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CAMBODIA MALARIA PROFILE

I. ABOUT

Launched in 2005, the <u>U.S. President's Malaria Initiative (PMI)</u> supports implementation of malaria prevention and treatment measures as well as cross-cutting interventions. PMI's 2021–2026 strategy, <u>End Malaria Faster</u>, 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 24 countries in sub-Saharan Africa and three programs across the Greater Mekong Subregion in Southeast Asia to control and eliminate malaria. Cambodia began implementation as a PMI focus country in FY2011. Please see the <u>Cambodia Malaria</u> Operational Plan for more information on PMI's approach and investments.

II. CONTEXT

Table 1: General Demographics and Malaria Situation

Population	17,126,530 (Royal Government of Cambodia population estimates, 2022)
Population at risk of malaria	9,355,212 (Cambodia Ministry of Health Malaria Information System, 2022)
Malaria prevalence	N/A*
Malaria incidence/1,000 population nationwide	0.26 per 1,000 population (Cambodia Ministry of Health Malaria Information System, 2021)

^{*} Malaria prevalence estimates are not available given Cambodia is an elimination setting.

STRATIFICATION

Cambodia's National Center for Parasitology, Entomology, and Malaria Control (CNM), which is Cambodia's National Malaria Control Program (NMCP), conducted a village risk stratification in early 2020 to update the village malaria worker (VMW) and mobile malaria worker (MMW) distribution. Three parameters were used, including: annual parasite incidence (API), proportion of forest cover, and distance of village to the nearest health facility. Among those villages greater than 5 km from the closest health facility, 2,823 villages were identified as having at least medium risk of malaria

transmission. CNM placed a total of 5,371 VMWs/MMWs to cover these 2,823 villages. Village-level API from 2021 is shown in Figure 1.

Legend

Village API/1000 pop

Less than 1

From 1 to 5

From 5 to 30

Greater than 30

Grea

Figure 1: Annual Parasite Incidence, Stratified by Village, 2021

Table 2: Geography and Climate

Principal Malaria Parasites	Plasmodium falciparum (11%), P. vivax (89%)
Principal Malaria Vectors*	Primary: Anopheles dirus, An. minimus Secondary: An. maculatus, An. peditaeniatus, An. barbirostris group, An. phillipinensis, An. vagus, An. hyrcanus group Primary vectors are largely susceptible to pyrethroids where tests have been conducted.

^{*} See **Entomological Monitoring** section of the Malaria Operational Plan for more details on vector bionomics and insecticide resistance.

COUNTRY HEALTH SYSTEM

The Ministry of Health (MOH) oversees the delivery of health care services through the public sector (Figure 2). Health care service delivery is organized into 24 provincial health departments (PHDs), each with a provincial hospital, and is further subdivided into 102 health operational districts (ODs),¹ covering approximately 100,000 people each. Phnom Penh has a distinct Municipal Health Department. Malaria remains endemic in 21 of the 25 provinces, including a total of 55 ODs. District referral hospitals (RHs) deliver a Complementary Package of Activities, which includes mostly secondary care. Basic primary care is provided at health centers (HC), which are distributed geographically by population density (with each HC covering approximately 10,000–20,000 people).

At the end of 2019, the MOH launched a decentralization and deconcentration (D&D) initiative to transfer assets and responsibilities to the PHDs under their respective provincial governors. This initiative is still gaining momentum and the new National Strategic Plan (2022–2030), which has not yet been released, may have additional guidance around the transition plan for D&D. Until wider implementation of the D&D policy, the MOH continues to direct the majority of health services at the sub-national level.

Responsibility for the control and elimination of malaria in Cambodia rests with CNM, a specialized institution set up by the MOH to function as the national department responsible for the control and elimination of vector-borne and parasitic diseases. Within each PHD and OD in the 21 malaria endemic provinces, there is a provincial malaria supervisor (PMS) or an operational district malaria supervisor (ODMS), who

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¹ ODs differ from administrative districts (AD), which are the second-tier administrative divisions within provinces, and provide public services locally with the exception of health. The geographic boundaries for ODs and ADs do not align. As of early 2022, there are 102 ODs and 198 ADs in Cambodia.

provide management and oversight of malaria services at HC and the vast network of VMWs and MMWs.

Ministry of Health National Hospitals, Other Disease Central **CNM** Universities, and **Centers Medical Stores** 25 Provincial/Municipal Malaria Teams (1 supervisor and 2 assistants per PHD) 21 in malaria endemic areas – full package of support 4 in non-malaria endemic areas - limited package (only health staff training, medications, diagnostics) District Malaria Teams (1 supervisor and 1-2 assistants per OD) **Health Centers** Referral **Hospitals** VMWs and **MMWs** Population at risk of contracting malaria

Figure 2: Malaria Service Delivery in Cambodia

Reference: Adapted from National Malaria Programme Review, Kingdom of Cambodia, 2019

VMWs and MMWs are community-based lay health workers recruited and trained by PMS/ODMS and their staff, often with the support of community-based organizations funded by the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) or PMI. As their names imply, VMWs are village-based community health workers who provide specific malaria services, and MMWs provide malaria services to mobile populations in remote hard-to-reach areas. VMWs and MMWs are the foundation of case detection, treatment, and surveillance activities for malaria elimination in Cambodia. Approximately 2,823 villages were covered by VMWs or MMWs as of March 2022 and approximately 5,371 VMWs and MMWs have been trained. As a result, VMWs and MMWs are predominantly the first access points for diagnosis and treatment of uncomplicated malaria. In recent assessments, more than 60 percent of malaria cases are diagnosed by VMW/MMW using point-of-care rapid diagnostic tests (RDTs) rather than at HCs. As malaria has increasingly become diagnosed by VMWs/MMWs, fewer blood smears are being collected to be read by a microscopist at the district referral hospital. Microscopy is still recommended for initial diagnosis and follow-up of

severe cases and to monitor therapeutic efficacy of antimalarials. Since April 2018, the MOH has banned all malaria diagnosis and treatment in the private sector; private providers are expected to refer patients with suspected malaria to public facilities.

When a case is diagnosed, VMW/MMW or HC staff utilize mobile phones/tablets for real-time reporting of case details, including geolocated data to CNM's Malaria Information System. Reporting a case into the Malaria Information System triggers an alert to malaria response teams at CNM and PHD/OD/HC in the relevant catchment area. This real-time case reporting system was expanded nationally in 2020 and provides malaria case data down to the village level, allowing for identification of high-risk villages.

OTHER CONTEXTUAL INFORMATION

Cambodia is in its third decade of peace and economic growth and has made great strides in reducing poverty and improving health. With these gains comes better access to services, including malaria testing and treatment. However, significant obstacles remain. Democracy and human rights continue to be a challenge, natural resources have been rapidly depleted through illegal logging and poaching, inadequate nutrition has stunted over 30 percent of children, and human trafficking persists. Illegal forest activities provide new breeding grounds for mosquitoes, disrupt their habitats, and allow for exposure of vulnerable populations to their malaria-transmitting bites. In addition, the often long distances from forest work sites to the nearest health care provider, as well as opportunity costs, may create barriers against prompt and proper health-seeking. As such, some malaria cases may be detected late and treated late, and some individuals may not adhere properly to quality medication. Even more serious, patients may take medication that is not in line with National Treatment Guidelines or of low quality from private providers or other sources, despite the ban on this provision.

The COVID-19 pandemic has had a clear impact on health services in general, pushing health providers to rely more on virtual means of communication. While this is acceptable and efficient for some types of activities, others are less conducive to virtual communication, e.g., community engagement and social and behavior change (SBC), distribution of commodities, etc. Also, similarities between some of the symptoms with malaria symptoms, particularly fever, has led to some reluctance of health providers around testing and treating patients.

Finally, as malaria cases decrease, it becomes harder to keep malaria awareness and practices at acceptable levels. It also makes it harder for populations to continue participating in prophylactic programs (e.g., intermittent preventive therapy for forest-goers [IPTf] with artesunate-mefloquine [AS-MQ], and targeted drug administration [TDA] for males 15 to 49 years of age with AS-MQ) in the presence of side effects. This

low test positivity can also be a barrier to forest-goers continuing to be tested for malaria. These activities will likely benefit from continued quality SBC activities to raise awareness.

III. NMCP STRATEGIC PLAN

CNM developed the Malaria Elimination Action Framework (MEAF 2021–2025), which is based on guidance from the World Health Organization (WHO) Strategy for Malaria Elimination in the Greater Mekong Subregion (2015–2030) and is aligned with the principles of the WHO Global Technical Strategy for Malaria 2016–2030. The framework details three primary objectives for malaria elimination in Cambodia:

- 1. Promote early detection and effective and safe treatment of 100 percent of cases and provide effective personal protection to at least 90 percent of the high-risk population.
- 2. Intensify focal interventions to interrupt transmission in endemic locations with highest risk (including mobile migrant populations such as forest-goers) to eliminate *P. falciparum* by 2023 and *P. vivax* by 2025.
- 3. Investigate, clear, document, and follow up 100 percent of cases and foci to interrupt transmission and prevent reestablishment.

Under CNM, Cambodia updated the Surveillance Manual for Malaria Elimination in 2021 in line with the MEAF 2021–2025 to provide a strategic framework for implementing surveillance and a combination of interventions to achieve the objectives for malaria elimination. It describes the system for determining which interventions should be applied based on the concept of a malaria focus, given that transmission is focalized and no longer homogeneous throughout the provinces. The Surveillance Manual defines a focus as an individual village, which has been identified as the source of infection for a local case (L1). The investigation of a new active focus is therefore triggered by an L1 case and is completed within two weeks. The focus investigation determines the level of receptivity and vulnerability of transmission, which enables a classification of the village into one of three options:

- Active focus is a village from which at least one positive case has been investigated and classified as L1 within the past 12 months.
- Residual focus is a village from which at least one positive case has been investigated and classified as L1 between 12 and 36 months ago.
- <u>Cleared-up focus</u> is a village formerly defined as an active focus in which no cases investigated and classified as L1 have been detected in more than 36 months.

Once the focus is classified, a response plan that takes into consideration the species of L1 cases will be prepared by the OD, in consultation with CNM and PHD focal points. Figure 3 shows the geographic locations of the active, residual, and cleared-up foci from 2020.

