

ZAMBIA 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 274 countries in Sub-Saharan Africa and three programs across the Greater Mekong Subregion in Southeast Asia to control and eliminate malaria. Kenya began implementation as a PMI partner country in fiscal year (FY) 2007. Zambia began implementation as a PMI partner country in fiscal year (FY) 2008. Please see the [Zambia Malaria Operational Plan](#) for more information on PMI's approach and investments.

II. CONTEXT

While recognized internationally for its ambitious goal of malaria elimination and for having attained pre-elimination levels in Southern Province, Zambia as a whole remains a highly endemic malaria country, with the entire population considered to be at risk of contracting malaria. According to the National Malaria Elimination Centre (NMEC), in 2022, there were over 8,428,920 reported malaria cases; malaria case incidence was estimated to be 428 per 1,000 population per year; and Zambian hospitals reported a total of 1,337 deaths from malaria—an incidence of 8 inpatient deaths per 100,000 population (Health Management Information System [HMIS] 2022). The most recent national survey at the end of the 2021 rainy season found a 29 percent prevalence in children under five years of age based on rapid diagnostic tests (RDTs) (Malaria Indicator Survey [MIS] 2021). Malaria transmission occurs throughout the year, with variations in transmission intensity across the country. Cases tend to peak in the late rainy season (February to May).

In Zambia, 60 percent (or 11,766,141) of the total population resides in rural areas (ZamStats 2022), where risk of malaria infection is 4.5 times greater than in urban areas (MIS 2021). Risk is highest in the wetter, rural, impoverished provinces of Luapula, Northern, Muchinga, North Western, and Western provinces (40–63 percent RDT-based prevalence in the 2021 MIS), and in adjacent rural areas of the Copperbelt and Eastern provinces. Risk is lowest in Lusaka Province and Southern Province (both 3.3 percent in the 2021 MIS). As

captured in the national stratification scheme, at the district and health facility catchment area (HFCA) level, malaria incidence varies widely, from less than 50 cases to over 500 cases per 1,000 population per year (Figures 1 and 2).

Table 1. General Demographics and Malaria Situation

Population	19,610,769 (Zambia Statistics Agency 2022; Census of Population and Housing 2022)
Population at risk of malaria	100%, 19,610,769 (Zambia Statistics Agency 2022; Census of Population and Housing 2022)
Malaria prevalence	29% RDT-based (MIS 2021)
Malaria incidence per 1,000 population at risk	428 (HMIS and Malaria Rapid Reporting System 2022)
Peak malaria transmission	December to May

STRATIFICATION

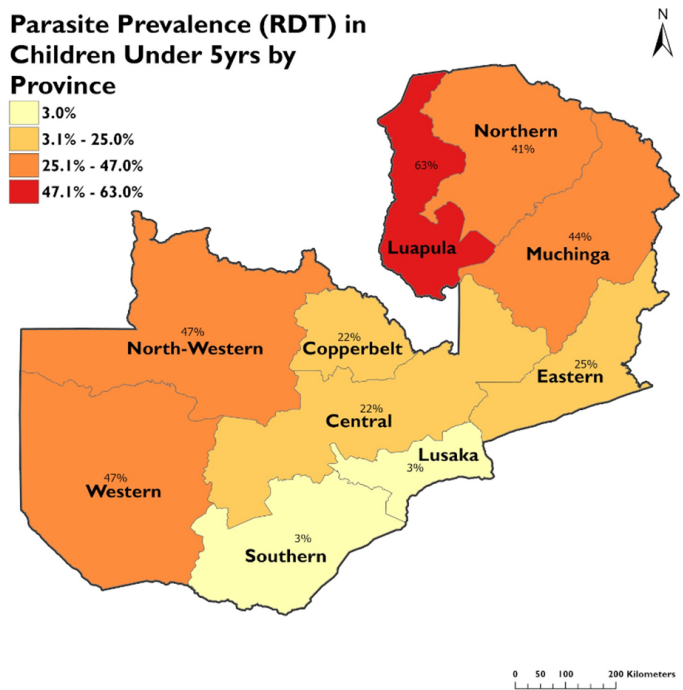
Zambia has a well-established annual program of malaria risk stratification for each district and HFCA, based on case incidence from combined data from health facility and community case management. The most recent district-level stratification was conducted in the first quarter of calendar year (CY) 2023. Malaria transmission intensity is stratified as *high* (level 4, more than 499 cases per 1,000 population per year), *moderate* (level 3, 200–499 cases per 1,000 population per year), *low* (level 2, 50–199 cases per 1,000 population per year), *very low* (level 1, 1–49 cases per 1,000 population per year), or *no malaria* (level 0). Figures 2A and 2B depict the national malaria stratification by district and by HFCA in 2022. Figure 2C shows the estimated proportion of the national population in each epidemiologic stratum.

Based on this stratification of malaria incidence, in 2022, an estimated 25 percent of the population of Zambia lived in level-4 areas where malaria incidence was above 499 per 1,000; 22 percent lived in level-3 areas with incidence of 200–499 per 1,000; 18 percent lived in level-2 areas with incidence of 50–199 per 1,000; and 32 percent lived in level-1 areas with more than zero but fewer than 50 cases per 1,000 (HMIS/Malaria Rapid Reporting System 2022). The maps and bar chart in Figure 2 show an encouraging trend of a slow but steady decrease in the number of HFCAs and the proportion of the national population living in areas in the level-4 epidemiologic stratum over a six-year period (2017–2022), except in 2020, which saw a spike in malaria case incidence across Zambia and throughout much of Southern and Eastern Africa.

Prevalence Maps

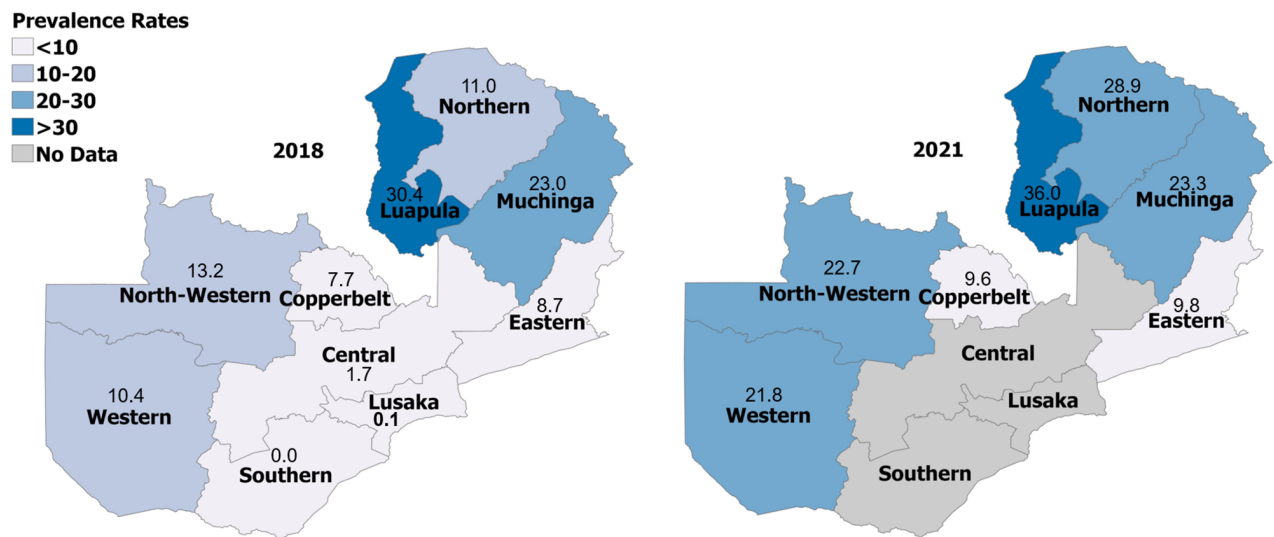
The following maps depict the prevalence of malaria parasitemia based on the 2018 and 2021 MISs.

Figure 1A. RDT-Based Prevalence in 2021: Percentage Parasite in Children Under Five Years of Age, by Province



Source: Zambia 2021 MIS.

Figure 1B. Comparison of 2018 and 2021 Parasite Prevalence (by Microscopy) in Children Under Five Years of Age, by Province



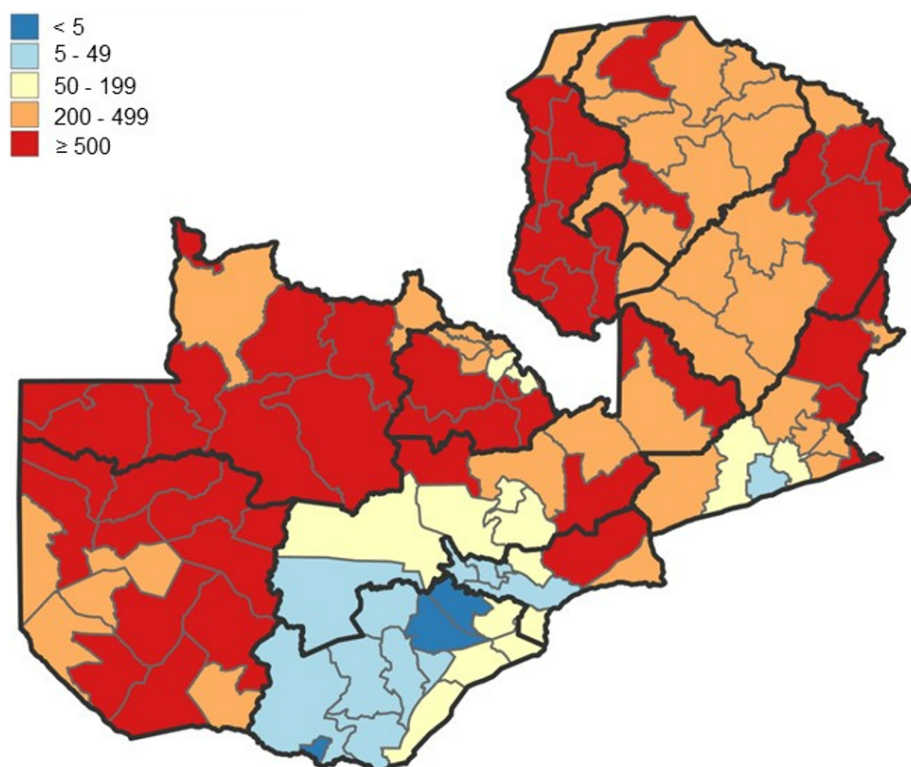
Source: Zambia 2018 and 2021 MIS. Microscopy data are not available for Central, Southern, and Lusaka provinces for 2021.

Figure 1B shows a comparison of MIS 2018 and MIS 2021 microscopy-based prevalence. Malaria prevalence by microscopy increased from 13.2 to 22.7 percent in North Western Province; 10.4 to 21.8 percent in Western Province; 7.7 to 9.6 percent in Copperbelt Province; 30.4 to 36.0 percent in Luapula Province; 11.0 to 28.9 percent in Northern Province; and 8.7 to 9.8 percent in Eastern Province. During the MIS 2021, microscopy was not conducted in Southern, Lusaka and Central provinces. However, microscopy-based prevalence in 2018 was 1.7 in Central Province, 0.1 in Lusaka Province, and 0.0 in Southern Province.

The next MIS will be conducted in 2024. It is important to note that prevalence is best tracked and interpreted on a scale of decades, not two or three year intervals. Nevertheless, the 2021 MIS findings of worsened national and provincial prevalence tended to corroborate a picture of stagnating malaria indicators.

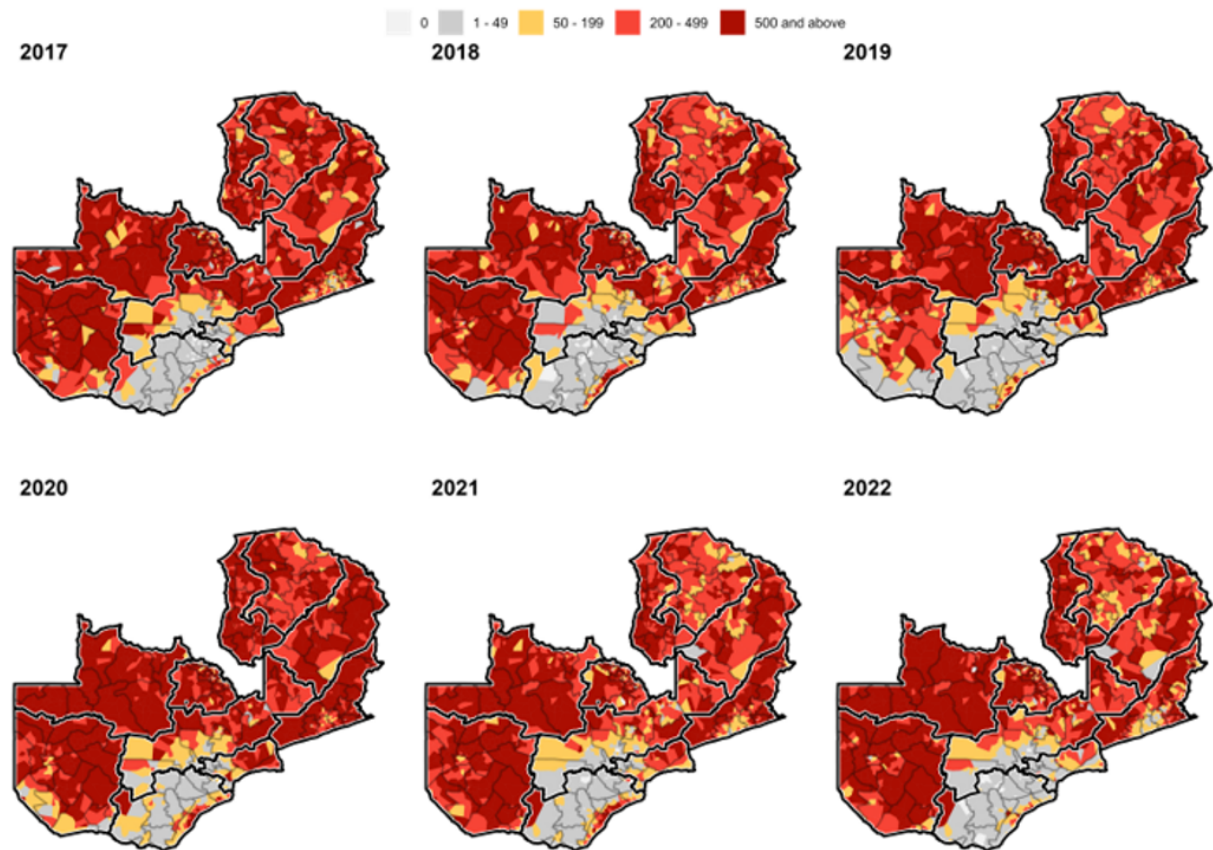
Incidence Maps

Figure 2A. Malaria Risk Stratification at the District Level, 2022



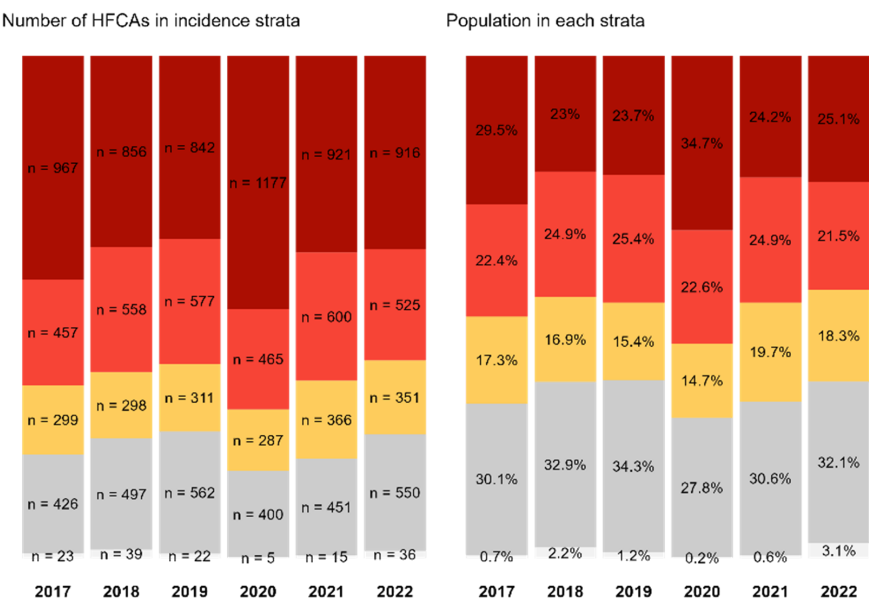
Source: PATH/NMEC.

Figure 2B. Malaria Risk Stratification at the HFCA Level, 2017–2022



Source: PATH/NMEC.

Figure 2C. Malaria Risk Stratification Bar Plots Showing the Number of HFCAs and Percentage of the Population in Each Stratum for the Entire Country



Source: PATH/NMEC.

Table 2. Malaria Parasites and Vectors

Principal malaria parasites	<i>P. falciparum</i> (98% of infections), <i>P. malariae</i> (<2%), <i>P. ovale</i> (<2%) and <i>P. vivax</i> (<1%)
Principal malaria vectors¹	Primary vector: <i>An. funestus</i> s.l. Secondary vector: <i>An. gambiae</i> s.l. As of 2021, pyrethroid resistance was widespread but piperonyl butoxide (PBO) partially or fully restores susceptibility; mosquitoes are fully susceptible to clothianidin and chlorfenapyr. There is a mixture of full susceptibility and suspected resistance to DDT (dichlorodiphenyltrichloroethane).

¹ See 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

Country Health System Delivery Structure and Ministry of Health Organization

The Ministry of Health (MOH) is responsible for all health functions in Zambia, including policy, management, coordination, and service delivery. According to the National Malaria Elimination Strategic Plan (NMESP) (2022–2026), the health care system in Zambia is decentralized to three levels: hospitals, health centers, and health posts. Hospitals are further tiered into primary, secondary, and tertiary levels at the district, provincial, and central level, respectively. According to the draft National Health Strategic Plan (NHSP) (2022–2026), the health care system in Zambia includes 3,320 health facilities comprising eight specialist hospitals, six level-3 hospitals, 36 level-2 hospitals, 100 level-1 hospitals, 62 mini-hospitals, 1,720 health centers, and 1,388 health posts. As Table 3 outlines, 2,834 of the 3,320 health facilities are government-owned, 385 are privately owned, and 101 are faith-based ([MOH 2022](#)).

Zambia adopted a revised national decentralization policy that was launched in July 2013. According to the policy, the MOH was among the sector ministries required to devolve some of their functions to local authorities. Decentralization is a policy priority of the New Dawn administration, which came to power in 2021. As of early 2023, there was increased discussion and momentum around operationalizing and implementing the policy.

The NHSP is implemented using sector organizational and management structures at the national and subnational level, aligned with national development plans. Various partners are coordinated through the sector advisory group. Coordination is achieved through harmonized actions by the MOH, line ministries, local government, provinces, districts, cooperating partners, nongovernmental organizations, public and private institutions, and local communities. Health sector coordination efforts rely on the Health in All Policy Strategic Framework as a platform for multisectoral collaboration at all levels of the health care system in Zambia. MOH functions are coordinated through structures that have been established at all levels:

- **National level:** The MOH headquarters in Lusaka is responsible for the overall coordination and management of the health sector.
- **Provincial level:** Provincial health offices are responsible for coordinating health service delivery in their respective provinces.
- **District level:** District health offices (DHOs) are responsible for coordinating health service delivery at the district and community level.
- **Community level:** Neighborhood health committees have been established at the community level to facilitate linkages between communities and the health system.

DHOs are responsible for the provision of services at the district and community level. In particular, DHOs provide overall planning, coordination, and monitoring of malaria activities within their districts. Activities such as the implementation of indoor residual spraying (IRS), Insecticide-treated mosquito net (ITN) distribution, and malaria case management at level-1 hospitals, health centers, and in the community are implemented through DHOs. The NMEC provides technical but not operational assistance at these levels. The second- and third-level hospitals are referral or specialized hospitals. However, due to resource constraints, there is generally a variation between what the levels are supposed to provide and what they actually do provide.

Government-run health facilities, which provide the majority of health care in Zambia, offer a basic health care package of high-impact interventions, including malaria activities. All health facilities serve as diagnostic and treatment centers for malaria, while hospitalization is confined to health facilities with admission space or wards. RDT is conducted at all health facilities, including in the community by community health workers (CHWs), whereas microscopy is only conducted at health facilities that have laboratories with functional microscopes. Health services included in the basic health care package are provided free-of-charge or on a cost-sharing basis, depending on the location and level in the system. Services are free in rural districts. Malaria control interventions are delivered at all health care facilities throughout the country at every level: community, district (health posts, health centers, and level-1 hospitals), provincial (level-2 hospitals), and central (level-3 hospitals).

Table 3 presents the number of health facilities by type and provider in 2023.

Table 3. Summary of Health Facilities in Zambia by Level or Type, 2022

Level or Type of Health Facility	Number of Health Facilities	% of Total Number of Health Facilities
Level 1 hospitals	100	3%
Level 2 hospitals	36	1%
Level 3 hospitals	6	<1%
Specialized hospitals	8	<1%
Mini hospitals	62	2%
Health centers	1,720	51%
Health posts	1,388	42%
Total	3,320	100%
Health facilities by sponsorship		
Ministry of Health	2,834	85%
Mission	101	3%
Private	385	12%
Total	3,320	100%

Source: NHSP 2022–2026.

Health Care Workforce (Human Resources)

According to the NMESP (2022–2026), there is a strong link between the community and health facilities in Zambia. The number of CHWs and community health assistants (CHAs) has expanded to support implementation of malaria programs at the community level. In 2010, with support from the UK Department for International Development (DFID), the Zambian government introduced a CHA program with the goal of developing a cost-effective, adequately trained, and motivated community-based health workforce to contribute to improved management of malaria, child and maternal health, and common preventable health conditions. CHAs, who are expected to spend 80 percent of their time in the community carrying out disease prevention and health promotion activities and 20 percent at the health post carrying out curative services, are deployed at health posts (the lowest level of formal health facilities) to bridge the gap between the community and formal health services, and are each intended to cover 500–1,000 households. However, due to a shortage of trained health care workers, CHAs tend to spend most of their time at health facilities. CHAs are expected to diagnose malaria using RDTs; treat malaria with appropriate medication; and support malaria prevention activities, including social and behavioral change and ITN distribution. Furthermore, CHAs are expected to supervise the CHWs that work in their catchment areas.

A health center oversees the health posts within its catchment area. Each health center, which serves a catchment area of approximately 10,000 residents, is staffed by a clinical officer, a nurse, and/or an environmental health technician.

