Reviewer’s report

Title: Measurement Properties of Comorbidity Indices in Maternal Health Research: A Systematic Review

Version: 0 Date: 02 Feb 2017

Reviewer: Sara Filoche

Reviewer's report:

My understanding of this manuscript is that it describes a systematic review to determine the utility of co-morbidity indices obtained from administrative data for the use in maternal health research. This work has the potential to contribute to maternal health research however some changes to the manuscript are required. To improve the significance of this work, I would suggest that the manuscript be re-ordered and the arguments more tightly presented - the logic flow to the work and rationale needs to be much clearer. My suggestion would be for the manuscript to be read by a "lay" person, and this may also help with sometimes awkward grammar. It may be clear to the authors what the background and arguments are, but not immediately so to a new reader. More detail is needed around the statements made by the authors - e.g. pg 13 paragraph starting line 52 re reliability.

Some specific examples for improvement:

There is no mention of administrative datasets in the introduction.

What is severe critical illness? - is this a severe acute maternal morbid event? Needs referencing - refer to a continuum.

The objective as stands is not clear, and this reviewer is uncertain what the last sentence is referring to.

More information is needed on the Index Models, including references, and rationale for the search terms, in particular "maternal critical illness" and "predictive clinical index"

What is meant by "non-physiology based indices"?

The significance of the finding (is this based on 1 paper?) is unclear.

What is meant by a "highly sensitive methodological PubMed filter"?

Need discussion about reconciling administrative datasets with academic research.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

None to declare

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