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.

U.S. PRESIDENT'S MALARIA INITIATIVE

CAMEROON

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 Cameroon to end malaria. PMI has been a proud partner of Cameroon since 2017, helping to decrease child death rates through investments totaling almost $87.5 million.

The proposed PMI fiscal year (FY) 2021 planning budget for Cameroon is $22 million. This Malaria Operational Plan (MOP) summary outlines planned PMI activities in Cameroon for FY 2021. See accompanying **FY 2021 Budget Tables** (Tables 1 and 2) for activities and budget amounts, available on 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 Cameroon 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 Cameroon program. See **MOP FY 2020 Cameroon, 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.

- The NMCP's National Strategic Plan was revised and validated and now incorporates the updated High Burden High Impact (HBHI) stratification exercise. Refinements to the stratification and intervention mix modeling have been made, and the NMCP's implementation plan has been designed with the results in mind. For example, the 2022 ITN distribution campaign will be stratified at the district level in order to better target insecticide resistance (districts will receive net generation nets, PBO nets or conventional nets based on available insecticide resistance profiles) and will be limited to hotspots in the two major urban centers in Yaounde and Douala.

- Cameroon expects to roll out Phase 1 of its Universal Health Coverage (UHC) initiative in the coming year. The objective is to consolidate various free and subsidized care/treatment packages implemented throughout the country. The specifics of how malaria will be integrated into Phase 1 are still pending, but the NMCP is engaged in the UHC development process. Malaria partners anticipate that UHC will increase access and quality of malaria service delivery for the Cameroonian population.

- Cameroon recently completed the PMI-funded Malaria Behavior Survey (MBS). The MBS was implemented in the North and the Far North regions in 2019. The report is currently being finalized and preliminary results have been disseminated to the NMCP, PMI, and partners. The MBS data provide insights on social and behavioral determinants of uptake of key malaria behaviors, including net use, care-seeking, ANC attendance, acceptance of seasonal malaria chemoprevention, as well as data on media habits, gender norms, and perceptions of health workers. Results are used to inform development of effective social and behavior change interventions that are appropriately tailored to target audiences. Findings have already been used in development of communication strategies for the 2020 SMC campaign.

- With FY 2021 funds, PMI will expand entomological monitoring from five to 10 entomological surveillance sites. This decision was made in coordination with the NMCP and Global Fund, based on the NMCP's desire to optimize the entomological technical expertise afforded through PMI partners.

- With FY 2021 funds, PMI will also increase support for the community case management platform in the North and Far North through training and supervision. Taken together with other donor investments, PMI support will further expand coverage of community health workers in its focus regions to improve access to care.

- PMI will not be procuring ITNs for the 2022 mass distribution campaign as funding for net procurement and distribution in all regions will be covered by the Global Fund. PMI will focus on strengthening routine distribution channels in the North and Far North regions.

- No TES funding is needed in FY 2021 due to a prolonged timeline launching PMI-supported TES with earlier MOP funds. PMI will continue to support TES implementation, but will use existing funds.

For more information about the malaria situation, malaria control progress, and intervention-specific data in Cameroon, please refer to the FY 2020 MOPs available on pmi.gov.

Annex A. Gap Analysis Tables

Insecticide-treated Mosquito Net (ITN) Gap Analysis			
Calendar Year	**2020**	**2021**	**2022**
Total targeted population (projected # pregnant women in the 10 regions of Cameroon) [1]	938,566	964,219	980,986
Total PMI-targeted population (projected # pregnant women in the North and Far North) [1]	358,676	374,856	387,038
Continuous Distribution Needs			
Channel #1: ANC (# pregnant woman projected to be seen in ANC1 and receive an ITN in North and Far North) [2]	247,616	273,780	298,159
Security stock for routine ANC distribution	3%	3%	3%
Estimated total need for ANC continuous channels	255,044	281,994	307,104
Mass Campaign Distribution Needs			
Estimated total need for campaigns (PMI regions will be covered by GF for 2022 mass campaign support)	0	0	5,009,560
Total ITN Need: Routine and Campaign	**255,044**	**281,994**	**5,316,663**
Partner Contributions			
ITNs carried over from previous year [3]	1,658	126,614	107,587
ITNs from MOH	0	0	0
ITNs from Global Fund	0	0	5,009,560
ITNs from other donors	0	0	0
ITNs planned with PMI funding [4]	380,000	262,967	307,104
Total ITNs Available	**381,658**	**389,581**	**5,424,251**
Total ITN Surplus (Gap)	**126,614**	**107,587**	**107,588**

[1] Data source: Projections Demographiques et Estimations des Cibles Prioritaires des Differents Programmes et Interventions de Sante, National Institute of Statistics, 2016.
[2] Calculated based on projected number of pregnant women attending ANC and receiving IPT (source: 2019 historical data from routine reporting, i.e. DHIS2). Projections made based on historical program data taking into account the impact of planned programmatic activities and past achievements. 2019 service statistics data served as baseline.
[3] Carryover for 2020 is the leftover quantity (1,658) after 2019 routine distribution.
[4] FY 2020 PMI quantities include 250,000 PBOs nets from the MOP19 and an additional 130,000 standard ITNs which is an emergency order initiated to fill the coverage gap.
[5] The Global Fund will be procuring all campaign nets and distribution costs for the planned 2022 mass ITN distribution campaign nationwide.

Sulfadoxine-Pyrimethamine (SP) Gap Analysis			
Calendar Year	**2020**	**2021**	**2022**
Total targeted population (projected # pregnant women in the 10 regions of Cameroon) [1]	938,566	964,219	980,986
Total PMI-targeted population (projected # pregnant women in the North and Far North)[1]	358,676	374,856	387,038
ANC1 (# pregnant woman projected to be seen in ANC 1 in North and Far North regions)[2]	247,616	273,780	298,159
SP Needs for North and Far North Regions (PMI targeted regions) [2]			
Total number of pregnant women receiving IPT1	226,587	256,005	284,764
Total number of pregnant women receiving IPT2	174,348	200,984	227,825
Total number of pregnant women receiving IPT3	145,449	171,769	198,990
Total number of pregnant women receiving IPT4	79,808	90,978	102,061
Total SP Need (number of treatments)[3]	**626,192**	**791,710**	**854,323**
Partner Contributions			
SP carried over from previous years[4]	2,111	315,207	0
SP from Government	0	0	0
SP from Global Fund[5]	626,192	0	0
SP from other donors	0	0	0
SP planned with PMI funding (North and Far North)	0	105,000	854,323
Total SP Available (treatments - blisters of 3 pills)	**628,303**	**420,207**	**854,323**
Total SP Surplus (Gap)	**315,207**	**-371,503**	**0**

[1] Data source: Projections Demographiques et Estimations des Cibles Prioritaires des Differents Programmes et Interventions de Sante, National Institute of Statistics, 2016.
[2] Calculated based on projected number of pregnant women attending ANC and receiving IPT (source: 2019 historical data from routine reporting, i.e. DHIS2). Projections made based on historical program data, taking into account the impact of planned programmatic activities and past achievements. 2019 service statistics data served as baseline.
[3] Total needs were adjusted by 1.1 and 1.05 to account for buffer stock in 2021 and 2022, respectively.
[4] Carryover from 2019: Stock on Hand in Far North and North at the end of December 2019 was 20,301 treatments which were to expire in Jan & Feb 2020. Out of this, the usable quantity was 2,111 treatments, which is being effectively considered as surplus to be carried over in 2020. For 2020, considering that the stock from DRC will arrive in June 2020, only half of it will be used to cover the last 6 months of 2020. The other 6 months will be a surplus and carried over in 2021.
[5] GF quantity loaned to DRC in 2019 is expected to reimbursed by PMI in June 2020, to cover the needs of 2020.

Seasonal Malaria Chemoprevention (SMC) Gap Analysis			
Calendar year	**2020**	**2021**	**2022**
Population targeted for SMC (North and Far North regions)[1]	1,728,223	1,773,157	1,819,259
Total SP+AQ 1 (75mg) Needs	**1,106,063**	**1,134,820**	**1,164,326**
Total SP+AQ 2 (150mg) Needs	**5,806,830**	**5,957,807**	**6,112,710**
Total SP+AQ Needs	**6,912,893**	**7,092,628**	**7,277,036**
Total SP+AQ 1 Needs + 5% buffer	1,161,366	1,191,561	1,222,542
Total SP+AQ 2 Needs + 5% buffer	6,097,171	6,255,698	6,418,346
Total SP+AQ Needs + 5% buffer	7,258,537	7,447,259	7,640,888
Partner Contributions (to PMI target population if not entire area at risk)			
SP+AQ 1 carried over from previous year [2]	154,600	296,034	296,034
SP+AQ 2 carried over from previous year [2]	467,850	621,429	621,429
SP+AQ from Government	0	0	0
SP+AQ from Global Fund	0	0	0
SP+AQ from other donors	0	0	0
SP+AQ 1 planned with PMI funding (blister of 4 tablets) [3]	1,302,800	1,191,561	1,222,542
SP+AQ 2 planned with PMI funding (blister of 4 tablets) [3]	6,250,750	6,255,698	6,418,346
Total SP+AQ 1 Available (blister 4 tablets each)	**1,457,400**	**1,487,595**	**1,518,576**
Total SP+AQ 2 Available (blister 4 tablets each)	**6,718,600**	**6,877,127**	**7,039,775**
Total SP+AQ 1 Surplus (Gap)	**296,034**	**296,034**	**296,034**
Total SP+AQ 2 Surplus (Gap)	**621,429**	**621,429**	**621,429**

[1] Geographic coverage: Since 2018, PMI has been covering all needs for SMC in Cameroon. Only the North and the Far North regions (total of 45 health districts) are eligible for SMC, and these are the PMI focus regions. The targets are calculated based on actual number of children mobilized during the 2019 SMC campaign. A growth factor of 1.026 (source: Projections Demographiques et Estimations des Cibles Prioritaires des Differents Programmes et Interventions de Sante, National Institute of Statistics, 2016, National Institute of Statistics, 2016) has been applied to calculate the progression for 2020-2022.

[2] The carryover in 2020 is the sum of the usable stock coming from reverse logistics at the end of cycle 4 of the SMC and the leftover quantities at the RFHP.

[3] For FY 2020, the PMI planned SP+AQ quantities are from the procurement records (ARTMIS).

Rapid Diagnostic Test (RDT) Gap Analysis			
Calendar Year	**2020**	**2021**	**2022**
RDT Needs (North and Far North Regions, PMI targeted regions)			
Total country population	26,133,035	26,765,522	27,419,137
Population at risk for malaria	26,133,035	26,765,522	27,419,137
PMI-targeted population at risk for malaria (North and Far North) [1]	7,699,643	7,948,629	8,197,461
Total number of projected fever cases [2]	6,554,896	6,425,224	6,296,266
Total number of fever avoided with prevention interventions [3]	1,376,047	1,274,660	2,179,798
Total number of expected fever cases in North & Far North [4]	5,178,849	5,150,564	4,116,468
Total # of expected fever cases in public HFs (North & Far North) [5]	1,152,485	1,304,285	1,103,842
Total # of expected fever cases in private HFs (North & Far North) [5]	199,195	225,432	190,787
Total # of expected fever cases in communities (North & Far North) [5]	150,187	169,969	228,464
Total number of expected fever cases in health facilities and communities in North & Far North [5]	**1,501,866**	**1,699,686**	**1,523,093**
Percent of fever cases tested in facilities [6]	90%	90%	90%
Percent of fever cases tested with an RDT in public HFs [6]	79%	80%	81%
Percent of fever cases tested with an RDT in private HFs	52%	53%	54%
Percent of fever cases tested with an RDT in communities [6]	100%	100%	100%
Total # of fever cases tested with RDT in public HFs (North & Far North)	819,578	939,269	804,856
Total # of fever cases tested with RDT in private HFs (North & Far North)	93,277	107,592	92,774
Total # of fever cases tested with RDT in communities (North & Far North)	150,187	169,969	228,464
RDT need coverage in public health facilities (North & Far North)	819,578	939,269	804,856
RDT need coverage in private health facilities (North & Far North)	69,025	79,618	68,653
RDT need coverage in communities (North & Far North)	150,187	169,969	228,464
RDT Needs	**1,038,790**	**1,188,856**	**1,101,973**
Security Stock [7]	**0%**	**10%**	**5%**
Total RDT Needs	**1,038,790**	**1,307,741**	**1,157,071**
Partner Contributions (to PMI target population if not entire area at risk)*			
RDTs carried over from previous year [8]	979,800	847,835	0
RDTs from Government	0	0	0
RDTs from Global Fund (to North and Far North)	0	0	0
RDTs from other donors	0	0	0
RDTs planned with PMI funding [9]	906,825	407,415	1,157,071
Total RDTs Available	**1,886,625**	**1,255,250**	**1,157,071**
Total RDT Surplus (Gap)	**847,835**	**-52,491**	**0**

