Reviewer's report

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

Version: 3 Date: 15 December 2014

Reviewer: Arlene Sena

Reviewer's report:

Major Compulsory Revisions:

1) The authors provide a thorough, comprehensive report of the syphilis epidemic in Guangzhou. A key limitation pertains to reporting of cases only, and not rates in the figures - which would be more helpful when comparing the burden of syphilis to other provinces or countries worldwide. The authors estimated some rates in the text, but need to state if these are incidence or prevalence estimates per year.

2) In methods, need to define tertiary syphilis or provide a reference for it. Please specify if these cases primarily refer to neurosyphilis or cardiovascular syphilis.

3) In methods and results, clarify if the cases represent unique individuals (unduplicated) over the study period.

4) In methods and results, the authors need to expand on the analyses of spatial patterns and hierarchical clustering. The figures should have descriptive figure legends.

5) In results, would add subheadings like: Cases and rates of syphilis, characteristics of syphilis cases, and spatial analyses.

6) Figure 2 needs to be corrected. Currently, I see no figures illustrating seasonal variations in reporting. However, I do not think this is discussed very well in the results or discussion. The paragraph that discusses this on page 7, lines 206-210 is weak stating "higher temps influence sexual risk behaviors..." Do the authors mean that summer months could lead to increased sexual activity due to increased travel and leisure activities?

7) On page 8, the authors indicate "campaigns and condom use promotion towards less educated people, FSWs and the like" What do they mean about the like? Also, what about married persons?

8) Another major issue that needs clarification is in the limitations, line 247 - the authors stated that stage-specific rates were calculated with the total population. In general, that is correct (if they mean total latent syphilis cases divided by total population) because you would typically not be able to have the estimates of those at risk (i.e. sexually active) unless the data is clinic specific or you know the number of persons tested in the population. I suggest that they consult with a
biostatistician.

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

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests