ZIMBABWE 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. Zimbabwe began implementation as a PMI partner country in FY 2011. Please see the Zimbabwe Malaria Operational Plan for more information on PMI's approach and investments.

II. CONTEXT

Table 1. General Demographics and Malaria Situation

Population	15,178,979 (Zimbabwe Census, 2022)
Population at risk of malaria	10,245,811 (2021–2026 National Malaria Control and Elimination Strategic Plan [NMCESP], 2022)
Malaria prevalence	0.5% by RDT, 0.2% by microscopy (Malaria Indicator Survey [MIS], 2016)
Malaria incidence/1,000 population at risk	9 cases per 1,000 population (District Health Information System 2 [DHIS2], 2022)
Peak malaria transmission	Malaria transmission occurs year-round, with increased incidence following the onset of the November to May rainy season. Peak transmission varies slightly from year to year but normally occurs in April to May.

STRATIFICATION

Zimbabwe experiences a wide spectrum of malaria transmission intensity, with seasonal and geographic variation that corresponds closely with rainfall patterns and topography. Although transmission is perennial in malarious areas, seasonal increases occur annually, with the majority of transmission occurring during or just after the November to April rainy season. Geographically, Zimbabwe is divided by a central watershed lying higher than 1,200 meters above sea level, which is flanked to the north, east, and south by low-lying areas. This variability in elevation (and therefore temperature), combined with geographic variability in average annual rainfall, results in higher malaria transmission in the northern and eastern border regions, with more limited transmission in the central and southwestern portions of the country (see Figures 1 and 2). This pattern has remained consistent over recent years, with the three northern and eastern provinces of Mashonaland Central, Mashonaland East, and Manicaland accounting for approximately 75 percent of the reported annual malaria case load. (Zimbabwe DHIS2).

Figure 1. Malaria Incidence by District, 2021

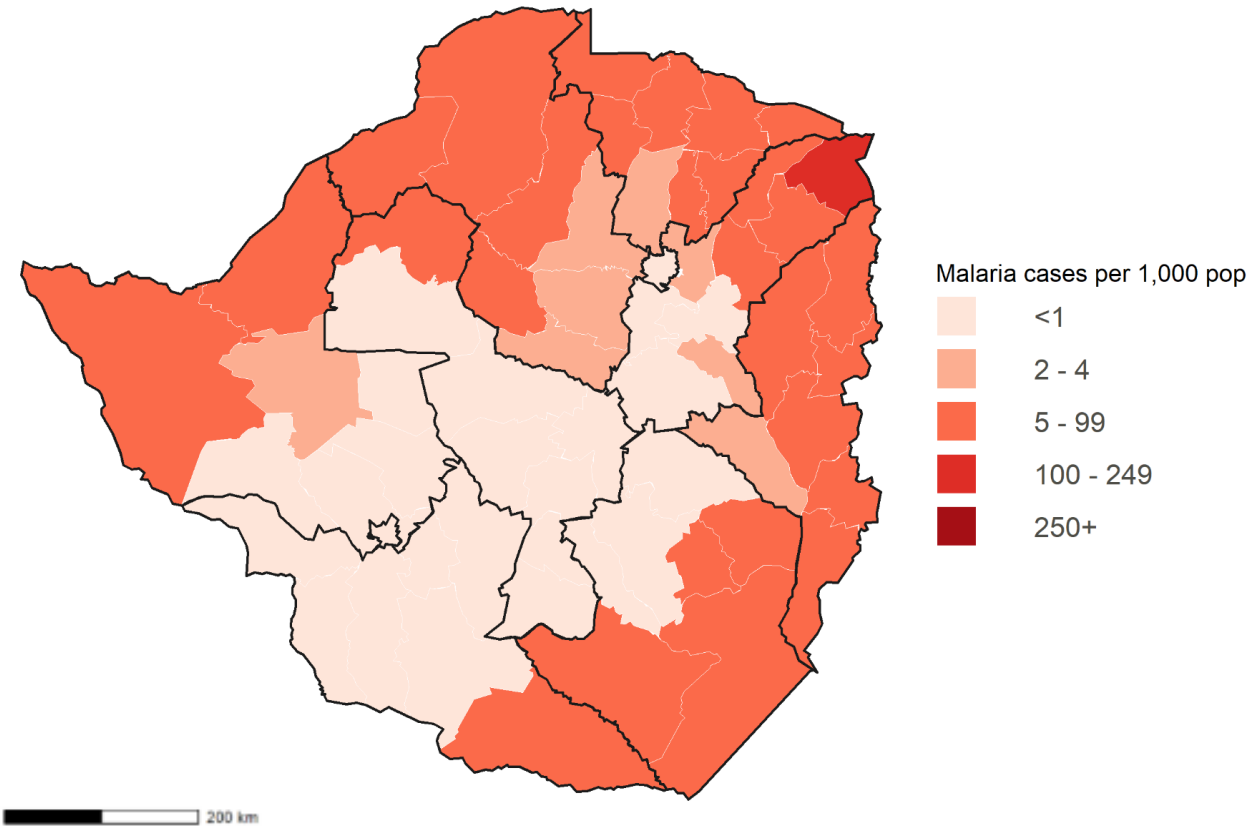


Figure 2. Malaria Incidence by District, 2022

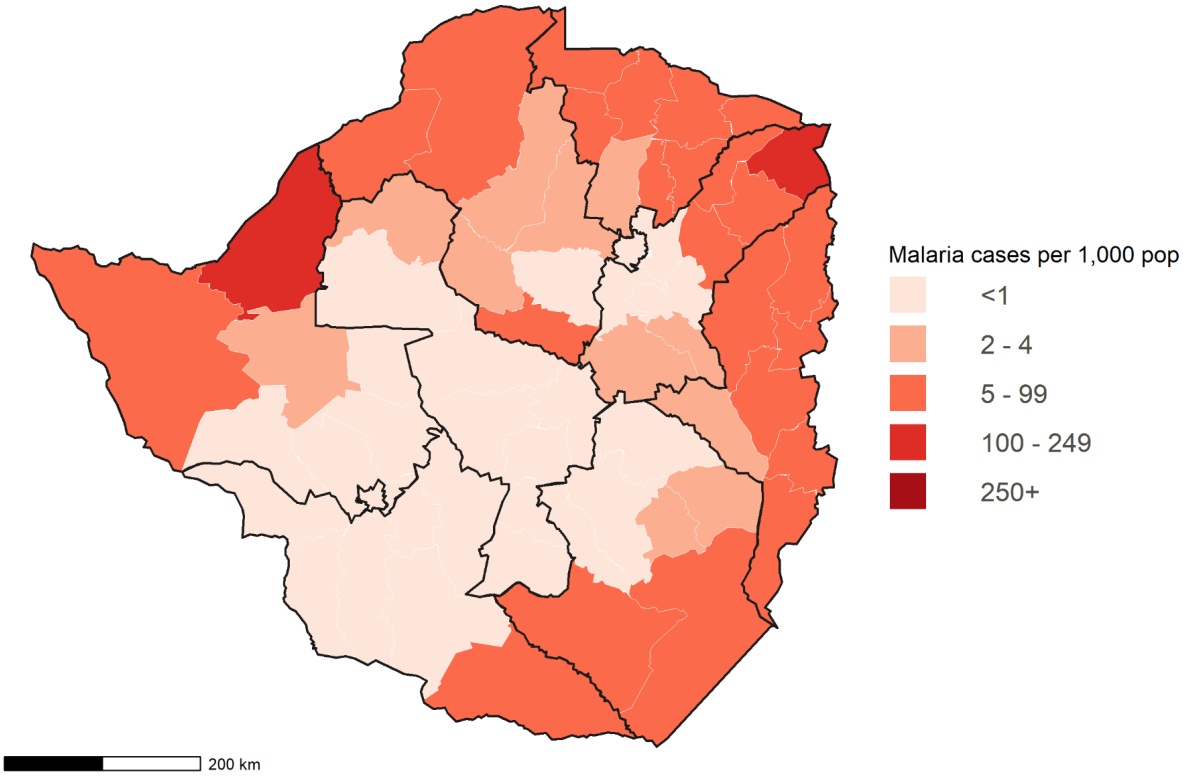


Table 2. Malaria Parasites and Vectors

Principal malaria parasites	*P. falciparum (98%)*
Principal malaria vectors[1]	*Anopheles funestus* s.l. and *Anopheles gambiae* s.l. are the principal vectors; which vector predominates varies depending on area. *An. gambiae* s.l. remains susceptible to most insecticides at most sites but emerging resistance to DDT, deltamethrin, and alpha-cypermethrin has been noted at selected sites in recent years. *An. gambiae* s.l. was also susceptible to clothianidin. It has proven difficult to collect sufficient *An. funestus* s.l. larvae to conduct insecticide resistance assays

[1] See the entomological monitoring section of the MOP for more details on vector bionomics and insecticide resistance and the indoor residual spraying section for details on residual efficacy.

COUNTRY HEALTH SYSTEM

Health System Administrative Structure

As articulated in the National Health Strategy 2021–2025, the mission of the Zimbabwe Ministry of Health and Child Care (MOHCC) is to “coordinate, promote, and advocate for the provision of equitable, appropriate, accessible, affordable, and acceptable quality health

services and care to Zimbabweans, while maximizing the use of locally available resources in line with the Primary Health Care Approach." This approach focuses on decentralization of health care services to administrative wards and rural communities to bring services closer to the population and includes five levels, linked by a two-way referral system. Malaria case management (CM) and malaria in pregnancy (MIP) services are provided at the first four of these levels.

The first level, primary care, includes a network of over 1,700 health centers, clinics, and rural hospitals, each serving a rural administrative ward or urban area. The vast majority of these facilities are rural hospitals and clinics managed by the MOHCC or local authority, with mission and private clinics accounting for only 6 percent of the total. Primary care clinics are normally managed by a nurse-in-charge, with assistance from additional nursing and administrative staff, as appropriate for the clinic's patient volume. One or more environmental health technicians provide additional support services. Malaria CM services are available nationwide at the primary care level, with intermittent preventive treatment in pregnancy (IPTp) administration available through antenatal care (ANC) clinics at facilities in 26 targeted districts with high malaria burdens. In addition to these facility-based services, primary care facilities manage a contingent of volunteer community health workers (CHWs). Two CHW cadres, village health workers (VHWs) and school health coordinators, provide malaria services at the community level. VHWs implement integrated community case management (iCCM) for children under five years of age nationwide and malaria community case management for all ages in 32 designated districts with high malaria burdens. School health coordinators provide malaria CM services in schools.

The secondary care level includes a network of approximately 140 government, mission, and private hospitals that offer emergency, ambulatory, and inpatient services. Approximately 70 percent of these facilities are managed by missions or private entities. There is at least one secondary care hospital in each of Zimbabwe's 62 districts, which serves as the next-level referral facility for complicated malaria cases identified at primary care clinics located in the hospital watershed. In many instances, these hospitals also provide primary-care-level malaria services for adjacent communities, including the management of VHWs.

The tertiary care level includes eight government-managed provincial hospitals, one for each rural province. These facilities provide emergency, ambulatory, and specialist inpatient services. The quaternary level includes six government-managed hospitals offering a higher level of care, including specialist inpatient services. These facilities are primarily located in large urban centers. Malaria CM services, including specialist care for the management of referred severe malaria cases, are available at these higher levels.

The final quinary level, which was more recently introduced by the MOHCC, does not target direct health care provision but is designed to drive research and development through enhanced linkages with institutions of higher education, the manufacturing sector, and the

MOHCC's new divisions of biomedical engineering science and pharmaceutical/ biopharmaceutical production.

Health System Capacity and Distance to Care

Recent comprehensive data on health care coverage are limited. However, available data suggest that the overall health care system capacity is insufficient. The current MOHCC health facility density target is two health facilities per 10,000 population, the inpatient bed density target is 25 beds per 10,000 population, and the core health worker density is 23 per 10,000 population. According to the most recent Zimbabwe Service Availability and Readiness Assessment (2015), the national average for health facility density was 1.1 per 10,000 population, with low health facility densities in the metropolitan provinces of Harare (0.2) and Bulawayo (0.4) and somewhat higher densities in the rural provinces (range of 1.1–1.7). The national average for inpatient bed density was 18 per 10,000 population (range of 12–41), with only one province, Bulawayo, exceeding the target threshold of 25. The national average for core health worker density was 8 per 10,000 (range of 6–25). Again, only Bulawayo Province exceeded the target threshold of 23. Given the overall deterioration of the health system infrastructure and the worsening situation for human resources for health in the country since this 2015 assessment, it is reasonable to assume that these indicators have worsened over time.

Available data suggest that many Zimbabweans must travel substantial distances to access qualified care, creating an additional barrier to the provision of malaria CM and MIP services. Nearly 47 percent of 2016 Zimbabwe MIS respondents reported the distance to the nearest health facility was greater than 5 kilometers (km), with over 19 percent reporting a distance greater than 10 km. In a more recent study by Magundu et al. (2020), 35 percent of health care users in two rural Zimbabwean districts reported walking distances of 6–10 km to access care, with 14 percent walking more than 10 km.

Health Care Costs and Affordability

Recent comprehensive data on health care costs and affordability of health care services are not readily available. In general, Zimbabweans are eligible to access basic services through the MOHCC system at no cost. However, according to the 2022 Zimbabwe MOHCC health sector investment case, inadequate public funding for health facilities has had a negative effect on service delivery, with most facilities now relying on user fees, especially for hospital-level services. In the 2015 Zimbabwe national health accounts report, the household share of total health expenditure was estimated at 25 percent, and the incidence of catastrophic health expenditure was 7.6 percent, with the poorest households disproportionately affected. The household contribution to health expenditures decreased in the 2017 and 2018 national health account assessment to 16 and 13 percent, respectively. This corresponded with a marked increase in spending on health care by the Zimbabwe government during those years. In subsequent years, government spending on health care was initially reduced in 2019 and 2020 compared with 2018 levels; however, spending increased substantially in 2021 and 2022,

primarily in response to the COVID-19 pandemic. It is important to note that these fluctuations in health care spending had a very limited impact on malaria-specific programming, which relies almost exclusively on funding from the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) and PMI.

Various sources estimate that the percentage of Zimbabweans with private health insurance that could defray some of these household expenses is only approximately 10 percent. This low health insurance coverage rate also means that the more costly, and often higher quality, private health sector options are not affordable for the vast majority of Zimbabweans. The extent to which Zimbabweans access health care in the private sector is not clearly documented. However, for malaria CM services, available data suggest that private sector care seeking is limited. For example, among those children with fever for whom advice or treatment was sought in the 2019 Multiple Indicator Cluster Survey (MICS), only 6 percent sought care in the private sector.

Deployment of Rapid Diagnostic Tests (RDTs) and Microscopy

As mentioned earlier, malaria CM and MIP services are conducted at four of the five levels of the Zimbabwean health care system. National policy recommends malaria treatment and testing in the public and private sector consistent with the most recent national malaria CM guidelines, including the use of artemether-lumefantrine as the first-line agent, as well as the use of malaria RDTs and/or microscopy. RDTs are deployed at all levels of the health system, while microscopy services are normally available only at larger primary care facilities and higher levels of care. The National Malaria Control Program (NMCP) has attempted to engage with the private sector to ensure appropriate malaria CM, including conducting training of private sector professionals through inclusion in public sector activities or by outreach through other existing channels, such as continuing education sessions. However, resources for such activities are limited, given the substantial gaps remaining within the public sector. PMI is not aware of a recent formal assessment of malaria testing capacity or treatment availability in the private sector.

NMCP and Family Health Department Collaboration

The NMCP coordinates closely with the MOHCC Family Health Department and provincial and district MOHCC staff for the planning and implementation of interventions to strengthen ANC service delivery, including integrated supportive supervision approaches. In keeping with the 2016 World Health Organization (WHO) ANC recommendations, Zimbabwe has officially updated the national ANC policy to include the recommended eight ANC contacts for pregnant women. Training and job aids have been rolled out nationwide in support of this policy change. As mentioned previously, IPTp administration is available through ANC clinics in 26 targeted districts. Additionally, NMCP has explored approaches for the provision of the first dose of IPTp by VHWs in the second trimester as early as 13 weeks for those women whose first ANC contact occurs before their 13th week of pregnancy. NMCP has conducted a pilot/roll-out in

selected districts in Manicaland Province with other donor funding. At this time, it is unclear whether a larger-scale rollout will be undertaken.

Health Supply Chain and Pharmaceutical Management System

Malaria and other health commodities are managed through the MOHCC pharmaceutical management system under the leadership and technical oversight of the Department of Pharmacy Services. The National Pharmaceutical Company (NatPharm), a parastatal organization, is mandated to procure, warehouse, and distribute medicines and medical supplies destined for consumption at public health facilities. Together with donors and in-country stakeholders, these organizations strive to ensure consistent availability of malaria commodities at service-delivery points nationwide. Due to the country's economic challenges, there are limited private sector actors in the health supply chain and pharmaceutical management system.

Malaria commodities are almost exclusively procured using PMI and Global Fund resources, with ad hoc smaller purchases funded by the Zimbabwe government. Once they are in the country, these commodities are warehoused and distributed through a pooled system managed by NatPharm with significant financial support from donors. The Department of Pharmacy Services convenes and leads annual quantification exercises, with semiannual updates, in consultation with the NMCP, PMI, Global Fund, and other key in-country stakeholders. The outputs of these exercises inform PMI malaria operational planning, Global Fund grant development, commodity shipping schedules, and in-country supply planning.