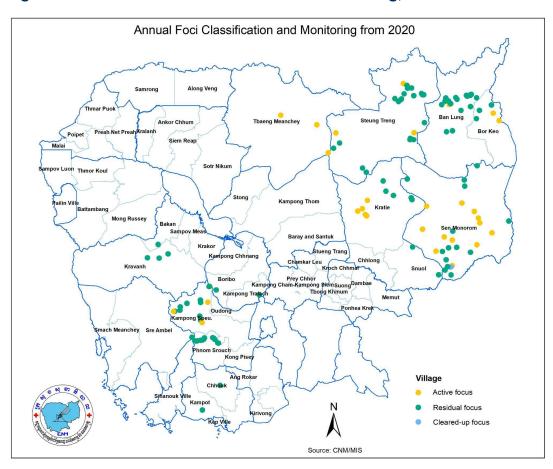


Figure 3: Annual Foci Classification and Monitoring, 2020

In response to a significant increase in the number of malaria cases diagnosed, in 2019 CNM developed and implemented an intensification plan to prevent outbreaks and reduce malaria transmission in the seven highest burden provinces that accounted for more than 80 percent of cases: Kampong Speu, Kratie, Mondulkiri, Preah Vihear, Pursat, Ratanakiri, and Stung Treng. This intensification plan focused on strengthening training and coordination of VMWs and MMWs to (1) improve malaria testing and treatment rates, (2) expand use and knowledge of effective vector control strategies among mobile migrant populations, and (3) facilitate prompt case reporting and investigation (i.e., local or imported cases) into CNM's Malaria Information System to allow rapid identification of emerging outbreaks. The intensification plan resulted in substantial declines, especially in *P. falciparum* case numbers; in 2021 only 320 *P. falciparum* or mixed cases were diagnosed in endemic areas. Malaria testing increased

from 281,820 tests in 2018 to 816,312 tests in 2021, of which 80 percent were conducted by MMWs and VMWs. With declines in *P. falciparum* cases, *P. vivax* has become the predominant species, causing nearly 90 percent of malaria cases in 2021. In response, CNM initiated a nationwide *P. vivax* radical cure program, including glucose-6-phosphate dehydrogenase (G6PD) testing and 14 days of primaquine (PQ) treatment for patients with *P. vivax* and normal G6PD levels.

In 2021, CNM began more aggressively targeting the remaining active foci of *P. falciparum* nationally with implementation of the "Last Mile for Malaria Elimination" program, which guides the selection of interventions in active foci based on receptivity and vulnerability scoring. Possible activities under this program include recruitment of VMW/MMWs for passive case detection in the village, long-lasting insecticide-treated mosquito net distribution (LLIN) for vulnerable groups, active fever screening, IPTf with AS-MQ, and TDA for males 15 to 49 years of age with AS-MQ. These aggressive strategies support Cambodia's goals to eliminate *P. falciparum* by 2023 and *P. vivax* by 2025.

IV. KEY MALARIA DATA

EVOLUTION OF KEY SURVEY BASED MALARIA INDICATORS

Table 3: Key Survey Indicators

Indicator	CMS 2010	CMS 2013	CMS 2017	CMS 2020
% Households with at least one ITN	74.7%	77.8%	61.3%*	72.2%*
% Households with at least one ITN for every two people	37.7%	53.5%	25.6%*	49.9%*
% Population with access to an ITN	N/A	N/A	N/A	N/A
% Population that slept under an ITN the previous night	52.6%	52.4%	45.1%*	46.3%*
% Children <5 years of age who slept under an ITN the previous night	56.3%	57.7%	40.2%*	N/A
% Pregnant women who slept under an ITN the previous night	59.1%	57.2%	N/A	N/A

CMS: Cambodia Malaria Surveys.

^{*} For ownership and use in CMS 2017 and CMS 2020, figures are reported from areas targeted for LLIN/long-lasting insecticide-treated hammock mosquito net (LLIHN) distribution.

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

Indicator	2017	2018	2019	2020	2021
# All-cause patient consultations	N/A	N/A	N/A	N/A	N/A
# Suspect malaria cases ¹	N/A	N/A	N/A	N/A	N/A
# Patients receiving diagnostic test for malaria ²	209,032	281,820	589,744	842,064	816,312
Total # malaria cases³	45,991	65,114	31,791	9,234	4,320
# Confirmed cases ⁴	45,183	64,479	31,791	9,234	4,320
# Presumed cases ⁵	N/A	N/A	N/A	N/A	N/A
% Malaria cases confirmed ⁶	98	99	100	100	100
Test positivity rate (TPR) ⁷	22	23	5.4	1.09	0.53
Total # children <5 malaria cases ⁸	1,177	947	513	229	107
% Cases in children<59	2	2	2	2	2
Total # severe cases ¹⁰	2,052	1,538	327	79	27
Total # malaria deaths ¹¹	1	0	0	0	0
# Facilities reporting ¹²	1361	1327	1385	1385	1384
% Data completeness ¹³	95	95	99	100	99

