Reviewer's report

Title: Identifying High- or Low-risk Areas of HIV-, HCV- and Co-infections among Drug Users in a National Methadone Maintenance Treatment Program in Southwest China

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Reviewer: Rafael T Mikolajczyk

Reviewer's report:

Major compulsory revision

While the paper is overall very interesting and based on good data, I have a conceptual problem with the analysis of geographic clustering. Both HIV and HCV are infectious diseases and likely the main sources of transmission are the networks of drug users themselves. From this point of view it is not surprising that in some areas prevalence is higher – and conversely, despite the same risk behaviour in other areas infections might not have entered the populations to the same extent. I am not saying that the analysis is invalid, but the interpretation requires rethinking. In its current application, the authors treat both infections as non-communicable diseases. The same results lend themselves to a different interpretation. For example, the existence of different clusters might suggest that there are borders between networks rather than a local clustering of risk factors. These topics have to be addressed in the analysis and the interpretation.

The description of risk factors is underanalysed. Optimally, individual risk factors would be considered in the framework of a hierarchical spatial model. Alternatively, hierarchical model accounting for clustering with the MMTP centres should be used.

In conclusion: the data is surely interesting but should be analysed in a different way. The current analysis does not appear a valid contribution.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I do not have competing interests on this manuscript.