Reviewer's report

Title: Antiretroviral treatment adherence among HIV patients in KwaZulu-Natal, South Africa

Version: 1 Date: 11 November 2009

Reviewer: Jeffrey Weiss

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Major Compulsory Revisions:

1. The review of the determinants of ARV adherence provided in the Background jumps back and forth between studies done in developed countries and those done in developing countries without drawing conclusions regarding which factors are most important to focus on in the current study, conducted in S. Africa.

2. The authors do not give a theoretical or other rationale for the variables they have chosen to investigate. The rationale behind the choice of variables should be stated.

3. There is significant literature showing that food insecurity, transportation barriers, and structural barriers are important drivers of ARV adherence in Africa yet these variables are not measured here. Given the very large number of variables examined, the authors should make clear why these key variables were not examined.

4. More information should be provided about the 210 subjects (almost 30% of the sample) who were not seen at follow-up. How did these subjects differ from those who were seen at six months?

5. The data analysis section needs to be expanded to make clear how analyses were done. It states that multivariate analyses were conducted, yet the results section refers to ‘adjusting’ for certain variables in Tables 4, 5, 6. How were these variables adjusted for? Were the analyses adjusted for the large number of variables examined?

6. The authors use two different measures for their main outcome variable but do not in any way comment on which is preferable, the fact that they find very different levels of adherence, and lead to different conclusions regarding the main focus of the paper – what the determinants of adherence are.

7. What is the relationship between these two outcome measures? What percent of the 17.1% found to be non-adherent on the VAS were also found to be non-adherent on the AATCG measure?

8. 12 variables were found to be significantly related to VAS adherence in
multivariate analyses; 9 variables were found to be related to AACTG adherence. Only 4 of these variables overlap. How to explain these discrepant findings?

9. The discussion should focus on those variables found to be significant in the multivariate analyses and the conclusions the authors draw from this rather than including variables found not to be significant. The authors should expand the discussion of the finding of better adherence among urban residents as compared to rural residents.

10. More work needs to be done to present and synthesize the findings in a meaningful way to draw valid conclusions regarding the main study aim.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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.