¹ Number of patients presenting with signs or symptoms possibly due to malaria; 2 RDT 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 # confirmed cases divided by total # cases; 7 Confirmed cases divided by # patients receiving a diagnostic test for malaria (RDT or microscopy); 8 Outpatient and inpatient, confirmed and unconfirmed; 9 Total # <5 years of age cases divided by total # of cases; 10 Severe malaria is defined as 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, pulmonary edema (radiological) OR laboratory signs of severe malaria including:

hypoglycemia, metabolic acidosis, severe normocytic anemia, hyperparasitemia ($> 2\%/100~000/\mu$ l in low-intensity transmission areas or > 5% or 250 000/ μ l in areas of high stable malaria transmission intensity), hyperlactatemia, or renal impairment; 11 All ages, outpatient, inpatient, confirmed, and unconfirmed; 12 Total # of health facilities reporting data into the HMIS/DHIS-2 system that year; 13 # monthly reports from health facilities divided by # health facility reports expected (average for the calendar year).

Table 5: Disaggregated Community-Level Data

Indicator	2019	2020	2021
# Patients receiving diagnostic test for malaria from a community health worker (CHW)	426,165	615,267	650,835
Total # of malaria cases reported by CHWs ¹	17,194	5,582	2,650
% of CHW reported cases (among total malaria cases) ²	54	60	61

¹ Includes all ages, confirmed and unconfirmed.

Table 6: Key Elimination Indicators

Indicator	2019	2020	2021
Total # of ODs	103	102	102
# of Operational Districts designated for elimination (all species)*	77	91	93
% of ODs pursuing elimination	74.8%	89.2%	91.2%
API	2.04	0.57	0.26
TPR	5.4	1.09	0.53
Annual blood examination rate		9.1%	8.7%

^{*} Note: All ODs have been targeted for *P. falciparum* elimination since 2020. This row includes the number of ODs targeted for elimination of all *Plasmodium* species which cause human malaria.

² Total # malaria cases reported by CHWs/Total # malaria cases in previous table.

V. OTHER IMPLEMENTATION INFORMATION

Table 7: Results of Durability Monitoring

Site/Net Type Sampled	Survey and Time Since Distribution (months)	Attrition due to Wear and Tear (%)	Nets in Serviceable Condition (%)	Optimal Insecticidal Effectiveness in Bioassay (%)
Battambong OD SafeNet, Other	First (Baseline): 4 months	0	99.7	N/A
	Second: 15 months	0	91.9	N/A
	Third: 27 months	11.1	92.9	N/A
	Fourth: 39 months	6.9	90.2	N/A
Krakor OD SafeNet, Interceptor, Yorkool, Other	First (Baseline): 4 months	0	100	N/A
	Second: 15 months	0	98	N/A
	Third: 27 months	11.7	98.5	N/A
	Fourth: 39 months	30.8	90.5	N/A

LLIN durability monitoring was conducted for 39 months following the mass distribution campaign conducted from January to March 2018. in Battambang OD in Battambang province and Krakor OD in Pursat province. Interceptor, SafeNet, and Yorkool LLINs and DawaPlus 2.0 LLIHNs were distributed throughout both districts, but data was only collected on insecticide-treated mosquito nets and net type was not collected. Fifteen villages in each OD were randomly selected, from which a total estimated 600 LLINs and 300 LLHINs were selected from 300 households for the cohort. Attrition due to wear and tear increased while the number of serviceable nets decreased by the final round of data collection. However, net usage remained high, at 89 percent in Battamabang and 96 percent in Krakor OD.

