Reviewer’s report

Title: A Randomized Trial of Multivitamin Supplementation in Children with Tuberculosis in Tanzania

Version: 1 Date: 4 July 2011

Reviewer: Paul Kelly

Reviewer’s report:

Major compulsory revisions
1 It is not stated what the ‘standard anti-TB treatment’ was. Presumably it contains isoniazid. I am concerned that the children allocated to placebo were being denied standard care in that they were not given pyridoxine and presumably some of them developed isoniazid-related neuropathy. This must be discussed and justified.

2 It is not clear what happened to the 192 excluded children. It would be helpful if the first paragraph on study design and population (p6, lines 12-22) could be re-worked to clarify what the inclusion and exclusion criteria were. Presumably the ineligible children did not have any features of TB, but this should be made more explicit.

3 The problem of multiple comparisons is prominent in this paper. Just using the tables, there are 53 comparisons of active vs placebo using statistical tests, and there are more if you include comparisons based on age groups. Of 53 comparisons, 2-3 would be expected to have P<0.05 even if drawn from a random numbers dataset. The authors are therefore insufficiently discriminating about the inferences they make on the basis of some borderline P values, and should weight those sub-group analyses they performed in favour of comparisons which were pre-specified or have highly significant P values. Were all the sub-group analyses on p11 pre-specified? I think the statements on albumin (p13, lines 18-22) should be deleted, and the same applies to the albumin results on p14. The first paragraph of the Discussion needs to be re-worked to remove the undue emphasis on sub-group analyses or borderline significance.

Minor compulsory revisions
4 The inclusion of hypoalbuminaemia in the Discussion appears unwarranted – the mechanism of hypoalbuminaemia in liver disease is complex. Given the comments above, this should be removed.

5 I am concerned that there are errors in the references and some names should be checked.

6 In Table 2, what does “Triceps” refer to? Is it triceps skin fold thickness?

Discretionary revisions
No attempt was apparently made to improve diagnostic accuracy using gastric lavage. This is commonly done in children. I would like to see some discussion and justification why this was not done.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests