

The following document is an abbreviated malaria operational plan. The principles guiding development of this document—country-led, inclusive, consultative with a broad audience, and transparent—are consistent with best practices that the U.S. President’s Malaria Initiative (PMI) has instituted since its inception. While an in-depth background of malaria in this country can be found in the detailed [FY 2018 malaria operational plan](#) on [pmi.gov](#), this abbreviated document provides a high-level overview of PMI’s program in this country, including key strategic updates, country data and progress updates, and a detailed list of activities to be supported with FY 2019 U.S. Government PMI funding.

This abbreviated malaria operational plan has been approved by the U.S. Global Malaria Coordinator and reflects collaborative discussions with the national malaria control programs and partners in country. The final funding available to support the plan outlined here is pending final FY 2019 appropriation. If any further changes are made to this plan it will be reflected in a revised posting.



USAID
FROM THE AMERICAN PEOPLE

U.S. PRESIDENT’S MALARIA INITIATIVE



PRESIDENT'S MALARIA INITIATIVE

Mozambique

Abbreviated Malaria Operational Plan FY 2019

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS.....	3
I. INTRODUCTION	4
II. OVERVIEW OF PMI IN MOZAMBIQUE	4
III. STRATEGY UPDATES	6
IV. DATA UPDATES AND EVIDENCE OF PROGRESS.....	6
V. NEW OR EXPANDED ACTIVITIES AND KEY CHANGES.....	10

ABBREVIATIONS AND ACRONYMS

ACT	Artemisinin-based combination therapy
ANC	Antenatal care
CDC	Centers for Disease Control and Prevention
DHS	Demographic and Health Survey
FETP	Field Epidemiology Training Program
FY	Fiscal year
Global Fund	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GRM	Government of the Republic of Mozambique
HFS	Health facility survey
IMASIDA	Immunization, Malaria, and HIV/AIDS Indicator Survey
INS	<i>Instituto Nacional de Saúde</i> (National Health Institute)
INSIDA	<i>Inquérito Nacional de Prevalência, Riscos, Comportamentais e Informação Sobre o HIV e SIDA em Moçambique</i> (National Survey of HIV/AIDS Prevalence, Risks, Behavior, and Information in Mozambique)
IPTp	Intermittent preventive treatment for pregnant women
IRS	Indoor residual spraying
ITN	Insecticide-treated mosquito net
MICS	Multiple Indicator Cluster Survey
MIP	Malaria in pregnancy
MIS	Malaria Indicator Survey
MoH	Ministry of Health
MOP	Malaria Operational Plan
NMCP	National Malaria Control Program
OR	Operational research
PMI	U.S. President's Malaria Initiative
RDT	Rapid diagnostic test
SARA	Service Availability Readiness Assessment
SBCC	Social and behavior change communication
SM&E	Surveillance, monitoring, and evaluation
SP	Sulfadoxine-pyrimethamine
SPA	Service Provision Assessment
TDY	Temporary duty assignment
TES	Therapeutic Efficacy Study
WHO	World Health Organization

I. INTRODUCTION

This abbreviated FY 2019 Malaria Operational Plan (MOP) presents an implementation plan for Mozambique, based on the strategies of the U.S. President’s Malaria Initiative (PMI) and the National Malaria Control Program (NMCP) and building on investments made by PMI and other partners to improve and expand malaria-related services. It was developed in consultation with the NMCP and with the participation of national and international partners involved in malaria prevention and control in the country. The [FY 2018 MOP](#) contains a more detailed and comprehensive description of the malaria situation in Mozambique, country health system delivery structure, Ministry of Health (MoH) organization, and PMI’s progress through April/May of 2017. This abbreviated MOP describes critical changes/updates to overall NMCP and PMI strategic approaches, as well as newly proposed activities under each technical area to be supported with FY 2019 funds.

II. OVERVIEW OF PMI IN MOZAMBIQUE

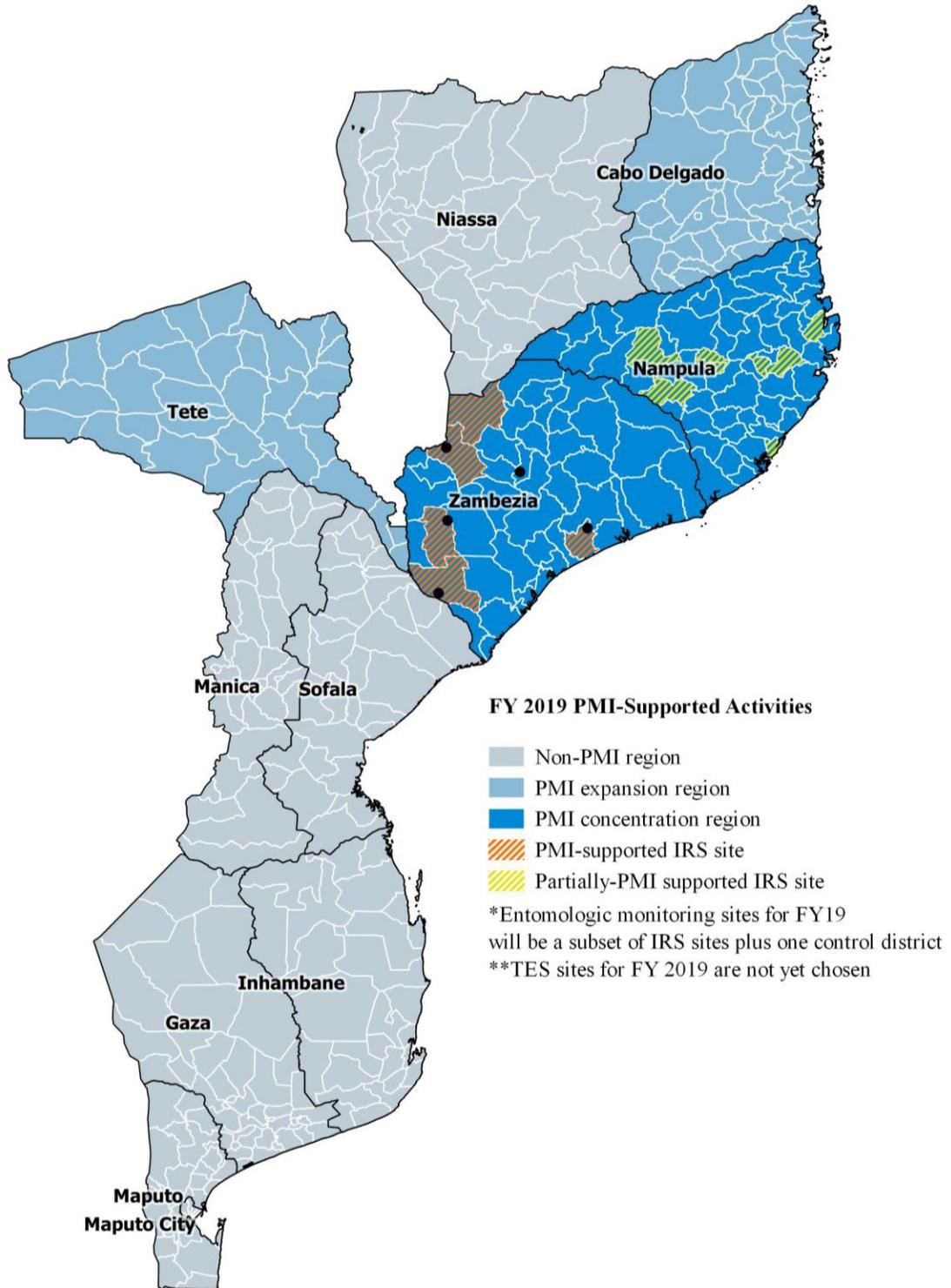
Mozambique began implementation as a PMI focus country in fiscal year FY 2007. The proposed FY 2019 PMI budget for Mozambique is \$27 million.

PMI support to Mozambique is in line with the Government of the Republic of Mozambique’s (GRM’s) 2017-2022 National Malaria Strategic Plan. PMI funding is planned in consideration of NMCP priorities and other donor support, so that resources can be allocated in an efficient and complementary manner according to disease burden and the added value of each organization. The Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) provides commodity procurement and support for GRM activity implementation that is planned and implemented in close collaboration with PMI. The Bill and Melinda Gates Foundation and the Global Fund (through the Mozambique, South Africa and Swaziland Cross Border Malaria Initiative) have provided support for malaria elimination efforts in the south of the country, while PMI has concentrated its technical assistance in the highest burden provinces in the center and north of the country.

Based on this perspective, PMI will continue to support national-level coordination and commodity procurement and will concentrate implementation support in those provinces with the highest malaria transmission. PMI will continue to focus on maintaining high coverage of malaria commodities nationally through routine distribution systems. This will include pooling PMI commodities with those purchased from other donors and supporting distribution countrywide through the government supply chain.

