Reviewer's report

Title: Passive smoke exposure and the risk of invasive meningococcal disease in children: systematic review and meta-analysis

Version: 1 Date: 18 May 2012

Reviewer: Alistair Woodward

Reviewer's report:

There are no "major compulsory revisions" required, in my view.

Minor, essential revisions.
1. The conclusions section of the summary should distinguish exposure in utero to mother's active smoking, from exposure in utero to mother's inhalation of second hand smoke. the term "passive smoke" is ambiguous. Would it be better to refer to second hand smoke, and then "passive" fetal exposures to maternal smoking would be more clearly distinguished.

2. "an extra 630 cases" (summary) - in which population? over what time period?
3. can the authors say a bit more (in the discussion section probably) about what this paper adds to the College of Physicians report? This was published barely 2 years ago, and summarises the same body of information (minus a couple of studies).

4. There were no language restrictions in the search. How many non-English papers were identified, and what steps were taken to translate these?

5. Population attributable fraction estimation - please give more information on what constituted exposure (presumably any smoking by any member of the household). Also, I expect the meningococcal disease data refer to incidence not prevalence?

6. I think the evidence of an exposure-response gradient is sufficient to warrant a mention in the summary.

7. I dispute there is "emerging" evidence of passive smoking and other childhood infections - there are 30 years of publications on lower respiratory illnesses.

Discretionary revisions
1. In the results section, I would have found it helpful if there was more discussion about the questions that determined exposure. There are hints in the table of the diversity of questions employed, and obviously there were important differences (between asking about any smoking, and smoking only indoors, for example).

2. to my eye, the lower quality studies tended to report stronger associations, rather than similar.

3. it was helpful to see the adjustment for publication bias; was a similar
approach taken with other sources of uncertainty, to give a range of plausible effects?
4. is there any evidence of effect modification? For instance, is passive smoking a greater risk in crowded households?

**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:**

No competing interests