Reviewer's report

Title: Elevation and Cholera: An Epidemiological Spatial Analysis of the Cholera Epidemic in Harare, Zimbabwe, 2008-2009

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Reviewer: Frank Osei

Reviewer's report:

This is a very simple and brief article that basically describes the effect elevation on cholera. Reading it is delightful. However, I have some few comments and suggestions which will improve the quality of the manuscript.

Major compulsory revisions
1. The spatial data used in the modeling is not described at all. Is the spatial data point, or lattice data (polygon)?
2. The authors used the mean elevation as the main covariate in their modeling; what are the possible limitations of such? Would different results be obtained if the maximum or minimum elevations were used?
3. The parameters the authors used in the Poisson regression model are not described.
4. On page 3, the authors mention the taking out of extreme values before plotting to show the relationship between rate ratios and the average elevation by suburb. Why did the authors take out extreme values and what method was used?
5. The authors mention no justification for the use of distance from Chitunguiza as the only spatial effects instead of the distance from each spatial unit. Normally, use of distance from each spatial unit serves as a surrogate measure of unobserved covariates or confounders. Therefore, I deem it prudent for the authors to include distances from each spatial unit in the model.
6. The authors provide no comparison of their findings with similar studies.
7. Page 4, under results section, the authors write “Suburbs with highest attack rates were located on the south western area of Harare” where is this result coming from, is it coming from Fig 1? If so then make a reference to it.
8. Figure 1 is confusing. Could the authors use the same number of dots per case in both the left Figure and the right Figure? The figures could also be labeled to make easy references to either the left figure or the right figure.
9. The results of the spatial effects, thus the correlated and uncorrelated part are mentioned in result section, but not discussed in the discussion section. What could have contributed to such pattern?

Minor essential revisions
1. Page 3, para 4 “to describe the outbreak attack rates…………………..” this sentence is not clear
2. Please be consistent with the use of elevation or altitude
3. Page 5, para 2, line 9, founded?
4. Page 6, last but one para, the sentence “Other limitations related to the high number of cases…………..” Is not clear
5. Page 6, last para, the author mentioned that there were other historical, geographical, social, and environmental risk factors that explained the spatial pattern of cholera in Harare. Could the authors mention specific examples to some of these factors?

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

**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’ below