

# PMI

# U.S. PRESIDENT'S MALARIA INITIATIVE

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This FY 2021 Malaria Operational Plan has been approved by the U.S. Global Malaria Coordinator and reflects collaborative discussions with national malaria control programs and other partners. Funding available to support outlined plans is pending final FY 2021 appropriation. Any updates will be reflected in revised postings.

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## MALAWI

### Malaria Operational Plan FY 2021

The U.S. President's Malaria Initiative (PMI)—led by the U.S. Agency for International Development (USAID) and implemented together with the U.S. Centers for Disease Control and Prevention (CDC)—delivers cost-effective, lifesaving malaria interventions alongside catalytic technical and operational assistance to support Malawi to end malaria. PMI has been a proud partner of Malawi since 2006, helping to decrease child death rates by 48 percent through investments totaling almost \$294.2 million.

The proposed PMI fiscal year (FY) 2021 planning budget for Malawi is \$23 million. This Malaria Operational Plan (MOP) summary outlines planned PMI activities in Malawi for FY 2021. See accompanying **FY 2021 Budget Tables** (Tables 1 and 2) for activities and budget amounts, available on [pmi.gov](http://pmi.gov). Developed in consultation with the National Malaria Control Program (NMCP) and key stakeholders, proposed activities reflect national and PMI strategies, draw on best-available data, and align with the country context and health system. Proposed PMI investments support and build on those made by the Government of Malawi as well as other donors and partners. See **Annex A: Gap Analysis Tables** for information on commodities.

To accelerate the journey to self-reliance, PMI developed a programmatic inventory to assess the strengths and persistent challenges of the Malawi program. See **MOP FY 2020 Malawi, Annex B: Program Inventory**. The activities proposed in this MOP are tailored to draw on strengths and foster improvements.

Since the FY 2020 MOP was developed, the following new data, updated policy and/or strategic priorities relevant for the FY 2021 MOP have become available:

- **Government of Malawi, Ministry of Health, Revised Malaria Strategic Plan 2017-2022**
  - Strategic goal: To reduce malaria incidence by at least 50 percent from a 2016 baseline of 386 per 1000 population to 193 per 1000 population, and malaria deaths by at least 50 percent from 23 per 100,000 population to 12 per 100,000 population by 2022.
- **PMI/Malawi analysis of the impacts of piperonyl-butoxide (PBO) nets on malaria incidence**
  - Time-series modeling demonstrates that facilities in districts that received PBO nets had a mean decline of 34.8 percent compared with 20.5 percent for facilities in districts with standard nets. The median difference between PBO and standard is -15 [95 percent credible interval from -6.6 percent to -22 percent]; PBO

reduced cases by 15 percent over standard nets. (Abstract submitted to American Society of Tropical Medicine and Hygiene [ASTMH]; publication forthcoming)

For more information about the malaria situation, malaria control progress, and intervention-specific data in Malawi, please refer to the FY 2020 MOPs available on [pmi.gov](https://www.pmi.gov).

# **Annex A. Gap Analysis Tables**

<b>Insecticide-treated Mosquito Net (ITN) Gap Analysis</b>			
<b>Calendar Year</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Total targeted population	18,597,218	19,136,537	19,691,496
<b>Continuous Distribution Needs</b>			
Channel #1: ANC <sup>1</sup>	714,789	735,518	756,848
Channel #2: EPI <sup>2</sup>	714,789	735,518	756,848
Estimated total need for continuous channels	1,429,578	1,471,036	1,513,696
<b>Mass Campaign Distribution Needs</b>			
2021 mass distribution campaign <sup>3</sup>	0	9,258,645	0
Estimated total need for campaigns	0	9,258,645	0
<b>Total ITN Need: Routine and Campaign</b>	<b>1,429,578</b>	<b>10,729,681</b>	<b>1,513,696</b>
<b>Partner Contributions</b>			
ITNs carried over from previous year	804,558	874,980	603,944
ITNs from MOH	0	0	0
ITNs from Global Fund	0	9,258,645	0
ITNs from other donors	0	0	0
ITNs planned with PMI funding <sup>4,5</sup>	1,500,000	1,200,000	990,000
<b>Total ITNs Available</b>	<b>2,304,558</b>	<b>11,333,625</b>	<b>1,593,944</b>
<b>Total ITN Surplus (Gap)</b>	<b>874,980</b>	<b>603,944</b>	<b>80,248</b>

