

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Can nudge-interventions address health service overuse and underuse? Protocol for a systematic review
<b>AUTHORS</b>	O'Keeffe, Mary; Traeger, Adrian; Hoffmann, Tammy; Ferreira, Giovanni; Soon, Jason; Maher, Christopher

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Jack W O'Sullivan Stanford University, USA
<b>REVIEW RETURNED</b>	12-Feb-2019

<b>GENERAL COMMENTS</b>	<p>This is a very thorough systematic review protocol on an important topic. I have no major comments and believe it is publishable as is.</p> <p>Some further thoughts for the authors:</p> <ol style="list-style-type: none"><li>1. You may want to consider doing further analysis based on the quality of guideline (this may actually be a follow up study). I have done a similar SR on over and underuse of tests (ref: <a href="http://dx.doi.org/10.1136/bmjopen-2017-018557">http://dx.doi.org/10.1136/bmjopen-2017-018557</a>), we also did a follow up study to see if there is an association between guideline quality and adherence with guideline (ref: <a href="https://doi.org/10.1016/j.jclinepi.2018.06.013">https://doi.org/10.1016/j.jclinepi.2018.06.013</a>). You may want to consider looking into guideline quality as a follow up study to your SR. It would be very interesting to see if clinicians were able to be nudged towards better guidelines.</li><li>2. In regards to the primary outcomes, you may also find some studies that retrospectively looked back at a collection of patients that had test or treatment A. I'm not sure if you would be looking to include these types of studies, but if so you might want to add them to your primary outcomes section. My SR stated above will give you some examples of primary studies that used this design.</li><li>3. The protocol is quite long, it reads a little like a thesis chapter. I feel it could be made more succinct. For instance: "The first row of search terms will be related to nudge-interventions. The second row of search terms will be related to the concepts of overuse and underuse of health services (See supplementary appendix for proposed search strategy)." This level of detail is probably not required and distracts from the more important parts of the protocol.</li></ol>
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<b>REVIEWER</b>	Dr Katie MacLure School of Pharmacy & Life Sciences Robert Gordon University Aberdeen UK
<b>REVIEW RETURNED</b>	21-Feb-2019

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review your systematic review protocol entitled, 'Can nudge-interventions address health service overuse and underuse? Protocol for a systematic review'.</p> <p>Your protocol is excellently written, the need for the review is fully justified and you detail all stages of the process based on best practise guidelines. A pleasure to read and I look forward to reading the resulting paper.</p>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer(s) Reports:

Reviewer: 1

Reviewer Name: Jack W O'Sullivan

Institution and Country: Stanford University, USA

Please state any competing interests or state 'None declared': N/A

Please leave your comments for the authors below

This is a very thorough systematic review protocol on an important topic. I have no major comments and believe it is publishable as is.

Thank you for your feedback.

Some further thoughts for the authors:

1. You may want to consider doing further analysis based on the quality of guideline (this may actually be a follow up study). I have done a similar SR on over and underuse of tests (ref: <https://protect-au.mimecast.com/s/Ljo8C1WZXrir5AV0fLYuMr?domain=dx.doi.org>), we also did a follow up study to see if there is an association between guideline quality and adherence with guideline (ref: [https://protect-au.mimecast.com/s/\\_9hIC2xZYvCLO2M4S1qWwC?domain=doi.org](https://protect-au.mimecast.com/s/_9hIC2xZYvCLO2M4S1qWwC?domain=doi.org)). You may want to consider looking into guideline quality as a follow up study to your SR. It would be very interesting to see if clinicians were able to be nudged towards better guidelines.

This is an interesting point. We may consider this as a separate or follow-up paper. Thank you.

2. In regards to the primary outcomes, you may also find some studies that retrospectively looked back at a collection of patients that had test or treatment A. I'm not sure if you would be looking to include these types of studies, but if so you might want to add them to your primary outcomes section. My SR stated above will give you some examples of primary studies that used this design.

We are excluding retrospective studies as Cochrane EPOC reviews exclude these.

3. The protocol is quite long, it reads a little like a thesis chapter. I feel it could be made more succinct. For instance: "The first row of search terms will be related to nudge-interventions. The second row of search terms will be related to the concepts of overuse and underuse of health services (See supplementary appendix for proposed search strategy)." This level of detail is probably not required and distracts from the more important parts of the protocol.

We agree that it is long. We have not cut anything at this time but are happy do this at the editor's discretion. We feel protocol papers should be as detailed as possible, particularly the methods (and that might help keeping the main paper word limit down easier).

Reviewer: 2

Reviewer Name: Dr Katie MacLure

Institution and Country: School of Pharmacy & Life Sciences, Robert Gordon University, Aberdeen UK

Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

Thank you for the opportunity to review your systematic review protocol entitled, 'Can nudge-interventions address health service overuse and underuse? Protocol for a systematic review'.

Your protocol is excellently written, the need for the review is fully justified and you detail all stages of the process based on best practise guidelines. A pleasure to read and I look forward to reading the resulting paper.

Thank you for your feedback