Author’s response to reviews

Title: Assessment of facility and health worker readiness to provide quality antenatal, intrapartum and postpartum care in rural Southern Nepal

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Reviewer reports:
Nasser Ibrahim Abu-El-Noor, Ph.D (Reviewer 1): Please include all comments for the authors in this box rather than uploading your report as an attachment. Please only upload as attachments annotated versions of manuscripts, graphs, supporting materials or other aspects of your report which cannot be included in a text format.

Please overwrite this text when adding your comments to the authors.

Comments for the authors

1. Include the aim of the study in the abstract

RESPONSE: We have made edits to the background section of the abstract to include the aim of the study.

2. "Despite declining maternal mortality ratio (MMR) and neonatal mortality rates (NMR) and increasing rates of facility deliveries, an estimated 303,000 maternal deaths [1], 2.7 million neonatal deaths [2], and 2.6 million stillbirths occurred in 2015". Are these numbers from Nepal or they are global numbers.

RESPONSE: These are global numbers and have now clarified this in the manuscript.

3. Define quality of care and provide indicators of quality of care.

RESPONSE: Under the study procedures section, we have provided additional sentences defining quality of care, especially as this pertains to the Donabedian framework, and clarify that we examine
the structural components of QoC, and its attendant indicators related to infrastructure, accessibility, supplies, and health worker knowledge/readiness to provide care. In the Data Analyses subsection of the methods, we describe the specific indicators we analyzed, and how these were defined.

4. In the methodology, include the design, and if there were any inclusion/exclusion criteria.

RESPONSE: We have included a statement stating this was a cross-sectional study in design in the methodology section as suggested. We have now confirmed that the inclusion/exclusion criteria are stated in the methods. Specifically, for facilities we include a statement indicating that we included “all public and private health facilities that were classified as birthing centers in Sarlahi district between May 4 and August 29, 2016”, and for health workers, we indicate that “All staff (doctors, nurses and auxiliary nurse midwives) engaged in provision of ANC, labor/delivery care, and/or immediate newborn care, were eligible for the health worker interview.”

5. I could not see any comments related to communication among health care team, referral system, and quality of documentation. Please have a look at the following article, it may be helpful "Böttcher, B.; Abu EL-Noor, N.; Aldabbour, B. (2018). Maternal Mortality in the Gaza-Strip: A Look at Causes and Solutions. BMC Pregnancy and Childbirth, 18(1), 396-403"

RESPONSE: The authors agree with the reviewer concerning the importance of communication among health care team, referral system and quality of documentation, and we thank the reviewer for the suggested article (Böttcher et al), which we have reviewed. In our study we did not review health records of patients nor did we interview family members or health facility clients. Further, our interviews with the healthcare workers were limited to their training and knowledge and not on topics related to communication and referral systems within and between facilities. In our study we also do not have observation of service delivery. We recognized that the narrower focus of our measures does limit our ability to adequately describe all of these additional important components of quality of care. We have further acknowledged these limits in our discussion.

6. It would be great if the authors, in the discussion section, discuss the impact of certain supplies and drugs on quality of provided care and maternal and newborn health.

RESPONSE: We have included statements discussing this as shown below in the discussion section but have made minor edits.

“Lack of anticonvulsants to manage severe pre-eclampsia/eclampsia, which is the second major cause of maternal deaths [30], and lack of vacuum extractor to conduct assisted deliveries in all of the PHCCs could also adversely affect the ability of skilled staff to provide quality care.”

“Thus, in many facilities, lab tests which are an integral part of ANC, were not done either because they did not have the facilities or did not have the testing supplies. Pregnant women are more likely to not have any laboratory tests done due to distance to nearest referral lab or financial constraint (personal communication-health workers). This can possibly lead to delayed diagnosis or non-diagnosis of a potential pregnancy complication, resulting in inability to take preventive measures or receive treatment in a timely manner.”

