PCORI Evaluation Group

Eighth Meeting
Friday, July 25, 2014
New Member: Annette Bar-Cohen

Since 2002, responsible for the operations of all Programs Department activities at NBCC, including education and training activities, such as:

- Project LEAD®
- Annual Advocacy Training Conference
- International, Quality Care and Research Initiatives

Previously:

- Education Director of the Cancer Control Section of the Minnesota Department of Health
- World Health Organization-sponsored primary care and community health program in Israel

MA in psychology from Goddard College, and MPH from the University of Minnesota
Focus for Today: Two Questions

Back to Our Evaluation Framework:

- Table 1: Impact of PCORI – What is the appropriate role for PCORI in answering these questions?

- Table 4: Merit Review – Should PCORI invest in some quasi-experimental approaches to answering these questions?
First Set of Questions in Table 1: Questions about PCORI’s Impact

1. Does the creation of a dedicated entity (PCORI) and funding stream (PCORTF) result in:
   a. increased total funding for CER?
   b. increased number of CER studies?
   c. increased availability of CE information for decision-makers?
   d. higher impact of CER?
      i. better informed health decisions?
      ii. better health care?
      iii. better health outcomes?
Questions about PCORI’s Impact

We think that these questions perhaps lend themselves to external evaluations, both because of their nature and the expertise required.

Do you agree?

If so, what is the appropriate role for PCORI in supporting these evaluations?
  - Could we fund them, for example?

If so, what are possible mechanisms?
  - Considering, for example, safeguards against undue influence by PCORI on the results.
## Questions from Table 4: Merit Review

<table>
<thead>
<tr>
<th>Question</th>
<th>Metrics/indicators</th>
<th>Methods</th>
<th>Sources</th>
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<tbody>
<tr>
<td>1. What is the impact of PCORI’s approach to Merit Review (inclusion of patients and other stakeholders, unique criteria, and application of these criteria) on:</td>
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<td><strong>a) perspectives incorporated in the review process?</strong></td>
<td>Measures of the role and influence of patient and stakeholder reviewers:</td>
<td>PCORI merit review data:</td>
<td>PCORI Merit Reviewers</td>
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<td></td>
<td>• Review scores from various reviewer types (means, scatter, convergence)</td>
<td>o Merit review surveys (reviewer and applicant)</td>
<td>PCORI Merit Reviewer written reviews and scores (overall and critiques)</td>
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<td>• Reviewer perceptions of the review process</td>
<td>o Merit review criteria and overall scores</td>
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<td>• Indicators of dynamics in the panel discussion</td>
<td>o Merit reviewer group interviews</td>
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<td><strong>b) selection of research projects for funding?</strong></td>
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<td>• Projects selected for PCORI funding</td>
<td>o Merit review surveys (reviewer and applicant)</td>
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<td>• Methodological quality of projects selected for funding</td>
<td>o Merit review criteria and overall scores</td>
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<td>• Patient-centeredness of projects selected for funding</td>
<td>o Merit reviewer group interviews</td>
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<td>• # awarded from bottom 2/3 of merit review scores – to what extent is merit review scoring at variance with PCORI goals?</td>
<td>Consider experimental mock panels in addition to observations of existing PCORI review</td>
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<td>• Of the top 1/3, what proportion of applications make it to selection committee?</td>
<td>Perhaps a case study could be done to look at the top and bottom proportions that make it to selection committee?</td>
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PEG Meeting July 25, 2014
Questions from Table 4: Merit Review*

1. What is the impact of PCORI’s approach to Merit Review (inclusion of patients and other stakeholders, unique criteria, and application of these criteria) on:
   a. perspectives incorporated in the review process?
   b. selection of research projects for funding?

*In the field, this is also generally called “peer review”. Because of our unique process of engaging non-researchers in reviewing proposals, and to avoid confusion, we save the term “peer review” for manuscripts and use “merit review” for proposals. The literature we cite in the next few slides and the references we have provided use the term “peer review”.*
Science of Merit Review: Unique Opportunity to Contribute?