*\*Population figures based on Malawi 2018 Population and Housing Census, adjusted for 2.9% annual growth rate.*

<sup>1</sup> Proportion of new registered pregnant women in the population based on DHIS2 2019 data, adjusted for non-reporting (National Quantification 2020).

<sup>2</sup> Assumes every pregnant woman will deliver one child.

<sup>3</sup> Mass campaign quantity obtained from Malawi Malaria Global Fund Grant Application Submission (NFM3).

<sup>4</sup> 2020: 1.2 million ITNs planned in MOP FY 2019 in addition to 300,000 ITNs from MOP FY 2018 procurement delivered in February 2020.

<sup>5</sup> 2021: 1.2 million ITNs planned in MOP FY 2020.

<sup>6</sup> Forecast gap for 2022 is 909,752 Nets (National Quantification 2020). 1,200,000 nets are proposed for MOP FY 2021 procurement.

<b>Sulfadoxine-Pyrimethamine (SP) Gap Analysis</b>			
<b>Calendar Year</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Total country population	18,597,218	19,136,537	19,691,496
<b>SP Needs</b>			
Total number of pregnant women <sup>1</sup>	714,789	735,518	756,848
<b>Total SP Need (in treatments/doses)<sup>2</sup></b>	<b>2,072,888</b>	<b>2,133,002</b>	<b>2,194,859</b>
<b>Partner Contributions</b>			
SP carried over from previous years (doses)	3,005,737	3,332,849	1,199,847
SP from Government	0	0	0
SP from Global Fund	0	0	0
SP from other donors	0	0	0
SP planned with PMI funding <sup>3</sup> (doses)	2,400,000	0	1,000,000
<b>Total SP Available</b>	<b>5,405,737</b>	<b>3,332,849</b>	<b>2,199,847</b>
<b>Total SP Surplus (Gap)</b>	<b>3,332,849</b>	<b>1,199,847</b>	<b>4,988</b>

<sup>1</sup> Expected population that is pregnant: 3.8% (DHIS2 2019)

<sup>2</sup> Source: MIS 2017. ANC4 not available.

Proportion of women expected to attend ANC1 at 13 weeks or greater	92%
Proportion of women expected to attend ANC2	76%
Proportion of women expected to attend ANC3	41%
Proportion of women expected to attend ANC4	<i>Not available</i>

<sup>3</sup> 2020: 7.2 million tablets (2.4 million doses) from MOP FY 2019.

<sup>4</sup> Forecast gap for 2022 is 995,012 doses. 1,000,000 doses (3,000,000 tablets) are recommended for MOP FY 2021 procurement.

<b>Rapid Diagnostic Test (RDT) Gap Analysis</b>			
<b>Calendar Year</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>RDT Needs</b>			
Total country population	18,597,218	19,136,537	19,691,496
Population at risk for malaria <sup>1</sup>	18,597,218	19,136,537	19,691,496
PMI-targeted at-risk population	18,597,218	19,136,537	19,691,496
Total number of suspected malaria cases <sup>2</sup>	14,405,622	14,823,385	12,202,611
Percent of malaria cases tested with an RDT <sup>3</sup>	100.0%	100.0%	100.0%
<b>Total RDT Needs <sup>4</sup></b>	<b>14,405,622</b>	<b>14,823,385</b>	<b>12,202,611</b>
<b>Partner Contributions (to PMI target population if not entire area at risk)*</b>			
RDTs carried over from previous year	15,111,353	4,960,185	3,113,764
RDTs from Government	0	0	0
RDTs from Global Fund	0	7,976,964	5,385,897
RDTs from other donors	0	0	0
RDTs planned with PMI funding <sup>5,6</sup>	5,000,000	5,000,000	4,300,000
<b>Total RDTs Available</b>	<b>18,041,158</b>	<b>17,937,149</b>	<b>12,799,661</b>
<b>Total RDT Surplus (Gap)</b>	<b>4,960,185</b>	<b>3,113,764</b>	<b>597,050</b>

<sup>1</sup> Geographic coverage: Entire population is at risk in Malawi.