The primary vehicle for supply chain and pharmaceutical management is the Zimbabwe Assisted Pull System (ZAPS), which includes the management of malaria and most other health commodities destined for use at health facilities and by CHWs at the community level. ZAPS is a harmonized system of assisted quarterly ordering, delivery, and reporting that integrates transport, warehousing, and management information systems. The system functions mostly under direct donor funding support. Under ZAPS, health facility staff are responsible for stock management and ordering of commodities with oversight from the district pharmacy manager, who visits the facility quarterly to provide supportive supervision and assist with quality assurance for these processes. Once quarterly needs for the facility and associated CHWs are determined, the district pharmacy manager enters the quantities required into the ordering system, which is accessible at the central level. Order quantities are then reviewed, and if reasonable, filled and shipped to the requesting facility by NatPharm staff. Once received, health facility staff manage the stocks destined for use at the facility and resupply CHWs through the CHW commodity resupply system based on the level of consumption and available stocks, although disaggregated data between facility and CHW stock balances are limited.

Data related to commodity stock status and need are managed through the logistics management information system (LMIS). The MOHCC is currently transitioning from a mixed-paper and electronic format to an electronic LMIS (eLMIS) with increased reporting

frequency to monthly. The roll-out of this system is in process, with district hospitals as the initial sites. The process was started in 2020 with a phased roll-out to all public sector facilities planned through 2024.

While malaria commodities are generally available in the country, the system struggles with keeping stocks at appropriate levels per facility, with constant understocks in some facilities and overstocks in others. It is hoped that as the eLMIS is rolled out and data availability is increased from quarterly to monthly, it will assist in balancing stock levels between facilities.

Health Management Information System (HMIS)

The Zimbabwe HMIS includes the collection of routine, aggregate health information from four levels of the health delivery system (primary, secondary, tertiary, and quaternary). Monthly HMIS data collection, including malaria data elements, is paper-based at the village, health facility, and hospital levels. Paper records are submitted to the district, where data are entered into the Zimbabwe DHIS2 by the district health information officer.

In addition to monthly HMIS data collection and reporting, weekly malaria data are collected for inclusion in the Integrated Disease Surveillance and Response (IDSR) epidemic detection system via a facility and community-based text messaging platform. As part of the Rapid Disease Notification System, text data are fed into the Weekly Disease Surveillance Database, reviewed by district and provincial health officers and then transmitted into the IDSR portion of DHIS2. A weekly disease surveillance report is disseminated via email to a limited number of stakeholders in a relatively timely fashion, which includes information on malaria morbidity and mortality. Ideally, weekly surveillance meetings are held at the district, provincial, and central levels to review these data. Epidemic alert and action thresholds, based on previous years' data, are calculated and plotted at health facilities in areas of moderate-to-high transmission to facilitate early detection and response to increases in weekly malaria transmission.

The NMCP also implements a case-based surveillance system through a separate DHIS2 module (DHIS2 Tracker Capture) in areas implementing malaria elimination activities. The system allows for case reporting and notification of confirmed cases that are detected at the health facility, ideally within 24 hours. All confirmed cases should receive specific follow-up. Within three days, health workers should conduct a case investigation, including a patient household visit and screening of contacts within the household. Based on the results of this investigation, cases are classified as local or imported. If local transmission is identified, a focus investigation is initiated within seven days, including entomological monitoring activities. An appropriate foci management response is then conducted based on the investigation's findings. Case-based surveillance data are ideally submitted in near-real-time through a smart-phone based platform connected to the DHIS2 Tracker Capture system. In areas where connectivity is a challenge, the system allows for offline functionality, and server synchronization occurs when the network point is reached. Once data is sent, it is available for all eligible users within the health system. Data quality checks occur, but the frequency and implementation are insufficient.

Access to DHIS2 systems by donors and partners is very limited, and there is no formal reporting or dissemination of monthly DHIS2 data by the MOHCC in general or the NMCP specifically (i.e., no standardized, routine malaria report is widely circulated). However, the NMCP shares data with PMI during routine bilateral coordination meetings and contributes HMIS and other programmatic monitoring data to the Malaria Data Integration and Visualization for Eradication (MDIVE) system through the PMI quarterly reporting process. The capacity for malaria data analysis and use is higher at the central level and decreases dramatically in the lower levels of the health system.

It should be noted that the current strategic direction of the MOHCC is to fully digitize the HMIS and related systems using electronic health records designed to be deployed at each health facility. Patient-level data from will be aggregated into DHIS2 through an interoperability layer (currently at the design/planning stage). This system has been piloted in a small number of select districts. However, very substantial financial resources and massive improvements to deteriorating physical infrastructure in Zimbabwe will be required for scale-up. It is unclear whether the needed resources will be made available and, for the time being, Zimbabwe continues to primarily rely on the existing HMIS systems described earlier.

OTHER CONTEXTUAL INFORMATION

Social, political, and economic hardships persist in Zimbabwe, creating an extremely challenging operating environment for PMI, NMCP, and partners. This already difficult situation was complicated by the COVID-19 pandemic and associated mitigation measures, including restrictions imposed to limit the spread of the virus that resulted in delays and curtailment of malaria interventions. The pandemic also worsened an already deteriorating human resource situation in the health sector, marked by repeated health care worker strikes, low morale among health care workers, and the loss or expatriation of substantial numbers of qualified health care workers. This attrition of qualified health care workers, a long-standing issue, appears to have dramatically risen in recent years. According to the 2022 Zimbabwe Health Labor Market Analysis (HLMA), over 1,600 health care workers, 72 percent of whom were nurses or midwives, left the public sector in the first half of 2021 alone. Many of these professionals left the country entirely. Additional sources suggest that this exodus has continued at high rates, but more recent official numbers are not available. The 2022 HLMA concluded that the production of new health workers is insufficient to replace these losses, and additional anecdotal evidence supports this claim. These human resource issues, combined with substantial resource limitations within the health care sector and the continued deterioration of physical infrastructure, have resulted in decreased access to quality care in Zimbabwe.

PMI, NMCP, and partners also face a number of persistent programmatic challenges, including: insufficient overall malaria financial resources with nearly complete reliance on Global Fund and PMI funding for the procurement of commodities and activity implementation; logistical, planning, and operational challenges for Global Fund-supported indoor residual

spraying (IRS) and other activities; insufficient quality and quantity of information required for malaria program decision making across multiple intervention areas; and limited information sharing by the MOHCC. Additionally, persistent hyperinflation and frequently changing economic policies and banking regulations make program implementation increasingly complex and costly, and often result in scarcity of basic resources, particularly fuel. Of late, there has also been a dramatic decrease in the capacity of the electrical supply system, resulting in rolling blackouts of long duration nationwide.

