Author’s response to reviews

Title: Beyond coverage: Improving the quality of antenatal care delivery through integrated mentorship and quality improvement at health centers in rural Rwanda

Authors:

Anatole Manzi (mangano2020@gmail.com)
Laetitia Nyirazinyoye (lnyirazinyoye@nur.ac.rw)
Joseph Ntaganira (jntaganira@nur.ac.rw)
Hema Magge (hmagge@ihi.org)
Evariste Bigirimana (bigireva@gmail.com)
Leoncie Mukanzabikeshimana (mloncie2@gmail.com)
Lisa Hirschhorn (lisa.hirschhorn@northwestern.edu)
Bethany Hedt-Gauthier (bethany_hedt@hms.harvard.edu)

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January 16, 2018

Dr Remare Ettarh
BMC Health Services Research
E-mail: editorial@biomedcentral.com

Dear Dr Ettarh

Thank you very much for your considering our manuscript: “Beyond coverage: Improving the quality of antenatal care delivery through integrated mentorship and quality improvement at health centers in rural Rwanda” (BHSR-D-17-01105) as potential for publication in BMC Health Services Research. We would also like to thank the reviewers for their insightful comments and
suggestions, which we believe have significantly strengthened the manuscript. We made further revisions and have tried to address all the comments. Below are responses to each of the reviewer’s points. Please do not hesitate to contact me should with further questions.

Sincerely,

Anatole Manzi

(Corresponding author)
Director of Clinical Practice and Quality Improvement
Partners In Health

College of Medicine and Health Sciences
School of Public Health, University of Rwanda
University Avenue
Kigali, Rwanda
Email: mangano2020@gmail.com

Response to reviewers’ comments
Omar B. Da'ar, Ph.D. (Reviewer 3)
The manuscript is well written and authors have addressed adequately the objective and comments of reviewers. However, authors will greatly improve their paper if:

Discussion
a) Elaborate their discussion section. It looks terse to me, results were not adequately addressed in light of the literature.
Thanks for the comment. We hope the revised manuscript provides relevant information and references highlighting the implications of our study’s findings and limitations. We provided further details in our response to your specific comments below.

b) In the discussion, they add a paragraph on how their work potentially contributes to the literature or context.

Thank you for the important comment. We included the following paragraphs highlighting this study’s contribution on page 13:

“While ANC is critical to strengthen maternal and newborn health outcomes, the failure of training and supervision to improve the quality of care suggests the need for evidence-based interventions to improve ANC quality in sub-Saharan Africa [57]. This study demonstrates the benefits of a mentorship intervention, MESH-QI, to improve the quality of ANC at rural health centers. As such, this constitutes an invaluable contribution to the WHO’s goal to have a world where “every pregnant woman and newborn receives quality care throughout the pregnancy, childbirth and the postnatal period [58] and is consistent with their recommendation to promote health systems interventions that improve the utilization and quality of ANC [59].”

Conclusion

a) The conclusion is too short. They need to recapitulate their main finding and how they arrive at, as well as highlight some implications on how the effect of the MESH-QI for different intervention districts.

To expand on our conclusion, we included the following paragraph on page 14.

“This study highlights the importance of post-training mentoring and quality improvement rather than relying solely on didactic trainings and traditional supervision. Further, updated guidelines and observation checklists are key for mentors or supervisors to have a systematic view of ANC and provide feedback. In order to sustain this improvements, efforts are underway to integrate the MESH-QI checklists and quality of care indicators into routine district supervision and health management information system”.

b) I believe the authors will greatly improve their paper if they offer some recommendations, especially on future research based on the limitations they put forth.

Thank you for your suggestion. To expand on potential research recommendations. We included the following paragraph on page 13:
“Future studies should also assess the impact of the MESH-QI on other aspects of nurse-mentees’ experiences including satisfaction, retention and perceived impact on their clinical competencies. Moreover, we recommend exploring the experiences of pregnant women using ANC services and the impact of MESH-QI on these experiences. This information is crucial to understand their perceptions as well as improvements needed to better meet patient expectations”.

Cecily Banura, M.D., Ph.D (Reviewer 4): Minor revisions

The manuscript still has grammatical errors
We have engaged an independent editor to review and address grammatical errors.

All abbreviations that appear in the manuscript should be listed
We have listed all abbreviations on page 14.

The MESH-QI seems to have an intensive supervisory component i.e. monthly supervisory visits to mentees and the authors recommend that it could be taken up by other resource constrained settings. How much would it cost a resource constrained setting to replicate this model?

Thank you for the important question. We have conducted a cost-effectiveness analysis of the MESH-QI and the results are in a second manuscript that is currently under review for publication. In this study, we found that the total costs of MESH-QI for the areas contained in our study was 19,656.53 USD over one year. Of these, MESH-QI team salary and transportation constituted the major cost category, accounting for 48.3% and 15.3% of the total program expenses. Trainings for mentors, data management, and equipment costs were the other considerable cost drivers at 12.9%, 6.5%, and 6.5%, respectively. The cost of MESH-QI per ANC visit was 1.67 USD. The incremental cost ratio per ANC visit with complete assessment was 0.92 USD for danger signs and 1.40 USD for vital signs. We demonstrated that the additional costs to standard supervisory system are modest. In concert with prior work showing the impact on quality improvement interventions, such costs provide an affordable option for district health supervisors seeking to improve quality of ANC in low-resource settings.

Once published, this information will help policy makers and program implementers to make evidence-based scale-up of the MESH-QI intervention.
Table 1 is titled demographic characteristics. However, not all the content fits the title.

We have updated the title of our table, which now reads as “Demographics, study population, and case-observation characteristics”.

Table 4. The listed variables under the Data analysis section lines 12-19 are more than the 2 presented in the table. What happened to the other variables?

We only included variables if the interaction term variable was significant at the $\alpha=0.05$ level in bivariate analyses. As described by table 3, no significant interaction was found between the effect of MESH-QI and FANC training ($p=0.436$) and level of mentee’s education ($p=0.101$). As such, we did not include them in our final model.

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We have read and revised our manuscript in accordance with the editorial requirements.

Where a mandatory Declarations section is not relevant to your study design or article type, please write "Not applicable" in these sections.

We included all declarations as described in the authors’ guide.