Reviewer's report

Title: Emerging pneumococcal carriage serotypes in a high-risk population receiving universal 7-valent pneumococcal conjugate vaccine since 2001.

Version: 1 Date: 10 January 2009

Reviewer: Eugene Leibovitz

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Leach and colleagues studied in this paper the pneumococcal nasopharyngeal colonization in Aboriginal children aged 0-6 years living in remote communities in the Northern Territory in 2003 and 2005, 2 and 4 years after the introduction of an immunization schedule consisting of PCV7 administration at 2, 4 and 6 month of age followed by a booster with the 23-valent pneumococcal polysaccharide vaccine (23PPV) at 18 months of age. They found small differences between 2003 and 2005:

- small but statistically significant reductions in overall carriage (-6%), in carriage of PCV7 serotypes (-4%), of 23PPV-non-PCV7 types (-5%) and in serotype 19A (-4%).

Overall, pneumococcal carriage remains high (~ 80%) in the PCV7 era although PCV7-type carriage was <10% in 2005. Predominant serotypes in the late period of the study were 16F, 19A and 6A and they were nonsusceptible to antibiotics.

The paper is very well written and has a clear message: need for close and continuous monitoring of the nasopharyngeal pneumococcal carriage in the next years.

Some points to be made and suggestions:

1. The authors should present in some sentences the rationale for the choice of the specific immunization schedule with 3 initial doses of PCV7 and the booster with the 23PPV at the age of 18 months. What is the information available about the immunogenicity of such a schedule? Why was this schedule chosen for the Aboriginal population? Is there any information comparing this schedule with the US schedule?

2. The authors should stress that, in the time period analyzed, the colonization rates with PCV7 serotypes was very low. Was it related to the PCV7 introduction in 2001?

3. All the section in discussion dealing with the relationship between nasopharyngeal colonization and IPD is out of the focus of the paper and should be deleted or shortened considerably.

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