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GHANA 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 24 countries in sub-Saharan Africa and three programs across the Greater Mekong Subregion in Southeast Asia to control and eliminate malaria. Ghana began implementation as a PMI partner country in FY2008. Please see the Ghana Malaria Operational Plan for more information on PMI's approach and investments.

II. CONTEXT

Malaria is endemic in Ghana, with pronounced seasonal variation in the northern part of the country. Malaria affects people of all ages in Ghana and is primarily caused by *Plasmodium falciparum* with the principal mosquito vectors being *Anopheles gambiae* and *Anopheles funestus.* Malaria transmission varies by geographic region and rainfall patterns. In the south and central parts of the country, there are two distinct rainy seasons, from April to June and from September to November. In these areas, the transmission season is nine months or more, with a small peak from May to June and a larger peak from October to November. The north, in contrast, is characterized by one rainy season that typically begins in May, peaks in August, and lasts until September, although there is some regional variability. Peak transmission in the north is from July to November. Ghana's entire population is at risk for malaria; however, children under five years of age and pregnant women are at higher risk of severe illness.

Ghana has shown steady progress in malaria prevention and control over the years; nationwide parasite prevalence among children 6 to 59 months (based on microscopy) declined from 28 percent in 2011 to 14 percent in 2019. This progress has varied across the country. For example, in Upper East, Upper West and Northern Regions, parasite prevalence among children under five years of age declined from 44 percent, 51 percent, and 48 percent in 2011, respectively to 10 percent, 11 percent, and 13 percent in 2019, respectively (Figure 1). Of note, six new regions were created in 2019 resulting in the following changes: Northern Region was divided into Northern, North East, and

Savannah Regions; Brong Ahafo Region was divided into Ahafo, Bono, and Bono East Regions; Volta Region was divided into Volta and Oti Regions; and Western Region was divided into Western and Western North Regions.

Table 1: General Demographics and Malaria Situation

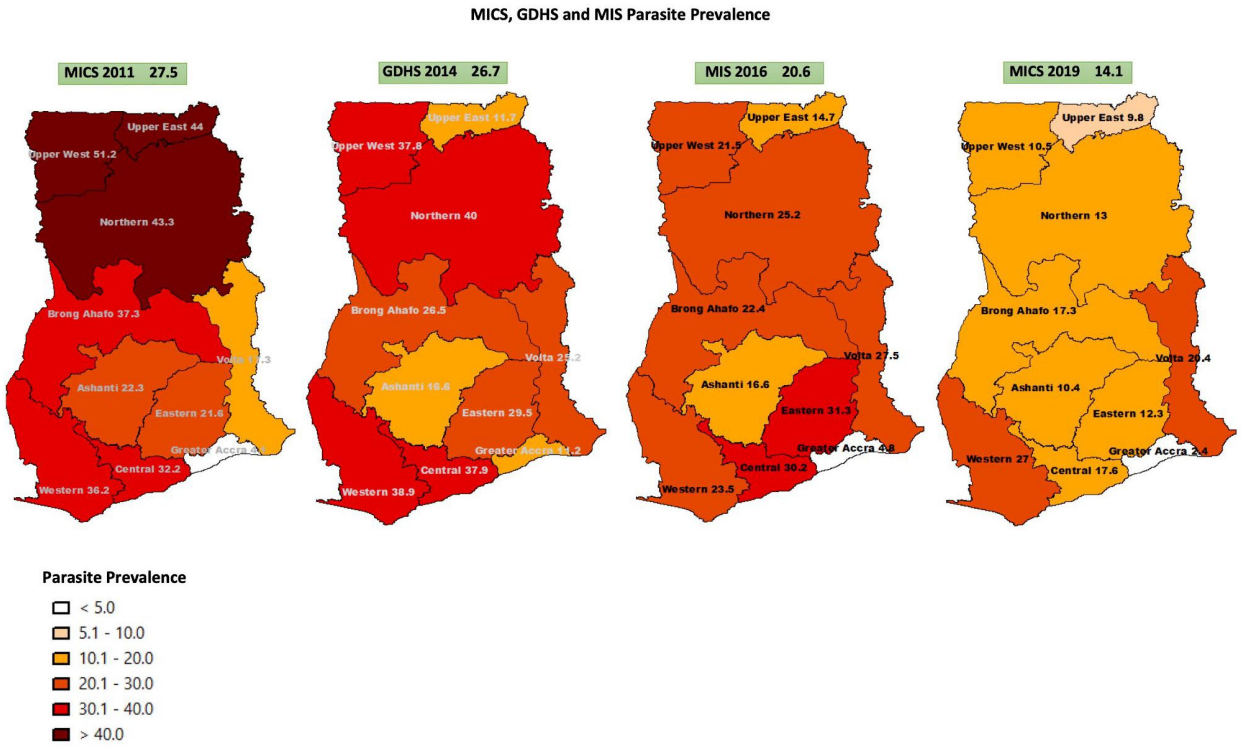
Population	31,479,491 (2.1% increase applied to 2021 Census Population)
Population at risk of malaria	100% (Ghana National Malaria Strategic Plan 2021–2025)
Malaria prevalence	14% (2019 Malaria Indicator Survey or MIS)
Malaria incidence/1,000 population at risk	224.3 (World Bank Open Data 2018)
Peak malaria transmission	July to November (northern Ghana) May to July and October to November (Southern Ghana)

Table 2: Malaria Parasites and Vectors

Principal Malaria Parasites	*Plasmodium falciparum* 96.3% (89-98.8%*);* *Plasmodium malariae* 1.6% (0.1-8.9%); *Plasmodium ovale* 1% (0.2-1.9%)
Principal Malaria Vectors*	*Anopheles gambiae* s.l. & *Anopheles funestus;* nationwide resistance to pyrethroids; spreading resistance to organophosphates, including pirimiphos-methyl, and carbamates; and emerging resistance to neonicotinoids and pyrroles, including clothianidin and chlorfenapyr

***** 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.

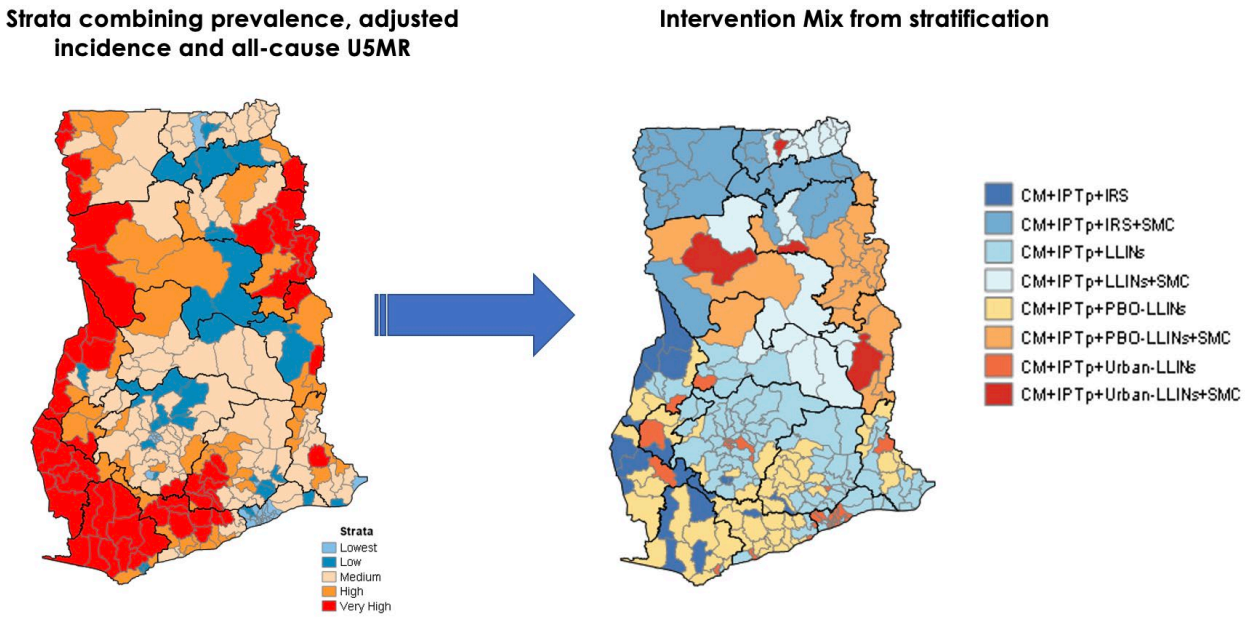
Figure 1: Prevalence Maps



STRATIFICATION

A stratification exercise was conducted in 2019 by Ghana's National Malaria Control Program (NMCP) with the World Health Organization (WHO) and other stakeholders. Malaria prevalence and incidence metrics, as well as all-cause mortality among children under five years of age, were used to develop a composite score for each district (Figure 2). The epidemiological data were combined with district level measures of entomology, insecticide resistance, seasonality, urbanization, and access to care to identify core interventions to be implemented in each district, including case management (CM), intermittent preventive treatment for pregnant women (IPTp), indoor residual spraying (IRS), seasonal malaria chemoprevention (SMC), and insecticide-treated mosquito nets (ITNs).

Figure 2: Stratification Maps



Ghana stratification report, 2020

COUNTRY HEALTH SYSTEM

The Ghana health system has four levels, with malaria diagnosis and treatment and malaria in pregnancy (MIP) services provided at all levels. The four health system levels are:

- **Primary health facilities**: Community-based Health Planning and Services (CHPS) compounds, maternity homes, licensed chemical sellers
- **Secondary health facilities**: Sub-district health centers, private clinics, polyclinics and similar institutions
- **District Hospitals**: Currently first referral from primary and secondary service delivery points (SDPs)
- **Tertiary health facilities**: Regional hospitals and teaching hospitals

Facility-based CM

Ghana Health Services (GHS) has 15 tertiary health facilities (six teaching referral hospitals and nine regional referral hospitals), 591district referral hospitals (including Christian Health Association of Ghana and private hospitals), 66 polyclinics, and 992 health centers. Regional health authorities (RHAs) supervise district health management teams (DHMTs), which in turn supervise lower level health centers.

Severe malaria cases are referred from the primary to the secondary health facilities and district hospitals for treatment. The NMCP has regional and district malaria focal points who liaise with the RHAs and DHMTs to improve malaria CM through training, job aids, and supportive supervision. Ghana also implements malaria-specific laboratory and clinical outreach training and supportive supervision (OTSS) through the NMCP, regional health management teams (RHMT), and DHMTs. The GHS also conducts integrated supportive supervision (ISS) through regional and district interdisciplinary teams. ISS comprehensive integrated checklists include adherence to treatment guidelines, laboratory, supply chain, management, monitoring and evaluation (M&E), maternal and child health, nutrition, and malaria prevention and control.

Community level

In 1999, Ghana adopted the CHPS Initiative to expand health access at the community level where a trained community health nurse (CHN) and midwife provide integrated community case management (iCCM) and antenatal care (ANC) services in a facility constructed by the community and coordinated through the community health committee. CHPS compounds serve a catchment population of around 5,000 people and CHPS CHNs and midwives are supported by volunteers from the community (community health volunteers or CHVs). CHPS provide malaria rapid diagnostic testing (RDT), artemisinin-based combination therapy (ACT) treatment for uncomplicated malaria, distribution of ITNs through ANC and child welfare clinics (CWCs), rectal artesunate suppositories (RAS) for pre-referral treatment of children under five years of age with severe disease, referral for severe malaria, and IPTp through ANC (CHPS compounds can initiate the first dose of IPTp only if they have a midwife on the team). Criteria for referral are described in the Case Management Guidelines; severe malaria cases should be referred immediately to a hospital after instituting pre-referral management. CHPS staff are government employees who receive salaries through the GHS and are supervised and provisioned through their sub-district and DHMTs. Ghana CHPS policy continues to evolve and many new CHPS compounds are constructed, staffed, and accredited annually, improving access.

Private sector CM and National Health Insurance Scheme (NHIS)

Private sector malaria treatment is most common in urban settings and includes pharmacies and medicine sellers. Ghana mandates laboratory confirmation of malaria before initiating treatment; however, in private facilities patients may pay for testing (either RDT or microscopy) and ACT treatment, which can lead to treatment without testing. The NMCP is increasing private sector engagement through inclusion in supportive supervision to improve compliance with CM guidelines.

NHIS aims to ensure access to basic health care services for all residents. All necessary malaria services and medicines are covered at no cost to NHIS members. The NHIS provides reimbursement of malaria diagnosis and treatment to private facilities and conducts clinical audits to improve adherence to malaria treatment guidelines.

Coordination of MIP and ANC services

The Ghana National Malaria Strategic Plan (NMSP) 2021–2025 and the Integrated Reproductive, Maternal, Newborn, Child and Adolescent Health and Nutrition Strategic Plan 2020-2025, provide complementary guidance for ANC and MIP services. Pregnant women receive free ITNs at their first ANC visit, and the first dose of IPTp is administered at 16 weeks of gestation or at quickening. Recommendations for correct malaria CM of pregnant women are provided in the Guidelines for Malaria Case Management in Ghana.

Supply chain overview

Ghana's current health supply chain involves several layers of storage and distribution. The public supply chain remains in a transition period, which began after the 2015 Central Medical Stores (CMS) fire left product storage splintered across multiple central level entities. There are two main central-level warehouses: a private sector pharma-grade warehouse in Tema that holds products donated by the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) and USAID, and a Government CMS in Accra that stores products procured by other donors, the Ministry of Health (MOH), and GHS. These public and private warehouses serve 14 lower facilities—the country's 10 regional medical stores (RMS) and four teaching hospitals that serve patients directly. Commodities are distributed from the private sector warehouse to RMS by third-party logistics (3PL) providers contracted by the Global Fund and USAID through an implementing partner. These deliveries are scheduled to occur six times a year. Some RMS send their own trucks to pick products up from the CMS. From each of the 10 RMS, products flow directly to SDPs. Last mile distribution (LMD) has been streamlined in recent years, with a bi-monthly scheduled delivery of commodities from RMSs to SDPs, using USAID and or Global Fund-supported third-party logistics (3PL) partners or region-owned trucks. Commodities from the public sector warehouses are distributed to the RMS and facilities using a mix of its own fleet and 3PL services.

Logistics data on malaria commodities are captured both through paper and electronic means. The Ghana Integrated Logistics Management Information System (GhiLMIS) is being rolled out in phases in the country. Completion of the GhiLMIS roll-out to all eligible SDPs is targeted for the end of 2023.

Health management information systems

Data on malaria services are captured through the District Health Information Management Software 2 (DHIMS2), which is based on the District Health Information System 2 (DHIS-2) platform and was launched in 2008. DHIMS2 is accessible in all districts and is used by health facilities and district health directorates to collect, collate, transmit and analyze routine health service data.

OTHER CONTEXTUAL INFORMATION

The uptake of malaria control interventions is impacted by individual and community norms, with regional variations. ITN use by the household population ranges from 19 percent in Greater Accra Region to 66 percent in Upper East Region.[1] Additionally, although IRS campaigns typically achieve over 90 percent coverage each year, relatively high numbers of locked structures and household refusals remain challenging. Reasons for locked structures include household residents leaving for the fields early in the morning to start farming activities or traveling to southern Ghana during the dry season for work. Refusals are often attributable to residents being unwilling to prepare rooms.[2] Lastly, care-seeking for children under five years of age with fever is higher in urban areas compared with rural areas (74 percent versus 65 percent).

PMI and the Global Fund will jointly support a Malaria Behavior Survey (MBS) in calendar year (CY) 2022 to determine the socio-demographic and ideational characteristics associated with malaria-related behavioral outcomes in Ghana and identify key programmatic elements for consideration to improve malaria-related ideational and behavioral outcomes. Findings from the MBS will inform approaches to increase rapid and sustainable uptake of individual and community behaviors for malaria prevention and control.

Ghana participated in the pilot implementation of the malaria vaccine RTS,S/AS01. In October 2021, the WHO recommended widespread use of the malaria vaccine. Ghana intends to develop and submit a funding request to GAVI for the expansion of RTSS coverage from the initial 81 districts to a new target to be determined. The promotion, management, and administration of the malaria vaccine will be the responsibility of the Expanded Program on Immunization, rather than NMCP. NMCP has conducted a thorough analysis of what is needed to promote the acceptance and use of the malaria vaccine. PMI Ghana will invest in the malaria vaccine program if NMCP and stakeholders determine relevant needs, and there is a gap that can be filled with PMI support.

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[1] Ghana Malaria Indicator Survey 2019.

[2] Vector Link, End of Spray Report, Ghana Spray Campaign March 23 – May 4, 2021.

III. NMCP STRATEGIC PLAN

Ghana's NMSP 2021–2025 has three main goals:

- Reduce malaria mortality by 90 percent (using 2019 as the baseline).
- Reduce malaria case incidence by 50 percent (using 2019 as the baseline).
- Achieve malaria pre-elimination in at least six districts.

The scope of the Strategic Plan is to consolidate the achievements gained in the last eight years and build on new interventions and strategies with inputs from a broader range of stakeholders, including health partners, community members, research community, academia, and non-governmental organizations (NGOs). It defines strategies to be implemented to achieve the goal set for the NMCP in Ghana and guides its partners to re-strategize towards accelerated malaria control and pre-elimination in targeted areas of the country.

The NMSP 2021-2025 specific objectives are outlined below:

1. Protect at least 80 percent of the population at risk with effective malaria prevention interventions by 2025.
2. Provide appropriate diagnosis to all suspected malaria cases and prompt and effective treatment to 100 percent of confirmed malaria cases in accordance to treatment guidelines by 2025.
3. Ensure at least 95 percent of the population will use at least one malaria preventive measure, and 95 percent of those with fever seek care within 24 hours of onset of symptoms, by 2025.
4. Strengthen and maintain capacity for governance and program management to achieve programmatic objectives at all levels of the health care system towards malaria control and pre-elimination by 2025.
5. Ensure timely and adequate supply of quality-assured malaria commodities to all service delivery points by 2025.
6. Improve mobilization of resources and maximize the efficient use of available resources for greater public health impact by 2025.
7. Strengthen malaria surveillance and M&E system towards the 2025 malaria control targets.

For each objective, the NMSP describes how those objectives can be reached.

Ghana has targeted six districts for pre-elimination. Specific areas of in those districts are described in the NMSP. These include:

- Confirm every suspected malaria cases and adhere to all the treatment protocols.

- Improve in the diagnostic capacity of the districts for differentials for fever.
- Weekly case-based malaria data reporting through Integrated Disease Surveillance and Response.
- Establish thresholds to identify outbreaks.
- Intensify the culture of data use for appropriate response and surveillance activities in the targeted areas.
- Carry out reactive case detection and treatment.
- Conduct review by the districts targeted for pre-elimination.
- Migrate reporting system to case-based reporting at all service delivery sites.

IV. KEY MALARIA DATA

EVOLUTION OF KEY SURVEY-BASED MALARIA INDICATORS

Table 3: Key Survey Indicators

Indicator	2008 DHS	2011 MICS	2014 DHS	2019 MIS
% Households with at least one ITN	41.7	49	68	74
% Households with at least one ITN for every two people	N/A	26	45	52
% Population with access to an ITN	N/A	38	59	67
% Population that slept under an ITN the previous night	N/A	29	36	43
% Children <5 years of age who slept under an ITN the previous night	38.7	39	47	54
% Pregnant women who slept under an ITN the previous night	27.4	33	43	49
% Children <5 years of age with a fever in the last two weeks for whom advice or treatment was sought	51	50	56	69
% Children <5 years of age with a fever in the last two weeks who had a finger or heel stick	N/A	16	34	34
% Children receiving an ACT among children <5 years of age with a fever in the last two weeks who received any antimalarial drug	21.5	18	37	46

Indicator	2008 DHS	2011 MICS	2014 DHS	2019 MIS
% Women who attended 4 ANC visits during their last pregnancy	67.8	N/A	87.3	90.6%
% Women who received three or more doses of IPTp during their last pregnancy in the last two years	45.5[1]	N/A	39	61
<5 years of age mortality rate per 1,000 live births	80	82	60	n/a
% Children <5 years of age with parasitemia by microscopy	N/A	28	27	14
% Children <5 years of age with parasitemia by RDT	N/A	48	36	23

DHS: Demographic and Health Survey (DHS); MICS: Multiple Indicator Cluster Survey; MIS: Malaria Indicator Survey
1 The 2008 DHS asked about pregnant women who received two or more doses of IPTp.

ITN access increased steadily from 38 percent in 2011 to 67 percent in 2019, but ITN use has not increased as rapidly, from 29 percent in 2011 to 43 percent in 2019, resulting in a low-to-moderate ITN use:access ratio that has remained fairly steady over the same period of time. ITN use:access ratio is between 0.4 and 0.6 in most of the country, with lower values in urban/peri-urban areas (Figure 3). Per the 2019 MIS, ITN use:access ratio is 0.47 in urban areas and 0.77 in rural areas. This informed the NMCP's decision to reduce the ITNs needed for urban settings for the 2021 mass campaign.

Figure 3. ITN Use:Access Ratio Map

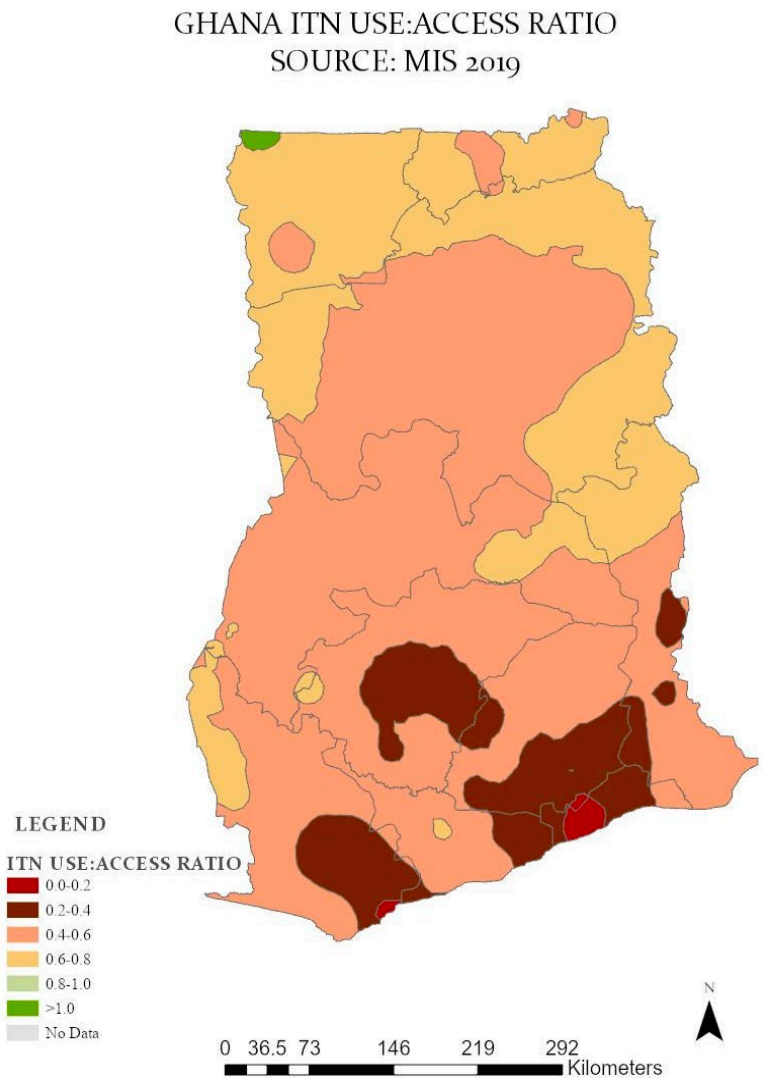

Table 4: Evolution of Key Malaria Indicators Reported through Routine Surveillance Systems

Data below include all facilities, including CHPS data, where relevant. Data from CHPS are disaggregated in Table 5.

Indicator	2017	2018	2019	2020	2021
# All-cause patient consultations	30,114,756	31,996,100	28,389,104	25,263,342	29,027,029
# Suspect malaria cases[1]	10,211,937	11,171,478	12,150,408	10,433,887	12,036,437
# Patients receiving diagnostic test for malaria[2]	8,911,456	10,219,893	11,388,698	9,956,501	11,679,876
Total # malaria cases[3]	6,133,282	6,392,973	6,703,693	5,604,746	6,063,024
# Confirmed cases[4]	4,893,939	5,571,453	6,115,273	5,172,803	5,733,013
# Presumed cases[5]	1,239,343	821,520	588,420	431,943	330,011
% Malaria cases confirmed[6]	87.3	91.5	93.7	95.4	97.0
Test positivity rate (TPR)[7]	54.9	54.5	53.7	52.0	48.1
Total # <5 malaria cases[8]	1,987,385	1,960,712	2,012,352	1,637,401	1,721,459
% Cases in children <5 years of age[9]	32.40	30.7	30.0	29.2	28.4
Total # severe cases[10]	344,213	358,538	394,027	308,887	391,052
Total # malaria deaths[11]	599	417	336	308	275
# Facilities reporting[12]	5,287	5,288	5,718	6,034	6,716
% Data completeness[13]	76.5	73.1	72.5	74.0	78.4*

* The number of facilities expected to report increased from 2017 to 2018 due to the massive creation of CHPS zones in line with the national strategy to expand CHPS zones coverages. This affected data completeness in 2018 since most CHPS facilities were not reporting due to lack of permanent facilities to render services.

1 Number of patients presenting with signs or symptoms possibly due to malaria (e.g., fever) at outpatient department; 2 RDT or microscopy, all ages, outpatient and inpatient; 3 Total reported malaria cases; all ages, outpatient and inpatient, confirmed and unconfirmed cases; 4 Diagnostically confirmed; all ages, outpatient and inpatient; 5 Clinical/presumed/unconfirmed; all ages, outpatient and inpatient; 6 Number of confirmed cases divided by total number of cases; 7 Confirmed cases divided by number of patients receiving a diagnostic test for malaria

(RDT or microscopy); 8 Outpatient and inpatient, confirmed and unconfirmed; 9 Total number of <5 cases divided by total number of cases; 10 severe/complicated malaria is defined as the presence or history of fever, plus any life-threatening condition with confirmed parasitological investigation, these cases are mostly admitted; 11 All ages, outpatient, inpatient, confirmed, and unconfirmed; 12 Total number of health facilities reporting data into the HMIS/DHIS2 system that year; 13 Number of monthly reports from health facilities divided by number of health facility reports expected (average for the calendar year).

Table 5: Disaggregated Community-Level Data

Indicator	2019	2020	2021
# Patients receiving diagnostic test for malaria from a CHW	2,443,211	2,286,224	2,864,764
Total # of malaria cases reported by CHWs[1]	1,823,630	1,727,995	1,998,136
% of CHW reported cases (among total malaria cases)[2]	27.2	30.8	33.0

1 Includes all ages, confirmed and unconfirmed.
2 Total # malaria cases reported by CHWs/Total # malaria cases in previous table.

Table 6: Key Elimination Indicators

Indicator	2019	2020	2021	2022
Total # of Districts in Ghana	260	260	260	261
# of Districts designated for elimination				6
% of Districts pursuing elimination				2.3
Annual Parasite Index (API)				
Test Positivity Rate (TPR)	7.1–10.9		*	*

*Activities for pre-elimination districts is scheduled to start in 2022.

V. OTHER IMPLEMENTATION INFORMATION

PMI supported standard ITN durability monitoring of DawaPlus 2.0 ITNs distributed in Zabzugu district and Olyset ITNs distributed in Nanumba South district during June of the 2018 mass campaign. Median survival of the Olyset (2.3 years) and DawaPlus 2.0

(2.8 years) ITNs was less than the expected three years, with attrition largely driven by wear and tear, and nets being given away to others. At 34 months post-distribution, 80 percent of the remaining DawaPlus 2.0 ITNs and 63 percent of the remaining Olyset ITNs met the criteria for optimal effectiveness; however, the endline results were contrary to the declining trend in optimal effectiveness recorded between the baseline and 24-month survey round (Table 7). This phenomenon has not been observed in other countries for which bioassay and chemical results are available through 24 or 36-months. A retrospective analysis revealed that all but three of the nets analyzed were tagged cohort nets with complete data from previous rounds, and many (70 percent in Nanumba, 43 percent in Zabzugu) were still in their package at baseline. If nets remained in their packaging for six months or more prior to being hung, this may explain the observed trends between the 24 and 36 month timepoints.

PMI has not supported any Therapeutic Efficacy Studies to date.

Table 7: 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 (%)*	Insecticide content loss compared to target dose (%)*
Nanumba South (Olyset)	Baseline: 5.8	0.3%	97.9% (N=333)	90.0%	N/A
	First: 12.7	2.8%	89.8% (N=245)	43.3%	37%
	Second: 25.9	21.4%	69.3% (N=150)	40.0%	36%
	Third: 33.5	29.3%	73.3% (N=101)	63.3%	43%
Zabzugu (DawaPlus 2.0)	Baseline: 5.8	0.0%	98.6% (N=284)	100.0%	N/A
	First: 12.7	1.2%	96.1% (N=233)	46.7%	62%
	Second: 25.9	15.5%	80.8% (N=177)	43.3%	74%
	Third: 33.5	24.3%	72.1% (N=147)	80.0%	74%

* 30 nets were tested for bioefficacy and chemical content at each time point, per site.

VI. KEY POLICIES

The NMSP 2021–2025 is Ghana's overarching policy document for malaria prevention and control and is complemented by additional guidelines and policies for CM, community health, ANC and MIP, SM&E, and supply chain (Table 9). One of these policy documents (National Digital Health Strategy) is currently available online.

Table 8: Policies in Ghana

Ghana National Malaria Strategic Plan (2021–2025)	
National Malaria Control Monitoring and Evaluation Plan (2021–2025)	
National eHealth Strategy (2008)	
Social and Behavior Change Communication Strategy for the National Malaria Control Program (2015–2020)	
Health Commodity Supply Chain Master Plan (2021-2025)	
Guidelines for Case Management of Malaria in Ghana (March 2020)	
Reproductive Maternal Newborn Child and Adolescent Health and Nutrition Strategic Plan (2020–2025)	
What is/are the first-line treatment(s) for uncomplicated *P. falciparum* malaria*?	Artemether-lumefantrine Artesunate-amodiaquine
What is/are the second-line treatment(s) for uncomplicated *P. falciparum* malaria*?	Dihydroartemisinin-piperaquine
What is the first-line treatment for severe malaria?	IV/IM Artesunate IM Artemether IV/IM Quinine
In pregnancy, what is the first-line treatment for uncomplicated *P. falciparum* malaria in the first trimester?	Oral quinine and clindamycin
In pregnancy, what is/are the first-line treatment(s) for uncomplicated *P. falciparum* malaria in the second and third trimesters?	Artemether-lumefantrine Artesunate-amodiaquine Oral quinine
In pregnancy, what is the first-line treatment for severe malaria?	IV/IM Artesunate IM Artemether IV/IM Quinine

Is pre-referral treatment of severe disease recommended at peripheral health facilities? If so, with what drug(s)?	Yes IM artesunate Rectal artesunate (in children under 6) IM artemether IM quinine
Is pre-referral treatment of severe disease with rectal artesunate recommended for community health workers?	Yes, at CHPS level (not by community health volunteers)
Community Health Policy **Community-based Health Planning and Services Policy: Accelerating Attainment of Universal Health Coverage and Bridging the Access Inequity Gap** March 2016; **CHPS National Implementation Guidelines** September 2016	
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, as defined by Ghana: CHWs at CHPS compound are CHN and /or midwife.
Prevention of Malaria in Pregnancy Policy **Ghana Reproductive, Maternal, Newborn, Child and Adolescent Health and Nutrition Strategic Plan** 2020–2025	
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 MCH?	16 weeks
Do the national ANC guidelines reflect the WHO 2016 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?	Yes
What is the status of training ANC providers on the WHO recommended 8+ contacts?	This has been integrated into CM training, which has been conducted in all regions.
Have HMIS/DHIS2 and ANC registers been updated to include 8+ contacts?	Yes
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 collected by single month.

Is ANC/IPTp provided by facility staff conducting ANC outreach to communities?	Yes
Can CHWs deliver IPTp and if so, which specific cadres and beginning with which dose?	Yes, midwives at CHPS compounds can initiate the first dose, CHN can resupply.

VII. PARTNER LANDSCAPE

Partner support for malaria activities in Ghana is not geographically targeted, with PMI and the Global Fund and jointly funding nationwide procurement of most commodities and implementation of most interventions. Currently, the Global Fund supports IRS in 16 districts in three different regions (Ashanti, Upper East, and Upper West) and PMI supports IRS in nine districts in two regions (North East and Northern). The Government of Ghana also procures some malaria commodities and supports the implementation and monitoring of malaria interventions by NMCP and staff at other levels of the health system, and is the sole supporter for larval source management activities implemented in 100 target districts across the country.

Table 9: Partner Landscape

Partner	Key technical interventions	Geographic coverage	Funding amount or in-kind contribution	Timeframe
Global Fund	• Procurement of malaria commodities, including SP, RDTs, ACTs, severe malaria medicines, and ITNs for routine distribution during ANC and CWC • Training and supportive supervision for malaria service delivery (including OTSS) • Cross-cutting interventions, including SBC and pharmaceuticals management, and GhiLMIS rollout and implementation • NMCP human	Nationwide (jointly with PMI); central	$103,000,000	Current grant covers 2021 through 2023

Partner	Key technical interventions	Geographic coverage	Funding amount or in-kind contribution	Timeframe
	resources and grant management			
	Procurement and distribution of ITNs for the CY 2021 mass campaign	Nationwide, with the exception of some urban centers and all IRS districts (jointly with PMI)		
	Procurement of SPAQ and implementation of SMC	Bono East (5 districts), Northern, North East, Oti, Savannah, Upper East, Upper West (jointly with PMI)		
	Implementation of IRS	Ashanti (2 districts), Upper East (3 districts), and Upper West (11 districts) regions		
Government of Ghana	• NMCP and other health system staff implementation and and monitoring of malaria control activities • Procurement of specific malaria commodities, including SP, ACTs, and ITNs for high School students and for TB/HIV patients	Nationwide		May to December
	Larval Source Management	105 out of 260 districts of the country	$1,643,835	