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Assessing cohort retention and associated factors among seasonal malaria chemoprevention-eligible children in four West and Central African countries in 2024

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Child, caregiver and health system factors predict cohort retention. Empowering caregivers through targeted education and community engagement is essential for sustaining seasonal malaria chemoprevention coverage, maximising its impact and protecting children throughout the malaria season.

Introduction

Seasonal malaria chemoprevention (SMC) using sulfadoxine–pyrimethamine plus amodiaquine (SPAQ) is a proven strategy for reducing malaria incidence in children 3–59 months in eligible regions during the peak malaria transmission season.^[1,2] Full adherence to the three-day SPAQ regimen across all cycles of the SMC round, termed cohort retention, is critical for optimal protection.^[2] This study explores child, caregiver and health system factors influencing cohort retention across four countries: Burkina Faso, Chad, Nigeria and Togo.

Methods

- Study design: Cross-sectional analysis using data from 2024 end-of-round household surveys
- Sample size: 16,560 caregiver-child pairs (children 3–59 months)
- Countries: Burkina Faso, Chad, Nigeria and Togo
- Analysis: Three-level, mixed-effects multivariable logistic regression
- Levels of analysis: Child, caregiver and health system factors.

Results

- Overall, 80.1 percent (95% CI: 79.5–80.7) of children received the full SPAQ regimen across all SMC cycles.
- Retention varied by country, ranging from 72.8 percent in Burkina Faso and 76.8 percent in Chad to 80.8 percent in Nigeria and 85.5 percent in Togo.
- Retention was strongly associated with several child, caregiver and health system factors.
- Older children, particularly those aged four years, had the highest likelihood of retention (adjusted odds ratio [aOR]: 9.59; 95% CI: 5.76–15.97).
- Caregiver perceptions played a critical role for SMC retention: Positive views of SMC (aOR: 4.50; 95% CI: 2.31–8.77), belief in its effectiveness (aOR: 1.81; 95% CI: 1.27–2.58) and knowledge of child eligibility (aOR: 1.73; 95% CI: 1.36–2.20) were all significant predictors of higher retention.
- In Nigeria, households receiving visits from lead mothers* demonstrated greater retention (aOR: 2.29; 95% CI: 1.92–2.74). Familiarity with community distributors also contributed positively (aOR: 1.66; 95% CI: 1.42–1.94).

*Lead mothers (LMs) are women community volunteers selected with support from local leaders to promote adherence to SMC medicines. They educate and support caregivers at home to correctly administer the day 2 and day 3 doses of SPAQ to eligible children during each monthly SMC cycle.^[3]

Figure 1. Bar chart showing country-specific cohort retention rates with 95 percent confidence intervals

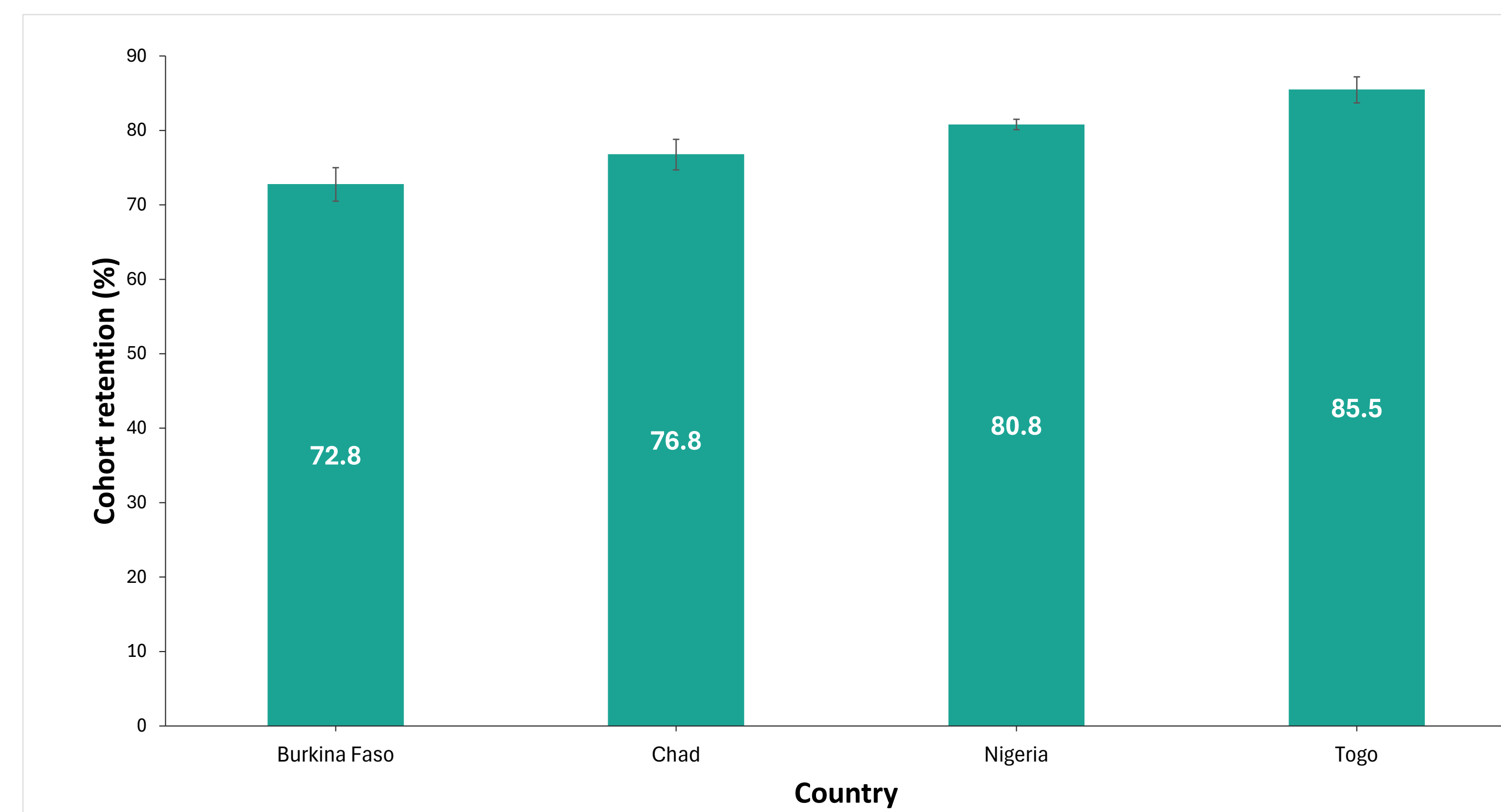


Figure 2. Forest plot showing adjusted odds ratios with 95 percent confidence intervals for factors associated with cohort retention

