Reviewer’s report

Title: Adult asthma and traffic exposure at home-address, work-address, and self-reported daily time outdoor in traffic: A two-stage case-control study.

Version: 1 Date: 12 August 2010

Reviewer: Jenny Selander

Reviewer’s report:

Review – Adult asthma and traffic exposure at home-address, work address, and self reported daily time outdoor in traffic

The article address an issue that is frequently discussed in the air pollution and noise filed and has made an excellent first attempt on estimating 24h exposure to air pollution in association with asthma. Even though I do not consider the self-reported “daily time spent in traffic”-variable to be an adequate estimation of exposure, this article still contributes to knowledge that in the future could assist in a further refined exposure assessment over 24h and the authors have interpreted their results well.

I do have some compulsory revisions and discretionary comments that I would like to be addressed:

Minor compulsory revisions

A coordinate at the centre of a real-estate can sometimes differ drastically in comparison with the coordinate of the true address, for instance in rural areas with large estates and in some urban areas with large apartment complexes with the same real-estate coordinate. I would like you to address this and explain how this might affect the accuracy of your data.

There seamed to be a difference in procedure in giving coordinates to residential addresses and occupational addresses. I would like the authors to describe the difference in procedure in more detail, since it can be one explanation for the null-result observed in the association between asthma and occupational traffic exposure.

A lot of people were lost between the first selection 24819 and the second 7874, address how this would affect the results. In the end only 2856 participants (86% response rate) were included in the study and only 1488 persons had complete exposure information, please describe if you think that this further loss in amount of participants may have introduced a bias. It was not clear to me who you had excluded in this “complete exposure information group” and why. How did you handle housewives, unemployed and participants on sick leave in the analysis? If you only included people that have a job and commute to their job in this group you may have introduced a “healthy worker effect”-bias that could partly explain the null result in this analysis. Please describe better in the manuscript the
exclusions made to form this group and include a section regarding this in the discussion.

Discretionary revisions

I would also like to see a better description of the occupational air pollution data that is available both from traffic and other sources and an explanation to why this exposure was not evaluated more thoroughly (interaction/stratification) in association with the investigated exposures.

There is a possibility that asthmatics may move out of the city into more rural settings due to their asthma? If asthmatics in this cross-sectional study to a greater extent have moved previously to unexposed areas from exposed areas due to their asthma, this could dilute the result. Consider including something regarding this in the paper.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests