Reviewer's report

Title: Invasive Pneumococcal Infections Among Persons Without Underlying Medical Conditions: Implications for Prevention Strategies

Version: 2 Date: 19 May 2008

Reviewer: Ake Ortqvist

Reviewer's report:

This paper provides interesting data concerning the morbidity and mortality in IPI among working-age adults in Finland. It is a well-performed study and I have only a few comments.

Minor Essential Revisions

Abstract, Conclusions: I would suggest changing "consider alternative prevention strategies..." to "consider additional prevention strategies...."

Discussion:

- The average annual incidence of IPI during the 8-year period was 10.6/100.000 inhabitants for all age groups and approximately 22/100.000 (my calculation) for those 65 years of age or above. These figures are very low - for all inhabitants approximately two thirds and for persons 65+ about half of the incidence seen in Sweden (which in turn, compared to many other countries, e.g. the US is low). It is unlikely that the "true" incidence in Finland is so much lower than that in Sweden. The authors should discuss this finding and the possible reasons for it, e.g. low blood culturing frequency or antibiotic treatment before cultures are performed. It might also be worthwhile to study if there are large discrepancies in incidence of IPI between different regions, indicating varying practices. Further, the authors should discuss what the implications for their results would be if the "true" incidence was 15 instead of 10 /100.000 and especially if the major part of these "missing" patients were elderly or were working-age group patients with indication for vaccination with PPV23.

- p.10, 2nd para, 2nd sentence; Wasn't it 9% CFP during the first week and not 9% of all deaths occurring during the first week?

- p.12, 1rst para, last sentence; early antibiotic treatment without previous blood cultures may also be an explanation for the low incidence of IPI among HIV+ patients.

- p.14, Conclusions; Although data from the US of an indirect herd immunity in adults due to vaccination of children with PCV7 are persuasive, the "evidence" is weak. So far the experience in US is what we have. Some preliminary reports from other countries (Spain, Portugal) where vaccination with PCV7 also is quite widespread have not been as positive. So, it's not for sure that an introduction of PCV7 in children in Finland would result in a reduction of IPI also in adults. Maybe other dosages, or vaccination schedules, with PCV10 or PCV13 may
become equally attractive as alternative or additional strategies for pneumococcal vaccination of adults?

Discretionary Revisions:

Results:
- Mortality, p.8, 1rst para, last sentence; Were there patients hospitalised as long as 90 days?

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:
I declare that I have no competing interests