Peer-review training: Does structured feedback from a mentor improve the quality of peer-review reports produced by a mentee?

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What’s wrong with peer review?

- Slow
- Subjective
- Biased
- Inefficient
- Open to abuse
- Can’t detect fraud
- Lack of credit
- Lack of training
- Burden
Peer review mentoring pilot at *BMC Medicine*

**Aim:**
To determine whether structured feedback from a mentor improves the quality of peer review reports produced by researchers with little or no experience of peer review.

**The participants:**
- Junior researchers (*mentees*), defined as those with less than 10 publications (none as senior author).
- Senior researchers (*mentors*), from the editorial board of *BMC Medicine* who have experience of providing editorial advice or making editorial decisions on manuscripts.
The peer-review mentoring process

**Key points:**
- No interference with usual peer-review process
- Same manuscript undergoes usual peer review
- Mentors do not inadvertently peer review manuscripts themselves
- Possible to compare usual peer review reports to mentee’s peer review reports before and after mentor feedback
The scope of the pilot

- 10 manuscripts
- 10 mentees
- 5 mentors (each handled 2 mentees)
- Noted time taken at all stages
- Noted levels of revisions required
Editorial observations – the mentees

Mentees generally provided comprehensive and timely reviews.

Mentees mainly needed:
• guidance on tone and recommendations
• encouragement to comment more on Figures
• guidance on resources available to help with the reports
• chasing to return their revisions
Editorial observations – the mentors

• Mentors were able to provide feedback without ‘reviewing’ the manuscript themselves
• Mentors often needed to point out the appropriate way to structure a review
• Approximately **1 hour** was needed to assess the mentee report (range from 15 mins - 2 hours)
• Mentors need 1-2 weeks to return their comments
Analysis of reviewer report quality

The quality of reports was assessed using a validated review quality instrument for assessing peer review of manuscripts.

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<th>Control 1</th>
<th>Control 2</th>
<th>Pre-mentor</th>
<th>Post-mentor</th>
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<tbody>
<tr>
<td><strong>Rater 1 Median</strong></td>
<td>21.5 (17.2, 22)</td>
<td>24 (22,24.8)</td>
<td>25 (21.5,26)</td>
<td>26 (25.5,28.8)</td>
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<td><strong>(IQR)</strong></td>
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<td><strong>Rater 2 Median</strong></td>
<td>24.5 (20.3, 28)</td>
<td>29 (28,29.3)</td>
<td>28.5 (26.3,30)</td>
<td>31 (30.5,31.8)</td>
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<td><strong>(IQR)</strong></td>
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Mentees produced reports of the same quality as the journal’s regular reviewers.
Conclusions

This was a pilot study, so:

- Small sample size
- Split across different topics/methodologies
- Small number of mentees meant matching topic/methods to mentee expertise was challenging, possibly impacting quality of reviews

However, we now know that it is feasible to run a mentoring scheme alongside normal journal processes, with promising results to indicate a larger-scale trial is worthwhile.
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