The peer review process – what happens when you send your manuscript to a journal

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## Overview

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Overview of the peer review process
Peer review from the authors’ perspective?

Cartoon by Nick D Kim, strange-matter.net
Poll question

How many papers have you published in a peer reviewed journal?

• 0
• 1-2
• 3-5
• 5-10
• More than 10
The peer review process

The evaluation of scientific research findings for *validity, significance* and *originality* by qualified experts who research and submit work for publication in the same field (peers)
Benefits of peer review

For the Editor
- Helps decide what to publish
  - Scientific soundness
  - Appropriateness of methods, analyses
  - Validity of results
  - Advance/novelty of findings

For the author
- Helps improve the manuscript

For the reviewer
- Keep up to date
- Chance to “give back” to the community

For the reader
- Provides trust in published research
Benefits of peer review – key points

For editor

- Decide *what* to publish and *where*

For author

- Improves manuscript

For peer reviewer

- Be up to date, reputation, collaboration, “give back”
Peer review isn’t perfect

- slow
- subjective
- biased
- lack of training
- inefficient
- burden
- open to abuse
- can’t detect fraud
- lack of credit

Peer review isn’t perfect.
Who is the Editor and who are the reviewers?

Editor
Depends on structure of the journal
Academic editors
• Working with specific journals
• Expertise in the field
Professional editors
• Full-time role
• Scientific qualifications/ backgrounds (usually PhD) but may not always be in same field

Journal websites usually say who is involved editorially:
http://bmchealthservres.biomedcentral.com/about/editorial-board

Reviewers
• Academics (peers)
• Invited for specific manuscripts
• Journals may have groups of reviewers who they ask regularly or invite the most appropriate person from searching publication records (e.g. PubMed)
• May decline to assess a manuscript if they are busy or it is not appropriate for them
Who should review a manuscript?

• At least two **independent** experts
  • Independent of the authors
  • Independent of each other
  • Enough publications on the topic to demonstrate they are an expert

• Collectively, peer reviewers should cover all areas of the manuscript

• May need multiple peer reviewers to assess different aspects of a manuscript
  • Subject area
  • Methodology
  • Statistics
Who shouldn’t review a manuscript?

- Previous co-authors of the authors (within the past 3-5 years)
- Researchers from the same institution as the authors
- Researchers with the same competing interests as the authors
- Reviewers excluded by the authors
- Only author-suggested peer reviewers
Models of peer review

- Authors do not know who reviewers are
- Readers do not know who reviewed the paper
- Reviewers know who the authors are

- Same as single-blind AND reviewers do not know the authors are

- Authors know who reviewers are
- Readers know who reviewed the paper
- Reviewers know who the authors are
Poll question

Which do you think is the best of the three models of peer review which were just described?

• Single-blind
• Double-blind
• Open
What Editors and reviewers are looking for and how decisions are made
First steps of the editor – deciding whether to peer review

- Science
- English
- Scope
- Impact
What do peer reviewers look for?

- **Quality**
  - Soundness of research
  - Suitability of methods and analyses
  - Soundness of analysis
  - Appropriateness of the conclusions
  - Reporting/clarity of the message
  - Language/presentation

- **Contribution to the literature**
  - Novelty
  - Importance/interest

- **May also comment on**
  - Suitability to the journal’s scope
  - Research and publication ethics
Specialist reviews

Statistical review
- Ensures any statistics have been thoroughly assessed
- Is the correct analysis being used for this study?

Systematic review
- Has the methodology been followed?
- Have any relevant manuscripts been missed?
- Have the specific reporting guidelines been followed?
Making a decision after peer review

- Editors make a decision on the basis of the comments from the reviewers and their own assessment
- Reviewers often disagree with each other
- Editors may overrule reviewers
- Editors, not the reviewers, decide ultimately what is published
Decisions after peer review

**Accepted**
- All main aspects of the manuscript been assessed
- The study has been judged to be sound
- Study meets the required threshold for the journal (e.g. significant clinical impact)

**Revisions**
- Further experiments needed (e.g. more controls)
- Discuss limitations more clearly
- Ensure data supports conclusions

**Rejected**
- Extensive revisions required
- Statistics not appropriate
- Lack of ethical approval or missing data
- Inappropriate controls or methods for analysis
- Data do not support conclusions
- Misconduct, e.g. Plagiarism
- Unsuitable for journal scope or threshold
Rejection – reasons why

### Scientific soundness
- Results are not sound
- Interpretation is fundamentally flawed
- Ethical concerns
- Manuscript cannot be published (in current form)

### Interest/ advance/ scope
- Not in scope for this journal
- Not a sufficient advance
- Not relevant to this journal’s readership
- Manuscript suitable for a different journal
- Transfer offered
Transfers

- Manuscripts rejected on interest/ advance/ scope may be transferred to another journal
- Peer reviewers’ reports may also be transferred leading to faster publication
Questions so far...
Responding to editors and referees
What to do if you are asked to revise your manuscript

• Ensure you understand what reviewers and editors are asking for (if unsure make an informal query to the editor prior to submitting your response)

• Provide a full and concise point-by-point response to the reviewers and editors

• If you disagree with something, provide a clear rationale for your argument within the response and back up with references where possible

• Give clear indication where revisions in the manuscript have been made (tracked changes, highlighted)

• Always be polite and phrase your responses to reviewers in a neutral way
Your response letter: Introduction

Dear Dr _____________: [address the editor by name]

Thank you for your consideration of our manuscript entitled ______________ [insert article title here]. We have reviewed the comments of the reviewers and have thoroughly revised the manuscript. We found the comments helpful, and believe our revised manuscript represents a significant improvement over our initial submission.

In response to the reviewers’ suggestions we have [summarize the key changes here]
[After the introduction to the response, address all reviewer points individually.]

Reviewer Comment: *In your analysis of the data you have chosen to use a somewhat obscure fitting function (regression). In my opinion, a simple Gaussian function would have sufficed. Moreover, the results would be more instructive and easier to compare to previous results.*

Response: *We agree with the reviewer’s assessment of the analysis.* Our tailored function makes it impossible to fully interpret the data in terms of the prevailing theories. In addition, in its current form it would be difficult to tell that this measurement constitutes a significant improvement over previously reported values. We have redone the analysis using a Gaussian fitting function.
Point-by-point: Disagreement

[Sometimes you will disagree with the reviewer. Keep your response polite and professional.]

Reviewer Comment: *In your analysis of the data you have chosen to use a somewhat obscure fitting function (regression). In my opinion, a simple Gaussian function would have sufficed. Moreover, the results would be more instructive and easier to compare to previous results.*

Response: We agree with the reviewer that a simple Gaussian fit would facilitate comparison with the results of other studies. However, our tailored function allows for the analysis of the data in terms of the Smith model [Smith et al, 1998]. We have added two sentences to the paper (page 3, lines 10–12) to explain the use of this function and Smith’s model.
Submitting your revised manuscript

• Be careful with versions

• Ask someone to proof-read your response
Dealing with rejection

4.0
You’re in good company

- Everyone has been rejected at some point
- High impact journals have rejection rates 90-95%
- Varies by field
What to do if your manuscript is rejected

• Take reviewers advice and improve the study/ manuscript
• If you are invited to resubmit, do the revisions that the reviewers request
• If you disagree with a decision to reject then you can ask the editor to reconsider – this is called an appeal or rebuttal
• Not all journals consider appeals – check policy
• Never send an appeal immediately after receiving a decision – always leave enough time to calm down!
• Most journals will only allow one appeal per manuscript
Grounds for considering appeals

• If the editors are convinced that the original decision was a serious mistake, not merely a borderline call that could have gone either way

• If a referee made substantial errors of fact or showed evidence of bias - but ONLY if a reversal of that referee's opinion would have changed the original decision

• Disputes on factual issues need not be resolved unless they were critical to the outcome

• Further consideration usually involves external advice: original or additional reviewers or members of the Editorial Board
How to appeal against a decision

- Be clear that you are appealing against the decision (rather than just voicing your disappointment)

- Be clear what specific scientific issue is at the root of the appeal

- Reviewers or the editor made factual errors or missed important considerations

- Specific evidence of reviewer bias

- Construct a comprehensive rebuttal - focus on the science
Tip 1

Be patient

• Finding reviewers can take time

• Additional advice may be needed

Image: Flickr Selena N. B. H
Tip 2

Don’t be afraid to send a follow up

• If you have concerns, contact the journal
• Be polite
Tip 3

Read, and re-read the decision letter

- Have the reviewers/editor(s) provided constructive feedback?

- Are you able to make the changes requested?
Tip 4

If you get a rejection decision

• Don’t get angry

• Have they suggested that you can resubmit in the future?

• If appropriate, prepare a calm and reasoned rebuttal
Tip 5

Preparing your resubmission/revision

• Have you answered all of the reviewers’ (and editor’s) comments?

• Prepare a point-by-point response

• Submit manuscript with track changes/highlighting
Tip 6

Become a reviewer

- Get used to how to critically assess other authors work

- Understand how the review process works from the other side

- You will become familiar with issues that reviewers raise as you see other reports
Future webinars

• Webinar 3, 19th May: **Publication models and open access** *Presented by Liz Hoffman, Journal Development Manager for the health services research journals at BioMed Central and Diana Marshall, Publisher for the BMC-series journals.*

• Webinar 4, 9th June: **Research and publication ethics** *Presented by Stephanie Boughton, Medical Editor, Research Integrity Group at BioMed Central.*

• Webinar 5, 23rd June: **Being a peer reviewer – guidance and how to approach your first review** *Presented by Hilary Logan, Editor for BMC Health Services Research and academic editors from BioMed Central journals.*
Thank you – and more questions

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