Yubraj Acharya (Reviewer 2): Assessment of facility and health worker readiness to provide quality antenatal, intrapartum and postpartum care in rural Southern Nepal
Thank you for the opportunity to read this interesting paper. Using data from health facilities in Sarlahi district in southern Nepal, the authors provide a descriptive analysis of the facilities' readiness and providers' knowledge on maternal and newborn care. The descriptive tables are appropriate for the authors' small sample of facilities and providers (recognizing that they have taken the entire population of birthing centers in the district) and the authors are candid about the study's limitations. The paper easy to read and will be an important addition to the emerging literature on the quality of care at the sub-national level in LMICs. I only have a few minor suggestions to strengthen the paper.

In the background section, the authors situate the study in the context of ongoing global efforts on reducing MMR and NMR, and improving the quality of care in LMICs. It is important to also put the study in the national/sub-national context which international readers may not be aware of. With the promulgation of the new constitution and conclusion of federal, provincial and local elections, and the likelihood of a reasonably stable government, there is now a real opportunity for Nepal to continue its momentum in MMR and NMR reductions for which it has been widely praised. There are concerns that the poor quality of care is going to inhibit progress in these areas (and others), but the extent of this problem has so far been inadequately documented. Province 2, where Sarlahi is located, has the second-lowest rate of institutional delivery (45%) among all provinces, according to the 2016 NDHS. It's worth checking recent data, but around 2011, Sarlahi had one of the lowest HDI (around 0.4) among the districts in Nepal. So the data used in the paper are from one of the poorest districts in the country—and therefore likely the lower end of the overall quality of care in Nepal.

RESPONSE: Thank you for pointing this out and we have added some sentence describing these statistics that the reviewer has offered, and examined the HDI estimates for Sarlahi, as suggested by the reviewer.

In the results section, I found it striking that, although the majority of workers were ANMs—for which only grade 10 level education, plus the training, is required—and although only half of providers responsible for delivery care in Sarlahi birthing centers had received the training, the majority had complete knowledge on AMTSL and diagnosis of severe pre-eclampsia. Some discussion of the potential source of this knowledge, or at least a recognition that this is an interesting area for further exploration, would be useful.

RESPONSE: We have added a sentence recognizing the continued refresher training provided by the District Public Health Office for the government facilities on maternal and newborn care as the possible reason for complete knowledge on AMTSL and diagnosis of severe pre-eclampsia. Additional File 4 also highlights that training on ANC and delivery care was received by majority of the PHCC and HP level staff in the past 3 years.

Under study procedures, the authors mention that they assess facility readiness to provide care with respect to infrastructure, medicines and supplies/equipment. 'Accessibility' in the results section does not seem to fall into any of these categories (except may be the ambulance mentioned). How far facilities are from the road—is that really a measure of readiness?

RESPONSE: Thank you for pointing this out. Rather than exclude these important characteristics from the results, we have expanded the methodology description to add “accessibility” as one of the dimension covered in the audit tool (i.e. “… we used 1) a birthing center audit tool to assess facility
accessibility and readiness to provide care with respect to infrastructure, medicines, and supplies/equipment…”

In the discussion, the authors comment on the quality of care in private birthing centers. The suggestion that private birthing center staff should be provided with training is an interesting one. But the lower level of knowledge in private centers may simply reflect the fact that the staff there are less qualified and might be over-reporting their qualification to attack customers (as widely reported by the media).

RESPONSE: We agree that the qualifications are self-reported and not something we tried to independently verify. We do feel, however, that the veracity of their reported qualification can be viewed separately from whether or not training may be warranted. Thus, during the revision, we elected to retain our comment regarding the potential value of training/refresher training for private providers.

Some recommendations can be strengthened. Example 1: on public-private partnership, it might be worth highlighting the key features of the program in Gujarat. Example 2: how should the government "strengthen the procurement and distribution chain for basic drugs and equipment" specifically?

RESPONSE: As suggested, we have highlighted the Gujarat PPP program and mentioned a similar approach may be explored. We have added a statement that the responsibility of procurement and distribution chain for basic drugs and equipment falls under the local and province level authorities under the new federal system.

Really minor: as someone who makes a living using Stata, I could not help notice that the authors have called Stata STATA.

RESPONSE: Thanks for alerting us to this; we have changed from STATA to Stata.