

Severe malaria: Strengthening diagnosis and case management

Demonstrating implementation at scale of a continuous quality improvement model in Kano state, Nigeria

Background

Nigeria bears the highest global burden of malaria, with 67 million cases and 196,000 deaths reported in 2022.^[1] Kano state accounted for approximately nine percent of Nigeria's total malaria cases during 2021.^[2] Although Kano state achieved a reduction in malaria prevalence from 32 percent in 2018 to 26 percent in 2021,^[3,4] the quality of malaria laboratory diagnosis required for appropriate case management, effective disease surveillance and public health response at the national and state levels remains below standard.^[5] Suboptimal diagnostic quality is due to: inadequate skills and competency of laboratory technicians, as pre-service training alone is not sufficient for quality-assured diagnosis; lack of equipment, mainly microscopes and supplies; and limited participation of public and private health facilities in an external quality assurance (EQA) scheme.^[6]

Health system readiness to implement basic clinical standards for severe malaria case management is suboptimal in Kano state. Healthcare workers frequently do not adhere to guidelines,^[7] as indicated by low testing rates of febrile patients on admission, lack of parasitological monitoring and failure among patients to complete courses of treatment.^[8] Health workers also provide antimalarial treatment without testing for malaria, or despite negative test results, and use non-recommended antimalarials.

Country

Nigeria

Donor

Malaria Consortium US

Length of project

October 2022 – September 2024

Partners

Kano State Malaria Elimination Programme (SMEP)

Ministry of Health, Nigeria

National Malaria Elimination Programme (NMEP)

Strategic objective

Preventive and case management interventions for key diseases

Project outline and objectives

We will implement an integrated health systems approach to improve and sustain the quality of malaria diagnosis and treatment. The main focus of this project will be to address constraints on health workforce capacity, quality assurance and control, and case management of severe malaria. Our goal is to institutionalise continuous quality improvement (CQI) and improve the quality of inpatient malaria service delivery in supported public and private hospitals in Kano state. Specific objectives are to:

- strengthen and scale up quality assurance systems for parasitological diagnosis of malaria
- improve human resource capacity for malaria diagnosis and case management of severe malaria (with health facilities attaining >80 percent score in malaria diagnosis, as evaluated by a standardised assessment tool)
- monitor trends in health system readiness and quality of severe malaria case management
- support a pathway to scale for a CQI model in Nigeria.

Activities

To strengthen and scale up quality assurance systems, we will:

- conduct a baseline assessment of malaria diagnostic services (offered by 15–20 public and private health facilities in Kano state, including the competency and learning needs of health workers)
- carry out quarterly EQA of malaria diagnostic microscopy using standardised assessment tools
- conduct quarterly clinical audits on case management of severe malaria throughout the project using a standardised assessment tool.

To improve human resource capacity for malaria diagnosis and case management of severe malaria, we will:

- support the accreditation of laboratory supervisors and reference laboratory technicians in the External Competency Assessment for Malaria Microscopy^[9]
- provide onsite training for severe malaria case management using injectable artesunate to a team of health service providers
- assist with procurement and distribution of limited quantities of injectable artesunate to public and private not-for-profit facilities (sufficient to treat 3,000 patients with severe malaria).

To monitor trends in health service readiness and the quality of severe malaria case management with an innovative CQI programme, we will:

- organise quarterly feedback meetings to deliver clinical audit findings to participating hospitals
- conduct post-assessment supportive follow-up visits to assess the progress of action plans and quality improvement processes at hospitals.

To support scale-up of a CQI model in Nigeria, we will:

- conduct a process evaluation to assess the context, implementation and outcomes of the CQI model
- document and share learnings to demonstrate implementation at scale
- hold a consultative meeting with the NMEP, state ministries of health, SMEP, implementing partners and other malaria stakeholders to define a pathway to scale, based on lessons learnt and evidence generated.

References

1. World Health Organization (WHO). World malaria report 2023. Geneva, Switzerland: WHO; 2023.
2. WHO African region. Report on malaria in Nigeria 2022. Brazzaville, Republic of Congo: WHO African region; 2023.
3. National Population Commission (NPC) Nigeria, ICF. Nigeria demographic and health survey 2018. Abuja, Nigeria/Rockville, Maryland, USA: NPC/ICF; 2019.
4. NMEP, NPC Nigeria, ICF. Nigeria Malaria Indicator Survey 2021 final report. Abuja, Nigeria; Rockville, USA: NMEP, NPC, ICF; 2022.
5. Federal Ministry of Health Nigeria (FMoH), NMEP. FMoH/NMEP malaria diagnosis external quality assurance operational guidelines. Abuja, Nigeria: NMEP; 2018.
6. FMoH Nigeria, NMEP. 2019 malaria programme review (MPR) report. Abuja, Nigeria: NMEP; 2020.
7. FMoH Nigeria, NMEP. National guidelines for diagnosis and treatment of malaria (fourth edition). Abuja, Nigeria: NMEP; 2020.
8. Malaria Consortium. Project report. Monitoring and improving inpatient malaria case management and health systems readiness in hospitals in Nigeria. London, UK: Malaria Consortium; 2021.
9. WHO. Malaria microscopy quality assurance manual — Version 2. Geneva, Switzerland: WHO; 2016.

© Malaria Consortium / February 2024



Unless indicated otherwise, this publication may be reproduced in whole or in part for non-profit or educational purposes without permission from the copyright holder. Please clearly acknowledge the source and send a copy or link of the reprinted material to Malaria Consortium. No images from this publication may be used without prior permission from Malaria Consortium.

UK Registered Charity No: 1099776

Contact: info@malariaconsortium.org

Cover image: Health worker uses a pulse oximeter on a child, Kano state, Nigeria. Credit: David Exodus

www.malariaconsortium.org

 **FightingMalaria**
 **MalariaConsortium**



**malaria
consortium**
disease control, better health