Reviewer's report

Title: The global switch from trivalent oral polio vaccine (tOPV) to bivalent oral polio vaccine (bOPV): Facts, Experiences and Lessons Learned from the south-south zone; Nigeria, April 2016

Version: 1 Date: 03 May 2017

Reviewer: Radboud Duintjer Tebbens

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General comment

1. The authors have responded to the comments from the reviewers and significantly improved the manuscript. I continue to recognize the importance of the findings and encourage the authors to further improve the manuscript to make it as effective as possible.

Major comments

2. There are still some inaccuracies in the text. These may seem like nitpicking, but I think it's important to be very careful to use the right terminology in order to avoid confusing the reader, or worse, misinterpretation of some of the statements.

Specifically, I noted the following:

2a. Page 3, line 23: This sounds as if the same WPV1 strain is circulating in Pakistan, Afghanistan, and Nigeria. I think you mean serotype instead of strain.

2b. Page 3, lines 49 and 60: In both sentences, I think you mean "OPV2-related viruses" (which you'll need to define as viruses related to the serotype 2 strain in OPV) instead of "WPV2" since the switch synchronization was not about WPV2 exportations and IPV use similarly is about the risk of serotype 2 vaccine-related viruses and not WPV2.

2c. The need for IPV is more subtle than stated. The main reason to use IPV is that after the switch IPV is the only vaccine that protects children from serotype 2 risks. However, because IPV does not much reduce fecal-oral transmission, IPV recipients can still participate in transmission and IPV introduced shortly before the switch hardly reduces cVDPV2 risks after the switch in a setting like southern Nigeria. Over time, however, IPV will make a bigger differences compared to no vaccination at all against serotype 2. It's also highly questionable that IPV hastens polio eradication by boosting serotype 1 (and 3) transmission. All three countries that tried to use IPV to help eradicate polio haven't yet eradicated polio. I suggest rewording the 2 sentences about IPV spanning pages 3-4 as something like "The introduction of IPV will provide vaccinated children born after the switch with individual protection from polio caused by serotype 2 viruses."

2d. Page 3, line 52 to page 4, line 7: It's strange to talk about immunity to WPV2 since the main concern is cVDPV2, not WPV2. It's better to just say immunity to serotype 2 polioviruses.

2e. Page 7, line 42: I'm confused by the addition of the word "exercise". Were the validators only verifying the quality of a switch exercise (which sounds like a dry run) or of the real thing?

2f. Page 7, lines 50-60: It sounds contradictory that the validation reports showed that the switch was conducted properly and then, in the next paragraph, that validators found tOPV vials after the withdrawal.

2g. Page 10, lines 2-3: The switch marked the last step needed to eliminate all serotype 2 viruses, which could only happen because WPV2 is eradicated. However, certification of WPV2 eradication, and not the switch, marked the eradication of WPV2.

3. Introduction: a lot of work has been published in this journal related to the need to synchronize the switch and fully withdraw all tOPV. Please consider citing it to support the rationale for the activities described in this manuscript.

4. I appreciate the added map. However,
this should be presented as a numbered figure. The caption should explain why some states are red and other gray. Also, did you obtain permission to reprint the map?5. The writing improved a great deal, but there are still many minor errors and some unclear statements. I listed some of these in the minor comments below, but this list is not exhaustive. I urge the authors to carefully and critically review the writing of the entire manuscript.

Minor comments

6. Introduction, first paragraphs: please list the case numbers for the full year 2016 (instead of Jan-Nov), which are now probably final.7. Please check with editor whether you need to again define abbreviations that were already defined in the abstract, e.g., LGA, HF. Also, OPV is not defined anywhere in the text, and the text defines vaccine-derived poliovirus with a hyphen while the list of abbreviations defines it without a hyphen. Please check whether everything is consistent. Please also consider making the list of abbreviations alphabetical.8. Page 3, line 53: cVDPV2s instead of cVDPVs9. Page 4, line 10: 18th of 2016? Please add month.10. Page 5: lines 54-55: how are "bOPV vaccines and other materials" key activities?11. Page 6, line 44: Suggest "train" instead of the condescending "enlighten".12. Page 6, line 55: "providing quality" or "the provision of quality", but not "the provision quality".13. Page 6, last line: How can you replace bOPV with tOPV and destroy tOPV without financial losses? I think you mean financial losses to the HFs or local storage facilities, but surely someone had to pay for the replacement of tOPV with bOPV.14. Page 7, line 6: add "and" before "LGA and state cold stores".15. Page 8, line 15: Results (plural).16. Page 9, last line: Can you say more about what the findings of the sweeps were instead of just stating how many were conducted?17. Page 10, line 10: "they" doesn't refer to anything.18. Page 10, line 44-45: remove one of the two periods.19. Page 11, first line: In the phrase "This simply means" it's unclear whether "this" refers to the requirement [that a sweep be carried out if 2 HFs were found with either tOPV in cold-chain or out of cold-chain but without the 'do not use' sticker] means, or whether it refers to what a sweep means.20. Page 11, line 12: Is this the start of a new section after the discussion? Is all the text that follows part of that section?21. Page 11, line 49: All OF these.22. Page 13, line 38: reviewed instead of reviews.23. Ref 20: guidelines n.d.?24. Table 1: Please add population of each state and number of HFs per person as this may help explain the costs structure by state. Also, the caption is missing a "the" before tOPV-bOPV switch.25. Table 2: Move "South-south zone" to last row and delete the resulting empty row.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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