Reviewer's report

**Title:** The influenza A (H1N1) pandemic in Reunion Island: knowledge, perceived risk and precautionary behaviour

**Version:** 3  **Date:** 12 March 2012

**Reviewer:** Marc Kiviniemi

**Reviewer's report:**

This paper reports a variety of findings concerning H1N1 precautionary actions on Reunion Island. The authors report data on the impact of the epidemic on individuals, the degree to which precautionary actions were taken, and factors which predicted precautionary action.

My overall assessment of the paper is that there are likely valuable findings which would make a contribution to the literature. However, I have to be honest and say that I found the paper very challenging to review, largely because both choices about what information to present, the organizational structure of the paper, and the details provided (or left out) in the methods and results sections made it at times difficult to read successfully. My strongest recommendation is that the authors undertake a thorough rewrite/revision of the paper, with an eye towards streamlining the writing, providing more conceptual/theoretical background on the research questions being asked, and providing necessary methodological detail about the measures used. Specific comments along these lines are provided below. In addition, I have some suggestions for additional analyses.

**Major/Compulsory Revisions**

**Introduction**

The material presented in the introduction about the H1N1 experience on Reunion Island was interesting and helped to set the context for the study. However, the introduction does not present any information about the existing theory and literature about risk perception for health problems, factors predicting engagement in preventive behaviors, etc. For both general health behaviors and for influenza precautions specifically, there are relevant literatures which should be addressed in the introduction. As it reads, the introduction seems more like a case report than an introduction to a research article.

**Methods**

The methods section needs to provide more detail about the measures used and needs to correspond to the measures actually reported in the results section. For example, the description of precaution efficacy in the methods section reads as though a single question was asked concerning efficacy of preventive actions, but the results section presents separate results for each preventive action. Similarly, the results section presents information concerning perceived risk for
H1N1 relative to a number of other health problems, but assessment of perceived risk for other problems is not mentioned in the methods section. In the analysis section, it would be helpful to state specifically which research questions were answered using each analytic technique (e.g., in order to assess the relation between efficacy and engagement in precautionary behavior, a logistic regression was conducted....)

Results

I think that addressing the question of what factors influence preventive action would be strengthened if the authors examined predictors of action separately for each precautionary behavior as opposed to looking at whether people did or did not take each action. There are two reasons for this suggestion. First, the predictors may well differ across specific behaviors, and knowing that would be meaningful for both research and applied reasons. Second, the proportion of the population who took a precautionary action is so high (87%) that interpretation of differences by predictor becomes challenging.

In terms of rewriting, the authors should describe the results narratively and/or use tables/figures rather than bullet point lists. Also, I found Table 1 confusing for a couple of reasons. First, it wasn't clear what the percentages mean -- in the "overall sample" row they seem to indicate what percentage of the sample fell into each demographic category (e.g., 27% male, 73% female), but in the "taking one or more preventive measures" row it isn't at all clear what the percentages mean. Second, it isn't clear what the p-values in the right column refer to. A note at the bottom of the table clarifying is necessary and reworking the table so that percentages have the same meaning in each column should be considered to aid in reader comprehension.

Discussion

Some of the conclusions drawn seem problematic given the study design and measures. Two key problems are: a) the authors conclude that having previously gotten a seasonal flu vaccination leads to engaging in precautionary behaviors. There is a statistical relation between these two measures, but it seems conceptually much more likely that the relation exists because of underlying individual differences in likelihood of engaging in precautionary behaviors; b) the authors report in the discussion section that "knowledge...decreased over time". It isn't clear which results that statement refers to or how that conclusion can be drawn from a cross-sectional study.

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, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests