

Reducing malaria morbidity in infants through intermittent preventive treatment in Nigeria

Investigating clinical effectiveness and operational feasibility

Background

In Nigeria, the malaria burden remains high. Despite a reduction in the number of malaria deaths from 153,000 in 2010 to 95,000 in 2018, the country still contributes 25 percent of cases globally and reported the highest increase in incidence in Africa in 2018, along with Ghana.^[1]

To reduce malaria morbidity and mortality in infants, the World Health Organization (WHO) recommends intermittent preventive treatment in infants (IPTi) with sulfadoxine-pyrimethamine (SP) in areas with moderate to high malaria transmission. This entails administering a full therapeutic course of SP through the Expanded Programme on Immunization (EPI) — implemented in Nigeria by the NPHCDA — at intervals corresponding to children’s routine vaccination schedules: usually at 10 weeks, 14 weeks and nine months of age.^[2]

A recent Cochrane review concluded that IPTi could reduce clinical malaria in infants by 27 percent.^[3] However, a decade after WHO’s recommendation, only one country — Sierra Leone — has adopted the strategy as national policy. A recent study in eight sub-Saharan countries, including Nigeria, confirmed that various barriers to IPTi policy uptake remain.^[5]

Country

Nigeria

Donor

Bill & Melinda Gates Foundation

Length of project

November 2020 – October 2024

Partners

Federal Ministry of Health

London School of Hygiene & Tropical Medicine

National Malaria Elimination Program (NMEP)

National Primary Health Care Development Agency (NPHCDA)

Nigerian Institute of Medical Research

Northwestern University

Project outline and objectives

This study will assess IPTi's clinical effectiveness and operational feasibility in Nigeria. It aims to generate the necessary evidence to support the intervention's uptake in the national health policy.

The study includes two implementation models: i) the rollout of IPTi through the EPI at 10 weeks, 14 weeks and nine months, as recommended by WHO; and ii) the rollout of IPTi, using an additional two touchpoints at seven and 11 months, administered by village health workers (VHWs) to optimise protection. The control arm in the study will receive standard EPI care only.

We plan to implement the intervention in six local government areas, reaching 10,800 children below the age of one. Osun and Ebonyi states in southern Nigeria have been shortlisted, given their high malaria incidence in under-fives, infant mortality and vaccination coverage. Formative research and a baseline assessment will inform the final selection.

Specifically, Malaria Consortium aims to:

- measure the effectiveness of IPTi when delivered through the EPI and compare the incremental effectiveness of adding two further VHW-administered doses
- assess the operational feasibility of implementing IPTi via three and five doses, and identify context-relevant solutions to key barriers
- evaluate the cost effectiveness of IPTi using three and five doses
- determine optimal intervals for two additional touchpoints by assessing age-specific malaria prevalence in infants in the intervention area
- measure the effect of IPTi implementation on immunisation coverage.

Activities

To achieve these objectives, Malaria Consortium will:

- engage national stakeholders — such as the NMEP and NPHCDA — to better understand the barriers to IPTi policy uptake and, ultimately, to drive policy adoption in other eligible settings
- develop the research protocol in collaboration with relevant national and state stakeholders, using findings from formative research to identify and mitigate bottlenecks during scale-up
- select and train participating health workers and VHWs in administering IPTi
- raise community awareness by working closely with local leaders and community-based organisations, training social mobilisers to spread key messages, hosting community meetings and deploying mass media. This will encourage caregivers to register their eligible children for the intervention
- develop, test and distribute tools (job aids, immunisation registers, data collection and reporting forms, and social and behaviour change materials)
- provide supportive supervision to all service providers
- liaise with Nigerian pharmaceutical manufacturers to ensure reliable supply and correct dosage of quality SP
- evaluate the intervention using qualitative and quantitative methodologies
- publish findings, lessons learnt and policy recommendations, and disseminate these through events and conferences at the state and (inter)national levels.

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Cover image: Children gather for a photograph in Inhambane province, Nigeria

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