Reviewer’s report

Title: Mortality associated with alternative primary health care policies: a nationwide microsimulation modelling study in Brazil

Version: 1  Date: 12 Mar 2019

Reviewer: Pamela Coxson

Reviewer’s report:

Most specific points raised by reviewers have been addressed in the revised manuscript. The sentence added in lines 121-123 needs to be revised for grammar (suggestion in GREEN below):

Despite that

122 the list of ACSC was originally created for hospitalizations, it has been used in mortality studies

123 16,17 because it is preferred to amenable mortality lists not specific of to the Brazilian context.

I continue to question the value of separating the 3 disease category outcomes plotted in Figure 2. In the text, the message from these plotted results is that the trend is different for the different diseases, and specifically, the relative difference between the scenario outcomes in 2030 is very different (over 100% for nutritional deficiency and about 20% for infectious diseases compared with the overall and cvd relative 8% difference). Generally, exploding plots of outcomes at scales that are less well predicted by a model reveals artefacts of the model (e.g. greater uncertainty or rounding artefacts associated with small numbers). So the question for me would be whether the qualitative differences revealed in the separated plots are real or important to the study. If so, they could be (and should be) explained. For example, why does the static ESF nutritional disease mortality rate decline instead of peaking in 2020 as the other disease categories do? If only the 2030 comparison of % difference from static ESF is important to the message, then this can actually be seen in a combined plot, where the relative and absolute difference can be viewed in perspective. I am attaching a rough combined plot which I created in Excel (inferring data points from your plots). If the separate plots with different display scales highlight important differences in the impact of the scenarios, I think that there should be more explanation in the text (which parameters explain these important difference?).

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.
Not applicable

**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?**
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I am able to assess the statistics

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

Acceptable

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