[1] Data source: Projections Demographiques et Estimations des Cibles Prioritaires des Differents Programmes et Interventions de Sante, National Institute of Statistics, 2016.

[2] Total number of projected fever cases are calculated by applying the assumption of 1.73 fever episodes per year for children under 1 year of age; 1.87 for children between 1-5 years of age; 0.68 for people over 5 years of age.
[3] Based on NMCP historical reports, the number of fever cases decreased as a result of the impact of successful implementation of prevention interventions. The impact of vector control activities (ITN) was assumed to be 3% in 2019, 10% in 2020, 7% in 2021, and 5% in 2022 and was applied to the total cases (under and over 5 years of age). 2017 epidemiological data shows that there was a 11% reduction in the number of malaria cases as a direct result of the successful 2016 SMC campaign. The program projected an increase of 5% every year. This factor was applied to the numbers of cases under 5 years.
[4] The total number of fever cases was calculated by subtracting the projected number of reduced fever cases through prevention from the total number of projected fever cases.
[5] This represents the number of estimated fever cases that will access health facilities (HFs) or communities. Based on 2019 NMCP reports, 25% of the expected cases accessed through HFs and communities. The program projected an increase of 4% every year (the difference between total fever cases and fever cases accessing health facilities and community health workers would be treated elsewhere either by traditional healers or stay at home). This number was split between public HFs, private HFs, and communities using a percentage of cases by sectors reported in 2019. The NMCP projected an increase of the % of cases in communities from 5% to 10% in 2020, 10% in 2021, 15% in 2022. The same proportion is deducted from public and private HFs.
[6] Based on historical data, 90% of fever cases will be tested in health facilities & communities. In 2019, the number of fever cases tested using RDT is 78% in public HFs, 51% in private HFs & 86% in communities. For HFs the NMCP projected an increase of 1% of cases tested using RDT every year. The NMCP assumes that 100% of clients seen by CHWs will be tested using RDTs starting 2020.
[7] A buffer stock of 10% was calculated for 2021 and 5% for 2022.
[8] The carryover of 2020 is the stock on hand reported in both regions at the end of 2019.
[9] For FY 2020, the PMI planned mRDT quantities are from the procurement records (ARTMIS).

