

## NIGERIA MALARIA PROFILE

### I. ABOUT

Launched in 2005, the [U.S. President's Malaria Initiative \(PMI\)](#) supports implementation of malaria prevention and treatment measures as well as cross-cutting interventions. PMI's 2021–2026 strategy, [End Malaria Faster](#), envisions a world free of malaria within our generation with the goal of preventing malaria cases, reducing malaria deaths and illness, and eliminating malaria in PMI partner countries. PMI currently supports 27 countries in Sub-Saharan Africa and three programs across the Greater Mekong Subregion in Southeast Asia to control and eliminate malaria. Nigeria began implementation as a PMI focus country in FY 2011. Please see the [Nigeria Malaria Operational Plan](#) for more information on PMI's approach and investments.

### II. CONTEXT

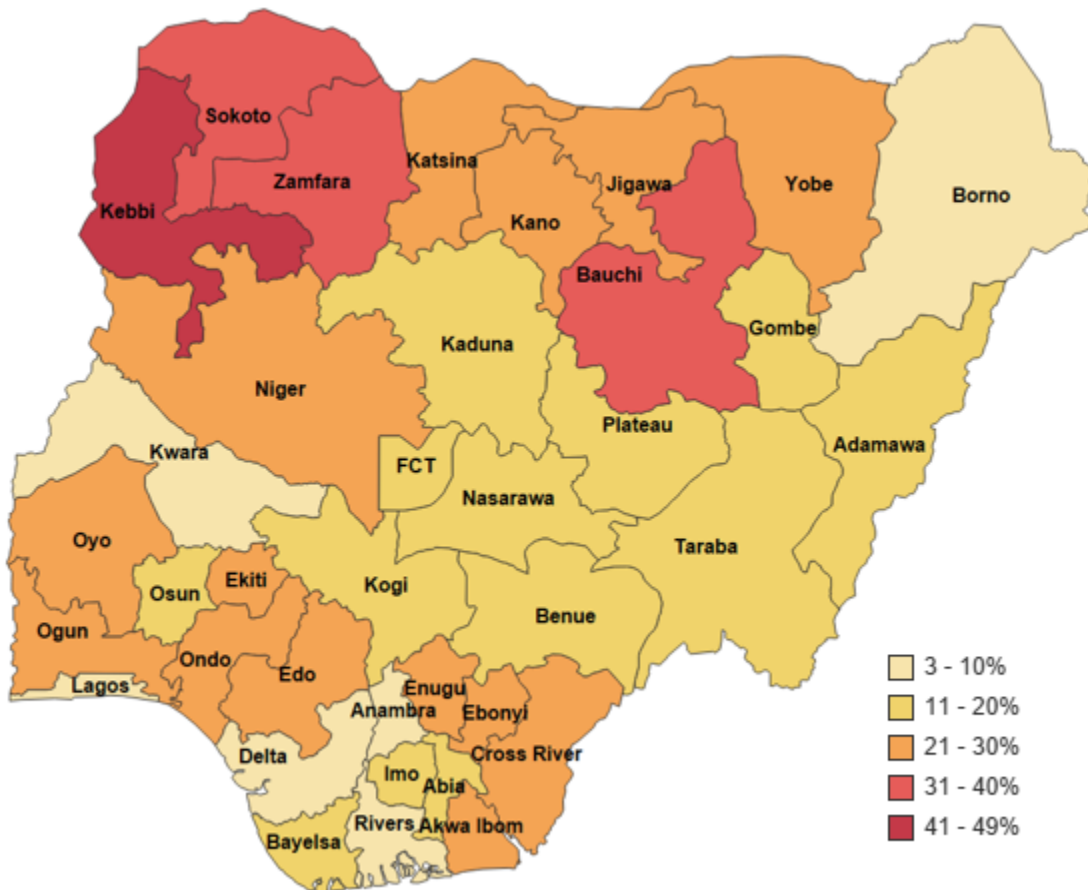
**Table 1: General Demographics and Malaria Situation**

<b>Population</b>	227,000,000 (National Population Commission, 2006)
<b>Population at risk of malaria</b>	97% (National Malaria Strategic Plan, 2021-2025) <sup>1</sup>
<b>Malaria prevalence</b>	22% (Nigeria Malaria Indicator Survey, 2021)
<b>Malaria incidence/1,000 population at risk</b>	303.3 (World Health Organization, Global Health Observatory Data Repository/World Health Statistics, 2019)

<sup>1</sup> The National Malaria Strategic Plan 2021-2025 states that 97% of the population is at risk of malaria, however, for the national level, 100% of the population at risk is used for quantification of malaria commodities.

