Reviewer’s report

Title: Distance decay and persistent health care disparities in South Africa

Version: 2 Date: 21 July 2014

Reviewer: Mark Siedner

Reviewer’s report:

The authors present a revised manuscript, with additional analyses and interpretation. I commend the authors on this draft, which in my opinion is much stronger and clearer. I have a few minor comments, which I would request can be addressed (especially point 3 below).

Suggested Major Revisions

1. In the abstract methods section (and text line 268), the authors state “using new data from…” – it might be more appropriate to state using data from the 2009 survey. This data might be newly available but it is not in fact “new”.

2. I might focus the abstract and results sections more clearly on quantitative results. Please specify the primary outcomes of interest in the abstract methods section. I would avoid unsupported statements such as Black Africans are “substantially less likely to report a recent health consultation,” in favor of presenting the estimated associations along with confidence intervals and p-values.

3. The authors have done a commendable job pursuing analyses with rich data to demonstrate significant differences in what I see as a critically important and relatively novel finding – that black Africans have worse health access, even after controlling for distance, income, education, etc. While the addition of this data strengthens the paper, they have done little to discuss these new findings in the discussion section. As far as I can tell, only one sentence in the discussion section touches on this issue (lines 275-277). Yet even that line focuses on distance decay (which is an important point – but not wholly supported by their data presented in multivariable models in Table 3, which do not show significant differences by race in distance to clinic after adjustment for confounders), but fails to consider the finding that black Africans had worse health access independent of distance and income. How does this compare to prior findings in the literature? What is the impact of this finding? What are potential solutions to this problem if independent of income and distance, that black Africans attend health clinics and have skilled births less frequently than other races?

Suggested Minor Revisions

4. The following sentence is unclear (line 180):

“Interestingly, these stark racial differences are not apparent within rural areas and within urban areas (Figure 1).”
5. Currently the results section (especially the first paragraph) includes interpretation of data as opposed to strict presentation of data. Typically it is favored to keep interpretation to the discussion section.

6. Please describe each of your models in Tables 2-5 and the reasoning for each in the methods section of the manuscript.

7. In general the tables need to be more clearly specified. For tables 3-5 – please indicate the type of models (e.g. linear or logistic – one model in table 3 for distance to clinic appears to have a continuous outcome) and also clearly specify in the legend how the numbered columns for each model across the top refer to. It should be stated that the results are odds ratios (or log odds ratios).

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

**Quality of written English:** Acceptable

**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