Advances in peer review

Being a scientific writer: seminar at CHUV
Lausanne, 14 January 2016

Dr Trish Groves
Head of Research, The BMJ
Competing interests

I’m editor in chief of BMJ Open and Head of Research at the BMJ, a wholly owned subsidiary of the British Medical Association (BMA)

Part of the revenue for BMJ (the company) comes from drug & device manufacturers through advertising, reprint sales, & sponsorship. The BMJ and BMJ Open are open access journals that charge author fees for publication of research

I’m working on a strategy to see how BMJ might help to build health research capabilities in emerging economies. I’m editorial lead for the BMJ Research to Publication eLearning programme (by subscription)

My annual bonus scheme is based partly on the overall financial performance of both BMJ and The BMJ
Key points for discussion

• how can we optimise the benefits of peer review?
• is peer review running out of steam?
• is transparency better than pragmatism?
  • what do open peer review and postpublication review add?
• what are the benefits of patient review?
• what is happening with data sharing?
What journals provide: peer review & scholarly publishing

- Career progression
- Impact
- Institutions & funders
- Editors
- Publishers & societies
- Media & public

Authors → Reviewers → Readers
Typical peer review process (repeated)

1. Review by colleagues
2. Submit
3. Editorial review
4. Acceptance (eventual)
5. Revise and submit to next journal
6. Rejection: immediately or after peer review
Peer review at The BMJ

1. Submit
2. Editorial review
3. Review by colleagues
4. Revise
5. Editorial committee
6. Open peer review
7. Accept
8. Publish with prepublication history
9. Post-publication review
## Journal families: making submission easier

### Journals

*Engaging, informative and influential journals for healthcare professionals and researchers*

<table>
<thead>
<tr>
<th>Our journals, blogs, podcasts and speciality portals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Journals from BMJ</strong></td>
</tr>
<tr>
<td>Acupuncture in Medicine</td>
</tr>
<tr>
<td>Annals of the Rheumatic Diseases</td>
</tr>
<tr>
<td>Archives of Disease in Childhood</td>
</tr>
<tr>
<td>BMJ Case Reports</td>
</tr>
<tr>
<td>BMJ Innovations</td>
</tr>
<tr>
<td>BMJ Open</td>
</tr>
<tr>
<td>BMJ Open Diabetes Research &amp; Care</td>
</tr>
<tr>
<td>BMJ Open Gastroenterology</td>
</tr>
<tr>
<td>BMJ Open Respiratory Research</td>
</tr>
<tr>
<td>BMJ Open Sport &amp; Exercise Medicine</td>
</tr>
<tr>
<td>BMJ Quality &amp; Safety</td>
</tr>
<tr>
<td>BMJ Quality Improvement Reports</td>
</tr>
<tr>
<td>BMJ Simulation &amp; Technology Enhanced Learning</td>
</tr>
<tr>
<td>BMJ Supportive &amp; Palliative Care</td>
</tr>
<tr>
<td>British Journal of Ophthalmology</td>
</tr>
<tr>
<td>British Journal of Sports Medicine</td>
</tr>
<tr>
<td>Drug and Therapeutics Bulletin</td>
</tr>
<tr>
<td>Education &amp; Practice</td>
</tr>
<tr>
<td>Emergency Medicine Journal</td>
</tr>
<tr>
<td>End of Life Journal</td>
</tr>
<tr>
<td>European Journal of Hospital Pharmacy</td>
</tr>
<tr>
<td>Evidence-Based Mental Health</td>
</tr>
</tbody>
</table>

---

*the bmj*
How journals try to minimise bias in peer review: open review

Open review
• open (signed) review
• open (to all) review – in real time
• open review with prepublication histories

For open and closed peer review
• reviewers should declare competing interests
• many journals now ask authors and reviewers to supply ORCIDs
• [http://orcid.org/](http://orcid.org/) = online registry of free, unique identifiers for nearly 2 million individual academics
• ORCID links to other researcher ID schemes
• these identifiers can be linked to each researcher's output in order to:
  • enhance scientific discovery process
  • improve efficiency of research funding
  • aid collaboration
The BMJ http://www.bmj.com/theBMJ publishes all research with open access and, now, with a detailed prepublication history. This open peer review policy draws on evidence from two randomised controlled trials of open peer review, and on experience of mandatory open peer review for more than 3000 published papers at BMJ Open http://bmjopen.bmj.com/
For 93 randomised controlled clinical trials published in BMC Medicine series journals in 2012 with pre-publication histories, reviewers requested relatively few changes.

