Reviewer's report

Title: Patterns of mixed Plasmodium malaria infections among children 6 years and under in selected malaria hyper-endemic communities of Zambia: population-based survey observations

Version: Date: 21 February 2015

Reviewer: Wilfred Mbacham

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Major Compulsory Revisions

Page 5 Line 21 – The RDT should be stated which of the antigen detection systems are used

Page 5 Line 23 – “Determine the burden of mixed Plasmodium species. In this sentence burden should be replaced with proportion

Page 6 Line 17 – “Verifiable information” Authors should state - what was checked for!

Page 8 Line 7 - “Consent“ should be changed to “Assent”

Page 9 Line 15-20 The authors did not measure burden and so should refrain from using this word. Instead they should use “prevalence” to account for malaria as a leading cause of morbidity or mortality in Zambia.

Page 10- Line 2-4 - I do not agree with the statement that “This suggests that there is need for continued monitoring of the non-falciparum infection burden in this population so as to decide when species-specific RDTs should be introduced for diagnostic purposes” because the presence of mixed infection does not change the treatment outcome and all mixed infection in the area can be managed efficiently by the use of anti-malaria drugs.

Page 10 Line 20-25 - There is no scientific basis for selective protection again one and not the other and might be an effect of exposure that of protection.

Figures are not proper labelled or provided with appropriate legends.

Spellings should be checked in Fig 1 for P. malariae, or abbreviations cross-checked NMCC or MNCC or Center for “Canter” in the highlights.

Table 1 is standard primers for speciation and published elsewhere and should just be made reference to rather than have it included as a table.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests