Author's response to reviews

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

Authors:

Grant A Mackenzie (gmackenzie@mrc.gm)
Amanda J Leach (amanda.leach@menzies.edu.au)
Jonathan R Carapetis (jonathan.carapetis@menzies.edu.au)
Janelle Fisher (jfisher1@bigpond.com)
Peter S Morris (peter.morris@menzies.edu.au)

Version: 3 Date: 26 June 2010

Author's response to reviews: see over
Dear Editor,

Re: Submission of manuscript; ‘Nasopharyngeal carriage of respiratory pathogens in older children and adults: cross-sectional surveys in a population with high rates of pneumococcal disease’

Thank you for considering this manuscript for publication in BMC Infectious Diseases. We describe among Australian Aboriginals aged 2 years and older, the age-specific prevalence of nasopharyngeal carriage of *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella cattarrhalis*, the risk factors for pneumococcal carriage and the pneumococcal serotype distribution. This work should be published in your journal given the limited population-based data on carriage of *S. pneumoniae*, *H. influenzae* and *M. catarrhalis* in older children and adults in high-risk populations. We describe new information concerning a) high carriage rates of the three pathogens among all ages, b) risk factors for pneumococcal carriage, identifying several risk factors which have not been previously reported, and c) pneumococcal serotype distribution across all ages.

The high rates of bacterial carriage in all age groups, which were not previously known, relate to the high rates of invasive pneumococcal disease and respiratory illness in the population. The implications of the data are relevant for the design of interventions to reduce pneumococcal carriage and rates of respiratory infection. The data also have implications for understanding the indirect effect of pneumococcal conjugate vaccines in the population. As a large proportion of the population carries pneumococcus, and most of these individuals are ineligible for pneumococcal conjugate vaccine, there is a large reservoir for ongoing transmission and maintenance of pneumococcal serotypes in the population. This may relate to the lack of an observed indirect effect of pneumococcal conjugate vaccine among Australian Aboriginal adults, while such an effect has been observed in the general Australian population (Roche et al. 2008).

The manuscript has been submitted to JID, PIDJ, JCM and JPeds. I have included in this submission the reviewer comments from PIDJ and my response to those comments. All of the authors contributed significantly to the work. Each of the listed authors on the manuscript has seen and approved the submission of this version of the manuscript and takes full responsibility for the manuscript. The study was funded in part by Wyeth Australia. Peter Morris has received research funding from Wyeth Vaccines and Glaxo SmithKline and he has acted as a consultant for Glaxo SmithKline. The other authors declare no conflict of interest.

Potential reviewers of the manuscript are: Anthony Scott, KEMRI-Wellcome Trust Collaborative Research Program, Centre for Geographic Medicine Research-Coast, PO Box 230, Kilifi, 80108, Kenya, ph. +254 417 525453, fax. +254 417 522390, ascott@kilifi.kemri-wellcom.org; Jay Butler, Program Director, National Center for Preparedness, Detection and Control of Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia, 30333, USA, ph. +1 800 2324636, fax +1 888 2326348, jbutler@cdc.gov; Deborah Lehmann, Senior Research Leader, Telethon
Thank you for considering this manuscript.

Yours sincerely,

[Signature]

Grant Mackenzie