Reviewer's report

Title: Factors associated with uptake of influenza vaccine in people aged 50 to 64 years in Hong Kong: A case-control study

Version: 2 Date: 9 February 2015

Reviewer: John Mair-Jenkins

Reviewer's report:

The question relates to identifying factors which are associated with receiving vaccination. This is well defined and a clear hypothesis is stated, it is of interest to doctors and policy makers. All tables appear genuine and the majority of elements of the STROBE statement are included, although further details are provided below.

Overall the quality of writing is acceptable, but arguments could be more developed in the discussion. The abstract may need rewording in part following response to the comments below.

Methods

Major Compulsory Revisions

1. The data collection methods in general are well described and suitable for data collection by questionnaire and analysis of a case-control study. However further detail needs to be provided in order for the reader to understand how adjusted odds ratios were calculated. If logistic regression was used it needs to be stated. The method of model building and choice of confounding factors needs to be detailed, along with any a priori exposures.

2. Were all questions answered by cases and controls? How was missing data or unknown answers handled in the analysis?

3. Minor Essential Revisions

4. The inclusion of details about sample size calculation is good practice. If included it should assumptions of proportion of control exposed and ratio of cases to controls. Whether the sample size was reached should also be reported in the results section.

5. The case definition needs to be refined as it currently includes people vaccinated post interview.

6. Details of proposed confounders should be provided.

7. The survey questions need to be included as supplementary material

Results

Major Compulsory Revisions

8. In a number of places in the results and discussion inappropriate results are presented such as line 282 ‘The majority (84%) of all respondents were willing to
receive the vaccine…’, line 173 or line 265. The proportion exposed/unexposed should only be reported for either cases or controls due to the case control methodology. Measures of association (odds ratios) should be used to describe the relationship between exposures and outcomes. This needs correcting throughout.

9. More detail about the confounding factors needs to be provided in the results section. What were the factors?

Minor Essential Revisions

10. The factors adjusted for should be detailed for adjusted odds ratios.

11. Table 2 needs to show details of factors adjusted for

Discussion

Major Compulsory Revisions

12. Line 251 – 252 the response rate is positive responses over all interviews, not positives over negatives as stated. Also much of the second paragraph in the discussion should be moved to the results section as it introduces new results.

13. Line 339 – 343 the study results should not be generalised to the population as a whole or extreme caution used due to the study design and sampling method.

14. The discussion is supported by the results but the writing in the discussion needs developing in places. Currently in some places factual statements are provided, however it would be useful for readers to have some further interpretation or the results, and limitations.

15. The selection of cases and controls by street intercept interview is a subjective convenience sampling method. The effect of sampling both cases and controls in this way means they may be biased and not representative of the population. The biases introduced by this method need to be discussed in more detail in the discussion.

16. Line 328 - Is recall bias likely to have an effect here if respondents are asked the opinions at the time of interview?

17. Line 329 – temporal sequence and reverse causality are important in this study and may be a key limitation depending on what questions were asked. The effect of asking about future states, ie will you get vaccinated next year, as an exposure in a case-control study is difficult to interpret and needs further discussion.

18. Line 262 – 263 needs rewording to show confounding was identified. The effects of confounding factors needs to be discussed in full.

Other Minor compulsory points

19. Line 104-5 word missing – suggest not part of a…

20. Line 118 A total of 210 man-hours were spent on the interviews. Should be moved to the results section
22. Line 128 – wrong tense used

Discretionary Revisions
Is it worth including a section in the discussion about implications/recommendations for public health policy makers?

**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