Reviewer's report

**Title:** Measuring adherence to antiretroviral therapy in northern Tanzania: feasibility and acceptability of the Medication Event Monitoring System

**Version:** 3 **Date:** 3 January 2011

**Reviewer:** Staci Martin

**Reviewer's report:**

Overall, I think the authors did a nice job of addressing reviewer comments. There are just two points that need further clarification in my opinion, and a couple of grammatical/spelling errors that should be corrected.

**Minor essential revisions:**

1. I think there is still some confusion over my previous comment 11, regarding the authors’ statement that “interviews were examined for reports of interrupted MEMS use” – now lines 175-176. The authors responded that this point is described in the Methods section, line 140. However, if I’m understanding correctly, this section of text refers to the researcher’s meeting with the patients prior to the beginning of data collection to explain the use of MEMS, rather than to the post-data collection qualitative interviews. In the first paragraph of the Data collection and analysis section (line 155+), the authors describe three topics explored in the interviews: the MEMS design, the feasibility of using MEMS, and the impact of MEMS on adherence. So I am still not sure whether the participants were directly asked during this interview about any periods of non-MEMS use that were evident from their MEMS data. The authors’ statement on lines 175-176 makes it sound like they did not directly ask this question, but examined the interviews to see if the participants spontaneously mentioned any periods of non-MEMS use on their own accord. If this is the case, I think the authors should state this more directly.

2. After reading the authors’ response 12b, I understand more clearly the methodology regarding the handling of missing MEMS data and how adherence was calculated in these cases. My only remaining comment is that a statement should be added to the paragraph in which study limitations are discussed. This should note something about the fact that adherence cannot be verified for the periods of missing data (non-MEMS-use), and so interpretations about adherence based on the data available should keep this in mind.

3. A few comments on grammar and spelling. In the abstract, line 40, "interviews" should be "interview" (singular). Line 44, delete the comma after "monitored". On page 14 line 322, "loosing" should be "losing". Final paragraph, line 365 - awkward wording: "recommended" should be changed to "advised".

**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.