Author’s response to reviews

Title: Why mothers still deliver at home: understanding factors associated with home deliveries and cultural practices in rural coastal Kenya, a cross-section study.

Authors: Rodgers moindi (rodgersonsomu@yahoo.com) 
Moses Ngari (mmngari@gmail.com) 
Charles Mbakaya (cmbakaya@kemri.org) 
Venny Nyambati (n.venny@yahoo.com)

Version: 1 Date: 21 Dec 2015

Author’s response to reviews:

FROM; RODGERS ONSOMU MOINDI

TO

BMC Public Health Editorial Office and Reviewers

RE; PUBH-D-15-00468 Factors associated with home deliveries and practices in kilifi county- Kenya, a cross-section study. Rodgers moindi; Moses Ngari; Venny nyambati, Charles Mbakaya

Foremost, I would like to appreciate the review of the manuscript and the important corrections and recommendations made.

I have edited the manuscript in line with the comments of the reviewers and the changes are marked using 'track changes'.

I am hereby addressing the issues raised by the reviewer(s) as follows;
Reviewer #1: This article describes factors associated with home delivery in Kenya. The findings are not new and interesting. The authors should have carried out a community-based survey rather than clinic-based survey to find the home-delivered women. The article needs major revision in presentation styles, especially the results and tables with correction in language.

Our study findings may not be new but provides a better understanding of the changing maternal health landscape in Kenya after implementation of various intervention to reduce maternal deaths. Reporting that 26% of the mothers still delivered at home, is an interesting results that calls for better evidenced-based policies to reduce maternal mortality. For logistical reasons we could not carry out a community based study, that has been appreciated in the limitations and recommendation part.

Page 2: the postpartum age of mothers i.e. the recent child's age range should be mentioned

The study did not collect data on number of days after delivery. However, the study recruited mothers who had delivered less than six months. The plan was to sample mothers bringing their babies for immunization, and the inclusion criteria was within six months postpartum. Its now mentioned in study population part pg 5.

Page 2 line 31: mention number of FGD and IDIs

The number of FGD’s and IDI’s now mentioned in pg 2.

Page 2, line 41-42: is the distance 5 Kms further or within 5 Kms? Please make clear.

Its < 5kms.

Page2: How did authors calculate RR from cross sectional data?

The relative risk or risk ratios were computed using the method described under statistical methods; using the general linear models (GLM) and specifying binomial family and log mode to produce RR rather than the regression co-efficient (http://www.ats.ucla.edu/stat/stata/faq/relative_risk.htm). We choose to report RR rather than
Odds Ratio (OR) because; a) OR were designed for case-controls study and not cross-sectional studies b) when the outcome is rare (<10%) both OR and RR yields similar results but in our study the outcome (delivering at home) was not rare (26%) and therefore reporting OR would have under-reported the effect of various covariates c) RR are easier to interpret for non-technical people especially for those without statistical training.

Page 3, line 49-53: Need to rewrite and explain why the deaths rate is high in 2008-9?
The deaths are associated with unskilled delivery and unfortunately the survey does not explain why.

Page 4 line 17: Reference should be superscript. Besides the authors should be clear about delivery at home, delivery at a health facility and Skilled attendant at birth. Is SBA equal to delivery at a health facility or SBA can also occur at home? What is the national policy?

In Kenya skillled delivery does not take place at home, therefore it is presumed in this paper that delivering at home and unskilled attendant during delivery are synonymous. The paper was focused on home delivery which at most times assistance is from unskilled attendant. However for clarity home delivery will/is be used.

Page 4, line 44-49: the aim already declares the stated factors as cause of home delivery, so need to rephrase this.
The factors were mentioned in the aim as specific areas of focus, indeed the aim is now rephrased.

Page 5 line 10-11: what are the three levels of healthfacilities-4, 3, and 2? Make clear
Elaboration has been done. In Kenya there six levels of health ;community(level 1),dispensary(level 2),health Centre (level 3), county and sub county (level 4),referral(level 5) and national teaching and referral(level 6). These levels form the referral chain.