Table 8: Summary of Completed Therapeutic Efficacy Studies for P. falciparum

Year	Site	Treatment arm(s)	Efficacy (PCR-corrected adequate clinical and parasitological result) for each drug at each site
2017	 Oral, Kampong Speu Veal Veng, Pursat Siem Pang, Stung Treng Veun Sai, Ratanakiri Koh Nhek, Mondulkiri 	AS-MQ AS-MQ AS-MQ AS-PYR AS-PYR	100% 100% 100% 96.7% 98.4%
2018	 Veun Sai, Ratanakiri Koh Nhek, Mondulkiri Ksim, Kratie Trapaing Cho, Kampong Speu Veal Veng, Pursat 	AS-PYR AS-MQ AS-MQ AS-PYR AS-MQ	98.1% 100% 100% 98.3% 100%
2019	 Veun Sai, Ratanakiri Ou Kreang, Kratie Oral, Kampong Speu Trapaing Cho, Kampong Speu Chhue Tom, Pursat 	AS-MQ AS-MQ AS-MQ AS-MQ AS-MQ	100% 100% 100% 100% 88%
2020	 Veun Sai, Ratanakiri Siem Pang, Stung Treng Chambok, Kampong Speu Trapaing Cho, Kampong Speu Kravan, Pursat 	AS-MQ AS-PYR AS-MQ AS-PYR AS-MQ	100% 100% 100% 100% No Pf cases identified
2021	 Veun Sai, Ratanakiri Siem Pang, Stung Treng Chambok, Kampong Speu Trapaing Cho, Kampong Speu 	AS-MQ AS-MQ AS-MQ AS-MQ	Ongoing

AS-MQ: artesunate-mefloquine; AS-PYR: artesunate-pyronaridine

VI. KEY POLICIES

Table 9: Policies in Cambodia

National Strategic Plan: Cambodia has three national plans:

The National Strategic Plan for Elimination of Malaria (2011–2025) was endorsed by Cambodian Prime Minister in March 2011.

The Malaria Elimination Action Framework (2021–2025) was developed and built on the Malaria Elimination Action Framework (2016–2020), to align with Malaria Elimination in the Greater Mekong Subregion 2015-2030 and WHO's Global Technical Strategy for Malaria (2016-2030).

The <u>Cambodia Malaria Elimination Action Framework 2021-2025</u> was endorsed by Ministry of Health in December 2019 and is available on CNM's website.

The Fourth Health Strategic Plan (2021–2025) is in development (as of March 2022).

National SM&E Plan:

The **Cambodia Malaria Monitoring and Evaluation Plan** (2016–2020) developed and endorsed by CNM in September 2016. Updated draft in development (as of March 2022).

The **Surveillance for Malaria Elimination** (Surveillance Guidelines) was endorsed by CNM in September 2021.

National Digital Health Strategy

Draft in development (as of March 2022)

National Behavior Change Communication Strategy for Malaria Elimination in Cambodia (March 2019)

National Supply Chain Strategy/Master Plan:

National Strategic Plan for Drugs (2013–2018)

National Guideline for Drugs and Health Commodity Management (2008) at HC level National Guideline for Drugs and Health Commodity Management (2016) at RH level National Guideline for Drugs and Health Commodity Management (2014) at OD level

National Vector Control Strategy and/or Integrated Vector Management Plan

No National Vector Control Strategy exists

Malaria Case Management Policy

National Treatment Guidelines for Malaria in Cambodia — Draft in development (as of March 2022)

What is/are the first-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria*?	AS-MQ for 3 days + SLD PQ 0.25 mg base/kg
What is/are the second-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria*?	AS-PYR for 3 days + SLD PQ 0.25 mg base/kg

