Reviewer’s report

Title: Early-life exposure to PM2.5 and Risk of Asthma Clinical Encounters among Children in Massachusetts: A Case-Crossover Analysis

Version: 0 Date: 22 Dec 2017

Reviewer: Theano Roumeliotaki

Reviewer's report:

Using data from the PELL system the authors conducted a case-crossover analysis on the short-term effect of PM2.5 exposure on asthma-related clinical encounters. It is an interesting study with well-established methodology. Statistical analysis techniques used are appropriate for the study design.

My main concern is that I find the title and conclusions somewhat misleading, as they focus on a single finding (effect modification by LBW born children) whereas the study examines a much wider range of factors. The authors shall not selectively focus on findings based only on statistical significance.

Minor comments:

Study population:

- The authors should consider the inclusion of a flow chart describing the study population.
- The final number of study participants is not presented.
- How did the authors treat participants with missing information on potential effect modifiers?

Results:

Lines 159-161: This information shall be included in study population

Discussion:

- The authors should comment on the limitations that arise from the study design as no individual characteristics of the participants that may play a significant role on asthma onset are examined.
**Level of interest**
Please indicate how interesting you found the manuscript:

An article of importance in its field

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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