No comparative studies assessing the effect of peer review on the quality of funded research were found in a 2008 Cochrane Lit. Review. Of 10 included studies, only 2 experimental studies were identified in this 2008 Cochrane Lit. Review on peer review:

<table>
<thead>
<tr>
<th>Author, Year</th>
<th>Study Design</th>
<th>Aim</th>
<th>Conclusions</th>
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<td>Green, 1989</td>
<td>Randomized Experiment</td>
<td>“To compare the effect of two scales with different rating intervals (0.5 and 0.1) used in evaluating grant applications.”</td>
<td>“The narrow focus on scoring scales makes the study not very informative.”</td>
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<td>Cole, 1981</td>
<td>Non – Randomized Experiment</td>
<td>To independently re-evaluate 150 proposals submitted to the National Science Foundation by a new set of reviewers.</td>
<td>“The fate of a particular application is roughly half determined by the characteristics of the proposal and the principal investigator, and about half by apparently random elements which might be characterized as ‘the luck of the reviewer draw.’”</td>
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References


Engaging Patients and Stakeholders in Research Proposal Review: The Patient-Centered Outcomes Research Institute

Rachael L. Fleurence, PhD; Laura P. Forsythe, PhD, MPH; Michael Lauer, MD; Jason Rotter, MHS; John P.A. Ioannidis, DSc, MD; Anne Beal, MD, MPH; Lori Frank, PhD; and Joseph V. Selby, MD, MPH

The inaugural round of merit review for the Patient-Centered Outcomes Research Institute (PCORI) in November 2012 included patient and other stakeholders, as well as scientists. This article examines relationships among scores of the 3 reviewer types, changes in scoring after in-person discussion, and the effect of inclusion of patient and stakeholder reviewers on the review process. In the first phase, 363 scientists scored 480 applications. In the second phase, 59 scientists, 21 patients, and 31 stakeholders provided a “prediscussion” score and a final “postdiscussion” score after an in-person meeting for applications. Bland–Altman plots were used to characterize levels of agreement among and within reviewer types before and after discussion. Before discussion, there was little agreement among average scores given by the 4 lead scientific reviewers and patient and stakeholder reviewers. After discussion, the 4 primary reviewers showed mild convergence in their scores, and the 21-member panel came to a much stronger agreement. Of the 25 awards with the best (and lowest) scores after phase 2, only 13 had ranked in the top 25 after the phase 1 review by scientists. Five percent of the 480 proposals submitted were funded. The authors conclude that patient and stakeholder reviewers brought different perspectives to the review process but that in-person discussion led to closer agreement among reviewer types. It is not yet known whether these conclusions are generalizable to future rounds of peer review. Future work would benefit from additional data collection for evaluation purposes and from long-term evaluation of the effect on the funded research.

For author affiliations, see end of text.
Merit Review: Current Efforts*

Current Data Collection Activities:

- **Post-review surveys**: experiences at in-person panel, influence of scientists and stakeholders, importance of criteria in decision making
- **Post-review focus groups**: deeper dive into merit review experience with a small number of reviewers
- **Merit review criterion and overall scores**

*This closely mirrors how the NIH evaluates their peer-review process: a periodic survey of 5 stakeholder groups (applicants, peer reviewers, Scientific Review Officers (SROs), Program Officials (POs), and members of the advisory councils and boards of the 24 NIH Institutes and centers (ICs) that make research grant awards.) as well as continuous quantitative analyses of scoring patterns, applications submissions, and award patterns.
Ideas for Additional Studies

More in-depth observational studies
- Anthropological approaches
- Analysis of reviewer critiques and the relationship between reviewer critiques and resubmissions

Create Mock or Test Bed Panels to study:
- Masking of applications
- Constitution of Panels
- Review Criteria
- Review Process
- Other?

Other ideas?
Considerations

Practical
- For example, would it be possible to recruit enough people to the test panels?

Ethical
- For example, would there be ethical issues involved in using applications for study purposes?

Logistical
- For example, would we be able to conduct these studies without interfering with or slowing down our Merit Review process?
Experimental Merit Review Study Designs: Ethical Considerations

Under the assumption the research is being considered for funding:

- Can we use applicant’s proposed research?
- Can we manipulate aspects of applicant’s proposed research?
- Can we train and use returning reviewers or standing panelists?
- Can we train and use new reviewers?
Questions about Merit Review

We think we have a unique opportunity to contribute to the science of merit review and are conducting a number of evaluations. We have been considering the trade-offs of additional efforts – more rigorous, but also more resource-intensive, study designs.

- Do you agree that we have a unique opportunity?
- Do you think that our current efforts are sufficient?
- How many resources should we be willing to put toward additional efforts?
- What study designs would you suggest?
- What kinds of journals or conferences are the best outlet for these kinds of studies?
PCORI created three categories of reviewers to bring various perspectives to the review process. The reviewer committee will adhere to a 2:1:1 ratio meaning 2 scientists, 1 patient, and 1 stakeholder will be represented in each group.
Application Submission and Merit Review Process Overview

Apply

Preliminary Review

In-Person Panel Review

Final Decision
Merit Review Criteria

1. Impact of the condition on the health of individuals and populations
2. Potential for the study to improve healthcare and outcomes
3. Technical Merit
4. Patient-centeredness
5. Patient and stakeholder engagement