels of leadership.

Input from leadership groups focused on:

- Programmatic needs
- Review policy
- Training
- Inclusions

Followed by approvals

Stakeholder groups include:

- **STEERING COMMITTEE**
  - Chair: Larry Tabak
- **EAWG**
  - Extramural Activities Working Group
- **EPMC**
  - Extramural Program Management Committee
- **PLC**
  - Program Leadership Committee
- **RPC**
  - Review Policy Committee
- **STAC**
  - Staff Training Advisory Committee
- **TAC**
  - Training Advisory Committee

**INSTITUTE/CENTER DIRECTORS**

**IGC**
- Inclusion Governance Committee
OVERVIEW OF CHANGES
Objectives of the changes

1. Better focus reviewer attention on key assessments relevant to training
2. Define criteria to give less advantaged applicants a better chance, without disadvantaging others
3. Reduce bias in review by reducing inappropriate consideration of sponsor and institutional reputation
4. Align the application with the review criteria, request information relevant to the revised criteria
5. Clarify instructions and shorten the application
6. Implement change to give more equal access to candidates across a broad range of organizations and research environments
Revised Peer Review Framework

3 review criteria areas instead of 5

1. The scientific potential and preparedness of the fellowship candidate
2. The scientific project or research training project
3. The training plan and training resources

➢ “Sponsor” and “Institutional Environment” are eliminated as distinct criteria

Redefined review criteria

• The revised “applicant” (candidate) criterion encompasses a wider range of indicators of scientific potential and preparedness
• Evaluations of the sponsor and institutional environment are framed in terms of their contributions to the applicant’s scientific training

A revised fellowship application

1. Shorter, more structured, better aligned with the new review criteria
2. Less emphasis on sponsor track record, more emphasis on training plan and preparedness
3. Eliminates requirement to submit grades
Changes to the fellowship application

1. **Eliminate grades (request courses completed)**
2. **Revise the Applicant Section**
   - Better assess the candidate’s scientific thinking,
   - Broaden consideration of qualifications
3. **Revise the Sponsors, Collaborators and Consultants section**
   - Place greater emphasis on sponsor’s training/mentorship approach, the plan for this student and fit to trainee’s goals/needs
4. **Revise letters of reference**
   - Address targeted, trainee-specific questions in word-limited fields
   - Intended to discourage boilerplate and to make it easier for reviewers to evaluate
5. **No significant changes to the current Research Training Project Plan Section**
   - Specific Aims, Research Strategy, Responsible Conduct of Research - unchanged
6. **Allow an optional statement of special circumstances**
   - Situations that might have hindered their progress such as harassment, the COVID-19 pandemic, or other personal or professional circumstances.
RFI issued to obtain public feedback

• Publication was accompanied by coordinated NIH outreach — blogs, NIH Guide Notice, Federal Register Notice
• Additional outreach targeting schools that submit few Fs, MSIs
  • Direct emails to ~500 leaders at educational institutions
  • Social media
  • Informal outreach by CSR staff

147 individuals commented
10 scientific societies
7 universities
Predominant views:
- Restructuring the criteria was a good plan and would result in more fair review
- Favored the proposed restructuring of the application

Some comments suggested a need to clarify the review criteria, specifically
- Some aspects of the proposed Fellowship Candidate criterion
- The distinction between criterion 2 (Science and Scientific Resources) and criterion 3 (Training Plan and Training Resources)

Multiple comments requested additional guidance about what information should be provided in the various application sections

The implementation group will make revisions to address these concerns

IMPLEMENTATION EFFORTS
<table>
<thead>
<tr>
<th>Co-Chairs</th>
<th>Members</th>
<th>Project Manager</th>
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<tr>
<td>Bruce Reed CSR</td>
<td>Michelle Bulls OER</td>
<td>Aditi Jain CSR</td>
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<td>Ericka Boone OER</td>
<td>Megan Columbus OER</td>
<td>Kasima Garst OER</td>
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<td>Alison Gammie NIGMS</td>
<td>John Connaughton NIDDK</td>
<td>Lynn Morin OER</td>
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<td>Aaron Czaplicki OER</td>
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<td>Michelle Stick NIDCD</td>
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<td><strong>Review Policy Officer</strong></td>
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<td><strong>Stephanie Constant OER</strong></td>
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Revising Fellowship Review Implementation Committee Structure

Trans-NIH implementation committee with multidimensional domain expertise in peer review, reviewer training, staff training, eRA systems, communications, and policy.
Subcommittee domains

Executive Committee

NOFO/424
- Targeted revision of review criteria, relevant NOFO language
- Align review criteria changes, SF424 language and instructions
- Assemble materials for submission Office of Management and Budget for final clearance

eRA/Business Systems
- Ensure launch readiness and availability of revised NOFOs
  - Develop & implement updated application wireframes
  - Execute forms and template changes for impacted activity codes
  - Ensure timely end-to-end user testing
- Update IAR templates

Targeted Outreach & Communications
- Targeted outreach at multiple points from NOFO & SF424 changes to guide notice release and final implementation
- Develop core messaging for internal and external audiences (reviewers, applicants, SROs, program staff)
- Coordinate and execute staff and public webinars, guide notices, and trainings

Reviewer Orientation & NIH Staff Training
- Develop stakeholder-specific training & resource materials
- Coordinate and execute stakeholder-specific training opportunities
### Implementation milestones being developed

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<th>Action Items on critical path</th>
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<tr>
<td><strong>Calendar Year</strong></td>
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<td><strong>Month</strong></td>
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<td><strong>Workstream</strong></td>
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<td><strong>Communication</strong></td>
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<td><strong>ICO Central Coordinators</strong></td>
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<td><strong>Training</strong></td>
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<td><strong>External Communications and Training</strong></td>
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| **Month**                      | **M J J A S O N D** | **J F M A M J** | **J A S O N D** | **J F M A M J** | **J A S O N D** |

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**NIH**

National Institutes of Health

Turning Discovery Into Health
Next Steps

October/November:
• Presentation to major NIH stakeholder committees (e.g. Review Policy, Program Leadership, Training Activities)
• Issue NIH guide notice announcing changes
• Staff webinar providing overview of changes and timeline for implementation

Over the next year:
• Refining application instructions and getting approval from the Office of Management and Budget
• Implementing required system changes
• Developing resources and training for NIH staff, reviewers, and applicants

Late 2024/early 2025:
• Updating funding opportunities
• Public webinars providing an early overview of changes

We anticipate that the first NRSA submissions under the revised framework will occur in 2025.

A tremendous amount of training and outreach to applicants, reviewers, and NIH staff will occur first!
DISCUSSION