Reviewer’s report

Title: Analysis of the Implementation of a Community Based Intervention to Control Dengue Fever in Burkina Faso

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Reviewer: Elizabeth Henry

Reviewer’s report:

Overall: I appreciate the application of CFIR for the understanding of implementation effectiveness in this context to complement the previously published literature about the program. However, I find it lacking in terms of the analytics. I find that I keep reading that the program was well implemented and locally developed and adapted, with challenges in community and government support. But I don't find that the analysis reveals more to help us really understand the why and the how of the implementation. There are often statements made in the results that are not substantiated with evidence or data. I would like to see a re-work of the analysis section to really highlight the perceptions of the informants on each construct and how and why they reflected on each. It may help to attach the questionnaires used in the interviews and focus groups to understand how they were asked about each. It also feels as though the authors themselves are reflecting on the program rather than using the informants' experiences with lines like "we know that...". I would like to see a paper more grounded in the data, reflecting on the data. Specific comments on each section are included below. Note that I refrained from commenting too much on the discussion as I would rather review that section after a re-work of the analysis and discussion sections.

Background

In line 4, after you state the problem is growing, I would also add in a sentence that describes the importance of finding contextually-appropriate, highly effective interventions that can be implemented efficiently in these settings. This sets up the argument for why you would want to explore not just implementation fidelity and effectiveness, as you already have, but the implementation processes. Then, when you say that effectiveness is established, I think you should make the point more clear that those looking to learn from these strategies do not necessarily have guidance on what are critical to implementation success--and this is why you are exploring the topic.

Line 15: Why has the surveillance system only registered Dengue since 2014? Does this have any bearing on the interventions that have already been used in Burkina Faso to address the issue? Presumably that means that perhaps without knowing the scope of the issue interventions have not been successfully at addressing it (or not existent at all). I would address either at the end of this paragraph or at the start of the next what has been done already in the country and if any of those interventions or policies have been evaluated.

The third paragraph should be broken up: I would suggest first describing the intervention - not the supplementary piece, that is fine, but where it was implemented, for how long, what are the key activities. Then you can talk about the characteristics that make it unique (participatory approach, community engagement). It is easier to comprehend that sort of information when you have already laid out the core components.
Methods

Context
Line 54 and 57: can you clarify the size of the catchment area where the program was implemented? Also, with the description of activities it is unclear how the 1 KM radius operates--meaning if there are community based activities, were they only done within the 1 KM? or it is assumed that people living only within 1 KM of health centres were exposed? Clarifying this will help us understand exposure and scope of the intervention.

Can you describe who the facilitators are? Also what is the monitoring committee? What do they do? How are all of these participants in the interventions selected? This will help us understand also those that are selected for the study.

Conceptual framework

In line 9 when you say "framework designs" I think you mean constructs?
Could you perhaps list those constructs that you omit? This will be important to address in the discussion: either those that you omit because they aren't relevant, or those that you would have if you had the data but couldn't--these are more important as they are similar to having missing data. What would you have or could you have possibly learned that might influence the final conclusions that you could not because you didn't have data?"

"Study Population"

I think perhaps the description of those who are part of each of these groups should go under the intervention description section in the background. Here what I would want to know is how did you select among those? What criteria did you use to be a respondent, for each type of methodology used? For example, who did you speak with in an interview, and who did you have in focus groups? Was everyone included (which seems like it is the case now)?

Line 24 - is steering committee the same as monitoring committee?"

"Data Collection Methods"

In lines 43-44 you describe a stakeholder consensus, but it is unclear to me when this happens, since it precedes development of qualitative tools. You should spell out the full process--who are the stakeholders, what role do they play, and where do they fit within the overall data collection process?"

Results

In general I find the results rather basic in their explanation and lacking more of the analysis I would like to see. For example, the authors write that the program was (adaptable, had origin at the community, etc) and then state ""this positively influenced the implementation"" - but it leaves me asking: how? why? how did respondents perceive this? Sentences are written as factual statement rather than reminding us where these conclusions come from, and how they relate across participants. I think the whole section could use a re-work with consideration to framing it as results from respondents' comments rather than statements of conclusion without link to where the information is coming from. Also, I think some of the concepts are not as intended with CFIR. 1.2 I understand as the quality of the evidence of the intervention- as in, what was the evidence behind this intervention before it was started? How did participants perceive the effectiveness of home to home messaging rather than spraying? I think it is
important to substantiate any claims you make in this section with quotes, yes, but also with a succinct description of the stakeholders comments about the themes related to each construct you identify. Line 61 is a good example of what I mean: the perceived and experienced simplicity...now, tell us why and how this was the case.

Also, in line 8-9 you state that there is little difference in scores - then why use them at all? I think actually with a range of 4 be design there is going to be minimal difference, but you actually do have differences in some rows: 1.3, 3.1, 3.3, 3.5, 4.2, 5.4 - I think you need to reflect on these differences and help us understand the value of the scoring in the analytic process."

For the construct "quality and strength of the evidence" I am not sure the way you frame it is what is intended. From the Damschroder article, the authors write "Evidence strength and quality Stakeholders' perceptions of the quality and validity of evidence supporting the belief that the intervention will have desired outcomes. Sources of evidence may include published literature, guidelines, anecdotal stories from colleagues, information from a competitor, patient experiences, results from a local pilot, and other sources" - in what ways did you informants reflect on the quality of the evidence for the intervention activities?

Line 11 should be Internal

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**Quality of written English**
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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