Page 6: it is good to describe the study population very well rather than calculating the sample size from the formula. Readers are more interested on the expected number of pregnancies in the study area and how sufficient and representative is the sample size propose
The study population has been described to capture the above mentioned specific indicators.
Further it is not clear whether the study is facility-based (in the study design); if so will all the mothers who have given birth at home will come to immunization clinic? How many immunization clinics where there in study areas? Have all these clinics been selected or why only three?

The study design is facility based, and as have already explained this was due to logistical reasons. This has been been made clearer in the study design part.

From trends and previous studies referenced in background information and discussion part, it’s true that these women who deliver at home bring their children for immunization.

The three were picked because of their geographical locations, high volume facilities and evenly cover the study location. Hence the outcome of interest was/will be well captured.

Page 6, 47-51: Log-binomial regression gives RR? Why not logistic regression which gives OR?

Explained previously; We choose to report RR rather than Odds Ratio (OR) because; a) OR were designed for case-controls study and not cross-sectional studies b) when the outcome is rare (<10%) both OR and RR yields similar results but in our study the outcome (delivering at home) was not rare (26%) and therefore reporting OR would have under-reported the effect of various covariates c) RR are easier to interpret for non-technical people especially for those without statistical training.

Results page 7, line 23: why used only 394 out of 410, please explain.

The required sample size was 379 and therefore 394 was way above the computed sample size. 16 records were not used because they were missing the outcome. This is explained in the manuscript, the first paragraph of results.

Page 8: While describing socio-cultural results of home deliveries, authors described breastfeeding issues and reason for home delivery, i.e. the distance and cost, which are not the socio-cultural factors.

The authors were describing the socio-cultural practices during delivery and socio-cultural beliefs and practices influence breastfeeding. Also cost has influence on socio-cultural behavior
Page 8: The last paragraph of page 8 (perceptions of mothers towards home delivery) needs to be rewritten because the writing is not clear and confusing, for example what is the 'difference' between delivering at home and in a health facility?

Sorry for the confusion. The paragraph has been rewritten to make it clearer.

Page 9: line 21 and line 33/34: How the distance was categorized?

There are Four groups; <5, 5 to 10, ≥10 kms and don’t know. This has been added to the methods section.

Page 10: line 32/33: what are the 'other reasons'?

The “other reasons” has now been elaborated.

Page 10, line 41/42: please make clear whether it is higher age or lower age that is associated with home delivery.

The author meant higher age. It has been made clear.

Page 12: conclusion includes only the distance, what about the education of the women and other socio-cultural aspects?

From the multivariate analysis, its only transport that relatively stands out as the main factor in relation to the other factors. Nonetheless the conclusion has been rephrased to clarify.

Table 1: 'Delivered not at home' can indicate in the field or on the way

This has been changed to ‘delivered in a health facility’

Table 2: The content of table 2 are not all socio-cultural practices, for example 'why did you deliver at home'.

The table heading has been changed.
Table 3: the heading is not suitable because the authors split the table by place of delivery. The content all do not include perceptions of home delivery, for example antenatal care.

Table heading has been changed

Reviewer #2: Page 1. The authors might want to revise the title of the paper to incorporate the cross-sectional design aspect of the study or/and the application of mixed methods. The current version is not sufficiently clear or explicit in these regards. Still on the title of the paper, and throughout the paper, "home delivery" is used as a synonym of "unskilled delivery". While this may have a certain veracity, it is advised that the authors be explicit in the uses and their intentions.

The title has been edited and to be explicit we have consistently used ‘home delivery’ rather than ‘unskilled delivery’

Page 2. Abstract. Line 16 speaks about the "proportion of childbirth(s), might "magnitude" not be more appropriate? Again, please be clear about the "home delivery" versus "unskilled delivery" switch. The latter is suggested as the preferred and more applicable one.

In Kenya skilled attendant does not take place at home, therefore home delivery is synonymous with unskilled delivery, but for the sake of clarity we have changed this to home delivery.

Page 2. Line 33. Consider add a few words to characterize the type of sample—random, etc.

This has been done, simple random sampling was used.