PMI implementation support will be geographically targeted to the provinces with the highest malaria burden: Zambézia, Nampula, Cabo Delgado and Tete (see Figure 1). The objective of this approach is to implement service delivery activities to strengthen malaria in pregnancy (MIP) interventions, case management, and supportive activities, such as social and behavior change communication (SBCC), supply chain management, and responsive surveillance, monitoring, and evaluation (SM&E) in high burden target provinces. This support will focus on provincial and district-level planning and coordination and health facility and community service delivery improvement. PMI will also support targeted indoor residual spraying (IRS) to complement national universal coverage of insecticide-treated mosquito net (ITN) campaigns and implementation of SBCC activities in target facilities and communities in the four provinces.

Figure 1: Geographic Distribution of FY 2019 PMI-Supported Activities



III. STRATEGY UPDATES

N/A

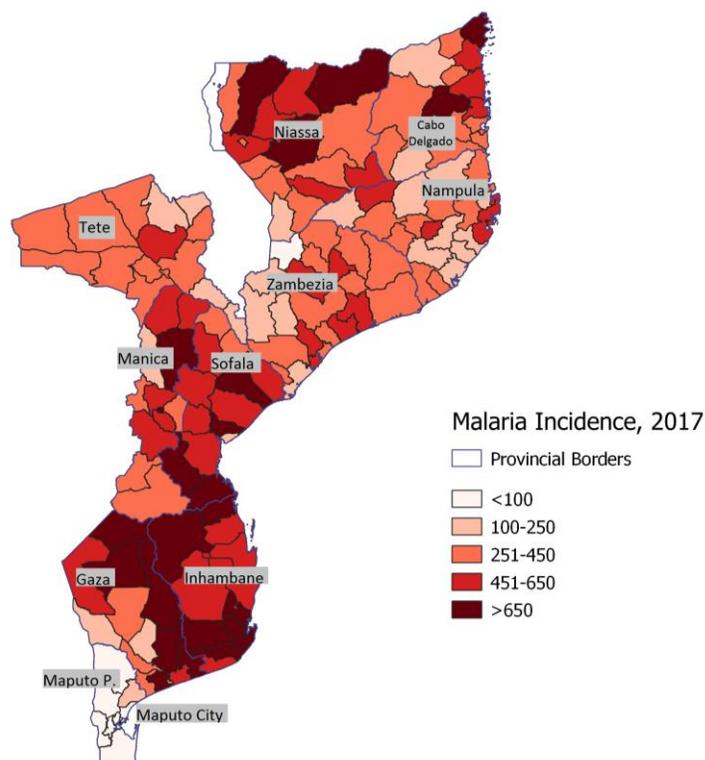
IV. DATA UPDATES AND EVIDENCE OF PROGRESS

Mozambique completed a census in 2017, which identified higher than projected population growth, particularly in PMI target provinces. The revised national population in 2017 was 28,861,863 people, which is 6.4 percent higher than the projected population of 27,128,530 people. These updated population numbers have been utilized in gap analyses and planning of the FY 2019 MOP.

Figures presented below summarize key data on malaria incidence (Figure 2) and trends in confirmed malaria cases reported in routine surveillance systems (Figures 3 and 4). Household survey-based malaria indicators are showcased from 2007 to 2015 (Figure 5 and Table 1). Potential reasons for discordance between incidence and prevalence measures of burden (Figures 2 and 5) include lower rates of healthcare access and seeking in the high burden north, as well as differential rates of testing and reporting.

The following surveys were conducted in, or are planned for, calendar year 2018: a Malaria Indicator Survey (MIS), a Health Facility Survey (HFS), and a Service Availability and Readiness Assessment (SARA). The HFS was carried out in three provinces: Cabo Delgado, Zambézia, and Maputo Province. The SARA is being carried out in all health facilities nationwide. The next Demographic and Health Survey (DHS) is tentatively planned for 2020.

Figure 2: Malaria Incidence from DHIS2 Data per 1,000 Inhabitants in 2017 Using Preliminary 2017 Census Data



Figures 3 and 4: Trends in Key Malaria Indicators Reported in Routine Surveillance Systems

