Reviewer’s report

**Title:** Tracking the spatial diffusion of influenza and norovirus using telehealth data: a spatio-temporal analysis of syndromic data.

**Version:** 1  **Date:** 12 March 2008

**Reviewer:** Alain-Jacques Valleron

**Reviewer’s report:**

This paper pursues 3 different related aims at the same time: demonstrate that telehealth data from the NHS can be used for syndromic surveillance; describe the performance of an algorithm (SatScan) to represent the dynamics of outbreaks; describe seasonal epidemics of ILI and norovirus during 2005-2006.

The good performance of the system (data + algorithm) is visually obvious: to me, Fig 3 and 4 speak by themselves. The quantitative assessment of the performance of the system has yet to be done. In the case of ILI, the data of the Royal College of GP provide a reference to which the system can be compared, and more should be done (e.g. present AMOC curves). In the case of novovirus, there is no obvious gold standard that can be used to judge the sensitivity, specificity and timeliness of the proposed system. I do not think, neither, that the results presented support the conclusion that the scan statistic is “recommended” to analyse the telehealth data (no other methods are compared), even if obviously it worked well.

**Major compulsory revisions**

I would recommend that the authors add a section with detailed quantitative assessment of the performance of the Telehealth/ saTScan system versus the RCGP data analysed with –say- a Serfling technique. It would be much more informative than the Fig 5.

**Discretionary revisions**

- I am not convinced that Fig. 6 brings any information for the reasons explained in the text (page 14, last 3 lines). It could be deleted, unless the authors provide a statistical analysis of the data presented.
- I suggest to put Tables 2 and 3 in a supplementary section.

**Which journal?**: Not appropriate for BMC Medicine: an article whose findings are important to those with closely related interests and more suited to BMC Public Health

**What next?**: Offer publication in BMC Public Health after discretionary revisions

**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