Reviewer's report

Title: Characterizing Influenza surveillance systems performance: Application of a Bayesian hierarchical statistical model to Hong Kong surveillance data

Version: 3 Date: 29 April 2014

Reviewer: Anne Mosnier

Reviewer's report:

One point seems to me as a major revision

1. Is the question posed by the authors well defined?
The question posed is clear but the scope of the question should be better defined.
Influenza surveillance is a wide topic and can seek after different goals: early warning, unexpected emerging phenomena, impact, interventions effect, vaccine strain adequation...
What kind of surveillance aspects is concerned in this paper must be clearly defined.

Some minor changes may improve the quality of the paper and be useful before publication.

2. Are the methods appropriate and well described?
- Study period sounds not very clear to me.
- Modelling methodology is hard to understand if not involved in this topic, but the explanation accompanying the modelling are very clear and useful.

3. Are the data sound?
Yes but I must admit that the modelling aspects are very detailed and a little bit hard to understand if not specialized in this question.
Table 1 in very important as all the abbreviations are not introduced in the text: should you improve that?

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
More or less.
Some points should be transferred in others sections:
- from purpose of the study to methods or results
- from data and methods to results section.
Some parts of the text are redundant and should be simplified.

5. Are the discussion and conclusions well balanced and adequately supported
by the data?
- Yes, but should perhaps be completed in the light of the goal of surveillance chosen for this work (see paragraph 1).
- Some points given in the results (especially in abstract results) should be interesting in the conclusion.
- And what may have change by and since the pandemic experience in influenza surveillance should be discussed as it could modify the conclusion of this paper.

6. Are limitations of the work clearly stated?
Yes

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes

8. Do the title and abstract accurately convey what has been found?
Yes

9. Is the writing acceptable?
Yes

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**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' below