<sup>2</sup> For 2020 a 2.5% reduction on 2018 suspected malaria cases mostly due to the IRS conducted in 2019 was assumed with year on year population growth rate applied; For 2021 a 2.5% reduction on 2018 suspected malaria cases due to IRS to be conducted in 4 districts was assumed with year on year population growth rate applied; For 2022 a 20% reduction on 2018 suspected malaria cases due to ITN mass campaign in 2021 and IRS to be in a few districts was assumed with year on year population growth rate applied (National Quantification 2020).

<sup>3</sup> DHIS2 2019 data shows this as 99.7%; Further improvements are envisaged based on the national recommendation of 100% mRDT testing, hence 100% adopted for 2020-2022 (National Quantification 2020).

<sup>4</sup> The total RDTs needs represents the number of mRDTs required to test 100% of the projected number of suspected malaria cases (National Quantification 2020). Quantities here refer to only forecast quantities; pipeline requirements not included.

<sup>5</sup> 5,000,000 tests in 2020 is FY 2019 procurement with delivery expected in 3rd quarter 2020.

<sup>6</sup> 5,000,000 tests in 2021 is FY 2020 procurement proposed for delivery in 4th quarter 2020.

<b>Artemisinin-based Combination Therapy (ACT) Gap Analysis</b>			
<b>Calendar Year</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>ACT Needs</b>			
Total country population	18,597,218	19,136,537	19,691,496
Population at risk for malaria	18,597,218	19,136,537	19,691,496
PMI-targeted at-risk population <sup>1</sup>	18,597,218	19,136,537	19,691,496
Total projected number of malaria cases <sup>2</sup>	9,259,222	9,555,743	7,929,528
<b>Total ACT Needs <sup>3</sup></b>	<b>9,259,222</b>	<b>9,555,743</b>	<b>7,929,528</b>
<b>Partner Contributions (to PMI target population if not entire area at risk)<sup>1</sup></b>			
ACTs carried over from previous year	9,447,828	7,285,286	3,975,183
ACTs from Government	0	0	0
ACTs from Global Fund	3,956,670	3,245,640	1,998,570
ACTs from other donors	0	0	0
ACTs planned with PMI funding <sup>4</sup>	3,140,010	3,000,000	4,000,000
<b>Total ACTs Available</b>	<b>16,544,508</b>	<b>13,530,926</b>	<b>9,973,753</b>
<b>Total ACT Surplus (Gap)</b>	<b>7,285,286</b>	<b>3,975,183</b>	<b>2,044,225</b>

<sup>1</sup> Geographic coverage: Entire population is at risk in Malawi.

<sup>2</sup> For 2020 a 10% reduction on 2018 malaria (LA) treatments (adjusted for non-reporting and stock out rates) was assumed with a year on year population growth rate applied. The reduction is attributed mostly to the IRS conducted in 2019; For 2021 a 10% reduction on 2018 LA treatments due to IRS to be conducted in 4 districts was assumed also with year on year population growth rate applied; For 2022 a 30% reduction on 2021 LA treatments due to the expected 2021 mass campaign and the IRS to be continued in a few districts was assumed with year on year population growth rate applied (National Quantification 2020).

<sup>3</sup> Quantities here refer to only forecast quantities; pipeline requirements not included.

