Background

- Acute respiratory infections account for high morbidity and mortality in emergency settings
- In 2014, MSF conducted a mass vaccination campaign (MVC) with PCV10 among children 6 weeks to 23 months in refugee settlements in Adjumani, Uganda
- Three pneumococcal carriage surveys were conducted (one prior to, and two post, the MVC)

Objectives

This presentation describes the impact of the MVC on the all-age pneumococcal carriage and serotype distribution.

Methods

- Three nasopharyngeal (NP) pneumococcal carriage household surveys (respectively in July 2014, March and June 2015) were carried out among residents (all ages).
- Streptococcus pneumoniae was cultured from NP swab specimens. All pneumococcal isolated were serotyped using the Quellung method in Epicentre Mbarara-Uganda Laboratory.
- In addition, MSF conducted a vaccination coverage cluster survey among children aged between 6 weeks and 23 months in October 2014.

Results

Among eligible children, 96% (95%CI: 94-98) received at least 1 dose, while 51% of children 0-11 months and 78% of those 12-23 months were considered fully vaccinated. At 95% CI, among children aged 6 weeks to 23 months, 96% (94-98%), 78% (75-82%), and 43% (39-47%) received 1, 2, and 3 doses, respectively.

At 9 months post-MVC, overall pneumococcal carriage had increased from 58% (95%CI: 56-61) to 67% (95%CI: 64-69); among children <24 months, carriage increased from 86% (95%CI: 83-90) to 92% (95%CI: 90-94). Total carriage of vaccine-targeted serotypes decreased from 37% (95%CI: 34-40) to 15% (95%CI: 14-18) and from 49% (95%CI: 44-54) to 17% (95%CI: 14-21) among children <24 months.

Conclusion

This is the first study reporting pneumococcal carriage estimates pre-and post-vaccination in Uganda. The low vaccine coverage for the 2nd and 3rd doses may have affected the vaccination effectiveness; complete dosing should be emphasized in the future. Overall NP pneumococcal carriage increased, with significant and rapid replacement of vaccines serotypes by non-vaccines serotypes in all age-groups. High-quality surveillance of invasive pneumococcal disease is necessary to evaluate the impact of PCV immunization on the burden of PCV-associated morbidity and mortality.