Most changes requested by peer reviewers had a positive impact on the reporting of the final manuscript (n=27). Some changes requested by peer reviewers, however, had a negative impact, such as adding additional unplanned analyses (n=15).

This information is essential to enable readers to have a clear and transparent account of the peer review process. We would strongly recommend this model to other leading journals.

How The BMJ is working with patients to publish relevant research

• authors of research papers state if/how they involved patients in setting research question, outcome measures, design and implementation of study, and results dissemination

• patient review of papers

• patient partnership editor, patient editor
Patient peer review at The BMJ

“If you’re a patient living with disease, a carer of a patient, a patient advocate acting on behalf of a patient group, or you play a leading part in advocating for patient participation and partnership in healthcare we’d like to invite you to take part in a unique initiative...

The BMJ has committed to improving the relevance and patient centredness of its research, education, analysis, and editorial articles by asking patients to comment on them.”
Pain Solutions In the Emergency Setting (PASTIES)—patient controlled analgesia versus routine care in emergency department patients with non-traumatic abdominal pain: randomised trial

2015;350 doi:http://dx.doi.org/10.1136/bmj.h3147 (Published 21 June 2015)
Cite this as: 2015;350:h3147

Reviewer(s) Comments to Authors:
Reviewer: 1

Recommendation:

Comments:
Pain and its control is of the greatest importance to patients. As a sign of current or developing health problems it is a key factor in prompting patients to seek medical attention. It is widely understood among the general population that good, effective tools (drugs, etc) for the relief of many kinds of pain are available, so expectancy for relief is high. Optimising use of these tools clearly makes sense as part of good clinical care and to enhance patient comfort and satisfaction. The best patient care often results from patient and clinician working in partnership with professional staff relinquishing some of their authority to better meet the patient’s perceived needs. Wherever possible, patients should be given the opportunity of choice in treatments, although for some patients (those who are gravely ill or uncomfortable in making decisions) this might inflict an additional burden and they would prefer to have their health managed entirely by experts.

This study, where participants are randomised to one arm where standard treatment is applied (TAU group) or to another which permits a measure of personal control in their own therapy (PCA group), in some ways reflects this no choice choice scenario, albeit group allocation was imposed by the researchers. What is gratifying in the outcome is that where partial patient control was exercised, pain relief appears to have been superior and patient satisfaction higher. More analgesic was used by the PCA group which could be a downside. There are several possible reasons for the favourable reaction in the PCA patients which are not discussed but which may include a feeling of “ownership” in the intervention and of satisfaction that they had contributed personally to their treatment.

No overt statement in the text is made to the role, if any, of patient/public/carer input to the development, etc of the project, but perhaps this is made in the separate protocol paper (no. 22 in ref. list)?

David Britt

Additional Questions:
Please enter your name: David Britt
Job Title: Retired (Patient Reviewer)
Institution: N/A
Reimbursement for attending a symposium?: No
A fee for speaking?: No
Questions for patient peer reviewers at The BMJ

Does this issue matters to you, and/or other patients and carers? Any areas relevant to patients and carers missing or to highlight?

If the study was of an intervention or treatment, do you think it will really work in practice? What challenges might patients face? Are the outcomes and issues discussed in the article important to patients? Are there others that should have been considered?

Do you have any suggestions that might help the author(s) make their paper more useful for doctors to discuss with patients?

http://www.bmj.com/about-bmj/resourcesreviewers/guidance-patient-reviewers
"I recently reviewed a paper for The BMJ and as a non-academic I was terrified of saying what I actually thought of it – I agonised over the words.... I wanted to be constructive, challenging, and polite, but the bottom line was that I felt that the authors of the paper were in an academic bubble and very divorced from what I experience, read, and talk about in real life. A huge relief then to see the other reviewer felt the same way! It was a steep learning curve and a big leap to have faith in my own views and not be afraid to share these with the authors and The BMJ's editorial team."
Questions to BMJ authors I

• did you involve patients/service users/carers/lay people in the study design?
• did their priorities and experiences inform the development and/or selection of outcome measures?
• were they involved in developing plans for participant recruitment and study conduct? If so, how?
Questions to BMJ authors II

• have you planned to disseminate the results of the study to participants?
• are participants thanked in the paper?
• for articles reporting randomised controlled trials: did you assess the burden of the intervention on patients’ quality of life and health? If so, what evaluation method did you use, and what did you find?
Research Involvement and Engagement is an interdisciplinary, health and social care journal focusing on patient and wider involvement and engagement in research, at all stages. The journal is co-produced by all key stakeholders, including patients, academics, policy makers and service users.

