Reviewer’s report

Title: Spatial Analysis of HIV-TB Co-clustering in Uganda

Version: 0 Date: 25 Apr 2019

Reviewer: Zahid Butt

Reviewer's report:

This is an interesting study on HIV-TB clustering in Uganda. The authors have used various spatial methods to highlight HIV-TB coinfection clusters across Uganda which may be used for targeted interventions. Below I provide some comments which may help in refining this contribution:

Major comments

* For spatial scan statistics, was an analysis done on HIV-TB coinfection?. This would show clusters that have HIV-TB co-infection, which could then be compared with HIV-TB hotspots obtained through co-clustering analysis (Figure 5).

* The Poisson cluster analysis in SatScan has the ability to adjust for various factors. Did the authors have information on factors related to HIV and TB in the DHIS2 system?. If so, could they have been used to do a more robust analysis in SaTScan? Could the authors comment on this?

* In the discussion section, the authors have highlighted most of the findings from a HIV standpoint. However, what are the factors that are driving the TB epidemic especially from the perspective of co-clustering of HIV-TB co-infection? Is it population dynamics (overcrowding, high population density) or sociodemographic characteristics (poverty, health care access issues)? . This has public health implications especially since the study recommends targeted interventions. Could the authors elaborate on this?

* The authors have reported a TB/HIV hotspot cluster around Lake Victoria. High HIV prevalence has been documented before but what could be the factors responsible for the TB component of the HIV/TB co-infection in this particular population.

* What are some of the limitations of this study and of the methods used in this study?. The district level HIV-TB coinfection clusters identified in this study are at a higher level of geography. With regards to targeted interventions, would a lower (e.g. sub-district level) more granular analysis be more appropriate ? Could the authors comment on this?
Minor comments

* Please correct "Error! Reference source not found.." This is found in multiple places in the manuscript.

* Figure 5: Please indicate what a to i signify in the figure legend.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

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Yes

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Yes

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