Reviewer's report

**Title:** Effect of degree of urbanisation on age and sex-specific asthma prevalence in Swedish preschool children

**Version:** 1 **Date:** 30 April 2009

**Reviewer:** Bert Brunekreef

**Reviewer's report:**

Comments on Broms et al.

This study measured prevalence of asthma symptoms in preschool children attending day care centres in Sweden. The measured prevalence according to age and gender were as reported before in other studies, but the authors also found a relationship with degree of urbanisation.

**Comments:**

The study was based on allergy day care centres and regular day care centres located in close vicinity to the allergy day care centres. The potential for bias related to the sampling frame is somewhat acknowledged, but one would like to see more information on where the allergy day care centres are precisely, as the sampling was entirely driven by their location. What exactly is an allergy day care centre? Who decided to create one, and why? Where are they located exactly? Do they represent in any way the locations where most Swedes live? All we learn is that they were in 62 municipalities all over Sweden, but a map would help as well as descriptive information about a number of characteristics of the day care centre locations.

The treatment of non-response was crude. The authors mention they obtained their final response rate after sending out two reminders, this gives them the possibility to analyse prevalence rate by returned batch. They could also analyse prevalence by response rate per day care centre.

The authors claim on the basis of one other Swedish study that they would not expect differences in prevalence between children in and out of day care. However, the quoted study (ref 25) documented a higher prevalence for several symptoms which were part for the diagnostic grouping in this study for 1-4 year old children, and it seems these results were brushed aside a little too easily. No other studies were quoted, and there really are quite a few references around to studies that have compared respiratory symptoms between children in and out of day care.

The relationship with degree of urbanisation is intriguing, but somewhat difficult to interpret without more information about where the selected day care centres were exactly located as mentioned before. Population density varies quite significantly within municipalities, and using municipality average population
density is likely a poor proxy for population density at the home and day care centre address, where it really matters. Usually, population density data are available on a much finer spatial scale than just by municipality, and this analysis really needs to be redone using population density data at the home and day care centre address.

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

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

No competing interests