Page 2. Line 42. Reference is made to children whose mothers "stay at least 5 km". Do you mean 0-5 km, greater than 5 km or less than or greater than 10km in Line 55? Please be clear about this criterion/variable. The results section is silent about findings from the qualitative aspect of the mixed method study. Is this intentional?
Please make some applicable reference to findings. Do they reinforce the quantitative findings or not?

The distance has been addressed. We have clarified the categorization.

The silence is intentional, the qualitative findings have been published in another journal. The qualitative findings from the focused group has been incorporated in the discussion section.

Page 3. Key words. Consider adding skilled delivery assistance. The term "perceptions," without qualification, is unclear. Revise or delete it.

The author revised and deleted perceptions and added unskilled delivery terms as suggested.

Page 3. Background. Line 27. Given that the SDG have now replaced MDGs, the authors may consider recasting the paper under the SDG framework.

Despite MDG coming to a close this year, we feel the manuscript is very relevant in the context of MDGs because it was carried out in the course of MDGs before SDGs come into force.

Page 3. Line 56. No information was provided on trends in skilled delivery assistance in Kilifi unlike in Kenya. Has it remained the same or not?

The paper has provided the information now.

Page 4. Line 32. A sentence or two about Output Based Approach and how well it is or has worked in Kenya and in Kilifi would be helpful contextual information.

A sentence has been added.

Page 5. Study Area. Please provide more information about the geographic location of Kilifi—east, west? Also provide some indication of population density and road network. Just a few clarifying sentences as this is an important aspect of the research question.

The information is now available.
Page 6. Line 1. Suggest that "sufficient" be used a replacement for "enough."
The replacement has been done to use sufficient.

Page 6. Study population. Are these exclusively women who came to attend EPI services or MCH services in general? Please clarify.
EPI services, it’s stated in the study design part.

Page 6. Data management and Statistical analysis. Please spell out the software make used. Please decide how you want to state the p-value and be consistent with one. Is it an upper case P or a lower case p?
Done, all P values are in upper case.

Page 7. Line 52. I suggest you avoid using the phrase "one good finding..." It is used a few times in the paper. It is preferable to state the finding.
The authors has changed that and the phrase is avoided.

Page 7. Line 54-59 is not clear in its message and point. Please revise.
The section is now revised and made clear

Page 8. Line 5-6 is also unclear. Please rephrase, restate to clarify.
The revision is done and restated.

Page 8. Line 34. The "majority" of women who deliver at home assisted by their mother-in-laws amounts to 28%. With an additional 4.9% helped by a skilled attendant at home, we still have a balance of 78% unaccounted for. Please clarify. The 4.9% of home births that were assisted by skilled attendants is justification enough not to
assume that "home delivery" as mentioned earlier ought not be automatically synonymous with unskilled assistance.

The authors only highlighted the major findings in the results section, the full results on who assisted the mother during delivery are on table 2.

Page 10. Line 10-14. Regarding reference made campaign to increase access to care in the slums. The statement is not explicit on whether such a program was also ongoing in Kilifi County in particular or if it was a generalized program across the country. Please be more specific if the authors intend to draw a cause and effect relationship between the observed results and such extraneous programs.

We have expunged the slums or urban poor from the statement.

Page 10. Line 25 makes reference to sampling bias. It appears the descriptors provided fit selection bias. Please provide a more thorough discussion on the plausible biases at play in the study.

Thanks for picking this. You are right, this should be selection bias. This has been addressed.

Page 11. Line 24. While "waiting homes" have been advocated, a brief discussion of the unlikely feasibility of emergency transport schemes would be helpful. Also what is the basis for proposing "waiting homes"? Please provide a basis on whey it would be acceptable and be feasible in the Kilifi County context.

This has been paraphrased.

General Comments.
The paper dwells some on the state of newborn care in home delivery settings. A sub-section that specifically tackles newborn issues may increase the risk profile of home delivery and potentially increase policy attention. It also draws attention to the mother and newborn as an inseparable dyad.
Thanks for this good suggestion but the study didn’t collect information on the newborn, the scope this study was on the health of the mother.

The paper still requires substantial editing to increase the clarity of the important messages in the paper.

Substantial editing has been done which we believe brings out the key message of the study findings.