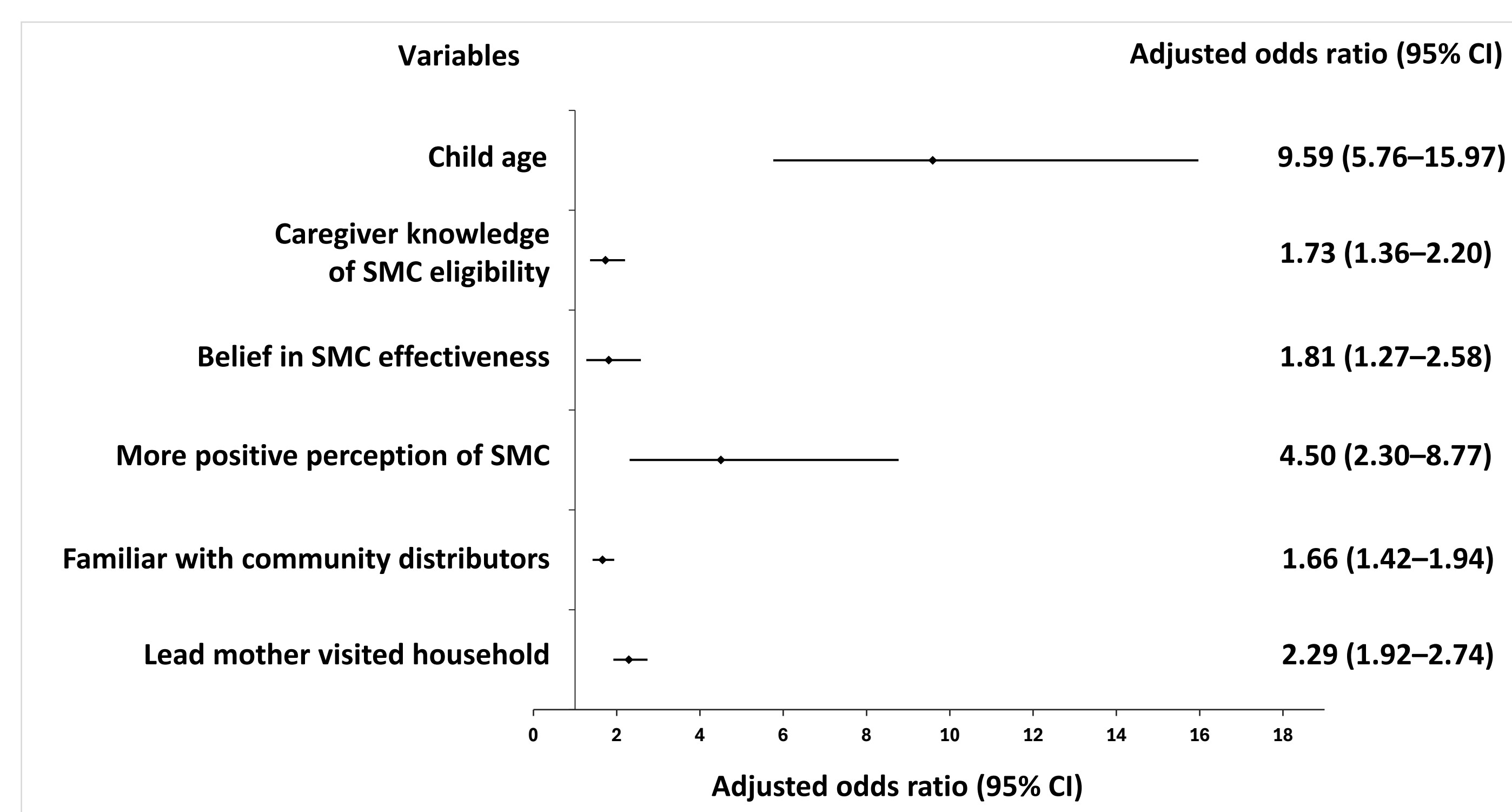
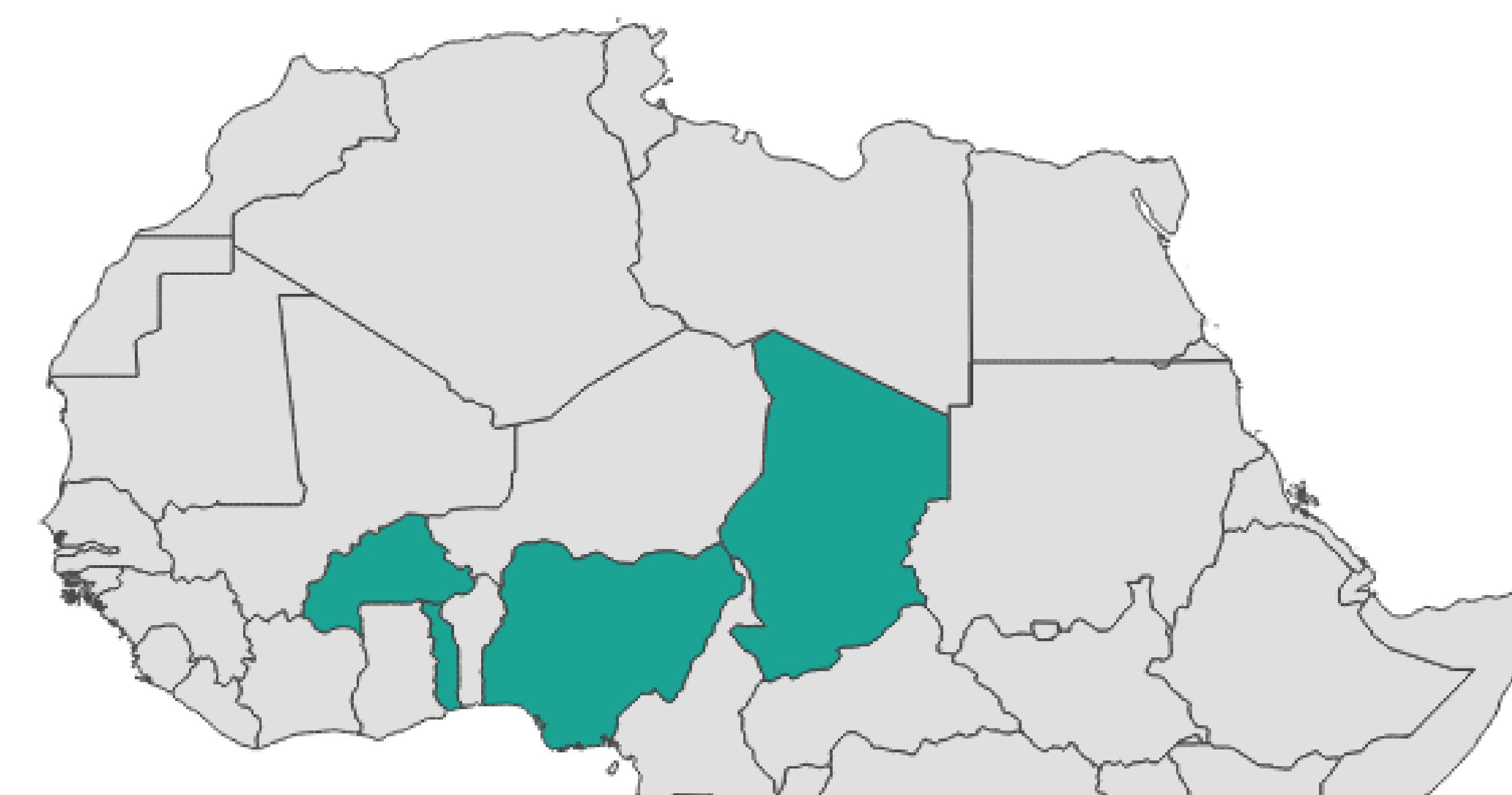


Table 1. Distribution of households sampled per country

Countries	Number of households	% of households
Burkina Faso	1,500	9.1
Chad	1,681	10.2
Nigeria	11,879	71.7
Togo	1,500	9.1

Figure 3. Map showing study locations (left to right: Burkina Faso, Togo, Nigeria and Chad)



Conclusion

SMC cohort retention was high overall but varied across countries. Child, caregiver and health system factors emerged as key predictors of retention. Understanding these factors is crucial for designing targeted interventions to improve and sustain high levels of retention and protection throughout the SMC round.

Acknowledgements

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