Author’s response to reviews

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

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Reviewer 1
The rationale for the synchronized tOPV to bOPV switch needs better explanation, including why it's so important to carry out the switch within a short period of time and ensure the complete withdrawal of tOPV. The manuscript also does not mention at all the future bOPV cessation, although much of the value of this study comes from applying the lessons learned when Nigeria will (hopefully) do this again in a few years for the remaining two OPV serotypes. Since the eradication of WPV2, type 2 cVDPVs (cVDPV2s) have accounted for 94% of the 721
poliomyelitis cases caused by cVDPVs detected between January 2006 and May 2016. To stop further risks of cVDPV2s, SAGE reaffirmed the need for the switch from tOPV to bOPV (containing the Sabin types 1 and 3 strains) after reviewing the epidemiology of cVDPV2s and all criteria necessary for the switch in line with the objectives of the PEESP in October 2015. The switch was carried out between 17th April and 1st May 2016 in a globally synchronized manner to prevent exportation of WPV2s from the 155 countries using tOPV to other neighbouring areas that have stopped tOPV use. Many statements need updating since other parts of Nigeria detected both WPV1 and cVDPV2 in 2016. There also is a major global IPV supply shortage that has disrupted IPV supply in many countries and may have played a role in Nigeria’s south-south zone IPV shortages as well. The statement (page 3, line 15) that the serotype 2 component causes the most VAPP needs a citation, especially since it is inconsistent with US VAPP data. The use of a single IPV dose co-administered with the third OPV dose in routine immunization does not sustain high immunity (page 2, lines 52-57) for type 2 disease if coverage with the third dose is low, as in many parts of Nigeria, and likely has very little impact on cVDPV2 transmission, which is still ongoing. We do not know if WPV2 was interrupted in 1999, only that the last known case occurred during that year (page 3, line 12). Nigeria was readmitted to the list of polio endemic countries following the detection of four WPV1 cases and a single case of cVDPV2 in August 2016. Also, there has been a major global IPV supply shortage that has disrupted IPV supply in many countries. We believe that this could also have contributed to the IPV shortfalls experienced in the state cold stores. The statement on ‘VAPP’ has been removed. The introduction of IPV would help reduce risk associated with WPV2 and interrupt its transmission in case of an outbreak. Introduction of IPV would also hasten polio eradication by boosting immunity against WPV1 and WPV3 in children who have previously received OPV. The last known case of WPV2 dates back to 1999 in northern India and WPV2 was declared eradicated by the Global Certification Commission (GCC) in September 2015. Language editing: the manuscript would benefit from careful language editing, particularly as it relates to use of articles (e.g., page 3, line 18, "emergence of the vaccine-derived polioviruses", delete "the"). Some abbreviations are not defined upon first occurrence (e.g., tOPV) and some capitalization is non-standard (e.g., change to Global Polio Eradication Initiative (p. 3), national level (p. 5)). See text. Minor comments. See text. Reviewer 2. Needs a great deal of copyediting. Numerous misspellings, missing articles, problems with capitalization, mismatches between singular nouns and plural verbs and vice versa, punctuation errors, mismatches between verb tenses, incomplete sentences, etc. See text. Abstract - would help to mention in the background something about how Nigeria is organized, such as the number of zones and the number of states or people in the south-south zone. Abstract - could the conclusion be reworked to offer a clear statement about the feasibility of using a similar synchronized approach for withdrawing bOPV in the future and any key changes that should be made to the switch plan to make bOPV withdrawal more effective or practical? The globally synchronized switch from trivalent oral polio vaccine (tOPV) to bivalent oral polio vaccine (bOPV) took place in Nigeria on April 18th 2016. The country is divided into six geopolitical zones. This study reports the experiences, lessons learned from the switch process in the six states that make up Nigeria’s south-south geopolitical zone. - The Nigerian tOPV-bOPV switch was successful. For future Oral Polio Vaccine (OPV) withdrawals, implementation of the switch plan would be more feasible if the declaration and dissemination of the exact amount of money available by the global partners were timely. Increased budgetary allocation to the ‘logistics’ component to accommodate unexpected hikes in transportation prices and the general inefficiencies with power supply in the country is also advised. Most readers will not be familiar with the political organization of Nigeria. Could some