Author’s response to reviews

Title: The role of geographic bias in knowledge diffusion: a systematic review and narrative synthesis

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Author’s response to reviews:

To the Editors,

We are delighted by your decision to potentially select our manuscript for publication and are grateful for the opportunity to address the concerns the reviewers had in this first draft. In this letter, we respond to the comments made by the reviewers, and note the changes to our manuscript that were made in response.

Reviewer 1:

1. Did the first reviewer screen titles, abstracts and full-text, and then only reach consensus with the second reviewer for those titles, abstracts and full-text that the he/she was uncertain about?

   → Thank you for this comment and for noticing the potential ambiguity in the phrasing. For clarification, one reviewer (MS) screened and reviewed titles, which resulted in 378 abstracts being included. These abstracts were subsequently reviewed by two authors (MS and MH) independently, and agreement was reached on full-text review. As the number of full-texts included was small (20), these were reviewed together, which resulted in three texts being included in the analysis. This clarification was addressed in the Methods section, page 7, lines 7-10.

2. Although it may be justifiable, why did only one reviewer screen?

   → We understand the concern that is expressed by the reviewer, and welcome the comment made. Thank you for this comment. Although screening by two reviewers independently may be the typical process, considering the large amount of titles retrieved through the searches (3,501),
we made a pragmatic decision to allow only one reviewer to screen titles. This clarification was addressed in the Limitations section, page 21, lines 18-20.

3. Also, were there no conflicts that required resolution with a third reviewer?
   — Thank you. For clarification, full-texts were reviewed by MS and MH together, and indeed there was no disagreement regarding inclusion of any of the full-texts, therefore a third reviewer was not consulted. In the case of inconclusive assessments, we erred on the side of caution and chose to include articles for full-text review. This clarification was addressed in the Methods section, page 7, lines 10-11

4. Regarding the form that was used to abstract data from the included studies, the reviewer found our explanation to be vague, and requested clarification on the number of studies used to pilot it.
   — The data extraction table that was created for this study was simply a standard table including study data we thought might be relevant, such as first and last author, first and last author institutional affiliations, the year of publication, the journal it was published in, the study question, the study design, interventions, outcomes, results and other miscellaneous information from the article that might be considered relevant. We used one of the included studies to pilot this form, as an exercise to ensure that the extracted information was comprehensive and clear for use by the researcher. We fully understand that this sentence may not be of relevance to the reader and could simply create confusion. We have therefore removed it as it seems to offer little added value in terms of the description of the methods we employed.

5. Two studies are excluded because the full-texts could not be found, could those rather be classified as studies awaiting classification?
   — Thank you for this valuable suggestion. We made several attempts to contact and obtain the studies from the respective authors, however, we were unable to do so and we received no response. As our study is completed, and we have no intention to re-do the study in the near future, we would not re-evaluate the study outcomes if the studies do become available. Keeping that in mind, we decided to exclude the studies, rather than designate them as ‘awaiting classification.’ However, if the editors feel strongly about this change, we would be open to making that distinction in the table and would recommend they be included as further research.

Reviewer 2:

1. The authors present a novel systematic review of evidence exploring geographic bias in the peer review process. Authors properly justify the rationale for the review and present conclusions supported by the review results.
   — Thank you for this positive comment on our manuscript which we found very encouraging and supportive.
2. Given the nature of the research question, less stringent inclusion criteria could have resulted in the inclusion of interesting studies that could have better answered the research question.

- This is a very valuable and important comment, and we very much agree with this assessment. We settled on the inclusion criteria that we chose in an effort to identify only the most robustly conducted studies, using controlled and randomized methods, so that comment could be reliably made on the role that explicit geographic bias plays in research review. The inevitable trade-off between breadth and specificity certainly played out in this research question and widening the search and inclusion criteria could certainly expand the selection of articles included. We feel that this is a point that could be addressed in future studies. A note on this was added in the Limitations section, page 21, lines 12-17.

3. Authors should explain why they only included peer-reviewed articles.

- Thank you for this comment which we agree needs clarification. In order to make the most robust conclusion supporting any indication of bias, we felt that we needed to include only peer-reviewed articles, which we consider a benchmark of quality when it comes to scientific research. We felt that including peer-reviewed articles, as well as randomized controlled trials, would strengthen the robustness of our conclusions. This clarifying comment was added in the Limitations section, page 21, lines 12-17.

4. They could have searched abstracts submitted to congresses or conferences as part of this review. Of specific interest are abstracts submitted to the Peer Review Congress and to the Cochrane Colloquium. Authors should seriously consider reviewing abstracts submitted to these two conferences.

- We are grateful for these valuable suggestions and will look closely at abstracts submitted to the two conferences mentioned by the reviewer in the future. We fully agree that widening our search to include conference abstracts could have provided further insightful information. However, the decision was made that conference abstracts would likely not include enough information regarding study methodology or risk of bias and would therefore not have allowed us to draw adequate conclusions. We thus opted to limit our search to peer-reviewed articles, despite the limitations this may bring with it. We invite others to expand and build on this conversation. A clarifying note was added in the Limitations section, page 21, lines 17-19.