According to the MOH human resources department, Zambia has 4,086 clinical officers; 2,807 medical doctors; 3,880 midwives; 21,395 nurses; 2,590 laboratory technicians; and 1,624 pharmacists. By July 2022, approximately 3,400 CHAs had been trained in the country, 1,354 (40 percent) of whom had been put on payroll by the Zambian government. Another 300 are supported by cooperating partners (see the 2022–2026 National Community Health Strategy). Training for clinicians includes information on national malaria diagnosis and treatment guidelines, IPTp, and case management in pregnancy, as well as refresher training. According to the MOH, the national target is to train 40,000 CHWs (1 per 500 people) by CY 2025, 20,433 of whom had already been trained (as of December 2022), and 18,365 of whom have been deployed to work at the community level. The other 2,068 trained CHWs were already attached to health facilities (see Table 13 for details). As of December 2022, a total of 6,254 CHWs had been trained and deployed in the country with PMI support to provide malaria case management at the community level in the four focus provinces. Further details, including plans for future scale up, are covered in the case management section.

In January 2018, MOH introduced malaria elimination officers at the district level. In addition, the newly elected administration has made commitments to invest more in health care personnel and has recruited and deployed over 11,000 health care personnel in 2022–2023. The program structure and management systems continue to evolve, with recent movement of the NMEC to a subdirectoriate under the Directorate of Public Health. The health sector budget has a separate budget line for malaria elimination. The program has benefited from engagements with regional bodies such as Elimination 8 (E8) of the Southern Africa Development Community (SADC). Oversight is provided by national-level technical working groups, while integrated reviews are undertaken at the provincial and district level.

Incentivization of CHWs

A major thrust for PMI investments in FY 2024 will be community-level care. Based on lessons learned and informed by emerging MOH policy on community health worker (CHW) incentives, PMI will continue to mobilize community-based volunteers (CBVs) to conduct community case management of malaria at scale in the four PMI provinces of Luapula, Northern, Muchinga, and Eastern. PMI will support CHW training, deployment, supervision, and mentoring, complemented by enablers (e.g., bicycles), monetary compensation (e.g., allowances and possibly stipends), and will closely coordinate with other CBV funders, including the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), Malaria Partners International, and the President's Emergency Plan for AIDS Relief (PEPFAR) partners. Any funding for CBV stipends will be informed by a feasibility assessment and a pilot program prior to implementation.

Private Sector and Nongovernmental Support

In addition to the MOH, the Churches Health Association of Zambia (CHAZ), parastatal organizations, private clinics, and traditional healers also provide health care in Zambia. CHAZ is an interdenominational umbrella organization responsible for coordinating health services provided by churches in Zambia. It involves 101 health facilities, including hospitals, health centers, health posts, community-based organizations, and health training schools, most of which are staffed by Zambian government health workers. Altogether, these institutions are responsible for over 50 percent of formal health services in rural areas of Zambia and about 30 percent of health care in the country as a whole.

There are more than 380 for-profit private health facilities in Zambia, mostly clinics located in urban districts that only attend to outpatients. In addition, private mining companies provide preventive and curative medical services for workers and their families, as well as surrounding communities in some cases. Historically, several of the larger mining companies, such as Konkola and Mopani Copper Mines (Copperbelt Province), carried out IRS within and around their compounds. However, following nationalization and then reprivatization, the role of mines in IRS has greatly diminished. In Northwestern Province, relatively new large mines, notably First Quantum Minerals in Kalumbila and Solwezi, equally support IRS in their compounds and neighboring communities. The Zambia Sugar plantation in Mazuka is well recognized for its decades of impactful malaria control investments.

National Health Insurance Scheme

In 2017, the National Health Insurance Act was enacted by the Parliament of Zambia to provide financing for a national health system that would provide universal access to health care services in Zambia. Following the enactment of the National Health Insurance Act, the National Health Insurance Management Authority (NHIMA) implemented the National Health Insurance Scheme (NHIS) to facilitate access to quality insured health services for all Zambian citizens and established residents. NHIMA's mandate includes managing and administering the NHIS members' pooled funds to provide equitable access to essential health care based on the principles of solidarity, equity, and cross subsidization of financial and health risks. Given that NHIMA is in the early stages of implementing the NHIS, PMI will continue to monitor developments, including the extent to which the law affects Zambia's approach to malaria control and elimination.

Supply Chain and Pharmaceutical Management System

Procurement, storage, and distribution of pharmaceutical products or commodities is centralized, with some regional hubs in Eastern, Southern, Western, and Copperbelt provinces. The Zambia Medicines and Medical Supplies Agency is the main entity managing the procurement, storage, and distribution of medical supplies and other logistics on behalf of the MOH. CHAZ, under a series of Global Fund grants, provides additional funding to bolster

procurement and distribution of malaria medications and supplies in Eastern, Southern, and North Western provinces. At the national level, PMI supports the procurement and distribution of malaria commodities, including essential medicines (artemisinin-based combination therapy [ACT], injectable artesunate, and sulfadoxine-pyrimethamine [SP]) to all provinces.

Health Management Information System

The HMIS is a database to generate routine information for service and disease indicators used to inform programming and policy decisions. The District Health Information System-2 (DHIS2) has been rolled out in all districts in Zambia as part of technological adaptation efforts. Systems are in place to collate and collect data through periodic surveys in collaboration with the [Zambia Statistics Agency](#). Data for the country's public health sector supply chain, including commodity procurement, warehousing, and storage, are managed through an electronic logistics management information system, which is a key platform for processing and tracking commodity orders to ensure that they are distributed from the central medical warehouse to each of the country's district-level pharmacies and health facilities. The platform also facilitates informed decisions about commodity supply, consumption, and stock availability by enabling users to access real-time data.

PMI coordinates and collaborates with NMEP and several partners, including the the Bill & Melinda Gates Foundation/Malaria Control and Evaluation Partnership in Africa (MACEPA), the Global Fund, the World Health Organization (WHO), and PEPFAR's DHIS2 programs, in providing technical assistance and resources in data system strengthening. Zambia exhibits a strong culture of data tracking and disease mapping at all levels, which PMI strives to support.

PMI aims to strengthen routine malaria data collection at the community, health facility, district, provincial, and national level. The routine surveillance systems in Zambia, which were described in more detail in the PMI Zambia FY 2022 Malaria Operational Plan are in brief, the health management information system (HMIS), which captures and reports on health facility data on a monthly basis, and the parallel Malaria Rapid Reporting System, which captures health facility data on a weekly basis and CHW data on a monthly basis. Both run on the District Health Information System-2 (DHIS2), and NMEP is moving toward integration of the two, such that health care workers will enter all malaria data through the reporting system.

OTHER CONTEXTUAL INFORMATION

The ambitious goal of the previous National Malaria Elimination Strategy (2017–2021) to eliminate malaria nationwide by 2021 was not met. To explain the relative stagnation of many malaria burden indicators, the routine 2021 end-term malaria program review, conducted with NMEP partners and led by WHO, highlighted low rates of implementation of planned activities. The major identified issues include inadequate funding and late disbursement of funds for commodity procurements, insufficient resources for high-quality case management and surveillance, poor vector control coverage with a mosaic approach to ITN and IRS coverage,

disruptions due to the COVID pandemic in 2020–2021, and human resource gaps in the MOH. Opportunities in the wake of the peaceful democratic transition of 2021 include increased government commitment to investing in the health workforce and supplies and a shared recognition of the need to strengthen financial management systems, expand domestic and external sources of funding, and strengthen the NMEP capacity at all levels. Additional details can be found in the key challenges and contextual factors section of the FY 2024 MOP.