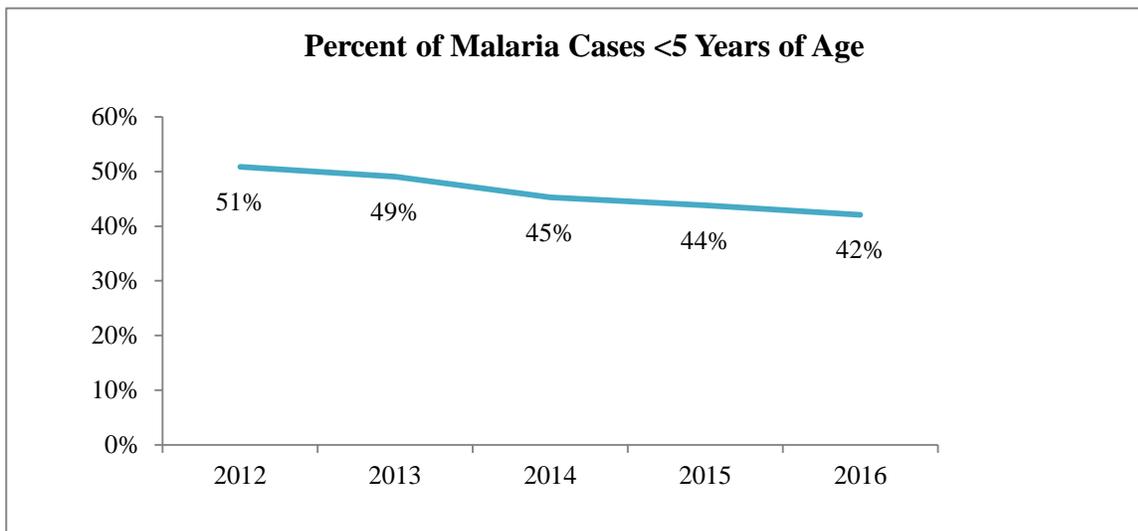
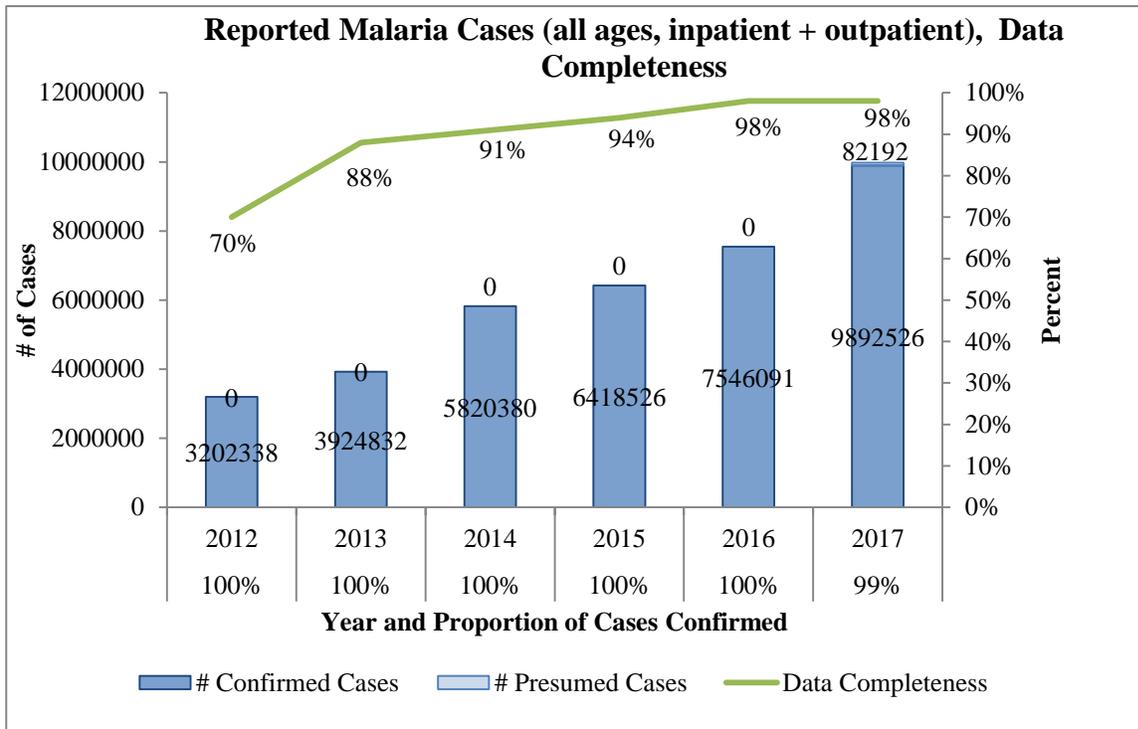