<sup>4</sup> CY 2020 PMI funded ACTs: MOP FY19 -1,000,020 treatments + FY19 (Additional funds (Gap filling) -2,139,990 treatments)

<b>Injectable Artesunate Gap Analysis</b>			
<b>Calendar Year</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Injectable Artesunate Needs</b>			
Projected number of severe cases <sup>1</sup>	120,370	124,225	87,225
Projected # of severe cases among children <sup>2</sup>	49,954	51,553	36,198
Projected # of severe cases among adults <sup>3</sup>	70,416	72,671	51,027
<b>Total Injectable Artesunate vials Needs<sup>4</sup></b>	<b>1,244,630</b>	<b>1,284,493</b>	<b>901,912</b>
<b>Partner Contributions</b>			
Injectable artesunate vials carried over from previous year	1,194,995	427,829	150,056
Injectable artesunate vials from Government	0	0	0
Injectable artesunate vials from Global Fund	477,464	1,006,720	805,712
Injectable artesunate vials from other donors	0	0	0
Injectable artesunate vials planned with PMI funding	0	0	0
<b>Total Injectable Artesunate vials Available</b>	<b>1,672,459</b>	<b>1,434,549</b>	<b>955,768</b>
<b>Total Injectable Artesunate vials Surplus (Gap)</b>	<b>427,829</b>	<b>150,056</b>	<b>53,856</b>

<sup>1</sup> Assumption is that 1.3% of malaria cases will progress to severe malaria (this is based on DHIS2 2019 data which shows severe malaria cases at 1.3%). For 2020 and 2021, a proportion of 1.3% is maintained and reduced to 1.1% in 2022 (National Quantification 2020).

<sup>2</sup> Proportion of children with severe malaria is 41.5% (DHIS2 2019 data). This percentage was maintained for 2020-2022 (National Quantification 2020).

<sup>3</sup> Proportion of adults with severe malaria is 58.5% (DHIS2 2019 data). This percentage was maintained for 2020-2022 (National Quantification 2020).

<sup>4</sup> Assumes an average of 12 vials for adults and 8 vials for children for each treatment episode (Malawi Malaria Treatment Guidelines and expert advice from facility/district staff). Quantities here refer to only forecast quantities; pipeline requirements not included (National Quantification 2020).

<b>Rectal Artesunate Suppository (RAS) Gap Analysis</b>			
<b>Calendar Year</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Artesunate Suppository Needs</b>			
Number of HSAs/village clinics providing malaria services at community level <sup>1</sup>	4,817	4,817	6,317
<b>Total Artesunate Suppository Needs <sup>2</sup></b>	<b>28,902</b>	<b>28,902</b>	<b>37,902</b>
<b>Partner Contributions</b>			
Artesunate suppositories carried over from previous year	26,477	0	0
Artesunate suppositories from Government	0	0	0
Artesunate suppositories from Global Fund	0	0	0
Artesunate suppositories from other donors	0	0	0
Artesunate suppositories planned with PMI funding <sup>3</sup>	0	0	38,000
<b>Total Artesunate Suppositories Available</b>	<b>26,477</b>	<b>0</b>	<b>38,000</b>
<b>Total Artesunate Suppositories Surplus (Gap)</b>	<b>-2,425</b>	<b>-28,902</b>	<b>98</b>

<sup>1</sup> The focus was on providing access to the suppositories by all HSAs/village clinics providing malaria services as such service-based forecasting approach was adopted. The number of HSAs/village clinics was assumed to be 4,817 (based on the DHIS2 2019 highest number which was reported in June 2019). This number was used for 2020 and 2021. For 2022 and 2023, an assumption of an additional 1,500 HSAs which will increase the number to 6,317 HSAs is adopted. The additional HSAs are expected to be trained and deployed to manage new village clinics following expected GF reprogramming (NFM3) at the end of 2021 (National Quantification 2020).

<sup>2</sup> Forecast assumes per annum requirement of 2 packs of 2 suppositories per HSA at a time with 1 pack of 2 as buffer at facility level (National Quantification 2020). Quantities here refer to only forecast quantities; pipeline requirements not included.

<sup>3</sup> Forecast gap for 2022 is 37,902 suppositories (National Quantification 2020). 38,000 suppositories are proposed for MOP FY 2021 procurement