III. NMCP STRATEGIC PLAN

Zambia’s recently released five-year NMESP for 2022–2026 that builds on progress made and lessons learned in implementing NMESP 2017–2021. The new plan is grounded in the end-term malaria program review, which was conducted in 2021 and 2022 in accordance with WHO’s 2019 guidance on conducting malaria programme reviews and included thematic desk reviews, data analysis, and field visits, culminating in stakeholder consultations at the national and subnational level. Whereas the previous NMESP set full national elimination as its goal, the ambition of the new strategy is to “reduce malaria related morbidity and mortality nationally while pursuing subnational malaria elimination.” The specific goals of the new NMESP are to:

- Reduce malaria infection, disease, and death in Zambia, primarily by lowering the burden in settings with high transmission levels;
- Eliminate malaria in low-transmission settings, increasing the proportion of the population living in malaria-free HFCAs; and
- Prevent the reintroduction of malaria transmission in malaria-free HFCAs.

The overall targets set by the new NMESP are as follows:

- Reduce malaria incidence from 340 cases per 1,000 population in 2021 to 201 cases per 1,000 population by 2026 (aiming for a decrease of 10 percent per year);
- Reduce malaria deaths from 8 deaths per 100,000 population in 2021 to 4.7 deaths per 100,000 population by 2026 (with the aim of a 10 percent decrease per year); and
- Increase malaria-free HFCAs from 10 in 2021 to 250 by 2026.

To reach these targets, malaria control interventions will be implemented according to the stratified approach. Recognizing the importance of following through on annual work plans at all levels, NMESP 2022–2026 calls for increasing the implementation rate of planned interventions from 72 percent in 2021 to 95 percent by 2026.

Table 4. Intervention Package/Activities in the National Malaria Elimination Strategic Plan, 2022–2026

Epidemiologic Stratum	Indicator	Intervention Package/Activities
0–4	Any incidence or prevalence	Everywhere in Zambia—Standard package of interventions • Uninterrupted availability and rational use of malaria commodities in health facilities and communities • Quality case management at the health facility and community level • ITN continuous distribution • ITN mass campaigns—except for Lusaka city • Maintained and scaled-up community case management • Entomological surveillance • Enhanced epidemiologic surveillance • Strengthened quality assurance activities and mentorship
0	0 cases; no local transmission	Areas with no malaria—maintenance of malaria-free zone Standard package of interventions, as above, plus: • Malaria case investigation (1,3,7 approach) • Reactive case detection • Primaquine administration • Responsive IRS in eligible HFCA • Larval source management in select urban sites
1	1–49 cases per 1,000 population; <1% parasite prevalence	Areas with very low malaria transmission Standard package of interventions, as above, plus: • Malaria case investigation (1,3,7 approach) • Reactive case detection • Targeted mass drug administration • Primaquine administration • Responsive IRS in eligible HFCA • Larval source management in select urban sites
2	50–199 cases per 1,000 population; 0.5%–5% parasite prevalence	Areas with low malaria transmission Standard package of interventions, as above, plus: • Reactive case detection • Targeted mass drug administration • Primaquine administration (annual incidence <125 per 1,000 population, the lower half of level 2) • Targeted, schedule IRS campaigns in eligible districts
3	200–499 cases per 1,000 population; 5–<15% parasite prevalence	Areas with moderate malaria transmission Standard package of interventions, as above, plus: • Targeted, scheduled IRS campaign in eligible districts
4	>=500 cases per 1,000 population; >15% parasite prevalence	Areas with high malaria transmission Standard package of interventions, as above, plus: • Targeted IRS in eligible districts

Source: NMEP, condensed and adapted.

HFCA = health facility catchment area, ITNs = insecticide treated mosquito nets, IRS = indoor residual spraying.

A significant feature of the new strategic plan is that it represents a welcome paradigm shift from the previous NMESP for 2016–2021 in that it no longer sets a goal of eliminating malaria everywhere in the country within five years (all 3,000+ HFCAs to reach level 0 by 2021). Rather, the new NMESP (2022–2026) lays out a three-pronged approach, whereby resources will be directed according to realistic yet ambitious goals linked to transmission setting (described below). While emphasizing that scale-up of conventional interventions to reach high population coverage rates is the cornerstone, the new NMESP also incorporates innovation features such as a more narrowly defined role for larval source management; more aggressive roll-out of tools for malaria elimination such as single low-dose primaquine and malaria case-based investigation and rapid response (the so-called 1,3,7 approach); and active interest in exploring options for adopting new technologies, such as malaria vaccine(s) and attractive targeted sugar baits, among others.

The following summary of tactical approaches from NMESP 2022–2026 describe the strategic thinking underlying the targeting of interventions in Zambia:

Tactical approach 1: Lower the burden in high-transmission settings (levels 2–4)

Despite visible progress in reducing the malaria burden across Zambia, malaria transmission is still high or moderately high in most areas (levels 2–4). In these settings, specific recommended actions include:

- Achieve and maintain effective coverage with malaria curative and preventive services;
- Improve the quality and timeliness of information systems for decision making to further reduce malaria transmission; and
- Reduce the malaria burden to a sufficiently low level to enable implementation of parasite-clearance strategies.

Tactical approach 2: Eliminate malaria in low-transmission settings (level 1)

In settings with very low transmission rates (level 1) or where recent progress has markedly reduced transmission, priority should be given to progressing to full elimination. In these settings, specific recommended actions include:

- Interrupt malaria transmission;
- Report and respond to all confirmed cases and prevent continued transmission;
- Determine the underlying causes of residual transmission; and
- Maintain and document malaria elimination.

Tactical approach 3: Prevent the reintroduction of malaria transmission (level 0)

HFCAs, districts, and provinces that have become malaria-free (level 0) must implement measures to prevent the reintroduction of malaria. In these settings, specific recommended actions include:

- Notify all confirmed cases of malaria;
- Detect any possible reintroduction of malaria transmission;
- Determine the underlying causes of resumed malaria transmission; and
- Apply rapid curative and preventive measures

IV. KEY MALARIA DATA

The following tables highlight Zambia's trends in malaria intervention coverage (e.g., ITN use), as well as malaria burden (e.g., incidence and prevalence) at the national and provincial level. To track vector control access, it is useful to ask whether households either owned an ITN, had received IRS in the past 12 months, or both. This combined indicator from malaria indicator surveys tells a story of steady progress from 2008 to 2018, followed by a reversal in 2021. Between 2018 and 2021, IRS coverage increased only modestly (from 35 to 39 percent) and was not enough to compensate for the drop off in ITN access (from 80 to 53 percent), resulting from the operationally challenging “subdistrict mosaic” strategy that was deployed in the 2020–2021 IRS and ITN campaigns. In tracking malaria-in-pregnancy service delivery, we see that 60 percent of survey respondents reported access to three or more doses of IPTp3 from 2015 onward, but in 2021 there was a 30-point drop in ITN use. The MIS trends in case management show fairly consistent health-seeking behaviors in young children (e.g., >60 percent seek care for fevers and >50 percent are tested), leaving room for improvement. CHWs diagnosed 11–12 percent of malaria cases in 2019–2021, a figure that had been expected to increase commensurate with scaled-up training and deployment but was undermined by community-level stockouts of ACTs and RDTs in most provinces. In general, the PMI focus provinces performed better than the national average on coverage indicators.

The indicators of malaria burden show that Zambia, in general, including the PMI focus provinces, has not been immune from the recent stagnation that has characterized most of tropical Sub-Saharan Africa. To measure malaria prevalence, the country relies on malaria indicator surveys typically conducted every two to three years. The most recent MIS was conducted in 2021 and the next is planned for 2024. According to the 2021, malaria prevalence—which is meaningfully tracked across decades rather than years—showed no overall improvement since 2008. Because PMI targets high-burden areas, RDT-based prevalence in PMI focus provinces is higher than the national average (29.3 percent in 2021), notably in Luapula (36 percent), and Northern (29 percent).