Figure 5: Parasite Prevalence by Region, 2015

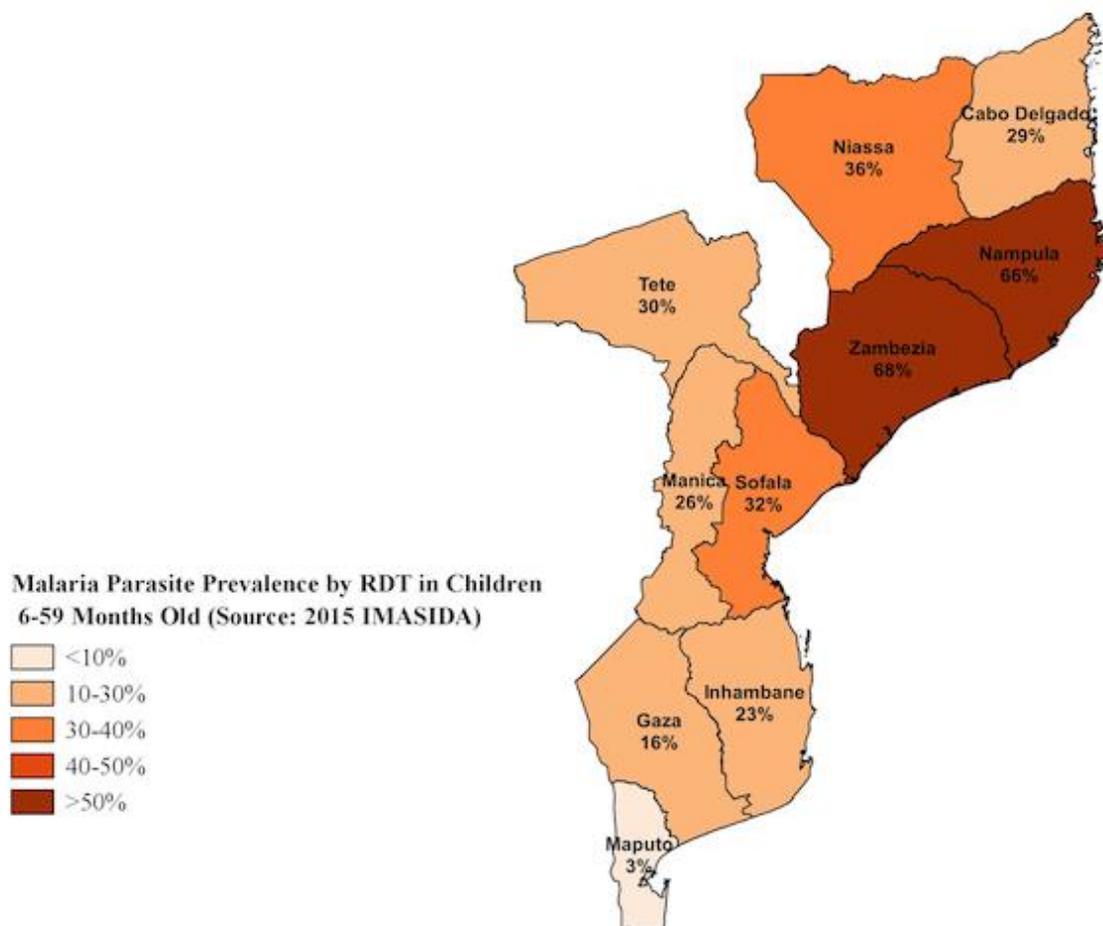


Table 1: Evolution of Key Survey-Based Malaria Indicators in Mozambique from 2007 to 2015

Indicator	2007 MIS (%)	2008 MICS (%)	2009 INSIDA (%)	2011 DHS (%)	2015 IMASIDA (%)
% Households with at least one ITN	16	31	NA	51	66
% Population with access to an ITN	NA	NA	NA	NA	NA
% Children under five who slept under an ITN the previous night	7	23	NA	36	48
% Pregnant women who slept under an ITN the previous night	7	NA	NA	34	52
% Population that slept under an ITN the previous night	NA	NA	NA	NA	NA
% Children under five years old with fever in the last two weeks for whom advice or treatment was sought	36	NA	NA	56	59
% Children under five with fever in the last two weeks who had a finger or heel stick	NA	NA	NA	30	40
% Children receiving an ACT among children under five years old with fever in the last two weeks who received any antimalarial drugs	NA	NA	NA	60	93
% Women who received two or more doses of IPTp during their last pregnancy in the last two years	16	43	33	20	34
% Women who received three or more doses of IPTp during their last pregnancy in the last two years	NA	NA	NA	NA	22
Under-five mortality rate per 1,000 live births	NA	NA	NA	64	NA
% children under five with parasitemia (by microscopy , if done)	38	NA	NA	35	NA
% children under five with parasitemia (by RDT , if done)	51	NA	NA	38	40

V. NEW OR EXPANDED ACTIVITIES AND KEY CHANGES

1. Vector control

a. Entomologic monitoring and insecticide resistance management

Entomological support for MoH is consistent with previous years with the addition of training for entomology technicians. In calendar year 2018, Mozambique will receive provincial entomological workspaces/insectaries that were procured with Global Fund support and outfitted by the World Health Organization (WHO). These workspaces will be staffed by new provincial entomological technicians, who will require training and support. PMI will provide training of provincial entomology technicians from the center and north of the country in the Zambézia and Nampula regional reference entomological laboratories.

b. Insecticide-treated nets

In 2019/2020, Mozambique will carry out the second national universal coverage campaign of ITNs with support from the Global Fund. The campaign will be phased, starting in Nampula Province in mid-2019. Approximately 17.9 million ITNs will be distributed. The planning of the campaign will start in August/September 2018.

PMI is currently supporting the implementation of a school-based ITN distribution pilot in Zambézia. The pilot will be completed in calendar year 2019. The results of the pilot will be used to determine the feasibility of introducing this channel in the country. PMI will support a workshop to discuss the findings of the pilot in order to inform the process of updating the national policy for routine distribution of ITNs.

Table 2: ITN Gap Analysis

Calendar Year	2018	2019	2020
Total Targeted Population ¹	30,528,673	31,402,012	32,293,132
Continuous Distribution Needs			
Channel #1: ANC ²	1,537,119	1,581,091	1,625,959
Channel #2: School-Based Distribution ³	30,000	30,000	0
<i>Estimated Total Need for Continuous Channels</i>	1,567,119	1,611,091	1,625,959
Mass Campaign Distribution Needs			
2018/2019/2020 Mass Distribution Campaign(s) ⁴	0	3,500,000	14,440,629
<i>Estimated Total Need for Campaigns</i>	0	3,500,000	14,440,629
Total ITN Need: Routine and Campaign	1,567,119	5,111,091	16,066,588
Partner Contributions			
ITNs Carried Over from Previous Year	786,700	997,531	984,440
ITNs from MoH	0	0	0
ITNs from Global Fund (for campaign only)	0	3,500,000	14,800,000
ITNs from Other Donors	0	0	0
ITNs Planned with PMI Funding	1,777,950	1,598,000	1,650,000
Total ITNs Available	2,564,650	6,095,531	17,434,440
Total ITN Surplus (Gap)	997,531	984,440	1,367,852

¹ PMI supports procurement of ITNs for routine distribution and Global Fund supports procurement of ITNs for mass universal coverage campaigns.

² ANC needs were based on the number of pregnant women (5.3 percent of the population) who attended the first ANC visit (95 percent) in 2017, adjusted for population growth (2.8 percent) based on the 2017 census.

³ Number of nets based on updated enrollment data for duration of pilot.

⁴ There will be a universal coverage campaign in 2019/2020.

c. Indoor residual spraying

No new activities or significant changes are proposed to IRS delivery and technical assistance. The number of sprayed districts will, however, be reduced from six to five based on epidemiological, entomological, and acceptability data. These data currently support the spraying of Milange, Morrumbala, Molumbo, Mopeia, and Maganja da Costa districts. Final district selection will be confirmed with the NMCP using data available at the end of the 2018 campaign.

2. Malaria in pregnancy

Mozambique has adopted the new WHO ANC guidelines recommending eight contact visits, as well as an additional visit to provide IPTp between 13-16 weeks. The implementation of these guidelines will be supported by PMI, USAID (through maternal and child health activities), and the World Bank-supported Global Facility Financing Initiative.

Mozambique is going through a severe economic crisis since the discovery of hidden loans in April 2016. Many donors have significantly reduced their direct contributions, both to the state budget and to the health sector. This has affected the ability of the MoH to procure and distribute sulfadoxine-pyrimethamine (SP) and other malaria commodities. There are no planned shipments of SP to be procured by UNICEF and MoH contributions have not yet been confirmed for FY 2019. As a result, in FY 2018, PMI increased its role in the procurement of SP in order to fulfill the needs of the country (see Table 3). For FY 2019, PMI will work with the NMCP to advocate for the inclusion of SP procurement in the MoH budget. If this is not successful, PMI will re-evaluate the procurement and resource gap with the NMCP and other donors.

To address the distribution problem, PMI and other USG initiatives are increasing resources to supply chain strengthening. This includes the roll out of a health facility- based logistic management information system, which will provide visibility of stock quantities, transactions (including potential stock outs and days without stock), and consumption data of several medicines, including SP. Additionally, to better understand the various barriers to IPTp coverage in Mozambique, PMI will support a barrier assessment in two targeted PMI provinces.

Table 3: SP Gap Analysis

Calendar Year	2018	2019	2020
Total Population	30,528,673	31,402,012	32,293,132
SP Needs			
Total Number of Pregnant Women Attending ANC ¹	3,867,067	3,977,693	4,090,571
Total SP Need (in treatments)²	3,867,067	3,977,693	4,090,571
Partner Contributions			
SP Carried Over from Previous Years	2,178,072	711,005	1,122,201
SP from Government ³	0	0	3,000,000
SP from Global Fund	0	0	0
SP from Other Donors	733,333	0	0
SP Planned with PMI Funding	1,666,667	4,388,889	0
Total SP Available	4,578,072	5,099,894	4,122,201
Total SP Surplus (Gap)	711,005	1,122,201	31,630

¹ ANC needs were based on the number of pregnant women (5.3 percent of the total population) who attended ANC in 2017, adjusted for population growth (2.8 percent) based on the 2017 census. The estimated treatments needed are calculated with consideration of current ANC visit attendance rates (first visit: 95 percent; second visit: 75 percent; third visit: 42 percent; and fourth visit: 27 percent). The estimated total SP needs are calculated in treatments (three tablets comprise each treatment).

² This is number of treatments not number of pills. For examples, a woman who gets IPTp at two visits is counted as two treatments.

³ MoH contributions for 2019 and 2020 have not yet been confirmed.

3. Case management

In FY 2019, case management activities in target provinces will be expanded from the two initial provinces of Nampula and Zambézia to include Tete and Cabo Delgado. The funding for case management has increased to support this expansion.

The NMCP updated its malaria treatment guidelines in 2017 in order to align them with the current WHO recommendations. Two important updates were made. First, injectable artesunate is now recommended as the drug of choice for the treatment of pregnant women with severe malaria, regardless of the gestational age. The previous guidelines recommended the use of injectable quinine in these cases. Second, rectal artesunate is now recommended only for children under six years of age, and only the 100-mg formulation should be used. The previous guidelines recommended use of rectal artesunate in all ages and allowed for several formulations (50 mg, 100 mg, and 200 mg). To facilitate the roll out of these updated guidelines, PMI is supporting training of all clinicians in Zambézia and Nampula in 2018, while the Global Fund is supporting training in the remaining provinces. In relation to rectal artesunate, PMI is supporting refresher training and supervision of community health workers in PMI-targeted districts, while UNICEF is supporting training and supervision of community health workers in three additional provinces. PMI is also providing its third year of support for a case management advisor seconded to the NMCP.

PMI is also increasing its role in the procurement of case management commodities, including RDTs and ACTs (see Tables 4 and 5). The results of the recent quantification of malaria commodities showed an increased need for both RDTs and ACTs, mainly as a result of the increased population based on the 2017 census preliminary results. Additionally, PMI will provide support for procurement of rectal artesunate for community health workers to administer as pre-referral treatment for severe malaria cases in children.

The NMCP decided to seek funding for a 2020 therapeutic efficacy study (TES) from WHO, with molecular analyses being conducted by *Instituto Nacional de Saúde* (National Health Institute or INS). The sites are expected to stay the same as those included in the PMI-supported TES from calendar year 2018. PMI funds will be used to support a six-week INS technician training visit to the CDC malaria laboratory to learn molecular methods for assessing antimalarial resistance.

Table 4: RDT Gap Analysis

Calendar Year	2018	2019	2020
RDT Needs¹			
Total Country Population	30,528,673	31,402,012	32,293,132
Population at Risk for Malaria	30,528,673	31,402,012	32,293,132
PMI-Targeted At-Risk Population	30,528,673	31,402,012	32,293,132
Total Number of Projected Fever Cases*	58,004,479	59,663,823	61,356,951
Percent of Fever Cases Tested with an RDT**	85%	88%	90%
Total RDT Needs² ***	26,402,189	28,115,980	29,570,982
Partner Contributions³			
RDTs Carried Over from Previous Year	<i>11,195,600</i>	<i>6,543,411</i>	<i>3,427,431</i>
RDTs from Government	<i>0</i>	<i>0</i>	<i>0</i>
RDTs from Global Fund	15,750,000	15,000,000	16,150,000
RDTs from Other Donors	0	0	0
RDTs Planned with PMI Funding	6,000,000	10,000,000	7,529,312
Total RDTs Available	32,945,600	31,543,411	27,106,743
Total RDT Surplus (Gap)	6,543,411	3,427,431	-2,464,239

¹ Geographic coverage: PMI commodities are distributed nationwide.

² This is the annual need for RDT commodities and does not include pipeline requirements.

³ Total population is at risk of malaria (estimates obtained from population growth based on the 2017 census).

* Projected fever cases estimated at an average of 1.9 fevers per person per year.

**Denotes percentage of fevers expected to be tested with an RDT (vs. microscopy or no test received), increasing with RDT scale-up driven by the expansion of the community health worker program and by the plan from NMCP to scale-up RDT use both at community and at health-facility level.

***Average care-seeking for fever is 63percent; 85 percent of these fevers are seen in the public sector.

Table 5: ACT Gap Analysis

Calendar Year	2018	2019	2019
ACT Needs			
Total Country Population	30,528,673	31,402,012	32,293,132
Population at Risk for Malaria	30,528,673	31,402,012	32,293,132
PMI-Targeted At-Risk Population*	30,528,673	31,402,012	32,293,132
Total Projected Number of Malaria Cases**	15,313,270	16,307,268	17,151,170
Total ACT Needs²	16,422,162	17,488,140	18,393,151
Partner Contributions¹			
ACTs Carried Over from Previous Year	7,827,520	11,388,670	8,521,930
ACTs from Government	0	0	0
ACTs from Global Fund	14,348,502	9,621,400	8,122,400
ACTs from Other Donors	0		
ACTs Planned with PMI Funding	5,634,810	5,000,000	6,000,000
Total ACTs Available	27,810,832	26,010,070	22,644,330
Total ACT Surplus (Gap)	11,388,670	8,521,930	4,251,179

¹ Geographic coverage: PMI commodities are distributed nationwide.

² This is the annual need for ACT commodities and does not include pipeline requirements.

* Total population is at risk of malaria (estimates obtained from population growth based on the 2017 census).

** Considers the RDT need and an RDT-positivity rate of 52 percent in 2017, and 49 percent in 2018 and 2019. An additional 10 percent accounts for the possibility of false positives.

4. Cross-cutting and other health systems strengthening

a. Pharmaceutical management

No new activities or significant changes are proposed. End-use verification activities will continue to monitor commodity availability at the district and health-facility levels.

b. Social and behavior change communication

No new activities or significant changes are proposed. The new national SBCC policy is currently under development and is expected to be completed by the end of calendar year 2018. One of the deliverables for the strategy development process is refinement of the national package of standardized SBCC materials, ensuring close alignment of the policy and the materials. PMI will continue to support implementation using a standardized SBCC package whose implementation will be tailored based on available data on provincial and sub-provincial priority populations, as well as behaviors and behavioral determinants. This includes support for providing information on the need for early ANC attendance amongst pregnant women and their families, enhancing risk perception and perceived efficacy to support care providers' rapid care-seeking for children with fever, and promoting community and family norms that support IRS acceptance and ITN use among community leaders and familial decision-makers.

c. Surveillance, monitoring, and evaluation

Mozambique has been reporting all malaria cases as test-confirmed cases. The Health Management Information System (HMIS) was updated in calendar year 2017 and is now

able to provide routine case data disaggregated by confirmed and clinical cases. However, the number of clinical cases reported in 2017 was very small (~82 thousand cases). PMI and other partners are providing support to improve the SM&E system, including data quality, and it is likely that this number will increase in future years.

In calendar year 2018, the NMCP implemented (with PMI and Clinton Health Access Initiative technical assistance) a HFS of the quality of malaria case management in public health facilities in three provinces: Maputo Province, Zambézia, and Cabo Delgado. Additionally, PMI supported implementation of the 2018 MIS. Results from these studies are forthcoming. A summary of SM&E data sources since 2012 can be found in Table 6. No household or health facility surveys are currently scheduled for 2020.

PMI will continue to support HMIS strengthening in four target provinces through activities that include training of personnel, integrated supportive supervision, and routine data quality assessments. Surveillance, monitoring, and evaluation support at the provincial level will include training of personnel on the new outpatient register books, participation of monitoring and evaluation staff in integrated supportive supervision visits, and routine data quality assessments.

Table 6. Surveillance, Monitoring, and Evaluation Data Sources

Data Source	Survey Activities	Year								
		2012	2013	2014	2015	2016	2017	2018	2019	2020
Surveys	Malaria Indicator Survey (MIS)				X			X		
Health Facility Surveys	Health Facility Survey							X		
	Service Availability Readiness Assessment (SARA) Survey							X*		
	Support to HMIS	X	X	X	X	X	X	X	(X)	(X)
	Support to Integrated Disease Surveillance and Response (IDSR)	X	X	X	X	X	X	X	(X)	(X)
Other	Malaria Impact Survey		X							

*Not PMI-funded; () Indicates planned future activity

d. Operational research

No new activities or significant changes are proposed.

e. Other health systems strengthening

No new activities or significant changes are proposed. HSS capacity building at the provincial level will continue to strengthen management- and supervision-related skills at the provincial and district level through trainings on items such as budget planning.

5. Staffing and administration

PMI Mozambique supports staffing and administration that follow PMI policy, as articulated in the FY 2018 MOP.