Reviewer's report

Title: Effectiveness of the 23-valent polysaccharide pneumococcal vaccine against invasive pneumococcal disease in people 60 years or older.

Version: 1 Date: 25 January 2010

Reviewer: Daniel M Musher

Reviewer's report:

This carefully done case-control study of patients with invasive pneumococcal disease looked at the rate of pneumococcal vaccination in cases and well-matched controls. The results show a significantly lower rate of vaccination among cases than among controls, and the analysis suggested a 70% rate of protection by pneumococcal polysaccharide vaccine.

A number of minor points need to be addressed as noted below:

Introduction, first paragraph: "the bacteria spreads" should read "the bacteria spread."

Introduction, "Theoretically, the PPV has the potential to prevent disease and death from pneumococcal infections, but conflicting results have been reported in different studies, the degree of protection afforded against various clinical endpoints and within different populations is unclear, so vaccine effectiveness remains controversial to date.[7-16]´ This is just wrong. There is no controversy anywhere over the efficacy of PPV in small children, or in its secondary effect on IPD in adults. There have not been efficacy studies of PPV in adults. Delete this paragraph.

Next page, first full paragraph: "we performed a large population-based case-control study ..." Delete the word large. This is not such a large study, and self-promotion does not enhance it.

Methods, case patients. S. Pneumoniae is misspelled (no capital letter for pneumoniae).

Method for identifying controls is very well explained in the MS.

Page 6, vaccination history: "determined according to the reception or not of a dose of influenza vaccine." Badly worded, and needs to be rewritten.

Results, opening paragraph. Wrong use of the word "sepsis." I assume the authors mean bacteremia with no apparent focus. Word sepsis is now defined very differently.

Results, second paragraph. List the types and numbers of cases in a table.

Results 4th paragraph: "As for the rest characteristics" needs to be reworded.
Discussion, bottom of page 9 and top of page 10. In the discussion of influenza the authors do not state very clearly that a lower rate of influenza vaccination in patient subjects could have contributed to a higher rate of pneumococcal infection, which is an important issue. This problem was largely overcome by the authors’ use of data in vs out of influenza season.