From 2017 through 2022, Zambia's routine surveillance data showed overall stagnation in the incidence of total cases, severe cases, and malaria deaths. Increases in the absolute number of total cases and severe cases may be attributed in part to increased community case management activity. Yet it is clear that the year 2020 was a concerning outlier, as in much of Eastern and Southern Africa, with an approximately 30 percent increase in year-on-year cases and deaths, but in 2021, the indicators had reversed to near the 2017–2019 baseline. In 2022, the total number of malaria cases increased from 7,050,000 in 2021 to 8,428,920. In more encouraging findings, child mortality has steadily declined in recent decades, and Eastern Province—the focus of PMI's most intensive investments—has seen an over 50 percent decline in severe malaria cases since 2018, when community case management was scaled up. At the national level, the total number of malaria deaths reduced from 1,503 in 2021 to 1,337 in 2022.

EVOLUTION OF KEY SURVEY-BASED MALARIA INDICATORS

Table 5. Key National-Level Survey Indicators, 2008–2021¹

Indicator	2008	2015	2018	2021
% of households with at least one ITN	62	74	80	53
% of households with at least one ITN for every two people	N/A	N/A	44	29
% of population with access to an ITN	N/A	65	67	53
% of population that slept under an ITN the previous night	N/A	N/A	64	39
% of children under the age of five who slept under an ITN the previous night	41	58	69	46
% of pregnant women who slept under an ITN the previous night	43	N/A	71	41
% of households sprayed within the previous 12 months	15	29	35	39
% of households with at least one insecticide-treated net or indoor residual spraying	68	81	84	71
% of households with at least one insecticide-treated net per two persons or indoor residual spraying	11	36	55	59
% of women who attended four or more ANC visits during their last pregnancy ³	60	56	64	NA
% of women who received three or more doses of IPTp during their last pregnancy in the last two years	N/A	61	67	68
% of children under the age of five with a fever in the last two weeks for whom advice or treatment was sought	N/A	N/A	61	63
% of children under the age of five with a fever in the last two weeks who received a finger or heel stick (for presumed diagnostic testing)	17	36	55	59

Among febrile children who received any antimalarial drugs, the proportion who received an ACT	30	92	96	97
Under-five mortality rate per 1,000 live births	119 ¹	75 ¹	61 ¹	N/A
% of children under the age of five with parasitemia by microscopy	10	17	9	N/A ²
% of children under the age of five with parasitemia by RDT	N/A ²	31	16	29

¹ All figures are from the MIS, except for mortality, which is from the Demographic and Health Survey (DHS). Because the DHS was not conducted in 2008 and 2015, results from DHS 2007 and DHS 2013/14, respectively, were used as estimates for the under-five mortality rates).² The 2021 Malaria Indicator Survey (MIS) did not collect microscopy samples in Central, Southern, and Lusaka provinces; therefore, no national microscopy-based prevalence information is available. The 2008 MIS did not collect RDT samples. ³ DHS data for Zambia are available for 1992, 1996, 2001–2002, 2007, 2013–2014, and 2018. Therefore, for four or more ANC visits in 2008, we used DHS 2007 results as a proxy. Similarly, for 2015, we used DHS 2013–2014 results as a proxy. ACT: artemisinin-based combination therapy; IPTp: intermittent preventive treatment for pregnant women; RDT: rapid diagnostic testing.

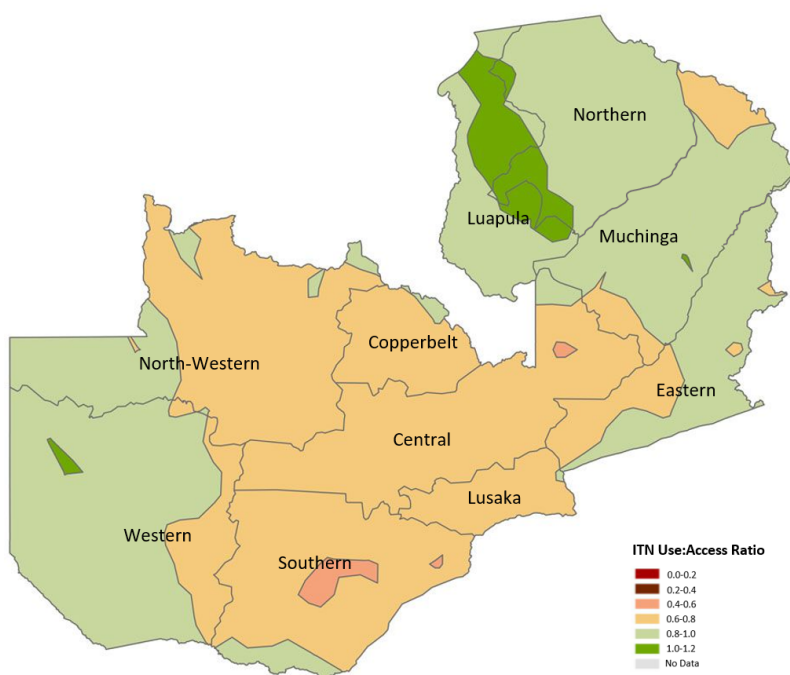
Table 6. Key Survey Indicators, 2018–2021, PMI Focus Provinces

	Luapula		Northern		Muchinga		Eastern	
Indicators ¹	2018	2021	2018	2021	2018	2021	2018	2021
% of households with at least one ITN	88	47	91	57	89	65	92	43
% of children under the age of five who slept under an ITN the previous night	80	35	78	56	87	58	82	36
% of households sprayed within the previous 12 months	64	66	65	41	45	43	54	61
% of households with at least one ITN or IRS	95	81	96	76	92	87	95	78
% of women who received two or more doses of IPTp	72	86	89	94	77	83	84	73
% of children under the age of five with parasitemia by microscopy	30	36	13	29	23	23	9	10

¹ Indicators related to children with fever were omitted due to inadequate sample size at the provincial level.

ITN: insecticide-treated net; IPTp: intermittent preventive treatment for pregnant women; IRS: indoor residual spraying.

Figure 3. Zambia ITN Use-to-Access Ratio Map



Source: DHS 2018.

Note: The ITN use-to-access ratio provides data on the behavioral gap for net use in the country, rather than a gap because of the lack of a sufficient number of available nets. This indicator is calculated based on the number of ITNs in a household and the number of household members. ITN ownership is defined as the proportion of households that own at least one ITN, while ITN access is the proportion of the population with access to an ITN in their household. ITN use is the proportion of the population that slept under an ITN the night before the survey. The use-to-access ratio is calculated by dividing use by access.

EVOLUTION OF KEY SURVEY-BASED MALARIA INDICATORS

Table 7. Evolution of Key Malaria Indicators Reported through Routine Surveillance Systems at the National Level

Indicator	2017	2018	2019	2020	2021	2022
# of all-cause patient consultations	22,638,983	22,263,675	21,898,725	22,178,645	21,232,230	26,302,270
# of suspect malaria cases ¹	N/A	10,153,278	11,111,203	12,887,766	11,530,064	12,225,359
# of patients receiving diagnostic test for malaria ²	N/A	9,931,775	10,899,123	12,307,765	11,139,963	12,033,654
Total # of malaria cases ³	6,293,996	5,519,065	6,014,351	8,605,166	7,009,306	8,428,920
# of confirmed cases ⁴	5,670,720	5,297,562	5,802,271	8,025,165	6,619,205	8,237,215
# of presumed cases ⁵	623,276	221,503	212,080	580,001	390,101	191,705

% of malaria cases confirmed ⁶	90%	96%	96%	93%	94%	98%
Test positivity rate ⁷	N/A	53%	53%	65%	59%	68%
Total # of malaria cases, children under the age of five ⁸	2,038,940	1,648,773	1,663,635	2,225,600	1,642,298	1,600,524
% of cases in children under 5 years of age ⁹	33%	31%	31%	29%	27%	20%
Total # of severe cases ¹⁰	70,026	66,164	66,022	82,717	70,055	72,971
Total # of malaria deaths ¹¹	1,405	1,224	1,342	1,972	1,503	1,337
# of facilities reporting ¹²	N/A	N/A	N/A	N/A	N/A	N/A
% of data completeness ¹³	92%	92%	98%	97%	93%	96%

Data are sourced from the NMEC instance of DHIS2, which integrates facility data from the HMIS data with community-level data the Malaria Rapid Reporting System. *OPD first attendance as captured in the HMIS.

