Reviewer's report

Title: Rapid detection of pandemic influenza in the presence of seasonal influenza

Version: 2 Date: 7 October 2010

Reviewer: Stefan H Steiner

Reviewer's report:

The authors have successfully addressed most of my concerns from previous version.

Minor Essential Revisions

1. I think there should be some explanation for the 30 samples from 10 simulated pandemics in the paper. If you think the results would be very similar with 1 sample from each of 300 simulated pandemics say so in the paper.

2. You have now referred to the CUSUM as the Mov-Avg CUSUM on page 2. I’d like to see this continued in the rest of the paper.

Page 8, line -8-9, clarify this sentence about masking.

Page 9, line -6, “… pandemic when the cumulative number of current ILI cases is substantially higher than the expected cumulative number”

Page 11, The proposal to monitor with more than one different method is probably a good one. However, we need to be careful in implementation to avoid increasing sensitivity only by increasing the chance of a false alarm. For instance, if we use multiple methods without changing the thresholds for each and say that if any one method signals the overall approach signals, the combined method will indeed be more sensitive but will also result in more frequent false alarms. Please add “If carefully implemented this would provide …” to the beginning of the last sentence of the paper.

Page 11, “no competing interests” remove “of”

Discretionary Revisions

Figure 2 is still causing me trouble. Perhaps it is just that interpreting the gray scale is difficult. I wonder if there is a better way to present the information. I thought perhaps a contour plot would work, but as Nhb must be an integer it is also not great. What about supplementing with the marginal distributions of WCR and Nhb? I realize your focus is really on the joint distribution, but the marginal distribution would, for instance, make it clear that it is not usually for WCR to be bigger than 1. In the current Figure 2, one could get that impression. I guess this is the case because when WCR is bigger than 1 a lot of different Nhb values are possible.
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