Reviewer's report

Title: Validity and timeliness of syndromic influenza surveillance during the autumn/winter wave of A(H1N1) influenza 2009 Results of emergency medical dispatch, ambulance and emergency department data from three European regions

Version: 2 Date: 7 August 2013

Reviewer: Kim Kavanagh

Reviewer's report:

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

1. In reference [31] it is mentioned the EM-AT increases by 5% every year and may therefore not be suitable for monitoring by CUSUM. How does this reconcile with the analysis of this data produced in the paper? Please add a section on this in the limitations.

2. Whilst the methods section describing the CUSUM model is vastly improved please add a few lines describing how the score is calculated and under what circumstance an alarm is generated.

3. Whilst the choice of baseline data is driven by data availability I do not understand why the Austria data (EMD-AT and EP-AT) excluded the period 1/2009-8/2009 i.e. the most recent data. Please justify.

4. The discussion section mentions that seasonality was not controlled for in the method but does not explain the possible implications and limitations of not doing so. Please expand the text in this section to do so.

5. In table 4, p>1 is reported for the assessment of the Poisson distribution. It is impossible for p-values to be greater than 1. Please rerun these tests and check your results.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

6. Please include a URL in the reference for [31]

7. It is mentioned in the discussion that it may be worth incorporating age specific analysis especially for children. Given the low number of cases involved this stratification is unlikely to be practical and this should be mentioned.

8. In table 2 “of a major Tyrolean…” should be “from a..”. Also “sick leaves” should be “sick leave”.

9. In table 2 the indexing of the reporting delay makes no sense. Week x and week x+1 would make more sense than x and y. Also “information on week” should be “information for week”.

10. In the footnotes of table 6 replace “right” with “correct”.

11. The labels for EMD-AT in table 4 and Figure 1 differ – one is respiratory syndrome and the other ILI. Please reconcile.

12. On page 14 the cut-off for significance of the correlation should be specified i.e. was a 95% or 99% confidence limit used?

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

13. In table 4 I would advise removing the assessment of normality as it wasn’t mentioned in the text.

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

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests