



## Childhood pneumococcal disease epidemiology at Patan Hospital, Nepal 2005–2015: invasive disease and serotype distribution

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## INTRODUCTION

- The diversity of invasive pneumococcal serotypes has significant geographic variation.
- Accurate depiction of this spectrum and its distribution according to age is integral to maximizing the impact of pneumococcal conjugate vaccines in specific settings.

## METHODS

- With funding initially from PneumoADIP and subsequently through the World Health Organisation, an on-going programme of enhanced pneumococcal disease surveillance is being conducted at Patan Hospital, Kathmandu, Nepal.
- Invasive pneumococcal disease isolates cultured from sterile body sites of children up to 14 years of age, presenting to the hospital underwent molecular serotyping by PCR.

## RESULTS

- Between April 2005 and November 2015, pneumococcus was identified in 123 of 13367 body fluid specimens available for analysis in our database; 109 (88.6%) patients had pneumococcus detected in blood culture.
- The most prevalent serotypes of the 112 isolates that had been serotyped were 1 (44.6%), 5 (12.5%) and 14 (4.5%); 72.3% isolates were PCV10 serotypes.
- Of the pneumococcal serotypes, 60.7% (68/112) were from those under 5 years of age, while 17% (19/112) were from those under 9 months of age. Only 8 of the serotypes from the 19 isolates from patients under 9 months of age (42.1%) would be covered by the PCV10 vaccine.

### Serotype distribution of invasive pneumococcal disease in Nepalese children

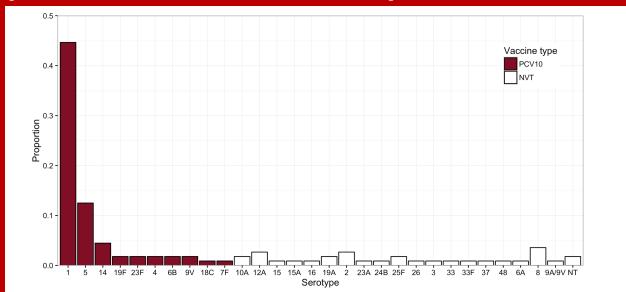


Figure 1. Serotype distribution of invasive pneumococcal disease in Nepalese children presenting to Patan Hospital, Kathmandu prior to PCV10 introduction.

### Age distribution of invasive pneumococcal disease in Nepalese children

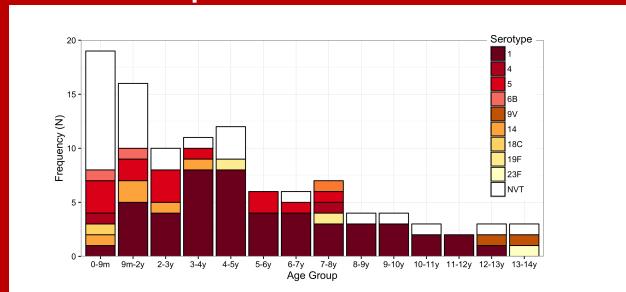


Figure 2. Age distribution of invasive pneumococcal disease in Nepalese children presenting to Patan Hospital, Kathmandu prior to PCV10 introduction.

### Temporal distribution of invasive pneumococcal disease in Nepalese children

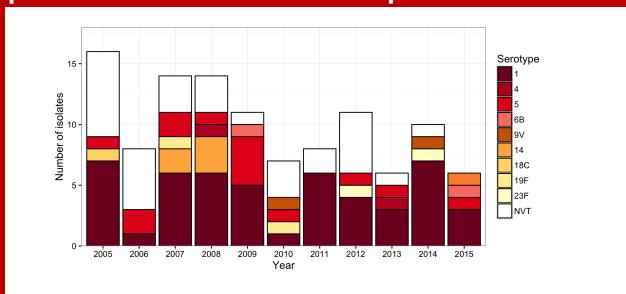


Figure 3. Temporal distribution of IPD isolates in Nepalese children from Patan Hospital Kathmandu.

## CONCLUSION

- The majority of IPD isolates from Patan Hospital were serotypes that are included in PCV10 or PCV13.
- Pneumococcal bacteraemia was seen predominantly post-infancy, indicating that a schedule including a booster dose of a pneumococcal vaccine in late infancy may provide optimal protection through early childhood.

### FUNDING

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