Author’s response to reviews

Title: Improving estimates of the burden of severe acute malnutrition and predictions of caseload for programs treating severe acute malnutrition: Experiences from Nigeria

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Reviewer reports:

Reviewer #1: Very Nicely written article. As this involved the Mathematical Modelling, So, conceptually seems good to publish the same so that further discussions can be started from the readers. Once again Best wishes to the authors.

Response #1: Thank you for your feedback

Reviewer #2: This an interesting article, but it needs some work to make it more readable. The authors may rethink the title of the manuscript to make it more attractive.

Response #2: We are not sure what to do with this comment. We did this work to improve estimates of SAM burden and predictions of caseloads for a program treating SAM in Nigeria. The title sums that up.
Overall

1. Table 2: should be extended to include 2 rows of calculated expected caseload and difference with observed based on the corrected Incidence correction factor

Response: We assume the reviewer means the pooled estimate for K since residuals when using the year-specific estimates will reflect only rounding error. We have added the requested rows to Table 2 using the pooled estimate for K and material to the Results and Discussions section and updated the Abstract.

The authors may consider an additional table summarizing the effect of the change in the values of K

Response: We are unsure of what is being asked for. Expanding:

\[ N = CNP(1 + K) \] gives:

\[ N = CNP + CNPK \]

Altering K will alter the number of predicted incident cases in a linear fashion. We are pretty sure that this is not what the reviewer wants in a table or a plot. We think that the rows that we have added to Table 2 and the additions to the text are sufficient. Kindly let us know if we misunderstood this comment.

2. Table 4 is not presented in the results, which makes the discussion harder to read.

Response: Table 4 arises from consideration of the results and a discussion of the lack of precision in P and C impacting on the precision of K. We feel it correct to create Table 4 as a product of the discussion rather than as a main result. We strongly think that not to include this in a main result.

Minor:

1. Reference style is not following the style of the journal

Response: This has been corrected.

2. CMAM forum: please write full text before using an abbreviation for the first time
Response: This has been corrected.

3. Abbreviations in tables (see table 1) should be explained in the legend of the table

Response: We have spelled out abbreviations / acronyms (SAM, W/H, MUAC, WGS, and NCHS) in a footnote to Table 1. We have removed "SAM" from Table 4.

4. Table 2: do not use % but the value as used in the calculations

Response: We have kept the numbers for prevalence and coverage as percentages as this is the convention for presenting estimates of prevalence and coverage. It is possible that someone may enter percentages as numbers rather than as proportions. We have added a note: C, N, and P as above (C and P expressed as proportions). In the Data Sources column of Table 2.

5. Place reference not next to a formula but bring it in the text: E.g "where K is a correction factor calculated as (reference) :"

Response: This has been corrected

6. It may be useful to number the different formulas

Response: It is common to number formulae. We do not feel that this is needed in the current article. We can do this if required to by the journal. Please advice.