Reviewer’s report

**Title:** Impact of Patient Characteristics on the Risk of Influenza/ILI-Related Complications

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**Reviewer:** Josephine Mauskopf

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

**Advice on publication:** Accept after revision, which I do not need to see

In general the paper is well written and the study, using a large database, well designed and very interesting.

All my comments are relatively minor:

1. Reporting the percent of total health care costs attributable to influenza/ILI in the 21-day interval of care is not a key outcome and should not be included in the results and conclusions in the abstract. It is fine to include it in the body of the paper, just not in the abstract.

2. A justification for the 21-day interval should be given in the methods section.

3. A justification for the 30-day health service use pre-influenza/ILI for complications or manifestations on influenza should be given in the methods section.

4. A table showing the ICD codes and what they refer to should be given to identify the complications and manifestations of Influenza/ILI - otherwise the reviewer and the reader cannot judge whether these are sensible codes to use to define complications or manifestations.

5. The discussion is too long and repetitive - I suspect that this may be a typographical error in the submission - page 16 and most of page 17 is repeating what has been said before.

6. I do not think that it makes sense to include the results of the impact
of vaccination on hospitalization or complications since this is clearly a biased population as mentioned by the authors - those getting vaccinated are more likely to be high risk for complications. Thus, the results from this analysis are really not informative (without an analysis that compensated for the biased selection), are potentially misleading (i.e. being vaccinated makes you more likely to get complications), and would be better omitted from the paper.

7. The comments made in two or three places in the paper, that the results of the analysis are likely to be an underestimate of the true costs of influenza/ILI should be modified always by including the words "for the population of people that visit the physician for the condition". If one were able to include the majority of people who do not visit the physician with influenza/ILI, then it is more likely that the costs presented would overestimate the average costs of a case of influenza/ILI.

8. The sentence "The recent marketing of influenza antivirals may have an even greater impact on the predictors of complications and health care related costs of influenza" should be modified. There is some evidence that the new drugs will reduce complication rates - e.g. the Lancet paper on zanamivir demonstrates a reduction in complication rate. I am not aware of published evidence that the total costs per case of influenza/ILI will be lower with the new drugs when the drug costs are included.

9. In table 2, 'ref' should be explained in a footnote.

10. In table 4, I find the two 'sum' columns confusing. They either need more explanation or should be omitted. I prefer to omit them.

**Competing interests:**

Competing interests: I have received consulting fees from GlaxoWellcome who developed zanamivir, one of the new influenza drugs and sponsor of this paper.