Reviewer’s report

Title: Nasal swab samples and real-time polymerase chain reaction assays in community-based, longitudinal studies of respiratory viruses: the importance of sample integrity and quality control

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Reviewer: Catherine Moore

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This study highlights the importance of specimen integrity and quality when performing a molecular based assay for respiratory viruses in a long term community study. The findings are far more reaching however, as the principles apply to any clinical sample whether collected for research or routine diagnosis. The questions being answered include; has the sample been taken correctly, transported appropriately and have the processes used in the extraction and amplification of the target of interest been controlled for?

Major Compulsary Revisions

1. The initial marker used in this study was the presence of mould on the nasal swab. As the samples were being tested using the same exogenous and endogenous controls, were any problems not previously noted in relation to time of collection and sample receipt? For any sample collection system that requires home collection and postal transporation, measuring sample quality and RNA integrity using the collection method of choice should be an intrinsic part of any pre-study evaluation. Is this data available for this study?

Discretionary Revisions

2. It seems apparent that the major problem in posting samples and the growth of fungal or indeed bacterial contaminants despite the inclusion of antimicrobials in the transport medium is the presence of moisture. have the authors considered removing the moisture factor and having samples returned to the laboratory dry? This is a method employed for dry blood spot testing and has been successfully applied to the collection of respiratory samples from the community.

3. Do the authors recommend the use of both an endogenous and exogenous control, or do they think that by using ERV3 alone that you fulfil both the sample integrity and process control elements?

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

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a
statistician.

Declaration of competing interests:
I declare I have no competing interests