What is/are the first-line treatment(s) for uncomplicated <i>P. vivax</i> malaria or mixed infections?	AS-MQ x 3 days + PQ 0.25-0.5 mg base/kg x 14 days for patients with normal G6PD levels AS-MQ x 3 days + PQ weekly 0.75 mg base/kg x 8 weeks for patients with deficient G6PD levels or women with G6PD-intermediate levels
What is the first-line treatment for severe malaria?	IV artesunate is first line treatment; intramuscular artemether is an acceptable alternative
In pregnancy, what is the first-line treatment for uncomplicated <i>P. falciparum</i> malaria in the <u>first trimester</u> ?	Oral quinine for 7 days, with artemisinin-based combination therapy (ACT) indicated only if quinine is not immediately available.
In pregnancy, what is/are the first-line treatment(s) for uncomplicated <i>P. falciparum</i> malaria in the <u>second</u> and third trimesters?	AS-MQ for 3 days
What is/are the first-line treatment(s) for <i>P. vivax</i> malaria during pregnancy?	First trimester - Oral quinine for 7 days, with ACT indicated only if quinine is not immediately available. Second/third trimester — AS-MQ for 3 days
In pregnancy, what is the first-line treatment for severe malaria?	IV artesunate + AS-MQ for 3 days (regardless of trimester)
Is pre-referral treatment of severe disease recommended at peripheral health facilities? If so, with what drug(s)?	No
Is pre-referral treatment of severe disease with rectal artesunate recommended for community health workers?	No

Community Health Policy

There is a draft Community Participation Policy from 2008, but it was never approved. There are ongoing discussions on strengthening community engagement including standardized packages and policies. There is no CHW in Cambodia as such. The most active community health structures have been linked to specific vertical programs, particularly malaria.

What is the # of CHWs currently providing	Specific to malaria, 5,371 VMWs/MMWs cover
mCCM/iCCM?	a total of 2,823 villages, testing and treating
	malaria cases, and providing health education.

What is the country's target for number of CHWs providing malaria community case management/ integrated community base management? What percent of the country's target is met? Does the country have a policy that enables the routine, regular payment of salaries/stipends for CHWs? There is currently no national policy or routine package of services, enumeration or training of VMWs or MMWs receive direct routine payment, in PMI-supported provinces they are rather given a performance-based incentive based on outreach, case reporting, treatment monitoring, and investigation. Each VMW receives approximately \$45 to \$60 per month. While integration of VMWs and MMWs into existing CHW system (specifically the Village Health Support Group members [VHSG]) is being explored, VHSG members are also not routinely paid, but rather provided benefits (e.g., partially subsidized health care) for serving in this role. The remaining challenge is to find an institutional home for this community structure, and to link this structure to local administration, e.g., commune – Sangkat. Do CHWs have the authority to test and treat all ages for malaria? VMWs have been specially recruited and trained to perform rapid diagnostic tests for malaria and provide treatment for uncomplicated malaria. VMWs and MMWs refer all cases of severe malaria as well as malaria occurring in pregnancy to appropriate health facilities. 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?		
be performed by staff who have not been formally trained or only received orientation. Does the country have a policy that enables the routine, regular payment of salaries/stipends for CHWs? There is currently no national policy on routine package of services, enumeration or training of VMWs or MMWs in the country. Payment structures differ by donor. While in other provinces VMWs and MMWs received direct routine payment, in PMI-supported provinces they are rather given a performance-based incentive based on outreach, case reporting, treatment monitoring, and investigation. Each VMW receives approximately \$45 to \$60 per month. While integration of VMWs and MMWs into existing CHW system (specifically the Village Health Support Group members [VHSG]) is being explored, VHSG members are also not routinely paid, but rather provided benefits (e.g., partially subsidized health care) for serving in this role. The community participation policy development working group is now revising this policy and developing operation guidelines. The remaining challenge is to find an institutional home for this community structure, and to link this structure to local administration, e.g., commune – Sangkat. Do CHWs have the authority to test and treat all ages for malaria? VMWs have been specially recruited and trained to perform rapid diagnostic tests for malaria and provide treatment for uncomplicated malaria. VMWs and MMWs refer all cases of severe malaria as well as malaria occurring in pregnancy to appropriate health facilities. 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	providing malaria community case management/	a total of 2,823 villages, testing and treating
routine, regular payment of salaries/stipends for CHWs? package of services, enumeration or training of VMWs or MMWs in the country. Payment structures differ by donor. While in other provinces VMWs and MMWs receive direct routine payment, in PMI-supported provinces they are rather given a performance-based incentive based on outreach, case reporting, treatment monitoring, and investigation. Each VMW receives approximately \$45 to \$60 per month. While integration of VMWs and MMWs into existing CHW system (specifically the Village Health Support Group members [VHSG]) is being explored, VHSG members are also not routinely paid, but rather provided benefits (e.g., partially subsidized health care) for serving in this role. The community participation policy development working group is now revising this policy and developing operation guidelines. The remaining challenge is to find an institutional home for this community structure, and to link this structure to local administration, e.g., commune – Sangkat. Do CHWs have the authority to test and treat all ages for malaria and provide treatment for uncomplicated malaria. VMWs and MMWs refer all cases of severe malaria as well as malaria occurring in pregnancy to appropriate health facilities. 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	What percent of the country's target is met?	be performed by staff who have not been
for malaria? trained to perform rapid diagnostic tests for malaria and provide treatment for uncomplicated malaria. VMWs and MMWs refer all cases of severe malaria as well as malaria occurring in pregnancy to appropriate health facilities. 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	routine, regular payment of salaries/stipends for	package of services, enumeration or training of VMWs or MMWs in the country. Payment structures differ by donor. While in other provinces VMWs and MMWs receive direct routine payment, in PMI-supported provinces they are rather given a performance-based incentive based on outreach, case reporting, treatment monitoring, and investigation. Each VMW receives approximately \$45 to \$60 per month. While integration of VMWs and MMWs into existing CHW system (specifically the Village Health Support Group members [VHSG]) is being explored, VHSG members are also not routinely paid, but rather provided benefits (e.g., partially subsidized health care) for serving in this role. The community participation policy development working group is now revising this policy and developing operation guidelines. The remaining challenge is to find an institutional home for this community structure, and to link this structure to local
At what gestational age is the first dose of IPTp-SP to be given to pregnant women according to the national	,	trained to perform rapid diagnostic tests for malaria and provide treatment for uncomplicated malaria. VMWs and MMWs refer all cases of severe malaria as well as malaria occurring in pregnancy to appropriate
be given to pregnant women according to the national	Prevention of Malaria in Pregnancy Policy	
	be given to pregnant women according to the national	Not applicable in Cambodia