## STRATIFICATION

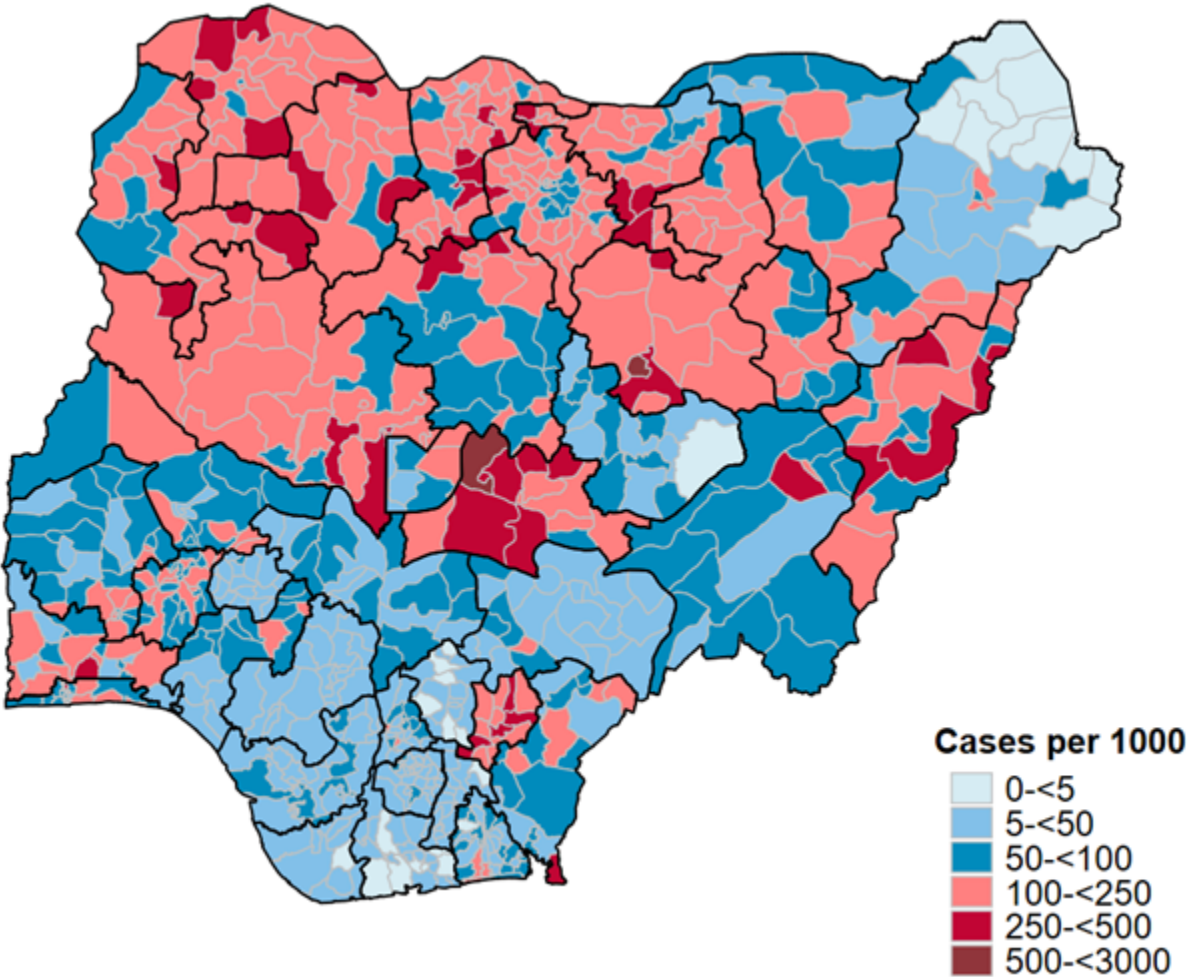
**Figure 1: Prevalence Map: Prevalence Among Children 6–59 Months of Age Testing Positive for Malaria by Microscopy**



Malaria indicator survey (MIS), 2021

The percentage of children with malaria was highest in Kebbi State (49 percent, a 3 percent drop from the Demographic and Health Survey [DHS] 2018) and Zamfara State (37 percent) and lowest in Lagos State (3 percent), Anambra State (5 percent), and Kwara State and Borno States both had 6 percent.

**Figure 2: Incidence Map (Children 6 to 59 Months of Age Testing Positive for Malaria by Microscopy)**



Map shows that malaria incidence ranges (adjusted for testing and reporting rates) from less than 5 cases per 1,000 population in some parts of Borno state to between 500 and 1000 cases per 1,000 population in some parts of Abuja, Nasarawa, and Kaduna states.

**Table 2: Geography and Climate**

<b>Principal Malaria Parasites</b>	<i>Plasmodium falciparum</i>
<b>Principal Malaria Vector*</b>	<i>Anopheles gambiae s.l.</i>

\* See Entomological Monitoring section of the Malaria Operational Plan for more details on vector bionomics and insecticide resistance and Indoor Residual Spraying section for details on residual efficacy.

## COUNTRY HEALTH SYSTEM

The Federal Government is responsible for tertiary health care and formulates health policies through the Federal Ministry of Health.

The State governments provide largely secondary health care through the state general hospitals and occasionally tertiary care through the state-owned teaching hospitals. They also coordinate primary health care implementation at the local government area level through the State Primary Health Care Development Agency.

The local government areas implement primary health care and manage the ward health committees, village health committees, private care providers, and traditional and alternative health care providers that enhance service delivery and community mobilization.

Malaria diagnostic services are provided at all levels of care; malaria rapid diagnostic test kit (RDT) is used at the primary health facilities, while the secondary and tertiary health facilities utilize both RDT and microscopy in malaria diagnosis.

Skilled health workers—doctors, nurses, and midwives—mostly provide care at the tertiary, secondary, and primary health care levels. Community-based health care services are provided by community health extension workers, who are expected to spend at least 60 percent of their time within the community, and various cadres of volunteer health workers, who are engaged by different public health programs through inconsistent standards and incentives.

The National Primary Health Care Development Agency recently launched the Community Health Influencers and Promoters of Services (CHIPS) initiative with the aim of facilitating task-sharing and improving coordination of community health services.