Outdoor lifestyles and livelihoods among particular populations in areas with high malaria burdens (e.g., riverbank cultivators, artisanal miners, and migrant farmers) increase the risk of malaria transmission for individuals engaged in such activities and may limit the effectiveness of traditional vector control interventions (e.g., insecticide-treated mosquito nets [ITNs] and IRS) for these populations. There are also ongoing issues with some religious, conscientious objector groups with beliefs that do not permit medical intervention to prevent or treat illness. In addition, the perception of risk related to malaria seasonality is a well-established barrier in Zimbabwe, creating obstacles for consistent practices of malaria prevention and treatment behaviors, especially ITN use.

Despite these challenges, malaria stakeholders are optimistic that the disease burden can continue to be decreased by building on recent achievements and positive enabling factors.

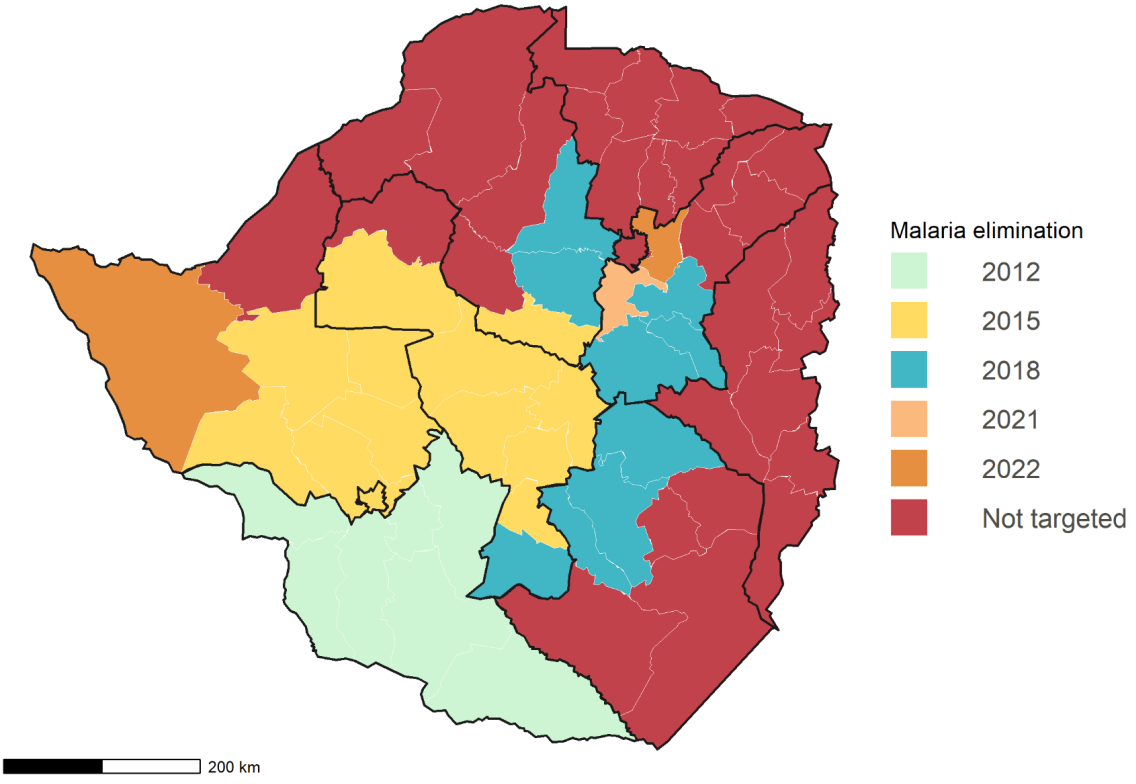
III. NMCP STRATEGIC PLAN

The vision of the Zimbabwe 2021–2026 NMCESP is to achieve a malaria-free Zimbabwe, with the primary goal of reducing malaria incidence to 15 cases per 1,000 population and malaria deaths by at least 90 percent by 2026. To achieve this, the NMCP supports the following major intervention areas: vector control; malaria CM; MIP, including IPTp; social and behavior change (SBC); surveillance, monitoring, and evaluation (SM&E); malaria elimination; and malaria program management. These strategies and interventions are closely aligned with those prioritized by PMI. Notable exceptions include the NMCP's promotion and implementation of larval source management and the national policy recommending prereferral rectal artesunate for all age groups.

Zimbabwe experiences the full spectrum of malaria epidemiology, including areas with very limited transmission in the central plateau and southwestern portions of the country. In 2012, NMCP initiated a package of elimination activities for seven of these lower burden districts (API less than 5 per 1,000), including the addition of low-dose primaquine for malaria CM; malaria case investigation, classification, and response; and foci investigation, classification, and response. The NMCP extended these elimination activities to an additional 13 districts in 2015 and another nine districts in 2018. Expansion to three additional districts was undertaken in 2021 and 2022, with a total of 32 districts currently implementing elimination activities. As described earlier, an electronic case-based surveillance system was operationalized for use in these elimination districts with support from the Clinton Health Access Initiative.

Under the 2021–2026 NMCESP, NMCP intends to expand the number of districts implementing elimination activities to 36 and achieve zero local malaria transmission in 20 of those districts. Specific strategies to progress toward elimination include: expanding the capacity for malaria elimination, implementing malaria elimination activities, assessing readiness and building capacity in new districts targeted for malaria elimination, preventing reintroduction of malaria in cleared foci, and exploring innovative mechanisms to accelerate malaria elimination.

Figure 3. Zimbabwe Districts Implementing Elimination Activities Over Time and Districts Targeted for Elimination, According to the 2021–2026 NMCESP



The map shows the year when malaria elimination protocol started

IV. KEY MALARIA DATA

EVOLUTION OF KEY SURVEY-BASED MALARIA INDICATORS

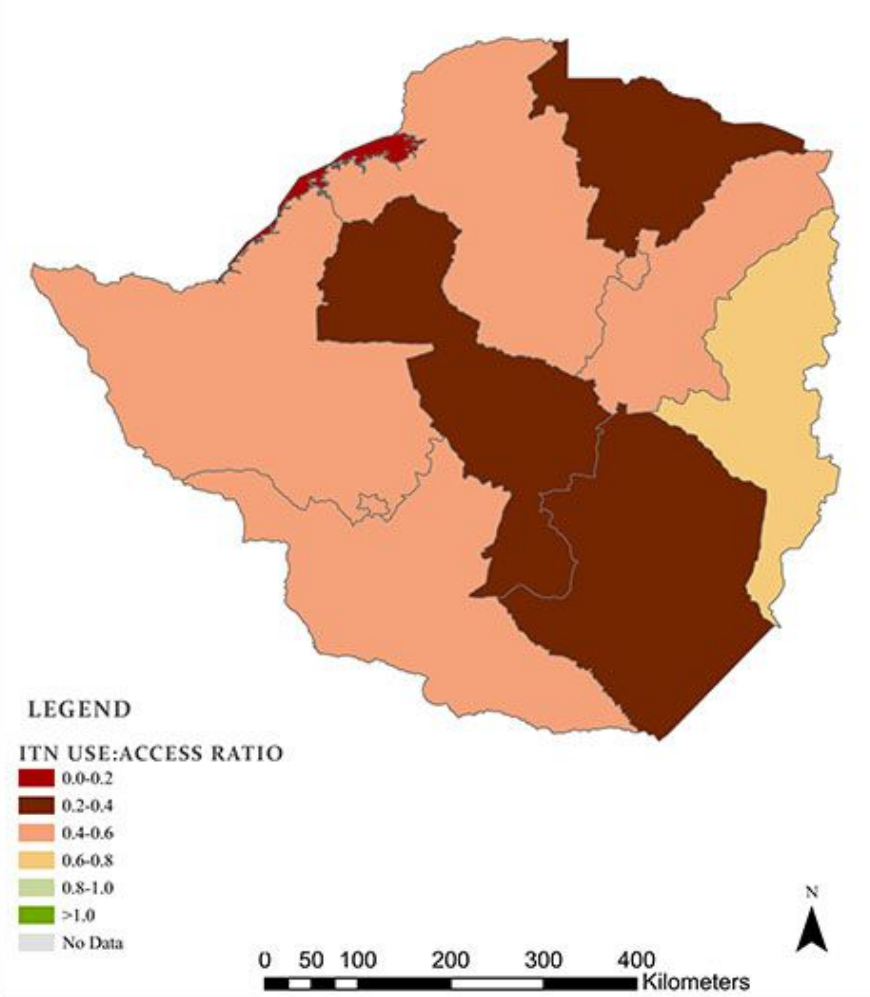
Table 3. Key Survey Indicators

Indicator	2010–2011 DHS	2015 DHS	2016 MIS	2019 MICS
% of households with at least one ITN	29	48	58	37
% of households with at least one ITN for every two people	12	26	51	18
% of population with access to an ITN[1]	22	43	42	27
% of population that slept under an ITN the previous night[1]	9	10	26	12
% of children under the age of five who slept under an ITN the previous night	10	9	33	15
% of pregnant women who slept under an ITN the previous night[3]	10	6	25	N/A
% of children under the age of five with a fever in the last two weeks for whom advice or treatment was sought[2]	43	51	65	35
% of children under the age of five with a fever in the last two weeks who had a finger or heel stick	7	13	N/A	12
% of children receiving an ACT among children under the age of five with a fever in the last two weeks who received any antimalarial drug	49	N/A	N/A	N/A
% of women who attended four ANC visits during their last pregnancy	65	76	N/A	72
% of women who received three or more doses of IPTp during their last pregnancy in the last two years	N/A	N/A	20	13
Under five mortality rate per 1,000 live births	84	69	N/A	73
% of children under the age of five with parasitemia by microscopy	N/A	N/A	0.2	N/A
% of children under the age of five with parasitemia by RDT	N/A	N/A	0.5	N/A

Note: In Zimbabwe, DHS and MICS surveys are generally fielded during the dry season, whereas MIS surveys are deliberately fielded during the high transmission season, which should be taken into consideration when interpreting these indicators. IPTp is targeted to only 26 of 62 districts and ITNs are distributed in only selected wards within selected districts. The sampling methodology of the DHS and MICS surveys (and in some instances the MIS) are not normally adapted to these circumstances, likely resulting in underestimation of the coverage for these interventions.

[1] Data presented from the 2015 DHS, and 2016 MIS for these two ITN indicators reflect the recalculated figures presented in the unpublished report, *A Secondary Analysis of the Zimbabwe Malaria Indicator Survey 2016 with Respect to ITN Ownership and Use,* completed with PMI support in coordination with the Zimbabwe NMCP. As a result, these figures may differ from those in the original publications. [2] Note that this indicator has been recalculated according to the newest definition, care or treatment from any source excluding traditional practitioners, wherever possible. [3] The 2019 MICS report did not track this indicator.

Figure 4. ITN Use-to-Access Ratio Map



Source: MICS 2019.

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

Indicator	2018	2019	2020	2021	2022
# of all-cause patient consultations	14,183,913	11,590,776	7,136,091	7,561,730	7,157,553
# of suspect malaria cases[1]	1,325,711	1,323,284	1,389,065	906,607	951,634
# of patients receiving diagnostic test for malaria[2]	1,291,530	1,291,368	1,356,433	894,334	916,280
Total # of malaria cases[3]	264,752	308,016	447,381	134,015	141,080
# of confirmed cases[4]	264,752	308,016	447,381	134,015	141,080
# of presumed cases[5]	N/A	N/A	N/A	N/A	N/A
% of malaria cases confirmed[6]	N/A	N/A	N/A	N/A	N/A
Test positivity rate[7]	21%	24%	33%	15%	15%
Total # of malaria cases in children under the age of five[8]	23,814	42,506	53,686	16,017	19,144
% of cases in children under the age of five[9]	9%	14%	12%	12%	14%
Total # of severe cases[10]	N/A	N/A	N/A	N/A	N/A
Total # of malaria deaths[11]	236	266	400	131	177
# of facilities reporting[12]	1,758	1,754	1,776	1,776	1,776
% of data completeness[13]	97.2	98.3	97.5	95.5	96

Note: Community-level data are integrated into the broader HMIS, and these numbers are inclusive of both the community- and health facility-level data captured in DHIS2.

[1] Number of patients presenting with signs or symptoms possibly due to malaria (e.g., fever). [2] RDT or microscopy, all ages, outpatient and inpatient. [3] Total reported malaria cases; all ages, outpatient and inpatient, confirmed cases—the MOHCC does not collect data on clinically diagnosed patients. [4] Diagnostically confirmed; all ages, outpatient and inpatient. [5] Clinical/presumed/unconfirmed; all ages, outpatient and inpatient—this figure is not available through the Zimbabwe DHIS2 as MOHCC does not collect data on clinically-diagnosed patients. [6] Number of confirmed cases divided by total number of cases—this figure is not available through the Zimbabwe DHIS2. [7] Confirmed cases divided by number of patients receiving a diagnostic test for malaria (RDT or microscopy). [8] Outpatient and inpatient, confirmed. [9] Total cases in number of children under the age of 5 divided by total number of cases. [10] At this time, Zimbabwe is still unable to report severe malaria cases due to continued issues with the inpatient morbidity and mortality information system. [11] All ages, outpatient, inpatient, confirmed. [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 the number of health facility reports expected (average for the calendar year).

Table 5. Disaggregated Community-Level Data

Indicator	2020	2021	2022
# of patients receiving diagnostic test for malaria from a CHW	526,517	370,055	388,863
Total # of malaria cases reported by CHWs[1]	196,788	73,550	79,113
% of CHW reported cases (among total malaria cases)[2]	44.0%	54.8%	56.1%

[1] Includes all ages, confirmed. [2] Total number of malaria cases reported by CHWs divided by total number of malaria cases in the previous table.

Table 6. Elimination Context: Policy and Scope

Malaria Policy and Implementation	Response		
1. Is malaria elimination part of the current malaria strategy?	Yes		
2. Are individual malaria cases investigated? If yes, please note whether this occurs nationally or subnationally.	Yes, subnationally		
3. Are foci investigated? If yes, please note whether this occurs nationally or subnationally.	Yes, subnationally		
Elimination scope	**2020**	**2021**	**2022**
4. Total number of districts in the country (administrative level 2)	62	62	62
5. Number of districts that have been verified as having eliminated malaria?[1]	0	1	1
6. Among districts not verified as having eliminated malaria, how many districts are targeted for elimination efforts?	29	29	32
6A. Among districts targeted for elimination efforts, how many have active elimination activities?[2]	29	29	32

[1] Malaria elimination is the interruption of local transmission, i.e., no local malaria cases for three years. This refers to NMP-led subnational verification only. It is not referring to elimination certification, which can only be granted by WHO for an entire country. [2] Elimination activities include reactive ITN and/or IRS, reactive case detection, reactive or focal drug administration, procurement and/or strategies for single-dose primaquine for *P. falciparum* or radical cure primaquine for *P. vivax*, SBC for hard-to-reach or migrant populations, case investigation, and foci classification)

V. OTHER IMPLEMENTATION INFORMATION

Table 7. Results of Durability Monitoring

Site/Net Type	Survey and Time Since Distribution (months)	All Cause Attrition (%)[1]	Nets in Serviceable Condition (%)	Optimal Insecticidal Effectiveness in Bioassay (%)[2]	Optimal Chemical Content (%)[3]
DawaPlus 2.0	18	19.5	83.0	51.0	12.0
	24	29.3	76.3	42.2	6.4
	36	42.9	68.3	4.0	10.0
Duranet	18	23.7	78.6	98.1	37.5
	24	33.7	73.4	88.5	33.3
	36	46.8	60.7	85.1	12.8

[1] All-cause attrition was defined as the proportion of ITNs destroyed, discarded, or repurposed, as well as those lost for any reason including those given away, used elsewhere, or stolen. Attrition specifically due to wear and tear was not presented by brand. For all study nets, attrition due to wear and tear was 3.1 percent at month 18, 5.1 percent at month 24, and 10.0 percent at month 36. [2] Optimal effectiveness was defined as mortality greater than or equal to 80 percent using WHO cone bioassay methodology. [3] Optimal chemical content was defined as meeting the minimum value for the WHO-specified target dose range: DawaPlus 2.0 (active ingredient: deltamethrin 2.0 g/kg), range 1.5–2.5 g/kg; DuraNet (active ingredient: alpha-cypermethrin 5.8 g/kg), range 4.4–7.3 g/kg.

PMI implemented durability monitoring of DawaPlus 2.0 and Duranet ITNs beginning in 2015. This activity was completed and the results disseminated in 2019. The proportion of nets in serviceable condition remained above 60 percent for both DawaPlus 2.0 and Duranet at month 36. This is above the recommended “normal” threshold of 50 percent at month 36. The estimated median survival (a calculated estimate of the length of time to reach 50 percent survivorship) at the end of the three-year study was 4.7 years for DawaPlus 2.0 and 3.8 years for DuraNet.

The optimal effectiveness (proportion of ITNs with bioassay mortality rates of ≥80 percent at 24 hours) decreased for both net brands, with DawaPlus 2.0 showing a greater loss of effectiveness than DuraNet. DawaPlus 2.0 also showed earlier reductions in chemical content than DuraNet. The proportion of DawaPlus 2.0 with the required minimum target dose was 46 percent at month 6, decreasing to 10 percent at month 36 compared with 78 percent and 13 percent for DuraNet, respectively. The investigators concluded that reassessment of the distribution-replacement cycle in Zimbabwe should consider these results, and proper net handling, care, and consistent use should be encouraged through routine malaria SBC messaging.