Artemisinin-based Combination Therapy (ACT) Gap Analysis			
Calendar Year	**2020**	**2021**	**2022**
ACT Needs for the North and Far North (AL)			
Total country population	26,133,035	26,765,522	27,419,137
Population at risk for malaria	26,133,035	26,765,522	27,419,137
PMI-targeted at-risk population (North and Far North Regions) [1]	7,699,643	7,948,629	8,197,461
Total number of projected fever cases accessing HFs and communities [2]	1,501,866	1,699,686	1,523,093
Malaria positivity rate [2]	59%	59%	59%
Total Projected Number of Malaria Cases Treated with 1st line ACT, According to National Guidelines (North & Far North) [3]	**886,101**	**1,002,815**	**898,625**
Additional 10% for presumptive cases	10%	10%	10%
Security Stock [4]	0%	10%	5%
Total Needs of AL	**974,711**	**1,203,378**	**1,033,419**
Partner Contributions (to PMI target population if not entire area at risk)			
AL carried over from previous year (PMI) [5]	125	100,414	0
ACTs from Government	0	0	0
AL from Global Fund	0	0	0
ACTs from other donors	0	0	0
AL planned with PMI funding	1,075,000	625,009	1,033,419
Total ACTs Available	**1,075,125**	**725,423**	**1,033,419**
Total ACT Surplus (Gap)	**100,414**	**-477,955**	**0**

[1] PMI-targeted regions in Cameroon are North and Far North (2/10 regions, representing approximately 29% of the country's population). Data source: Projections Demographiques et Estimations des Cibles Prioritaires des Differents Programmes et Interventions de Sante, National Institute of Statistics, 2016.
[2] Data source: NMCP
[3] Based on historical data, the positive rate is 59%. This rate has been applied to the number of expected fever cases accessing HFs and communities. The estimates also include the ACTs for follow-up treatment of severe cases that start with injectable artesunate and conclude with a course of oral ACTs.
[4] A buffer stock of 10% was calculated for 2021 and 5% for 2022.
[5] The carryover in 2020 is the SoH reported by both Regions at the end of 2019.

Injectable Artesunate Gap Analysis			
Calendar Year	**2020**	**2021**	**2022**
Injectable Artesunate Needs			
Expected number of malaria cases	886,101	1,002,815	898,625
% severe malaria cases (within all malaria cases) [1]	15%	15%	15%
% expected severe malaria cases	132,915	150,422	134,794
% of severe cases estimated to be treated with injectable artesunate	80%	80%	80%
Number of severe malaria cases treated with artesunate injectable	106,332	120,338	107,835
Distribution of Severe Malaria Cases by Age Groups			
% of under 5 years (within all severe cases)	18%	18%	18%
% of 6-14 years old (25-50 kg) (within all severe cases)	23%	23%	23%
% of 15 years old and older (over 50 kg) (within all severe cases)	59%	59%	59%
Number of severe malaria cases in children under 5 years	19,139.78	21,660.80	19,410.30
Number of severe malaria cases in children 6-14 years	24,456	27,678	24,802
Number of severe malaria cases in those 15+ years	62,736	70,999	63,623
# of vials needed to treat a severe malaria case in children under 5	4	4	4
# of vials needed to treat a severe malaria case in children 6-14 years	8	8	8
# of vials needed to treat a severe malaria case in those 15+ years	12	12	12
Total number of vials needed for children under 5	76,559	86,643	77,641
Total number of vials needed for children 6-14 years	195,651	221,422	198,416
Total number of vials needed for those 15+ years	752,831	851,991	763,472
Number of Vials Needed	**1,025,042**	**1,160,056**	**1,039,529**
Security Stock [1]	**10%**	**10%**	**5%**
Total Number of Injectable Artesunate Needed	**1,127,546**	**1,276,062**	**1,091,506**
Partner Contributions (to PMI target population if not entire area at risk) [2]			
Art inj. carried over from previous year [3]	301,624	0	0
Art inj. from Government	0	0	0
Art inj. from Global Fund	0	0	0
Art inj. from other donors	0	0	0
Art inj. planned with PMI funding	681,818	898,407	1,091,506
Total Injectable Artesunate Available	**983,442**	**898,407**	**1,091,506**
Total Injectable Artesunate Surplus (Gap)	**-144,104**	**-377,655**	**0**

[1] A buffer stock of 10% was calculated for 2021 and 5% for 2022.
[2] Per the NMCP 2019 routine data, the proportion of severe malaria cases is 48%. Starting 2020, the projections are aligned with the proposed target of 15% in 2020 and 15% in 2021 (MOP19).
[3] The carryover in 2020 is the SoH reported by both regions at the end of 2019.