The CHIPS strategy seeks to transition all current community-based workers from programs that are phasing out into a single national program. Both the training programs and health workers are integrated, so that there is one training program, one curriculum, and one category of community-based workers—the CHIPS personnel, made up of CHIPS agents and community engagement focal persons. A minimum of ten CHIPS agents, preferably women, are trained in each political ward. They are responsible for working at the household level to provide counseling, create demand, and refer household members to primary health care facilities for the uptake of needed services. In addition, they provide basic preventive services, case management of fever, cough and diarrhea in children under five years of age and first aid services.

Prevention of malaria in pregnancy is implemented as a component of the ANC model of positive pregnancy experience. This provides the most practical platform for the delivery of these interventions. The key interventions that are provided at antenatal clinics for the

prevention of malaria in pregnancy include administration of sulphadoxine-pyrimethamine for intermittent preventive treatment (IPT) under direct supervision of skilled service providers, distribution of insecticide-treated mosquito nets (ITNs), and appropriate case management through prompt diagnosis and effective treatment with recommended medicines. The implementation of the ANC model of positive pregnancy experience recommends that pregnant women should have at least 8 contacts as follows: first contact, within the first 12 weeks; second contact, at 20 weeks; third contact, at 26 weeks; fourth contact, at 30 weeks; fifth contact 34 weeks; sixth contact at 36 weeks; seventh contact at 38 weeks and eighth contact at 40 weeks. The ANC mode encourages pregnant women to make unscheduled visits whenever they experience danger/warning signs during pregnancy.

The Government of Nigeria, with support from the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund), established the National Products Supply Chain Management Programme (NPSCMP) to facilitate the integration of supply chain systems across all public health interventions/programs and ensure effective logistics and supply of medicines and other health products to service delivery points. The NPSCMP coordinates the quantification, distribution, and warehousing of supplies with oversight from the Department of Food and Drug Services of the Federal Ministry of Health. At the state level, the NPSCMP is coordinated through the State Logistics Management Coordination Units.

The revised Health Information System policy and the Health Information System Strategic Plan 2014-2018 provide the framework for the collection, collation, analysis, storage, dissemination, and use of health and health-related data. In line with this policy, the District Health Information Software 2 (DHIS2) is the platform for routine health facility data collection from public and private primary and secondary facilities at national and sub-national levels. The Department of Planning, Research, and Statistics is responsible for overseeing and building capacity for data management within the Ministry of Health.

The Health Data Governance Council (HDGC), chaired by the Minister of Health, serves as the coordinating body that provides oversight and governance for health information and fosters the use of data for decision-making. The Health Data Consultative Committee (HDCC) is the operational arm of the HDGC. Both the HDGC and HDCC are replicated at the State and local government area levels.

## **OTHER CONTEXTUAL INFORMATION**

Each State Governor, the Parliament, and State-level ministries that echo the Federal-level set-up determine the state's budget and fund the same way despite being dependent on the consolidated income transfers from the Federation account. It is therefore advisable that Nigeria is considered the Federal Government and 36 different entities each with their peculiar context. However, even though the malaria program, through support by PMI and other partners, has pushed for the continuous inclusion of a malaria component into the health

budgets of the states leveraging on the annual operational plan development, the release of funds for the implementation of malaria activities has remained a challenge.

Security challenges have been spreading persistently across the country, with the north east and north west being the epicenter and an increasing intensity across the other zones. This has posed a threat to the implementation of health interventions, especially at the community level; however, mitigative strategies have been developed contextually by partners who are on the ground in the implementing states to reduce the effect on the implementation of malaria program activities.

### **III. NMEP STRATEGIC PLAN**

The current 2021–2025 National Malaria Strategic Plan (NMSP) of the National Malaria Elimination Program (NMEP) is based on the vision of achieving a malaria-free Nigeria, with the goal of reducing malaria morbidity to less than 10 percent parasite prevalence and mortality attributable to malaria to less than 50 deaths per 1,000 by 2025.

The objectives of the 2021–2025 NMSP are as follows:

- Improve access and utilization of vector control interventions to at least 80 percent of the targeted population by 2025.
- Ensure provision of chemoprevention, diagnosis, and appropriate treatment for 80 percent of the target populations at risk by 2025.
- Improve generation of evidence for decision-making and impact through reporting of quality malaria data and information from at least 80 percent of health facilities (public and private) and other data sources, including surveillance, surveys, and operations research by 2025.
- Strengthen coordination, collaboration, and strategic partnership to promote efficiency and effectiveness of malaria control activities toward achieving at least 75 percent improvement from baseline using a standardized organizational capacity assessment tool.
- Improve funding for malaria control by at least 25 percent annually through predictable and innovative sources to ensure sustainability at federal and subnational levels.

Under the strategic plan, the Government of Nigeria supports the provision of ITNs, targeted indoor residual spraying, targeted larval source management, intermittent preventive treatment for pregnant women (IPTp), seasonal malaria chemoprevention (SMC), and diagnosis and treatment of uncomplicated malaria through routine health services and integrated community case management (iCCM). The strategy also supports the treatment of severe malaria using injectable artesunate. There are two cross-cutting strategies: (i) Advocacy, Communication, and Social Mobilization (ACSM); and (ii) Procurement and Supply Management, which are listed in the Strategic Framework. The entire strategic plan is built on the bedrock of a strengthened health system. The 2021–2025 NMSP is aligned with the 2018–2022 National Strategic Health Development Plan and the September 2019 National Health Council theme



“Consolidating the Journey toward Achieving Universal Health Coverage” to underscore the global and national goal of achieving universal health coverage by 2030.

PMI’s social and behavior change (SBC) support to objectives 1 and 2 of the NMSP are achieved through data-shaped, coordinated communication and non-communication interventions deployed across 11 PMI focus states. Support is deployed at the national, state, local government, ward, and community levels. Through partnerships with local media organizations, community-based organizations, and the deployment of community volunteers, PMI supports the NMEP’s efforts to expand mass media and community level interpersonal communication activities aimed at increasing correct and consistent ITN use and care, prompt care-seeking for fever, uptake of RDT tests and IPTp, and provider adherence to diagnostic results for treatment with artemisinin-based combination therapies (ACTs).

At the federal and state levels, and in line with objective 4 of the NMSP, PMI supports SBC capacity strengthening activities, including for coordination, and the development of materials and relevant guidelines, such as the 2022 revised ACSM Strategy and Implementation Guide. At the State level, PMI continues to support 11 of 36 states to adapt the revised national ACSM Strategy to state contexts, develop annual operational plans and communication materials, and support partner coordination. Finally, in support of objective 3 of the NMSP, PMI continues to support the generation, analysis, and translation of malaria SBC evidence, through waves of behavioral sentinel surveys in selected program areas of Kebbi, Sokoto, and Zamfara states, that are translated into easily digestible formats, tailored to multiple audiences, and used to inform near real-time adaptations to ongoing malaria SBC program implementation.

**IV. KEY MALARIA DATA**

**EVOLUTION OF KEY SURVEY-BASED MALARIA INDICATORS**

**Table 3: Key Survey Indicators**

Indicator	2015 MIS	2016 MICS	2018 DHS	2021 MIS
% of Households with at least one ITN	69%	65%	60%	56%
% of Households with at least one ITN for every two people	35%	32%	30%	25%
% of Population with access to an ITN	55%	50%	47%	43%
% of Population that slept under an ITN the previous night	37%	41%	43%	36%
% of Children under five years of age who slept under an ITN the previous night	44%	49%	52%	41%
% of Pregnant women who slept under an ITN the previous night	49%	40%	58%	50%
% of Children under five years of age with a fever in the last	66%	63%	73%	63%

two weeks for whom advice or treatment was sought				
% of Children under five years of age with a fever in the last two weeks who had a finger or heel stick	13%	14%	14%	24%
% of Children receiving an ACT among children under five of age with a fever in the last two weeks who received any antimalarial drug	38%	21%	28%	74%
% of Women who attended four ANC visits during their last pregnancy	N/A	N/A	57%	52%
% of Women who received three or more doses of IPTp during their last pregnancy in the last two years	21%	15%	17%	31%
Mortality rate of children under five years of age per 1,000 live births	N/A	120	132	N/A
% of Children under five years of age with parasitemia by microscopy	27%	N/A	23%	22%
% of Children under five years of age with parasitemia by RDT	45%	N/A	36%	39.6%

ACT: artemisinin-based combination therapies; ANC: antenatal care; DHS: Demographic and Health Survey; IPTp: intermittent preventive treatment during pregnancy; ITN: insecticide-treated mosquito net; MICS: Multiple Indicator Cluster Survey; MIS: Malaria Indicator Survey; RDT: rapid diagnostic test.





**Table 4: Summary of Key Facilitators and Barriers to ITN Use, Care-seeking for Fever, and Provider Compliance to Diagnostic/Testing and Treatment Guidelines**

Behavior	Known Facilitators	Known Barriers
ITN Use and Care	<p><u>Internal factors: Response Efficacy*</u> Belief that ITNs prevent malaria doubles the odds of ITN use (OR = 1.99)</p> <p><u>Social factors: Norms*</u></p> <ul style="list-style-type: none"> <li>• Discussing ITN use with others in the last 12 months increases the odds of net use by 67% (OR = 1.67)</li> <li>• Perception that net use was the norm in the community increases the odds of use by 56 percent (OR = 1.56)</li> </ul> <p><u>Environmental factors: Exposure*</u> Exposure to at least one mass media campaign message on ITN use increased the odds of self-reported ITN use by 36 percent (OR = 1.36)</p>	<p><u>Internal factors: Perception*</u> Belief that “there were no mosquitoes around”, that “the net was not needed” (suggesting possible seasonality in ITN use behaviors), and that “ITN was too hot” are reported barriers to net use.</p> <p><u>Internal factors: Perceived Severity*</u> Low perceived severity of malaria” is a main barrier to ITN use with only 47 percent of respondents reporting that the consequences of malaria were severe.</p>
<p>Prompt Care Seeking for Fever</p> <p>Demand for, and uptake of malaria testing among caregivers</p> <p>(Prompt is defined as care sought within 48 hours of onset of symptoms)</p>	<p><u>Internal factors: High Malaria ideation**</u> Perceived severity of malaria and knowledge of the cause of malaria were most predictive of care-seeking behaviors.</p> <ul style="list-style-type: none"> <li>• Caregivers with high scores on these two ideations were 1.8 and 1.6 times more likely to seek prompt care for a sick child</li> </ul> <p><u>Internal factors: Beliefs about health service*</u> Provider trust and perceptions of health service readiness (e.g., availability of essential medicines).</p> <ul style="list-style-type: none"> <li>• Women who believed a health provider is the best person to talk to for a sick child were 1.9x as likely to take a child with fever to formal care and 1.6x as likely to get a febrile child tested for malaria.</li> <li>• Women who believed health facilities often have medicines needed for sick children were 25 percentage points (pp) or 1.25 times more likely to take a child with fever to formal care and are 12 pp (or 1.12 times) more likely to get a febrile child tested for malaria***.</li> </ul> <p><u>Internal factors: Knowledge*</u> Women who believed blood tests were the only way to know if a person has malaria were 2.4x as likely to have a febrile child tested for malaria.</p> <p><u>Social factors: Norms*</u> Caregivers who perceived that prompt care seeking was the norm were 55 percent (or 1.55 times) more likely to seek prompt care for febrile children.</p> <p><u>Emotional factors: Self-Efficacy</u></p>	<p><u>Internal factors: Beliefs about health services</u> Poor perception of the quality of services in the public sector was a barrier to prompt care seeking. In Kebbi State, for example, the literature suggests distrust in public facility-based (or formal) care, especially free medicines****. This position is strengthened by a reported 31 percent reduction in care seeking for pediatric fevers*** between 2019 and 2022 in Kebbi state.</p> <p><u>Social factors: Gender Norms</u> Gender norms that limit female participation in household decision-making or those that require women to seek and obtain spousal consent before accessing care from the formal health sector is a barrier to care seeking.****</p> <p><u>Environmental/Structural factors: High cost associated with care-seeking</u> Costs prior to reaching the facility (distance and transportation cost) and costs related to obtaining service (cost of consultation, tests, drugs, wait time, etc.) are barriers to prompt care-seeking.****</p> <ul style="list-style-type: none"> <li>• For example, one-third of respondents surveyed in the 2019 BSS in Kebbi, Sokoto and Zamfara states cited healthcare costs as a main reason for not seeking care for a sick child (fever, diarrhea, and pneumonia inclusive). This proportion increased to nearly half (43%) in Kebbi in the 2022 BSS***. Other reasons for not seeking care included fatalism (“Up to God”) and non-severe symptoms.</li> </ul>

	Women who felt confident that they could convince their husbands to seek formal care for a sick child were 8 pp more likely to seek formal care***, and 3.6x as likely to have a febrile child tested for malaria*.
Adherence to Case Management Guidelines	<p>Known Barriers only*****</p> <p><u>Structural/Environmental factors: Scarcity mindset</u> Providers, especially in high volume facilities, operate under a “scarcity” mindset in which inadequate resources, including time, negatively impact cognition and decision-making causing providers to “tunnel,” or intently focus on seeing as many clients as possible instead of adhering to case management protocols during consultations.</p> <p><u>Internal factor: Low perception of efficacy</u> Providers think RDT results are not reliable, and lack trust in the validity of RDTs for malaria. This is often attributed to a perceived lack of RDT sensitivity to malaria in its early stages, its inability to detect different strains of malaria, concerns about test kits storage, or worries about tests being old or past their date of expiration.</p> <p><u>Internal factor: High perception of self-expertise to clinically diagnose cases</u> Providers hold strong identities as clinical experts and are less sure of testing and treatment guidelines when test results contradict their clinical assessment. This “mental model of diagnosis” considers test results as a tool to complement expert medical opinions and not as one essential to form a diagnosis. “Overconfidence” in clinical assessment skills, outweighs confidence in the accuracy of the test.</p>

ITN: insecticide-treated mosquito net; RDT; rapid diagnostic test.

\* PMI-funded End-line Evaluation of Health Capacity Communication Collaborative (HC3) Nigeria, 2017.

\*\* General malaria ideation is an index of six variables (knowledge, perceived threat/susceptibility, perceived response efficacy, perceived self-efficacy, perceived social support & interpersonal communication) about malaria-related outcomes.

\*\*\*Source: Behavioral sentinel surveillance survey (BSS) in North West Nigeria: endline impact technical report, 2022

\*\*\*\* Source: Breakthrough Action Maternal, Newborn Child Health and Nutrition and Malaria Literature Review, 2018

\*\*\*\*\* Source: Breakthrough Action Nigeria: Provider Behavior Diagnosis Report, 2019

**Table 5: Evolution of Key Malaria Indicators Reported through Routine Surveillance**

Indicator	2018	2019	2020	2021	2022
# of All-cause patient consultations	44,746,141	52,729,811	47,395,711	52,521,775	59,594,748
# of Suspected malaria cases <sup>1</sup>	23,440,420	28,248,224	27,013,175	30,730,121	34,180,314
# of Patients receiving diagnostic test for malaria <sup>2</sup>	20,450,528	25,637,654	24,049,641	28,489,321	32,351,917
# of Malaria cases <sup>3</sup>	19,042,032	22,473,582	21,005,907	24,188,272	25,844,221
# of Confirmed cases <sup>4</sup>	14,810,847	18,860,723	17,725,943	21,087,956	23,776,915
# of Presumed cases <sup>5</sup>	4,231,185	3,612,859	3,279,964	2,772,294	2,067,306
% of Malaria cases confirmed <sup>6</sup>	78%	83.9%	87.3%	87%	92%
Test positivity rate <sup>7</sup>	72%	73.6%	73.7%	74%	74%
# of Children under five years of age with malaria <sup>8</sup>	7,727,256	8,741,018	7,947,300	8,406,640	8,655,854
% Cases in children under five	41%	38.9%	37.8%	34.7%	33.5%

years of age <sup>9</sup>					
# of Severe cases <sup>10</sup>	273,003	267,175	266,701	328,022	322,651
# of Malaria deaths <sup>11</sup>	n/a	n/a	n/a	n/a	n/a
# of Facilities reporting <sup>12</sup>	343,752	366,706	366,788	383,218	399,187
% of Data completeness <sup>13</sup>	79%	85.2%	74%	82%	87.3%

<sup>1</sup> Number of patients presenting with signs or symptoms possibly due to malaria;

<sup>2</sup> RDT or microscopy, all ages, outpatient and inpatient;

<sup>3</sup> Total reported malaria cases; all ages, outpatient and inpatient, confirmed and unconfirmed cases;

<sup>4</sup> Diagnostically confirmed; all ages, outpatient and inpatient;

<sup>5</sup> Clinical/presumed/unconfirmed; all ages, outpatient and inpatient;

<sup>6</sup> # confirmed cases divided by total # cases;

<sup>7</sup> Confirmed cases divided by # patients receiving a diagnostic test for malaria (RDT or microscopy);

<sup>8</sup> Outpatient and inpatient, confirmed and unconfirmed;

<sup>9</sup> Total # children under five years of age cases divided by total # of cases;

<sup>10</sup> There is severe malaria data element captured in the HMIS; includes all cases of *P. falciparum* malaria with certain conditions;

<sup>11</sup> All ages, outpatient, inpatient, confirmed, and unconfirmed;

<sup>12</sup> Total # of health facilities reporting data into the HMIS/DHIS2 system that year;

<sup>13</sup> # monthly reports from health facilities divided by # health facility reports expected (average for the calendar year).

## V. OTHER IMPLEMENTATION INFORMATION

The durability monitoring of campaign nets from the 2015-2018 cohorts successfully took place in Ebonyi, Zamfara, and Oyo. The results for the physical durability were within the expected range but showed some differences in performance of the same ITN brand in different locations. Nets in Zamfara performed significantly above expectations with an estimated median survival of 5.3 years compared to 3.3 and 3.2 for Ebonyi and Oyo, respectively. All campaign net samples showed sufficient insecticidal effectiveness.

**Table 6: Results of Durability Monitoring**

Site/Net Type	Survey and Time Since Distribution (months)	Attrition to Wear and Tear (%)	Nets in Serviceable Condition (%)	Optimal Insecticidal Effectiveness in Bioassay (%)
Ebonyi/Deltamethrin	36 months	38%	46.8%	100%
Zamfara/Deltamethrin	36 months	44%	7.5%	97%
Oyo/Deltamethrin	24 months	22%	20.6%	100%

**Table 7: Summary of Completed Therapeutic Efficacy Studies**

Year	Site	Treatment arm(s)	Efficacy (PCR-corrected adequate clinical and parasitological result) for each drug at each site
2014 <sup>1</sup>	Adamawa	AL	92.2%*
2014 <sup>1</sup>	Anambra	AL	100%*
2014 <sup>1</sup>	Bayelsa	AL	100%*
2014 <sup>1</sup>	Imo	AL	100%*
2014 <sup>1</sup>	Kano	AL	100%*
2014 <sup>1</sup>	Kwara	AL	100%*
2014 <sup>1</sup>	Oyo	AL	100%*
2014 <sup>1</sup>	Sokoto	AL	100%*
2014 <sup>1</sup>	Adamawa	ASAQ	95.8%*
2014 <sup>1</sup>	Anambra	ASAQ	100%*
2014 <sup>1</sup>	Bayelsa	ASAQ	96%*
2014 <sup>1</sup>	Imo	ASAQ	100%*
2014 <sup>1</sup>	Kano	ASAQ	100%*
2014 <sup>1</sup>	Kwara	ASAQ	100%*
2014 <sup>1</sup>	Oyo	ASAQ	100%*
2014 <sup>1</sup>	Sokoto	ASAQ	93.3%*
2014 <sup>1</sup>	Adamawa	DP	98.1%*
2014 <sup>1</sup>	Anambra	DP	100%*
2014 <sup>1</sup>	Bayelsa	DP	100%*
2014 <sup>1</sup>	Imo	DP	100%*
2014 <sup>1</sup>	Kano	DP	100%*
2014 <sup>1</sup>	Kwara	DP	100%*
2014 <sup>1</sup>	Oyo	DP	100%*
2014 <sup>1</sup>	Sokoto	DP	100%*
2016 <sup>2</sup>	Oyo	AL	100%
2016 <sup>2</sup>	Oyo	ASPY	100%
2019 <sup>1</sup>	Kola	AL	100%

2019 <sup>1</sup>	Kola	ASPY	100%
2019 <sup>1,2</sup>	Labé	AL	99%

AL: artemether-lumefantrine; ASAQ: artesunate-amodiaquine; ASPY: artesunate-pyronaridin; DP: dihydroartemisinin-piperaquine; PCR: polymerase chain reaction.

Follow up period for AL, ASAQ and ASPY was 28 days. Follow up period for DP was 42 days

\*Sample sizes for this study were very small (n=4-51), well below the WHO recommended minimum and recruitment targets determined by traditional sample size calculations. Results from these sites are underpowered.

<sup>1</sup>Evenebe, J., et al. Efficacy of artemisinin-based combination treatments of uncomplicated falciparum malaria in under-five-year-old Nigerian children ten years following adoption as first-line antimalarials. *American Journal Tropical Medicine and Hygiene*. (Arlington, Virginia, USA, 2018): DOI: 10.4269/ajtmh.18-0115.

<sup>2</sup>Funwei, R., Uyaiabasi, G., Hammed, W., Ojurong, O., & Falade, C. High prevalence of persistent residual parasitemia on day 3 and 14 after artemether-lumefantrine or pyronaridine-artesunate treatment of uncomplicated *Plasmodium falciparum* malaria in Nigeria. *Parasitology Research* (Springer-Nature, Switzerland, 2023): DOI: 10.1007/s00436-022-07753-8.

**Table 8: Recently Completed and Ongoing Antimalarial Therapeutic Efficacy Studies**

Year	Sites	PMI Funded Y/N	Treatment Arms	PCR-Corrected ACPR>90%	Location Molecular Resistance Work Completed or Planned
2020	Cross River, Adamawa, Sokoto	Y	AL, ASAQ, PA	Pending	Completed at Redeemers' University, Nigeria
2021	Imo, Kaduna, Kwara, Lagos	Y	AL, ASAQ, DHP, PA	Pending	Completed at Redeemers' University, Nigeria
2023	Anambra, Bayelsa, Oyo, Yobe	Y	AL, DHP, PA	Paused until 2020 & 2021 results are generated	Nigerian Institute of Medical Research (NIMR)

AL: Artemether-lumefantrine; ASAQ: Artesunate-amodiaquine; DHP: dihydroartemisinin-piperaquine; PA: pyronaridine-artesunate.

## VI. KEY POLICIES

**Table 9: Policies in Nigeria**

National Strategic Plan (2021-2025)
National SM&E Plan (2021-2025)
National Digital Health Strategy (2021-2025)
National Social Behavior Change/Communication Strategy (2022)
Nigeria Malaria ACSM Strategy & Implementation Guide (2022)
National Supply Chain Strategy/Master Plan (2016)
National Vector Control Strategy and/or Integrated Vector Management Plan (2015)

<b>National Guideline for Diagnosis &amp; Treatment of Malaria (2020)</b>	
<b>National Plan for Insecticide Resistance Monitoring (2017-2020)</b>	
What is/are the first-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria*?	Recommended ACTs – (Artemether-Lumefantrine (AL), Artesunate-Amodiaquine [AA], dihydroartemisinin piperazine, artesunate-pyronaridine)
What is/are the second-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria*?	Nigeria only has recommended ACTs and any of the above available can be used to treat uncomplicated malaria.
What is the first-line treatment for severe malaria?	Injectable Artesunate (IV or IM)
In pregnancy, what is the first-line treatment for uncomplicated <i>P. falciparum</i> malaria in the <u>first trimester</u> ?	ACTs
In pregnancy, what is/are the first-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria in the <u>second and third trimesters</u> ?	ACTs
In pregnancy, what is the first-line treatment for severe malaria?	Injection Artesunate (IV or IM)
Is pre-referral treatment of severe disease recommended at peripheral health facilities? If so, with what drug(s)?	Yes, it is. IM Artesunate/IM Artemether/Rectal Artesunate
Is pre-referral treatment of severe disease with rectal artesunate recommended for community health workers?	No
<b>Community Health Policy (2021)</b>	
What is the # of CHWs currently providing iCCM?	Information is not currently available.
What is the country's target for the number of CHWs providing iCCM?	Estimated at 10 CHIPS agents per ward where eligible.
What percent of the country's target is met?	There are 8,289 trained CHIPS agents.
Does the country have a policy that enables the routine, regular payment of salaries/stipends for CHWs?	Yes
Do CHWs have the authority to test and treat all ages for malaria?	Yes
<b>Prevention of Malaria in Pregnancy Policy (2015)</b>	
At what gestational age is the first dose of IPTp-SP to be given to pregnant women according to the national guidelines for malaria and maternal and child health?	13 weeks gestation
Do the national ANC guidelines reflect the WHO 2016	The Federal Ministry of Health ANC

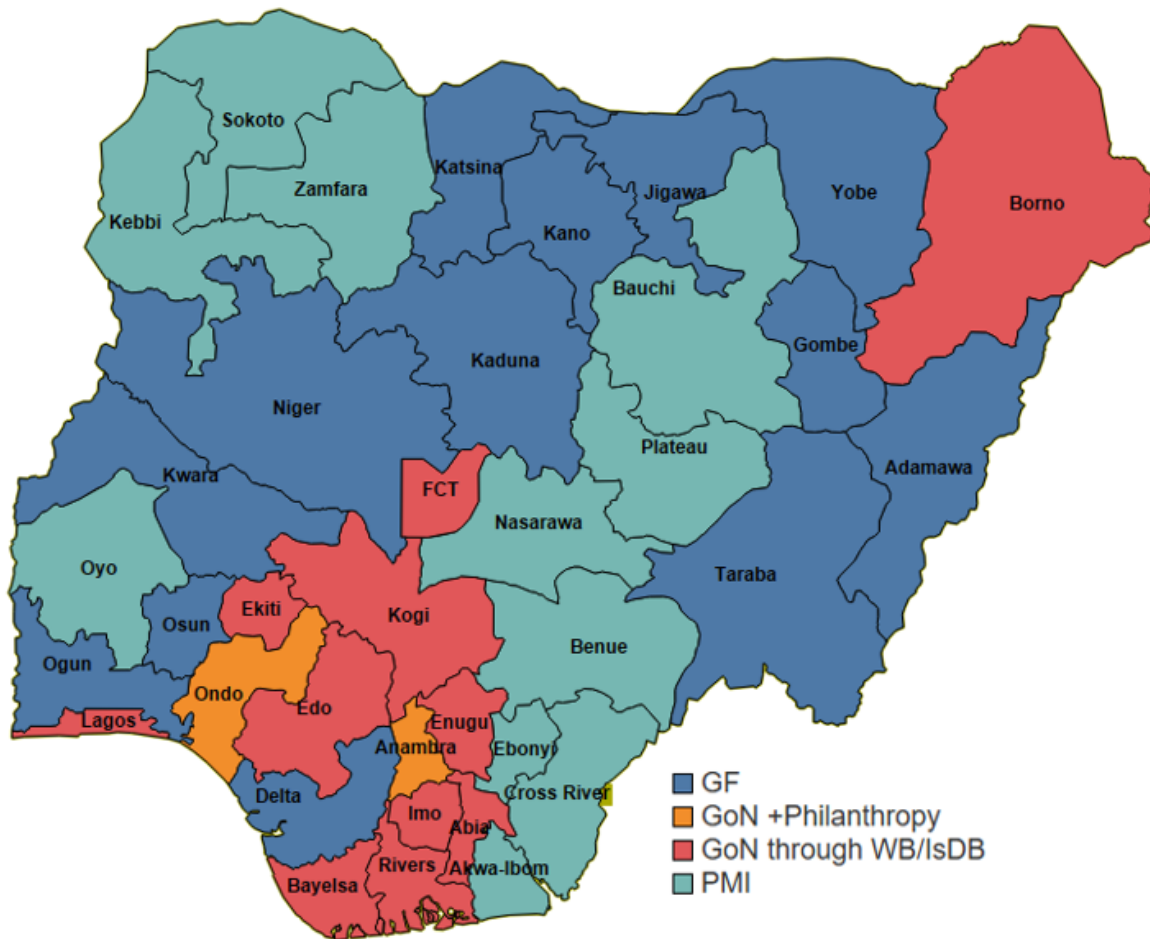


recommendation of 8 ANC scheduled contacts (plus one additional contact for early initiation of IPTp at 13-16 weeks)? If not, how many ANC contacts are recommended?	orientation package for health workers (2018) reflects the WHO 2016 recommendation of 8+ contacts.
What is the status of training ANC providers on the WHO recommended 8+ contacts?	Training of ANC providers is consistent with the WHO recommended 8 contacts
Have HMIS/DHIS2 and ANC registers been updated to include 8+ contacts?	The NHMIS/DHIS2 and ANC registers have been updated to include 8+ contacts.
Are IPTp data collected as single months where the January 2022 data represent the number of doses administered in January 2022, or cohort data, representing the cumulative data from pregnancies which began 6 months prior?	IPTp data is collected as single months representing the number of doses administered for each category (IPTp1, IPTp2, IPTp3 and >=IPTp4).
Is ANC/IPTp provided by facility staff conducting ANC outreach to communities?	No, IPTp is not implemented through community outreaches. Community IPTp is still being piloted.
Can CHWs deliver IPTp and if so, which specific cadres and beginning with which dose?	Not at this time.

ACT: artemisinin-based combination therapies; ANC: antenatal care; CHIPS: Community Health Influencers and Promoters of Services; CHW: community health worker; DHIS2: District Health Information Software 2; HMIS: health management information system; iCCM: integrated community case management; IM: intramuscular; IPTp: intermittent preventive treatment during pregnancy; IV: intravenous; SP: sulphadoxine-pyrimethamine.

## VII. PARTNER LANDSCAPE

Figure 4: Partner Landscape by State



**Table 10: Partner Landscape**

Partner	Key technical interventions	Geographic coverage	Funding amount or in-kind contribution	Timeframe
Global Fund	<ul style="list-style-type: none"> <li>• Vector Control</li> <li>• Specific prevention interventions (ITN &amp; SMC campaigns)</li> <li>• Case Management</li> </ul>	<ul style="list-style-type: none"> <li>• National level technical assistance</li> <li>• 13 states</li> </ul>	\$417.7m	Current grant covers 2024 to 2026
World Bank+Islamic Development Bank	<ul style="list-style-type: none"> <li>• Drug based prevention (SMC, IPTp)</li> <li>• Prevention using ITNs</li> <li>• Case Management</li> <li>• SBCC</li> <li>• Commodities (ITNs, ACTs, RDTs SP and SPAQ-SMC) procurement from the third year</li> <li>• Health Systems Strengthening and Technical support</li> </ul>	<ul style="list-style-type: none"> <li>• National level technical assistance</li> <li>• 11 states</li> </ul>	\$288m	Current grant covers 2021 to 2025
Airtel Nigeria	<ul style="list-style-type: none"> <li>• SBC (Extending reach of malaria messages via digital and mass media channels)</li> </ul>	11 states	\$578,496 \$216,011	Jan 2022 - March 2023

ACT: artemisinin-based combination therapies; IPTp: intermittent preventive treatment during pregnancy; ITN: insecticide-treated mosquito net; SBC: social and behavior change; SBCC: Social and Behaviour Change Communication; RDT: rapid diagnostic test; SMC: seasonal malaria chemoprevention; SP: sulphadoxine-pyrimethamine; SPAQ: sulphadoxine-pyrimethamine and amodiaquine.