Reviewer’s report

Title: Characterisation of acute respiratory infections at a UK paediatric teaching hospital following the H1N1 pandemic (Observational study assessing the impact of H1N1 on predominant viral pathogens)

Version: 2
Date: 1 April 2014
Reviewer: Shobha Broor

Reviewer’s report:

Abstract: Conclusions: seasonal influenza vaccine now contains pandemic H1N1 as one of the vaccine component and guidelines regarding vaccine administration are available by various national vaccination advisory committees this study does not provide any additional evidence for vaccination program.

Major revisions

Material methods:
1. What definition was used to classify ARI
2. Were all samples tested by both the methods i.e. rapid test for RSV and multiplex PCR, no need to give details of testing for Binax assay as it is a commercial assay.
3. The 5 tube multiplex assay appears to be a real time assay using Taqman technology but the details have not been provided. No reference has been given for primers and probes used for parainfluenza viruses. Further the CDC published protocol for Influenza A and B is not a multiplex PCR. The details of the multiplex PCR are very sketchy and exact details of assay need to be provided.
3. PCR assay during study period has been performed at two sites what precautions or quality control methods were adapted to ensure that the assay carried out at the two sites were similar in performance.

Results:
1. Demographics: The median age of the patients has been given but range is not given. Page 8 para 1 and 2 is describing demographic of patients enrolled then how come in between PCR positive ARI following surgery is being described.
2. Further just % and not number having severe disease post surgery is given. It is surprising to note that 65.5% patients had co-morbidity. what co-morbidity was seen needs to be described.
3. Since 645 patients with ARI were enrolled and 700 samples were collected it needs to be described how many patients had duplicate or repeat sampling. Further it appears that 450 samples were collected with in 48 hours of which 426 were collected with in 24 hours. This needs to be clearly written.
4. Although some numbers of viral positives as single infection and as co-infection is given in table the total number positive for a particular virus is neither mentioned in text nor in table only % is given in text.

5. How many patients who were PCR negative for viruses got admitted in PICU as compared to numbers who had viruses detected?

6. Co-morbidities: Nowhere exact numbers having co-morbidity has been given only % is given further some details of what were the various respiratory, Heam/Onc, cardiac or neurological co-morbidity need to be described. At many places in the text only % are given no numbers are given.

7. How can it be that the mortality was high in H1N1 infected patients but mild disease was more common. These are contrary facts needs to be properly explained. Severe disease in hRV is very surprising it may be these patients have co-infection with other viral or bacterial pathogens which were responsible for severe disease. This needs to be addressed in discussion.

8. Seasonality of pandemic H1N1 in 2010-11 was it different that previous years.

Tables and figures are appropriate

Over all it is good retrospective analysis of viral respiratory infections in post pandemic period however methods and results need to be presented in more clear fashion

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

**Quality of written English:** Needs some language corrections before being published

**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’.