Reviewer's report

Title: Susceptibility to intestinal infection and diarrhoea in Zambian adults in relation to HIV status and CD4 count

Version: 2 Date: 9 October 2008

Reviewer: Joanna Stewart

Reviewer's report:

The following is limited to a statistical review of the paper

Major

1. The data reported is clustered by individual as there are up to 36 data points reported per person. The authors demonstrate that in fact there is a strong cluster effect at least in occurrence of disease but it appears many of the statistical analyses quoted have not included a random person effect in the model. Ignoring the person effect could possibly make the p values quoted quite incorrect if in fact for example the relationship of infection and diarrhoea differs in different people. All p values quoted should come from analyses including a person effect.

2. What was the timing of the measure of infection compared to diarrhoea? Was it the data from the end of the month with the diarrhoea being from during the preceding month? Is this timing issue going to cause a problem in that the diarrhoea episode may have occurred 4 weeks earlier? In fact an episode may occur a couple of days after the stool collection but would be associated with the infections a month later. At the very least the timing issue needs discussion

Minor

Table 3 in the third line of the paragraph 'Association between infection and reported symptoms of diarrhoea' should be table 4

Discretionary

It is not clear why there are p values in table 1. Are these testing the difference of each of the other factors by gender? If this is so they would seem unnecessary are this would not seem relevant to the study. Simply displating the demographics is all that is required.

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