Summary of Completed Therapeutic Efficacy Studies (TES)

Two studies performed over the last decade (in 2014 and 2018) suggest no evidence of substantial resistance to the first-line ACT treatment in Zimbabwe. However, there were concerns regarding the methodologies and quality of implementation in these studies.

VI. KEY POLICIES

Table 8. Policies in Zimbabwe

National Malaria Control and Elimination Strategic Plan (2021–2026)	
National Malaria SM&E Plan (2016–2020)	
National Digital Health Strategy (2021–2025 DRAFT)	
National Malaria Communication Strategy (2021–2025 DRAFT)	
Zimbabwe National Procurement and Supply Chain Strategy (2020–2025)	
Integrated Vector Management Plan (2021–2025)	
Malaria Case Management Policy (2015, with 2018 amendments via MOHCC circular)	
What is/are the first-line treatment(s) for uncomplicated *P. falciparum* malaria*?	Artemether-lumefantrine, with addition of single low-dose primaquine in elimination settings
What is/are the second-line treatment(s) for uncomplicated *P. falciparum* malaria?	Artesunate-amodiaquine, with addition of single low-dose primaquine in elimination settings
What is the first-line treatment for severe malaria?	Parenteral artesunate
In pregnancy, what is the current first-line treatment for uncomplicated *P. falciparum* malaria in the *first trimester*?	Oral quinine with doxycycline or clindamycin
Given the WHO policy change to recommend AL as treatment for uncomplicated malaria in the first trimester, does the MOH plan to update the policy on treatment of MIP in the *first trimester*? And if so, what is the status of this policy change and implementation of the new policy?	Yes, the NMCP plans to discuss this at the case management subcommittee meeting in the second quarter of 2023. If endorsed, the policy will be amended, training materials will be adjusted, and the change will be included in all subsequent training efforts.
In pregnancy, what is/are the first-line treatment(s) for uncomplicated P. falciparum malaria in the *second and third trimesters*?	Artemether-lumefantrine
In pregnancy, what is the first-line treatment for severe malaria?	Parenteral artesunate
Is prereferral treatment of severe disease recommended at peripheral health facilities? If so, with what drug(s)?	Yes, parenteral artesunate

Is prereferral treatment of severe disease with rectal artesunate recommended for community health workers?	Yes, for all ages
Community Health Policy (2020–2025)	
What is the # of CHWs currently providing iCCM?	12,660
What is the country's target for the number of CHWs providing iCCM?	20,132
What percent of the country's target is met?	63%
Does the country have a policy that enables the routine, regular payment of salaries/stipends for CHWs?	Yes. However, there are substantial implementation issues resulting in frequently delayed and missed payments.
Do CHWs have the authority to test and treat all ages for malaria?	Yes, community case management for all ages has been rolled out in 32 districts.
Prevention of Malaria in Pregnancy Policy (outlined in 2021–2026 NMCESP and ANC policy update documents)	
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?	13 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?	Roll-out completed in 2019, including distribution of updated ANC registers.
Have HMIS/DHIS2 and ANC registers been updated to include 8+ contacts?	ANC registers have been updated; however, HMIS/DHIS2 updates are still pending.
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?	Routine data is collected as single months in DHIS2. Cohort collection methods have been used for special studies.
Is ANC/IPTp provided by facility staff conducting ANC outreach to communities?	No
Can CHWs deliver IPTp and if so, which specific cadres and beginning with which dose? How many districts are targeted for c-IPTp implementation?	No. NB: NMCP undertook a pilot project in one province in which VHWs provided the first dose only for mothers who initially attended ANC before 13 weeks and had no other reason to return to ANC for the week 13 dose. However, the intervention was never fully evaluated or scaled up. Discussions about restarting this initiative are ongoing.

VII. PARTNER LANDSCAPE

As one of two primary malaria donors in Zimbabwe, PMI coordinates closely with the NMCP and Global Fund to ensure complementarity of support for implementation of the 2021–2026 NMCESP. PMI provides financial and technical support for the full range of PMI priority intervention areas outlined in section III. Portions of this support are directed to the central and national levels (e.g., technical assistance to central-level MOHCC staff and procurement of malaria commodities for nationwide distribution), while other components are targeted directly to the provincial, district, and community levels (e.g., aspects of malaria CM, SBC, and SM&E). Although there is substantial overlap between the general intervention areas funded by PMI and the Global Fund, the targeting of specific activities is usually divided either geographically, by more detailed content areas, or by the type of support provided (e.g., direct implementation support versus technical assistance). For instance, PMI and the Global Fund both support ITN distribution but in different geographical areas, with PMI providing technical support nationwide. Similarly, PMI's support for service delivery strengthening is targeted at the districts with the highest malaria burdens, with the remaining districts receiving support through the Global Fund. One notable exception is that both PMI and the Global Fund procure and distribute malaria CM commodities through Zimbabwe's national pooled supply chain management and distribution system. In recent years, Zimbabwe government resources for malaria prevention and control activities have been limited to support for IRS procurement and implementation. As outlined in Table 9, other organizations have provided much needed technical assistance but only limited financial and material support.

Table 9. Partner Landscape

Partner	Key Technical Interventions	Geographic Coverage	Funding	Time Frame
Global Fund	Across all areas	National: SM&E, case management, SBC, commodity procurement, NMCP salaries; subnational: ITNs IRS, elimination	$51.8 million (estimated $43 million for key interventions)	Current grant covers 2021–2023
Zimbabwe government	Limited support for insecticide procurement and vehicle maintenance	Limited to IRS districts	Very limited, difficult to track	Continuous
Bill & Melinda Gates Foundation through Clinton Health Access Initiative	Technical assistance in EPR and surveillance and data reporting	Limited geographic reach	Technical assistance	Through 2024
WHO	Provision of technical assistance to NMCP across thematic areas	Primarily central level	Technical Assistance	Ongoing
Isdell Flowers	Support for cross-border and SBC-related activities	Binga, Hwange, and Mudzi districts	Mostly in-kind support	Ongoing