Reviewer's report


Version: 1 Date: 3 October 2013

Reviewer: Joseph Oppong

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Minor Essential revisions

1. The first part of this paper (pages 1-8) is somewhat poorly written and rambles. It was difficult to read, and distracted from the quality of the research. The introduction does not coherently convey why the research done is important. I would suggest using the first paragraph in the “Use of GIS and geospatial analytical methods in understanding HIV prevalence” as the first paragraph in the introduction.

2. Please specify that this entire paper uses data on pregnant women. I had to search the paper to confirm this as I was unsure based on how you stated item 2 and how item 2 was addressed in the paper. “2) for 2010, identifies and maps the spatial variation/clustering of diverse factors associated with HIV prevalence at district level.”

3. If the methods have to be at the end, a section of methods information in the introduction should be removed.

4. The blueprint, used to set expectations and outline the paper, needs to happen early in the section.

“This article is divided into four parts. First, we briefly review the literature on the use of GIS and spatial analysis in analyzing HIV prevalence, and on commonly found drivers of HIV risk and prevalence.”

5. Results section should be setup to match the expectations that have been set in the blueprint, and preferably, in the same order. The results section also talk s a lot about urban/rural variation, but that is not mentioned earlier, or identified as a focus.

6. Because the methods section is later in the article, it would be nice to briefly mention in the results section that the 4 variables used in the model were not randomly selected but were chosen through a process from a larger pool of variables.

7. Graphics (maps, graphs) are not presented well. Information looks too cluttered in labeling as well as the number of maps. Most of the maps are small with multiple maps on one page. For some maps this may make it difficult to read
or see the variation. It may be better to just show key maps on a page by themselves with appropriate city/district/region labels. This can make it easier for those unfamiliar with the area. The rest of the information can be represented as table or the important information may be put in the discussion section.

**Level of interest:** An article of outstanding merit and interest in its field

**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.