Reviewer’s report

Title: Improved Performance of District Health Systems through Implementing Health Center Clinical and Administrative Standards in the Amhara Region of Ethiopia

Version: 1 Date: 11 Jan 2019

Reviewer: Adriana Biney

Reviewer's report:

This was an important study describing and assessing an intervention to improve delivery of quality health care at facilities in selected Amhara districts in Ethiopia. However, a few clarifications are required for the manuscript to be better understood.

Abstract

Page 2 - Lines 49-50: Instead of 'Two years ago' it should be 'In 2016', so that the reader is certain about this year.

Background

Page 3 - line 109: There is a typo, it is 'live' and not 'liver'

Page 3 - line 109: 'change sentence to maternal mortality ratio has declined from 1400 deaths per 100,000 live births to 351 in 2016'

Page 3 - line 110: edit the sentence to 'under-five mortality has declined by 67% to 68 deaths per 1000 births - not live births and not 100,000'.

It would be interesting to include a sentence discussing how the declines were achieved. Was it though intense programmatic efforts, funding to MoH, etc…?

Page 3 - line 122: remove the 2016 after the FMOH

Page 4 - line 142: change ampersand (&) to 'and'

Page 4 - line 151: Perhaps a subtitle can be inserted here - either the project name or any other appropriate alternative description that reflects the new subsection providing information about the project.
Operational definitions

Page 5 - line 190: The health center definition would be more appropriate in endnotes or footnotes according to the specifications of the journal.

Page 5 - line 195: Performance tier should be in the methods section after the discussion on the three performance categories.

Methods

Overall, I would like some clarity on the sections on the interventions and data collection in terms of timing of pre- and post-intervention validations. Also, is the unit of analysis at the individual level or did the 1306 participants come together at the facility level to access their facility within the various districts?

Page 5 - lines 212-214: Under the Methods - Study Site - tell us how the districts were selected. We know they were in the three high, medium, low categories but what are the criteria for selecting 10 high, 23 medium and 43 low?

Page 5: Are there any health peculiarities in the Amhara region that need to be discussed? Is HIV prevalent, do health workers face peculiar challenges there than elsewhere? Are there more rural than urban residences? What are the low, medium and high percentages overall across the 181 districts in the region?

Page 5 - line 228: Edit the 1/15000 and 1/3000 - why is the '1/' needed?

Page 6 - lines 243-262: The theory of change may be better placed in the introduction section, in the subsection where you discuss the project.

Page 6 - How were the interventions rolled out in terms of timing? This is mentioned in the abstract but is not so clear in the methods section. Provide a better sense of when pre and post intervention data collection were captured. Was it uniformly after three months at each facility?

Page 7 - line 284: The 76 woredas were purposively selected but what was that judgment based on? Why were 10, 23 and 43 low, medium and high performing districts, respectively, selected? Who selected these for the study?

Page 7 - lines 297 - 303: When were the before and after data collected? It is not clear how long exactly interventions lasted although we get a sense of the various interventions that took place. The authors need to discuss the process and how research fit into the picture. How was administration of the tools done? These are not clear.

Page 7 - line 304: When were those "two occasions" that the measured data were included.
Results and Discussion

Only bivariate analyses were conducted and there was no discussion of necessary controls that could confound results.

What were the minimum and maximum values that they could have been scored?

Page 9 - line 394: 'Red' instead of 'Ted'

Change language throughout the results section so that you are not alluding to causation - e.g. line 363 - Overall, district health systems' performance improved as a result of... It may have improved but you did not control for various factors since you conducted bivariate analyses.

No limitations are mentioned but I am sure the authors had data or study limitations - that you can suggest as future research for other studies.

Conclusion and Recommendation

Page 11 - lines 458 to 488: the sentence stating definitively that the three chapters need more support has to be re-worded to suggest that they may require more support since validation scores were the lowest.

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.

No

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.

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Needs some language corrections before being published

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