Reviewer's report

Title: A systematic review of comparisons between protocols or registrations and full reports in primary biomedical research

Version: 0 Date: 09 Jul 2017

Reviewer: Cole Wayant

Reviewer's report:

This scoping review by Li, et. al. sought to clarify and map the evidence of inconsistencies between protocols/registrations and published reports in biomedical research. Their methods appear consistent with their pre-published study protocol. They conclude that inconsistencies are common and diffuse throughout biomedical research. It is my pleasure to review this manuscript, and I wish the authors the best in their current and future investigations.

Minor points:

1) Page 8, line 7-8, the first sentence of the paragraph may need rewording. I believe the authors are trying to say that the majority of the evidence for inconsistent reporting came from assessments of outcome reporting between protocols and publications, but I had to stop and re-read a few times.

2) I would recommend inclusion of "scoping review" in the title of the study, as this is closely aligned with PRISMA guidelines of inclusion of "systematic review" in the study title.
Major points:

1) Were means beyond hand searching reference lists included in the authors' search? Hand searching reference lists alone may lead to bias in the search strategy and may exclude unpublished or incomplete studies. A search of grey literature for unpublished studies investigating inconsistencies between protocols and registrations would provide information about "in progress" or "yet to be published" studies in biomedical areas, and may close the gap in regard to biomedical areas yet to be analyzed for inconsistencies.

2) Page 9, lines 8-11, the second sentence of the paragraph. Publication bias refers to the selective publication of studies depending on their results. In the context of what the authors were describing, it seems like they were discussing an investigators selective reporting of outcomes, which is outcome reporting bias. If indeed they were referring to actual publication bias, clarification may be necessary. An author does not commit publication bias, a journal does when they elect to publish or not publish studies due to their results.

3) The authors correctly state that rigorous adherence to CONSORT, ARRIVE, and STROBE guidelines should be expected for trialists or other investigators. It would strengthen the author's recommendations to provide evidence of these reporting guidelines' effectiveness in study quality. For example, to show evidence of CONSORT's effectiveness in improving study quality as early as 2006 (specifically with regards to trial registration, the issue at hand in the discussion) I recommend Figure 3 of the following citation (Hopewell S, Dutton S, Yu L-M, Chan A-W, Altman DG. The quality of reports of randomized trials in 2000 and 2006: comparative study of articles indexed in PubMed. The BMJ. 2010;340:c723).

4) Are there areas of biomedical research where comparisons between protocols and registries have not been conducted (this question may be answered by Major Comment 1)? Are the authors able to provide specific instructions for future researchers as to areas or questions to investigate? The goal of this scoping review was to map the literature, but a forward-thinking discussion would be helpful, if possible. A robust discussion of how to fix the state of discrepancies between protocols and publications seems to be lacking. Editors and peer reviewers requiring adherence to reporting guidelines and protocols is ideal, but how is that enforced? Especially when there are some who still question the
utility and resist uptake of reporting guidelines. If reporting guidelines are not able to be an immediate answer, is there anything else the authors can suggest in the interim?

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have no financial or otherwise competing conflicts of interest.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.