Author’s response to reviews

Title: The impact generated by public and charity funded research in the UK: A systematic literature review

Authors:

Daniela Gomes (d.gomes@nhs.net)
Charitini Stavropoulou (C.Stavropoulou@city.ac.uk)

Version: 2 Date: 05 Feb 2019

Author’s response to reviews:

Reviewer #1: I am pleased that the authors have carefully addressed various issues I raised in my original review, even if they could have gone a bit further in relation to a few of them. The paper is getting near to being ready for publication, but there are, in particular, two points from my original review that I’d like the authors to look at again please, plus 2 more minor issues (and 2 typos) that have arisen as a result of their revisions.

Once again, we would like to thank the reviewer for their really insightful and constructive feedback. We have been really privileged to have our paper reviewed by someone, who clearly knows the literature inside out.

1. I hope the authors can carefully check the content of the paper by Hall et al. In their response to my first review the authors state that the aim of the Hall et al paper is "to assess the relation between investment in UK health research and disease burden......". While this is true in one sense, and explains why the Hall et al paper was identified in the search, the paper is totally irrelevant for the objective of the current review which is to "assess the evidence of the impact generated by public and charitable funded health research..". The relation Hall et al examined was whether the pre-existing proportion of tobacco-related disease burden of disease in the UK was matched by the subsequent proportion of the total UK research expenditure that it received. In other words Hall et al were looking at the relation in completely the opposite way to that being considered in the review, ie Hall et al examined whether the pattern of the burden of disease generated an impact on the pattern of research expenditure. It is not surprising that Hall et al found, to quote the authors of the current review, 'no positive impact of health research on health outcome' (p.18), because that is not what Hall et al were studying.

The reason we had decided to include the study in our paper was that, as the reviewer points out, the study aims “to assess the relation between investment in UK health research and disease burden....." and the relationship can be bidirectional. But the reviewer is right: the aim of Hall et al is to show that funding is not related to the burden of disease, not the other way round. Hence we have decided to remove it from our analysis and our paper.
2. P.22: the authors report that the REF 'is likely to improve the way impact outside academia is assessed and measured'. In the context of the current paper, as it stands this is a somewhat misleading statement, but a comment along these lines may well be justified as part of a fuller analysis. Currently it is misleading because the authors state in several places, including lower down on this page, that papers show a high risk of reporting bias by "highlighting the aspects or domains that were more likely to show high impact than those that did not." But that is exactly what the REF case studies do. Therefore, according to that measure, the REF case studies would have a much higher risk than some, if not all, of the studies rated as high risk for reporting bias in the review. The REF case studies are also highly selective. So, while I am quite happy for the authors to describe how the REF is increasing the overall capacity in the UK to show the wider impacts of health research, they should also acknowledge that if the criteria being applied in the review are applied to the REF case studies then they have high levels of risk of bias.

The reviewer is absolutely right. What we mean here is that the emphasis REF puts on impact outside academia is likely to improve the tools that can be used to measure this type of impact. We do not imply that Universities should be cherry picking the cases that are more likely to show impact, as REF requires. We have now changed this in our paper to make it clearer.

3. Table 2: I am not clear why the paper by Peckham et al is classified as N/A under funding bias: Peckham was part of the organisation (ie the SDO programme) whose research was being assessed.

We found no information in the acknowledgment of the paper regarding funding, so we are thankful to the referee for pointing that the main author was part of the SDO programme. We have changed the rating of the paper and all the parts of the analysis that were affected by this.

4. P.17: top line: It should probably be 'case studies' not 'case study'.

Indeed. We have changed this now.

5. P.21, Conclusion, first line: the statement 'as sources are getting more scarce', might be questionable. While it is true there are many uncertainties because of Brexit, the UK Government's recent Industrial Strategy contains a commitment to increase UK research expenditure. At minimum, therefore, the authors should supply a reference to support their assertion that 'sources are getting more scarce'.

Indeed. We have therefore decided to remove the phrase.

6. P.23: penultimate sentence in the middle paragraph: 'help' should be 'helped'.
We have now changed this.

7. Finally, I'll mention to the editors the possibility of including a list of the studies identified but not included in the final list, perhaps as an Additional file.

We will wait to hear from the editor.