Author's response to reviews

Title: Comparison of emergency department and hospital admissions data for air pollution time series studies

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Author's response to reviews: see over
6/29/2012

Dear Editors,

Thank you for the helpful reviews of our manuscript. Based on the reviewers’ comments, we made several modifications to the manuscript. We would like to submit the accompanying revised manuscript for your consideration.

Our responses to the comments from the reviewers are as follows:

**Reviewer 1: Cecilie Svanes**

*Comment: My main comment concerns the length and accessibility of the paper. The paper is extremely lengthy, in particular the discussion, and should be reduced by at least one third.*

Response: We have substantially reduced the length of the manuscript. Although we did not feel that we could cut 1/3 of the manuscript without loss of important material, we have reduced the overall number of words in the main text by 24%, with most of the reduction being in the discussion section (the discussion section was reduced by 40%).

*Comment: The paper uses a lot of abbreviations; this is generally well done, but the authors should be even more careful that all are explained particularly in tables and illustrations.*

Response: We reviewed all use of abbreviations, and we have ensured that all are defined in the text and included in the abbreviation list. We have also listed all relevant abbreviations in the documentation for tables and figures.

*Comment: Figure 1: use coding that also is readable in black-white.*

Response: We have revised Figure 1 to be readable in black and white.
Comment: Tables 2-4: explain abbreviations of RR of IQR in figure legend, maybe also PM2.5.

Response: We believe that the reviewer was referring to figures 2-4. We have revised the legends for Figures 2-4 to now include the wording, “Displayed risk ratios are the exponentiated sum of the coefficients for lags 0-4 from distributed lag models. Risk ratios are computed per interquartile range of pollutant concentrations (27.3 ppb for 8-hr maximum O₃; 9.3 μg/m³ for 24-hr average PM₂.₅). RR: risk ratio, IQR: interquartile range, O₃: ozone, PM₂.₅: particulate matter ≤2.5 micrometers in diameter, RD: respiratory disease group, CVD: cardiovascular disease group, CHF: congestive heart failure, ED: emergency department, HA: hospital admission.” We have also added definition of other abbreviations used to the legends for the relevant figures.

Comment: Abstract, conclusion: "Our findings have several implications..." - this is not useful, delete. Rather give example of a possible implication.

Response: We have deleted the suggested sentence from the conclusion section of the abstract and have added the sentence, “Demographic and diagnostic differences between visit types may lead to preference for one visit type over another for some questions and populations.”

Comment: Conclusion abstract and text: In addition to focusing on differences, the conclusions should also indicate that the stronger associations are relatively consistent for the investigated outcomes.

Response: We have added the point that outcomes showing the strongest temporal associations with air pollutants tended to show strong associations for all visit types. This is reflected in the following changes:

- The results section of the abstract now includes the sentence, “While outcomes with the strongest observed temporal associations with air pollutants tended to show strong associations for all visit types, we found some differences in observed associations for ED visits and HAs”

- We have revised the second sentence of the portion of the results section dealing with the main epidemiologic results (lines 223-224) to read, “Overall, the asthma-ozone and CHF-ozone associations were the strongest observed, and these strong associations were relatively consistent across visit types.”

- In the second paragraph of the discussion section (lines 274-276) we have added, “While the outcomes with strongest temporal associations with air pollutants tended to show strong associations for all visit types, there were some notable differences in observed associations between visit types.”

- Finally, we have revised the conclusions section lines 378-381 to read, “Finally, while the outcomes with the strongest temporal associations with air pollutants tended to show strong associations for all visit types, the strengths of the associations sometimes varied between visit types, with the relative strengths of association being specific to the pollutant-outcome combination.”
Reviewer 2: Bin Jalaludin

Comment: Results section, last para, lines 10 and 11 – the authors state that the final models controlled for “...periods defined by hospital entries and exits”. It is not quite clear to me what is meant by this phrase and the authors should clarify what is meant.

Response: We believe that the reviewer was referring to the last paragraph of the methods section. We have revised that sentence (lines 144-147) to read, “The final models controlled for time trends using cubic splines for day of visit with monthly knots, and indicator variables for day-of-week, holidays, season (in models for respiratory outcomes), and periods with different sets of hospitals with available data.”

Comment: Numbers less than 10 should be spelt out, eg. see Results section, para 1.

Response: We have carefully reviewed the manuscript and have spelled out all numbers less than 10 (except when not appropriate).

Thank you for your consideration of our revised manuscript.

Sincerely,

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