¹ Number of patients presenting with signs or symptoms that could be due to malaria; ² Rapid diagnostic test 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 (rapid diagnostic test or microscopy); ⁸ Outpatient and inpatient, confirmed and unconfirmed; ⁹ Total number of cases in children under the age of five divided by total number of cases; ¹⁰ *Severe malaria* is refers to a hospitalized patient with confirmed malaria and two or more of the following clinical signs/symptoms: impaired consciousness or unarousable coma (assessed by Modified Glasgow Coma Scale or Blantyre Coma Scale for children); prostration; failure to feed; multiple convulsions; deep breathing or respiratory distress; circulatory collapse or shock; clinical jaundice plus evidence of other vital organ dysfunction, anuria or oliguria; hemoglobinuria; abnormal spontaneous bleeding; and pulmonary edema (radiological)—or laboratory signs of severe malaria including hypoglycemia, metabolic acidosis, severe normocytic anemia, hyperparasitemia (> 2%/100,000/μl in low-intensity transmission areas or > 5% or 250,000/μl in areas of high stable malaria transmission intensity), hyperlactatemia, and renal impairment; 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 8. Disaggregated Community-Level Data

Indicator	2019	2020	2021	2022
# of patients receiving diagnostic test for malaria from a CHW	1,508,276	1,756,195	2,056,982	3,868,511
Total # of malaria cases reported by CHWs ¹	649,790	975,485	857,974	1,966,735
% of CHW reported cases (among total malaria cases) ²	11%	11%	12%	24%

¹ Includes all ages, confirmed and unconfirmed. ² Total number of malaria cases reported by CHWs divided by total number of malaria cases in previous table. CHW: community health worker.

Table 9. Evolution of Key Malaria Indicators Reported through Routine Surveillance Systems—PMI Provinces

	Luapula		Northern		Muchinga		Eastern	
Indicators*	2018	2022	2018	2022	2018	2022	2018	2022
Total # of malaria cases	715,068	1,170,699	530,373	840,279	340,351	566,138	530,374	1,005,296
Total # of cases in children under 59 months of age	285,446	354,221	310,229	240,679	113,312	113,998	189,344	118,496
Test positivity rate	63%	77%	60%	77%	56%	87%	22%	78%
Total # of severe cases	12,870	16,063	7,572	8,898	6,485	4,390	12,835	6,405
Total # of malaria deaths	308	404	192	185	66	125	175	122

Source: Zambia DHIS2 HMIS and Malaria Rapid Reporting System.

Note: The year 2018 was chosen for comparison with 2021 because 2018 was also an MIS survey year, and because 2018 was roughly representative of the 2017–2019 baseline, recognizing that 2020 was an outlier.

Table 10. 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 # of districts in the country (admin 2)	116	116	116
5. Number of districts that have been verified as having eliminated malaria? ¹	0 ³	0 ³	0 ³
6. Among districts not verified as having eliminated malaria, how many districts are targeted for elimination efforts?	116 ⁴	116 ⁴	N/A
6A. Among districts targeted for elimination efforts, how many have active elimination activities? ²	3	3	5 ⁵

¹ Malaria elimination is the interruption of local transmission, i.e., no local malaria cases for three years. This refers to National Malaria Program-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 but are not limited to reactive insecticide-treated bed nets and/or indoor residual spraying, 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*, social behavior change for hard-to-reach or migrant populations, case investigation, foci classification, etc.). ³ Currently, no district has been able to entirely eliminate malaria, although there are HFCAs within some districts that have been classified as falling under the Level 0 incidence category. (refer to Table 4 for malaria incidence stratification levels.) ⁴ Under NMESP 2017–2021, the country’s goal was to eliminate malaria in all 116 districts, which was not achieved. NMESP 2022–2026 adopts a more pragmatic, data-driven approach of subnational tailoring of interventions with the strategic objective of lowering the malaria burden in high-transmission settings, eliminating malaria in low-transmission settings, and preventing the reintroduction of transmission in malaria-free HFCAs. As of 2021, 10 HFCAs in Southern Province were reported as falling under the level 0 category. The target for the country is to incrementally attain 260 malaria-free HFCAs by 2026 (60 in 2022; 110 in 2023; 160 in 2024; 210 in 2025; and 260 in 2026). ⁵ The five districts highlighted in 2022 are Mazabuka and Chikankata (implementation phase), Choma/Macha (research mode) and Kazungula and Sinda (planning phase). Chadiza, Katete, Chipata, Chipangali, Kasenengwa, and Petauke districts in Eastern Province, which are also programmatically referred to as “PMI pre-elimination” districts, are not included in this number.

V. OTHER IMPLEMENTATION INFORMATION

Table 11. Final 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 (%)
Katete District/Olyset	24 months	33%	23%	> 80%
Lundazi District/PermaNet 2.0	24 months	10%	46%	> 80%

Source: PAMO Durability Monitoring of LLIN in Zambia: 24 Months Report, October 2020.

Table 12. 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
2014–2015 ¹	Nchelenge	AL	99%

¹ Ippolito, M.M., J.C. Pringle, M. Siame, et al. 2020. “Therapeutic Efficacy of Artemether-Lumefantrine for Uncomplicated Falciparum Malaria in Northern Zambia.” *American Journal of Tropical Medicine and Hygiene*. 2020. doi: 10.4269/ajtmh.20-0852. Note: Artesunate-amodiaquine, artemether and lumefantrine (AL), and dihydroartemisinin-piperaquine (DP) have therapeutic efficacies above the 90 percent WHO-recommended threshold and are well tolerated in Zambia.

VI. KEY POLICIES

The policy and related documents provided in Table 13 align with both the previous (2017–2021) and current (2022–2026) five-year cycles of the Zambia National Health Strategic Plan.