5. Regarding the methods section, authors should explain why only a single author extracted study data. Double, independent extraction would have been feasible given the expected small number of included studies.

- Thank you for this comment. We fully agree that this aspect of our manuscript needs clarification. As above, we wish to point out that one author (MS) screened titles, two authors (MS and MH) independently reviewed abstracts, and two authors (MS and MH) jointly reviewed full-text articles for inclusion. There were no disagreements between the two reviewers, and so there was no need to consult a third reviewer. This clarification was addressed in the Methods section, page 7, lines 7-10.
6. Also in the methods section, authors should explain that quality of studies would be assessed, instead of simply reporting so in the results section.
→ We welcome this comment and agree that this oversight should be addressed in the methods section. A statement has been added in the Methods section, page 7, line 11.

7. In the study title and in the methods, authors explain that they will conduct a narrative synthesis. However, in the results section they report that "The studies retrieved did not lend themselves to statistical comparison using a meta analysis. Methodological heterogeneity was too substantial to allow for a robust, statistical investigation. A narrative synthesis was performed instead to describe the observed effects". If the authors decided to conduct a narrative synthesis only after reviewing the eligible studies, this should be specified in the methods.
→ Thank you for this important observation. We fully agree that this may raise unnecessary confusion among readers. Our familiarity with the topic made us aware early on that we would likely not be able to conduct a full meta-analysis, owing to the inconsistencies in the way study data has been reported in the past. For this reason, it was always our intention to perform a narrative synthesis, rather than a meta-analysis, though a meta-analysis would have been desirable due to the conclusions that could have been drawn from its results. To address the confusion in our manuscript, we have added a Data Analysis section (page 8, lines 16-20) where we explain our rationale for choosing a narrative synthesis over a meta-analysis, removed the mention of meta-analysis in the results section, and added a statement to the discussion urging future researchers conducting investigations in this field to consider standardizing outcome measures for statistical comparison.

8. Regarding the results, a table summarizing the main characteristics of the three included studies would be helpful.
→ This is an important point, and we agree that a table with main study characteristics would be helpful for the readers. A table has been created and is attached with this letter. We kindly ask the editors to advise on where this table should be included in the full text, or the appendix. Further, we ask that the editors advise on the inclusion of the Risk of Bias (RoB) tables: would they prefer both tables be listed in the appendix, or should the summary table be included in the text. We thank you for your advice.

9. Regarding the discussion, the third paragraph on the discussion, page 17 line 1, should be moved to the beginning of the discussion. By doing so, the starting and main focus point of the discussion will be the review results.
→ This is a very helpful point. The sentence has been moved as advised by the reviewer, and we find the flow of the article is much improved.

10. Also in the discussion, it would be interesting if authors analyze how the review findings compare against the three descriptive analysis/literature reviews that were identified during the references screening.
We wish to thank the reviewer for expressing this insightful and valuable concern. We believe the reviewer is referring to the articles cited in the first sentence of the background section (Link et al, 1998; Opthof et al, 2002; and Ross et al, 2006). Notwithstanding the limitations in the way the three trials we included were conducted, we found that the observation that HIC research is favored is upheld. Therefore, on the balance of the evidence reviewed, we find that the descriptive studies have been corroborated. While descriptive studies such as the ones we cite are useful in their own right, they can only go so far in revealing explicit bias in the review and consumption of scientific literature. We find that there are few substitutes for a well-conducted, randomized, controlled crossover trial to investigate within-individual bias. This note has been added to the Discussion section, page 15, lines 18-22 and page 16 lines 1-2.

11. Regarding style, there is a typo in the word "studies" in the abstract.
   → We thank the reviewer for pointing out this spelling mistake. It has been addressed.

12. In addition, the use of semi-colons throughout the paper should be revised in favor of using commas. The semi-colon should be limited to connecting two full sentences equal in position or rank or to separate lists with items that include commas.
   → We welcome this critique and have made the changes as pointed out by the reviewer.

13. Lastly, there are several paragraphs that are too long. In order to improve readability, these studies could be broken down into smaller paragraphs to improve readability (see the introduction and the second paragraph in the discussion).
   → This is a very helpful comment that will much improve the flow of the article and make it more enjoyable for the reader. We have addressed several of the unwieldy paragraphs in the sections mentioned by the reviewer, and have found the article to be greatly improved.

Imperial College London was recently awarded NIHR ARC funding, an infrastructure award. Therefore, a statement acknowledging this grant has been added to the Funding section of the manuscript.

We wish to thank you once again for the critical and insightful comments made by the reviewers. We hope that they were adequately and sufficiently addressed as outlined in the above. We continue to welcome and invite further comments to ensure a high-quality article representative of your journal and look forward to hearing from you regarding any outstanding issues so that we can advance the manuscript through to publication.

Sincerely,
Mark Skopec