Author's response to reviews

**Title:** Admission to hospital for pneumonia and influenza attributable to 2009 pandemic A/H1N1 Influenza in First Nations communities in three provinces of Canada.

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**Author's response to reviews:** see over
To the Editors  
BMC Public Health  
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Dear Editors  

Thank you for giving due consideration for publication of our paper “Admission to hospital for pneumonia and influenza attributable to 2009 pandemic A/H1N1 Influenza in First Nations communities in three provinces of Canada.” in BMC Public Health. We appreciate the opportunity to present a revision and to address the reviewers comments. We were very pleased that one reviewer was satisfied with the initial draft. We have addressed the comments of the other reviewer as follows.

Major Compulsory Revisions

1. Request to provide standard errors or confidence intervals. We respectfully disagree that this information is necessary and did not include it in our original data analysis plan for a couple of reasons. First, we are reporting on population level data from administrative data sets that contain complete data on a very large population (N=1.2 million in Manitoba, 4.4 million in British Columbia and 13.5 million in Ontario). Many small differences can have statistical significance in this setting. We prefer rather to report the numbers as they were, and comment only on what was observed. For the subgroup analyses where the populations are smaller (although still quite large by the standards of most medical studies with N’s in the 10’s to 100’s of thousands), we would expect the confidence intervals to be larger and perhaps cross over each other. This is not however the focus of the paper, which is to provide real world data on the population level experience of a pandemic to challenge or confirm assumptions about impacts on First Nations people in particular for consideration by those involved in developing appropriate responses in the future. We have consulted with a number of colleagues with experience in the use of these data sets about this approach and feel that there is sufficient support for this position that we would prefer not to make this particular change. I would note that this was not a concern for the other reviewer. In addition, it would create a significant delay in preparation of a revised paper due to the need to make a revised data request to Population Health Data BC. (In Manitoba and Ontario it would be easier due to the details of the arrangements for access to the data). If it is deemed essential by the editors we would be willing to discuss further and to endeavor to obtain this information. We do agree with the reviewer that the use of the word “significant” could be interpreted to imply we conducted formal statistical testing and have removed this word throughout the document.

2. Request not use a point estimate for the three provinces in the text. We have changed the text to use ranges as suggested.
3. To more clearly report on the differences in rates of hospitalization between First Nations Reserve residents and the general population. We have added a section to the results text on the “ratio of ratios” which represents our estimate of this difference.

4. Request for more information on methods on subgroup identification by geographic isolation status. We have added to the methods section to clarify our approach and why this was not possible in British Columbia.

5. As noted by the reviewer we only comment that age and SES “may” account for variability and that we did not include a regression model adjusting for these or other factors. We agree that this may have been interesting and did consider this, but after reflection and consultation with our partners, decided to put this aside. We felt that given the event rates and the limited time span of the study period, that meaningful use of regression models that would account for many of the factors that might possibly be important was not feasible, particularly given that we could not merge data across the provinces. We also felt that many important factors would not be considered given the limited type of data available in our data sets (for example, pregnancy status, smoking status and housing status would not be available). We opted instead to use the ratio of ratios approach to provide some sense of the overall differential impact on the First Nations and general populations in a way that took into account the expected rates of admission based on historical data (which would be influenced by these and any other unaccounted factors).

6. We have expanded the discussion section to include additional detail about the range of increased risk for hospitalization or death from pH1N1 in Indigenous populations noted from the literature.

7. We agree that learning would have occurred over time between the provinces. We have added this to our discussion section.

Minor Essential Revisions.

1. Further clarification on allocation of British Columbia residents to reserve communities. Added a clarification to the methods section clarifying this point.

2. Outcome measures: added “and by province” after “over time” to clarify this was variable across jurisdictions as well.

3. a: added “Canadian” as requested. b. changed US to United States c. changed all instances of “BC” to British Columbia as suggested.

4. Replaced any remaining uses of the abbreviation “FN” in the text to “First Nations”.

5. FNIH changed to First Nations and Inuit Health

6. Reorganized this sentence as suggested.
7. CMA and NA defined as suggested.
8. BC rows removed, title changed to reflect only data from two provinces. Section in methods was updated to describe that this was not possible in British Columbia and why.

Sincerely,

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