Table 13. Policies in Zambia

Zambia National Malaria Elimination Strategic Plan 2022–2026
Zambia Malaria Programme Review 2021
National Health Strategic Plan For Zambia 2022–2026
National Health Strategic Plan For Zambia 2017–2021
Mid-Term Review of the National Malaria Elimination Strategic Plan (2017–2021)
National Health Strategic Plan Monitoring and Evaluation Framework 2017–2021
Ministry of Health eHealth Strategy
National Communication Strategy for Malaria Elimination 2017–2021
Malaria Operational Plan 2020–2021
End Malaria Council Communication Framework 2019–2021

National Community Health Strategy 2022–2026	
National Community Health Strategy 2019–2021	
Health Sector Supply Chain Strategy and Implementation Plan 2019–2021	
Zambia National Malaria Indicator Survey 2021	
What is/are the first-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria*?	In all settings: AL; in elimination settings: addition of single low-dose primaquine
What is/are the second-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria*?	None
What is the first-line treatment for severe malaria?	Injectable artesunate (first-line) Intramuscular artemether or intramuscular/intravenous quinine (alternate); course of ACTs to follow once patient is stable for discharge
In pregnancy, what is the current first-line treatment for uncomplicated <i>P. falciparum</i> malaria in the <i>first trimester</i> ?	Oral quinine + 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? (Include any plans for training providers on the new policy)	Yes, MOH plans to update the policy on the treatment of MIP in the first trimester. The treatment guidelines were reviewed and the final draft shared with the MOH case management technical working group, where the use of AL was recommended for the treatment of malaria in the first trimester of pregnancy if oral quinine is unavailable or contraindicated. However, this was prior to the latest WHO policy. This part of the guidelines has since been reviewed to incorporate the latest recommendation.
In pregnancy, what is/are the first-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria in the <i>second and third trimesters</i> ?	AL; dihydroartemisinin-piperaquine (DHA-PQ) as alternate
In pregnancy, what is the first-line treatment for severe malaria?	Intravenous quinine in the first trimester; injectable artesunate in second and third trimesters
Is prereferral treatment of severe disease recommended at peripheral health facilities? If so, with what drug(s)?	Rectal artesunate or injectable artesunate given at a peripheral health facility
Is prereferral treatment of severe disease with rectal artesunate recommended for community health workers?	Rectal artesunate given by a community health worker
Community Health Policy	
What is the # of CHWs currently providing iCCM?	20,433 trained and 18,365 deployed as of December 2022 (2,068 were already attached to health facilities at the time of the training)

What is the country's target for the number of CHWs providing iCCM?	40,000
What percent of the country's target is met?	51%
Does the country have a policy that enables the routine, regular payment of salaries/stipends for CHWs?	Not yet; in process.
Do CHWs have the authority to test and treat all ages for malaria?	Yes, with the exception of pregnant women and children under two months of age.
Prevention of Malaria in Pregnancy Policy	
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?	After the first trimester (13–16 weeks).
Do the national ANC guidelines reflect the WHO 2016 recommendation of eight 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, the country's ANC guidelines and data collection tools reflect WHO 2016 recommendations. However, this has not yet been incorporated in the HMIS. The HMIS captures up to the fourth ANC contact.
What is the status of training ANC providers on the WHO recommended eight or more contacts?	The country has trained focal point persons at provincial and district levels on the WHO recommended eight or more contacts, who in turn orient the providers at the facilities.
Have HMIS/DHIS2 and ANC registers been updated to include eight or more contacts?	The ANC registers have been updated to include eight or more contacts. However, the HMIS and DHIS2 have not yet been updated; they currently aggregate four or more 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 six months prior?	Yes
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?	Currently, the policy does not permit this.

AL: artemether and lumefantrine; ANC: antenatal care; DHIS2: District Health Information System-2; HMIS: health management information system; MCH: mean corpuscular hemoglobin; MIP: malaria in pregnancy; MOH: Ministry of Health; SP: sulfadoxine-pyrimethamine.

VII. PARTNER LANDSCAPE

Table 14. Partner Landscape

Partner	Key Technical Interventions	Geographic Coverage	Funding Amount or In-Kind Contribution	Time Frame
Global Fund (MOH and CHAZ)	- Partial support for nationwide ITN mass campaign in 2023 - Implementation of IRS - Procurement of part of national needs for ACTs, RDTs, SP, severe malaria medications - Training and supervision in case management and surveillance, monitoring, and evaluation	- MOH: Entire country - CHAZ: Eastern, Southern, and North Western provinces	\$22 million per year	Current grant covers 2021–2023
Bill & Melinda Gates Foundation/ MACEPA	- Data quality and use - Strategic planning - Elimination tools - Advocacy - Research - National level - Southern and Western provinces	- National-level - Southern and Western provinces	\$300,000 per year	Phase 4 grant 2020–2024
WHO	- Technical and strategic guidance - Operations research	- National - OR in Eastern	\$100,000/year	Ongoing
Malaria Partners International (Rotary, World Vision, Bill & Melinda Gates Foundation)	- Scale up of community case management of malaria - Related HSS and social and behavioral change	- Muchinga - Central	\$6 million over two years	2021–2023; potential extension
End Malaria Council/End Malaria Fund	- Domestic resource mobilization (in cash and in kind) - Accountability (e.g., dashboards) - Advocacy (especially faith leaders, traditional leaders, and private sector)	- National - Provincial End Malaria Council starting in Eastern Province	\$500,000 per year	Ongoing
Isdell:Flowers Foundation	- Community mobilization, including iCCM and social and behavioral change - Cross-border initiatives	- Western Province - Southern Province	\$500,000	Ongoing

ACT: artemisinin-based combination therapy; CHAZ: Churches Health Association of Zambia; IRS: indoor residual spraying; ITN: insecticide-treated net; MOH: Ministry of Health; RDT: rapid diagnostic testing; SP: sulfadoxine-pyrimethamine.

Zambia's malaria partnership tends to organize itself along geographic lines, under NMEC guidance. When it comes to technical assistance and training in case management and surveillance, monitoring, and evaluation, PMI has historically concentrated its support in Luapula, Northern, Muchinga, and Eastern provinces, with more modest support for case management in Central and Copperbelt provinces. Since 2019, PMI has supported IRS in the rural Copperbelt, Eastern, and northern Luapula provinces (see Figure 4).

The Bill & Melinda Gates Foundation/MACEPA have focused on Southern and Western provinces, although the new grant puts less emphasis on direct implementation support for particular geographic areas. CHAZ, with its own and Global Fund resources, is focused on Eastern, Southern, and North Western provinces; Isdell:Flowers Foundation is focused on Western Province; and SADC's E8 initiative on the border communities of Western and Southern provinces.

The MOH, with its own and Global Fund resources, has provided support throughout the nation. Zambia's support through a Global Fund continuation grant for 2021–2023 focuses on strategic continuity with the 2018–2020 grant but with operational improvements to reflect various lessons learned. The two principal recipients are again the MOH (Program Management Unit) and CHAZ. The within-grant allocation amount offered was \$65 million—a decrease from \$69 million. In light of the Zambian government's continued highly constrained fiscal situation, Zambia is effectively counting on approximately \$35 million in prioritized above-allocation request (PAAR) funding to cover anticipated implementation gaps. Historically, Zambia has secured PAAR funds, but this is by no means guaranteed.

A small number of mines and plantations provide vector control services on their properties and in neighboring communities—notably First Quantum Minerals in Solwezi and Kalumbila in North Western Province and Zambia Sugar in Mazabuka District, Southern Province. Building on years of well-received, small-scale support in Copperbelt, since 2021, Rotary International has partnered with World Vision and the Bill & Melinda Gates Foundation in a \$6 million, two-year pilot program to scale up community case management in Central and Muchinga provinces.

Zambia's End Malaria Council is a pioneering intersectoral consortium of institutions and individuals from the private sector, traditional leadership, faith-based organizations, and various line ministries. Set up with backing from the Zambian government, the African Leadership Malaria Alliance, and local partners, the End Malaria Council's objectives are advocacy, accountability, and domestic resource mobilization. The End Malaria Council has formally set up provincial-level councils and a national End Malaria Fund as part of its effort to raise in-kind and in-cash contributions.

Zambia's rapid population growth, estimated at an average of 3.4 percent per annum between 2010 and 2022 (ZamStats 2022) creates resource challenges for malaria control programming, which relies on achieving high population coverage of key interventions. PMI Zambia's constant funding level of \$30 million from FY 2017 through FY 2023, in the face of a population increase of over 2.2 million implies an estimated 13 percent decrease in per capita spending over five years. Similarly, Global Fund's base funding allocations of \$69 million for 2018–2021 and \$65 million for 2021–2024 imply an 18 percent drop in per capita support.

Figure 4. PMI Geographic Focus Since 2014

