

## Post-Treatment Surveillance for Lymphatic Filariasis in Plateau and Nasarawa States, Nigeria: Results of Transmission Assessment Surveys

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Ab ac . Following the halt of mass drug administration (MDA) for lymphatic filariasis (LF), the WHO recommends at

WHO recommends at least 4 years of post-treatment surveillance (PTS) following the halt of MDA to confirm that LF transmission recrudescence or importation does not occur.<sup>3</sup> A primary strategy for PTS includes repeated cross-sectional TASs 2 years (TAS-2) and 4 years (TAS-3) after TAS-1 or an equivalent stop-MDA survey.<sup>3</sup> This report describes results from TAS-2 and TAS-3 PTS surveys across Plateau and Nasarawa states.

that stopped LF MDA in 2010 (Jos North and Langtang South in Plateau, and Keffi

## METHODS

**Study area and survey design.** Cross-sectional school-based cluster surveys were conducted across all 30 LGAs of Plateau (2015 population est. 4.2 million) and Nasarawa (2.7 million) states in 2014–2015 (TAS-2) and 2016–2017 (TAS-3). Evaluation units were formed based on chronology of TAS eligibility, geography, and epidemiological similarity. Transmission assessment survey guidelines permit the aggregation of multiple, noncontiguous IUs into an EU if the IUs share similar epidemiologic features and have completed at least five effective rounds of MDA.<sup>3</sup> Three general groups of EUs were formed (Figure 1). The first group included the four LGAs



Performance of rapid tests was validated before and after the field work with positive controls (provided by NIH/NIAID Filariasis Research Reagent Resource Center).

**Ethical approval and consent procedures.** The surveys were approved by the Nigerian National Health Research Ethics Committee (approval numbers NHREC/01/01/2007-17/04/2014, NHREC/01/01/2007-20/04/2015, NHREC/01/01/2007-10/02/2016, and NHREC/01/01/2007-18/04/2017) and also considered as public health nonhuman subjects research activities by the Emory University Institutional Review Board. Participation in the surveys was voluntary. Individual oral assent was obtained from selected students and written informed consent obtained from a parent or guardian.

## RESULTS

(2014–2015), and to zero CFA-positive children at TAS-3 (2016–2017). Although comparison of prevalence estimates between TASs should be carried out with caution because of the random selection of survey clusters in each TAS, these results indicate a rapid decline in the LF incidence following

We identify the following limitations in these surveys. A total of eight schools in TAS-2 and 13 schools in TAS-3 were not visited because of insecurity at the time of sampling. Areas of central Nigeria periodically experience clashes between pastoralists and settled populations over land use and other issues. Such areas are of particular concern to LF elimination for several reasons: 1) absence of up-to-date survey data, 2) they were potentially inaccessible during MDA and thus may harbor pockets of active transmission, 3) movement of pastoralist in and out of the IU poses a significant risk for parasite introduction. Therefore, PTS should prioritize geographic areas inaccessible during TASs as well as outreach to mobile populations who move through the region. A second limitation is the aggregation of multiple IUs into EUs. Ideally, each of the 30 LGAs in the study area, each as an IU, would function as an individual EU to provide LGA-specific results. However, this was financially and programmatically untenable. The present

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