Author’s response to reviews

Title: Cost-Effectiveness of the Treatment of Uncomplicated Severe Acute Malnutrition by Community Health Workers Compared to Treatment Provided at an Outpatient Facility in rural Mali

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Version: 1 Date: 21 Oct 2017

Author’s response to reviews:

Dear Dr Fronteira,

Thank you for sharing the comments on our manuscript titled “Cost-Effectiveness of the Treatment of Uncomplicated Severe Acute Malnutrition by Community Health Workers Compared to Treatment Provided at an Outpatient Facility in rural Mali”. We have revised our manuscript accordingly and we would like to submit our updated version with the changes in track changes as requested. Find additional specific responses to each reviewer below.

We want to thank the reviewers for taking the time to share their viewpoints to strengthen the paper.

Yours sincerely,

Eleanor Rogers
Comments from Reviewer #1: The article addresses a theme very important for the health field: the severe acute malnutrition (SAM). This health problem is still one of the main causes of infant mortality in the world. The community-based approach represents an option for expanding the access of population to SAM treatment, mainly in the remote and rural areas, and to prevent the infant mortality. So, this article provides important evidences for health planning and decision making. The quality of manuscript is very good. The background is appropriate. The authors present the principal information for the understanding of theme and shows a statistical data and the study relevance. The method was well written and shows information for duplicate the study and understanding the research techniques applied. Thank you for this feedback.

Comment 1: However, despite the authors said that the ethics approval and consent to participate are not applicable in this study, is important to justify, because the study was developed with participation of people in interviews and focus groups, and with children. About children, the authors mentioned the parental consent; so, how the consent was done?

Response: For the overarching study, ethical approval was obtained from the Institut National de Recherche en Sante Publique, which is the national institute of public health research. Written consent was taken from each caretaker prior to enrolment of the child in the study. This ethical approval for the overarching study also applied to the cost-effectiveness component of the study. Additionally, for interviews with staff, community leaders and caretakers, the aim of the study was explained by the interviewer and oral consent obtained from all those that participated, before beginning the interview. This information has now been included in the ‘declarations’ section of the manuscript.

Comment 2: I recommend clarify the acronyms in Table 2: NGO; HR - because not were mentioned before in the text.

Response: Thank you for noting this, the acronyms have now been written out in full in the table the first time they are used.

The results are clear; the discussion is very good, considering the low number of similar studies for compare the results.

Reviewer #2: This is an important study and the methods appear to be carefully thought through. There are a couple of issues that I think should be addressed.

Comment 1: First, it is not clear whether the samples in the control and intervention groups were comparable in terms of health issues. Was there any effort to risk adjust the two groups? If yes,
perhaps it could be more clearly described. If not, it should be cited as a limitation which could clearly bias results.

Response: With regards to the similarity of both groups in terms of health issues, we do not have reason to believe that there were epidemiological differences between the two groups that may influence the prevalence of disease. In the baseline study which compared the socio-economic status of the intervention and control area, the two areas were found to have similar levels of global acute malnutrition, age and sex distribution, socio-economic levels and use of health services. A difference emerged in the type of toilet used (82.5% in control group had a sheet metal toilet compared to 33.9% in intervention group) and access to drinking water (81.7% had access in the control group vs 52.5% in intervention). Despite these differences, we have no reason to believe that the comparability of the two zones was compromised. Action Against Hunger, the implementing organisation, provided water and sanitation kits which included Aquatabs for the treatment of drinking water in the home. Although there is no proof that the households would use these water purification tablets, there was no difference in the diarrhoea rates or acute malnutrition rates in the two areas. Despite not having data on the individual health status of each child aside from severe acute malnutrition status, if a child had been suffering from an unrelated condition, they would have been referred for further care and therefore not have been included in the study. Therefore we have made the assumption that the two groups are comparable in terms of health issues. However, as suggested, this point has been included as a limitation in the limitation section, page 18.

Comment 2: I would also like to see a discussion about those children in the two samples who died and whether or not being in the intervention or control group had any impact on the outcomes. Are there children in the intervention group who might have survived if they had been in the control group? A better understanding of this would be very useful.

Response: The proportion of each cohort that died during the study were similar (0.8% of exits in the intervention group and 0.9% in the control), and was found to have no significant difference (p-value = 0.99). The quality of care study (Alvarez Morán JL, Alé FB, Rogers E, Guerrero S. Quality of care for treatment of uncomplicated severe acute malnutrition delivered by community health workers in a rural area of Mali. Matern. Child. Nutr. 2017) shows that CHWs were able to identify complications in the intervention zone. Additionally, they referred patients to the stabilisation centre. Therefore we have no reason to believe that a child’s inclusion in the control group would have increased their chance of survival. This information has been included on page 6 of the manuscript.

Comment 3: Also, there is no clear explanation of 'defaulted' and 'non-responder' and definitions of each would be very useful.
Response: We apologise having overlooked providing definitions to these terms. In the context of this community-based SAM treatment programme, a child ‘defaults’ from the programme when they have missed two consecutive weigh-ins. A child is classified as a ‘non-responder’ when they have not responded to treatment, including referral to inpatient care and a treatable cause has not been found, after 12 weeks. These are internationally recognised standards but they can vary by country as they fit within the wider health system. This has been included on page 5 of the manuscript.