Reviewer's report

Title: Syphilis in the economic center of South China: Results from a real-time, web-based surveillance program

Version: 4
Date: 24 June 2015

Reviewer: Dionne C Gesink

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Major Compulsory Revisions

Methods

The analytic techniques used are still vague and insufficiently supported. More specifically:

1. Statistical analysis, 2nd paragraph: “The facet strategy in ggplot2 package was used to display the stage-and-district-specific cases and incidence.” First, readers who do not use the R software package may not know what this means, especially since the R software package is not introduced until later. Please introduce or describe this theoretically rather than practically (as it is currently using programming specific language names). Additionally, what are you displaying? Curves? Maps? Something else? References will also support those who wish to find more details on this method.

2. Statistical analysis, 2nd paragraph: “Hierarchical clustering with Ward’s minimum variance method in cluster package…” A brief summary of what this method does and why it is being used will be helpful. Again, references will also support those who wish to find more details on this method.

3. Statistical analysis, 2nd paragraph: It is unclear what is meant by ‘epidemiologic regions’. Please clarify what epidemiologic regions are and how they are used.

4. Statistical analysis: How were the variables marriage status, education, and the most probable route of acquisition used or integrated into modeling?

Discussion

5. The opening paragraph should be moved to later in the discussion. The continuity will be improved if the discussion begins by pulling the results together to make an interpretation about the clustering, who is infected and how, as is done later in the discussion.

6. 3rd paragraph: “Periodicity has seldom been discussed in previous syphilis researches.” The periodicity of syphilis has been proposed previously; the Tan article seems particularly relevant here and should be referenced. Also see: Althouse BM, Hébert-Dufresne L. Epidemic cycles driven by host behaviour. J R Soc Interface. 2014 Oct 6;11(99).

Shah AP, Smolensky MH, Burau KD, Cech IM, Lai D. Recent change in the

**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