Between March 2014 and December 2016, 960 children with suspected pneumonia were enrolled at Patan Hospital. Of these, 905 had a final diagnosis of pneumonia: 600 (66%) were 2 months to <2 years, 216 (24%) were 2 to <5 years and 89 (10%) were 5 to <14 years.

326 (36%) children were enrolled before the introduction of PCV10 and 579 (64%) were enrolled after PCV10 introduction.

Overall pneumococcal NP carriage prevalence in children with hospitalized pneumonia was 42% (136/326) in the pre-PCV10 period and 32% (184/579) in the post-PCV10 period (p=0.003).

In the pre-PCV10 period VT NP carriage was 19% (61/326) compared with 13% (76/579) in the post-PCV10 period (p=0.024).

In children 2 months to <2 years:
- NP pneumococcal carriage of any serotype decreased from 39% (83/213) to 31% (119/387) following the introduction of PCV10 (p=0.042)
- VT NP carriage also decreased from 17% (36/213) to 12% (45/387) following the introduction of PCV10 (p=0.072).

Pneumococcal pneumonia is an important cause of childhood morbidity and mortality in South Asia.

We assessed the impact of 10-valent pneumococcal conjugate vaccine (PCV10) on serotype-specific nasopharyngeal (NP) carriage in children admitted to hospital with pneumonia.

PCV10 was introduced in Kathmandu in August 2015 at 6 weeks, 10 weeks, and 9 months of age.

We enrolled children aged 2 months to <14 years at Patan Hospital with suspected pneumonia on admission from March 2014 to December 2016.

A NP swab was taken to assess pneumococcal carriage.

Pneumococci were isolated and then serotyped using the Quellung reaction onsite at Patan Hospital. Quality control was conducted at University of Oxford.

March 2014 to August 2015 was considered the pre-PCV10 period and September 2015 to December 2016 the post-PCV10 period.

We compared the vaccine-type specific prevalence of NP pneumococcal carriage before and after the introduction of PCV10.

A reduction in overall NP and VT pneumococcal NP carriage was observed in children 2 month to <2 years (those targeted for immunization in this period) admitted to Patan Hospital with pneumonia after the introduction of PCV10.

However, similar reductions were also observed in older children. Year-to-year variability in NP colonization might account for observed changes.

Continued monitoring of changes in serotype-specific carriage prevalence will be an important for measuring PCV impact in Nepal.