Do the national ANC guidelines reflect the WHO 2016 recommendation of 8 ANC scheduled contacts (plus one additional contact for early initiation of IPTp at 13-16 weeks)? If not, how many ANC contacts are recommended?

What is the status of training ANC providers on the WHO recommended 8+ contacts?

Have HMIS/DHIS2 and ANC registers been updated to include 8+ 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 6 months prior?

Is ANC/IPTp provided by facility staff conducting ANC outreach to communities?

Can CHWs deliver IPTp and if so, which specific cadres and beginning with which dose?

AS-MQ: artesunate-mefloquine; AS-PYR: artesunate-pyronaridine; PQ: primaquine; SLD PQ: single low-dose primaquine

VII. PARTNER LANDSCAPE

Table 10: Partner Landscape

Partner	Key technical interventions	Geographic coverage	Funding amount or in- kind contribution	Timeframe
Royal Government of Cambodia	Operation costs, including staff salary for CNM	National	\$0.93M	Funding for 2021
Global Fund	Case management, surveillance, monitoring, and evaluation (SM&E), Vector control	National	\$35.4M	Current Regional Artemisinin-resistance (RAI3E) Initiative grant covers 2021 to 2023
BMGF	Technical assistance to CNM on policy and guideline development, Malaria Information System; Outreach, training and supportive supervision; Case management, including <i>P. vivax</i> radical cure, SM&E, Regional platforms	National	Roughly \$15M	Various projects spanning 2018-2024. Please note that some of the projects have different timelines and it is not easy to clearly define Cambodia's share of regional projects.