Editors-in-Chief
Sophie Staniszewska, RCN Research Institute, University of Warwick
Richard Stephens, Involved and engaged patient

Editorial Board | Instructions for authors | FAQ

Articles

Commentary  Open Access
From tokenism to meaningful engagement: best practices in patient involvement in an EU project
Research Involvement and Engagement 2015, 1:5 (25 June 2015)

Review article  Open Access
Biobanking from the patient perspective

Commentary  Open Access
Practical considerations in improving research through public involvement
Jenner MK, Gilchrist M and Baker GC
Research Involvement and Engagement 2015, 1:3 (25 June 2015)

Tweets

BMC Medical Evidence
@MedicalEvidence
Doing research into peer review, study reporting, or research & publication ethics? #RIPRjournal: buff.ly/1RwGxyW
Expand

BMC Medical Evidence
@MedicalEvidence
Already hitting the most viewed list in #SysRevs - Automating data extraction in systematic reviews: buff.ly/1RwFY8g
Expand

BMC Medical Evidence
@MedicalEvidence
25 Jun
Authors should respond promptly to substantive queries and requests from the editors or readers after publication, particularly regarding the integrity of the published article.

Concerns may be raised by editors or readers through:

- letters to the editor
- complaints to the editor, the publisher, or via the Committee on Publication Ethics (COPE)
- media or social media
- other forums eg PubMed Commons
Online post publication peer review

Postpublication review can uncover fraud

Anonymous comments at PubPeer on Nature STAP paper, very soon after publication https://pubpeer.com/publications/24476887

The goal of PubPeer is to foster a scientific environment where robust, high-quality research is valued, while providing a forum to discuss the problems of unreproducible, misleading, misconceived or fraudulent work.
We need research that is less wasteful, more relevant

85% of the resources for biomedical research are wasted, costing more than $100 billion a year, the REWARD Alliance estimates.

Stages of waste in the production and reporting of research evidence relevant to clinicians and patients; from Chalmers and Glasziou, The Lancet 2009

http://researchwaste.net/about/
Replication: desirable, but not always possible

- Scientific evidence is strengthened when important findings are replicated by multiple independent investigators using independent data, analytical methods, laboratories, and instruments.
- Replication is standard in basic sciences.
- It is critically important in epidemiological studies, particularly when they affect policy or regulatory decisions.
- But the time and expense required for epidemiological studies means that many are often not fully replicable, so policy decisions must be made with the available evidence.

Reproducibility: should always be possible

- reproducibility is an attainable minimum standard
- independent investigators subject the original data to their own analyses and interpretations
- reproducibility requires datasets and software to be available for:
  - verifying published findings
  - conducting alternative analyses of the same data
  - eliminating uninformed criticisms that do not stand up
  - expediting interchange of ideas among investigators

ICMJE: principles of data sharing; with full policy coming in 2016

- data can be understood and reanalyzed by others
- authors should share data on reasonable request
- all data that underpin the published results, incl. recent/current data on harms, should be shared
- de-identified individual patient data, data dictionary statistical plan & code used to analyze the data
- IRBs should ensure patient informed consent covers all this
- journals may investigate breaches, express concern, retract
- data users must commit to making results of their analyses public, report methods, credit source

The BMJ mandates data sharing on request

Applies to any paper reporting main endpoints of an RCT of one or more drugs or medical devices in current use.

2012: 31 main reports of RCTs published. None about devices; 6 about drugs. 1 industry sponsored. 2 with datasets available from corresponding authors on request.

2013: Policy starts in January. 6 eligible trials published: all complied. None rejected because of policy.

2014: 5 eligible trials all complied.

