Reviewer's report

Title: Epidemiology of nasopharyngeal carriage of respiratory bacterial pathogens in older children and adults: cross-sectional surveys in a population with high rates of pneumococcal disease

Version: 3 Date: 19 July 2010

Reviewer: Ron Dagan

Reviewer's report:

A) ABSTRACT

A1) Study design: Please also state how was PPV23 administered

A2) Page 1, last line: Persistence 19F and 6B in all age groups? Please state specifically that this was 1 and 3 years after initiation of the program (we are now ~ 10 years after)

A3) Page 2: Conclusion: I suggest not to conclude about reducing transmission of viral and bacterial respiratory pathogens since:
  a) you did not study here the viral pathogens
  b) I don’t really know how this reduction in transmission of NTHi and M. Cat can be achieved. Therefore such a conclusion does not lead to any practical approach and is not based on what is reviewed.

A4) Some words about the effectiveness (or maybe ineffectiveness) of the PPV23 in the abstract?

A5) Similarly – vaccine coverage rough figures in the abstract.

B) INTRODUCTION

B1) Page 3, last paragraph: The authors describe introduction of PCV7 and PPV23 in 2001 and cite a paper from 2007 stating no change in VT carriage among older children and adults in 2002 and 2004. Please state something about vaccine coverage!!

C) METHODS

C1) The “study population” section is largely deficient. Please introduce details with regard to schedule of PCV7 (ages, no. of doses)

C2) Why did the authors stop the description in 2004 (we are now in 2010!!). The results that are brought only during 2002-2004 may be misleading since they may bring people to think that there was not much effect, while we really do not know what happened from 2005 to 2010 !! This should be brought to the discussion section.
D) RESULTS

D1) Page 6: Why Hi and M. Cat carriage are given as aggregates while S. pneumoniae is given as separate 2002 and 2004 in the text? There is a trend toward decrease of overall carriage of S. pneumoniae in 2004 vs. 2002, and thus the trends for Hi and M. Cat are interesting.

D2) Page 7, univariate analysis of risk factors. I may be somewhat confused, but the authors state that Table 2 shows that pneumococcal carriage was associated, among others, with 1-2 household occupants < 5 years and a young child as the closest personal contact and I do not see this in Table 2!!

D3) Page 7-8: Did the authors separate between serotypes 6A and 6C? If not they should designate this as serotypes 6A/6C.

E) The last sentence of the conclusion “ongoing carriage of 7PCV serotypes 19F and 6B is ………” should be modified. This relates to 3 years post initiation of the vaccine. The authors should discuss this in the “discussion” section and compare carriage of 6B, 19F and other vaccine-type serotype in the US and other sites 3 years after introduction of the vaccine (in most series 3 years after PCV7 introduction, a non-negligible carriage rate of vaccine-type serotype was observed). The authors should also discuss as a limitation the fact that this study was conducted from 2002-2004, and that we are now in 2010, so that the data in 2004 may be less relevant to date and the disappearance of VT-serotypes from the circulation, in any population, especially in a population such as the one studied here may take much more than 3 years.

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:

The reviewer has received in the last five years grants/research support from Berna/Crucell, Wyeth/Pfizer, MSD, Protea; has been a scientific consultant for Berna/Crucell, GlaxoSmithKline, Novartis, Wyeth/Pfizer, Protea, MSD; has been a speaker for Berna/Crucell, GlaxoSmithKline, Wyeth/Pfizer; is a shareholder of Protea.