July 2015: extended policy to all trials submitted to The BMJ

Godlee F, Groves T. BMJ 2012;345:e7888
Loder E, Groves T. BMJ 2015; 350 :h23733
## Clarifying Life Lost dataset

<table>
<thead>
<tr>
<th>ws_year</th>
<th>annual_cold</th>
<th>annual_cold_15</th>
<th>annual_cold_21</th>
<th>annual_heat</th>
<th>annual_heat_15</th>
<th>annual_heat_21</th>
<th>ALLDEATHS</th>
<th>CVD</th>
<th>RESP</th>
<th>AGE65</th>
<th>AGE65PLUS</th>
<th>propinf</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>7.173958</td>
<td>4.782143</td>
<td>10.04204</td>
<td>0.1523621</td>
<td>0.7535715</td>
<td>0.0204657</td>
<td>38.3857</td>
<td>12.2414</td>
<td>4.819</td>
<td>14.8105</td>
<td>23.4165</td>
<td>0.65347</td>
</tr>
<tr>
<td>1950</td>
<td>0.5205772</td>
<td>3.945205</td>
<td>11.40204</td>
<td>1.042328</td>
<td>0.5525836</td>
<td>0.0032387</td>
<td>45.5061</td>
<td>14.0406</td>
<td>0.400</td>
<td>15.40204</td>
<td>26.0000</td>
<td>1.20041</td>
</tr>
<tr>
<td>1951</td>
<td>9.507341</td>
<td>5.404888</td>
<td>10.32173</td>
<td>0.2297588</td>
<td>0.7582496</td>
<td>0.0141629</td>
<td>27.8000</td>
<td>12.7970</td>
<td>4.467</td>
<td>13.8765</td>
<td>27.3994</td>
<td>0.387996</td>
</tr>
<tr>
<td>1952</td>
<td>8.3650741</td>
<td>5.735206</td>
<td>11.1531</td>
<td>0.3313871</td>
<td>0.55273585</td>
<td>0.0185448</td>
<td>49.1575</td>
<td>14.9150</td>
<td>4.755</td>
<td>15.9665</td>
<td>28.0110</td>
<td>2.20396</td>
</tr>
</tbody>
</table>

| 37004   | 12.36324    | 4.233          | 13.4344       | 2.3570      | 0.32241        |               |           |
| 39807   | 13.82030    | 5.178          | 13.9711       | 2.3986      | 0.34852        |               |           |
| 40205   | 13.80560    | 5.040          | 13.7823       | 2.2000      | 0.23032        |               |           |
| 37229   | 12.32274    | 4.278          | 13.2525       | 2.3084      | 0.18308        |               |           |
| 41576   | 14.33560    | 6.543          | 14.2327       | 2.7396      | 1.0895        |               |           |
| 41601   | 14.07360    | 6.005          | 14.4305       | 2.7420      | 1.32024       |               |           |
| 38587   | 13.82350    | 6.511          | 13.8283       | 2.4825      | 0.16931        |               |           |
| 41546   | 15.0458     | 5.817          | 14.0457       | 2.6691      | 0.56694        |               |           |
| 41610   | 14.9475     | 6.505          | 14.4252       | 2.6376      | 0.37625        |               |           |
| 41416   | 14.7165     | 6.792          | 14.4986       | 2.8593      | 0.34130        |               |           |
| 30253   | 13.0520     | 4.776          | 14.0435       | 2.4215      | 0.69764        |               |           |

Data from: Clarifying life lost due to cold and heat: a new approach using annual time series.

BMJ Open

**When using this data, please cite the original publication:**


**Additionally, please cite the Dryad data package:**

Controlled access via a password protected website

After submission and approval of a proposal for secondary research

Researchers can submit research proposals and request anonymised data from clinical studies listed on this site. Study sponsors will add more studies when the site is updated.

Information on sponsor's criteria for listing studies and other relevant sponsor specific information is provided in the Study sponsors section of this site.
Develop your research skills
And learn how to write papers that get published

Courses & Modules

- PROTOCOLS (FREE MODULE)
  - How to Write & Publish a Study Protocol
  - BMJ (FREE MODULE)

- HOW TO WRITE A PAPER
- WHAT EDITORS AND PEER REVIEWERS LOOK FOR
- PUBLICATION ETHICS
- DESIGNING CLINICAL RESEARCH
- RESPONSIBLE CONDUCT OF RESEARCH
- INTRODUCTION TO CLINICAL TRIALS

Free Module
Thank you

Dr Trish Groves, The BMJ