CAP-Malaria Project

Year-4 Work Plan-Burma

PMI/USAID/FY-2015

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This work plan summary was produced for review by the United States Agency for International Development by:

Dr. Soy Ty Kheang
Regional Director
CAP-Malaria
Implemented by University Research Co., LLC

1 CONTENTS

ACRONYMS

ACT	Artemisinin-based Combination Therapy
AMRP	Artemisinin Monotherapy Replacement Project
AOP	Annual Operation Plan
ARM	Artemisinin Resistant Malaria
ARC	American Refugee Committee
BCC	Behavior Change Communications
BHS	Basic Health Staff
CAP-Malaria	Control and Prevention of Malaria Project
CBO	Community-Based Organizations
CDA	Community Development Action
CPD-Myanmar	Country Program Director-Myanmar
COP	Chief-of-Party
CPI	Community Partner International
DCOP	Deputy Chief-of-Party
DEAR	Development for Environmental friendly Agriculture and Rural life of Myanmar
DMR	Department of Medical Research in Lower Myanmar
EDAT	Early diagnosis and appropriate treatment
FDA	Food and Drug Administration
GFATM	Global Fund to Fight AIDS Tuberculosis and Malaria
GMS	Greater Mekong Sub-region
GP	General Practitioner
HF	Health Facility
HH	Household
HMIS	Health Management Information Systems
IEC	Information, education, communication
IRC	International Rescue Committee
KBC	Karen Baptist Convention
LLIN	Long-lasting Insecticide Treated Net
MNMA	Myanmar Nurses and Midwives Association
MMA	Myanmar Medical Association
MMP	Mekong Malaria Programme
MMP	Mobile and Migrant Population
MMW	Mobile Malaria Workers
MOU	Memorandum of Understanding
NMCP	National Malaria Control Programme
Pf	*Plasmodium falciparum*
Pv	*Plasmodium vivax*

QA	Quality Assurance
QC	Quality Control
RAI	Regional Artemisinin Initiative
RDTs	Rapid Diagnostic Tests
SCI	Save the Children International
SOP	Strategic Operational Plan
TES	Therapeutic Efficacy Surveillance
TMO	Township Medical Office
URC	University Research Co., LLC
USAID	United States Agency for International Development
USP	United States Pharmacopeia
VBDC	Vector Borne Disease Center (Thailand, district level)
VMWs	Village Malaria Workers
WHO	World Health Organization

2 EXECUTIVE SUMMARY

The USAID | Control and Prevention of Malaria (CAP-Malaria) is a region-wide project that strives for systematic prevention and control of malaria and artemisinin resistant malaria (ARM) in affected regions of Thailand, Cambodia, and Burma, aiming to stem the spread of multi-drug resistant P. *falciparum* malaria in the Greater Mekong Sub-region (GMS). In Burma, CAP-Malaria is implemented by University Research Co., LLC (URC) and Save the Children. The objectives of the project in Burma are to: 1) increase access to prevention interventions in target areas; 2) increase access to appropriate diagnosis and treatment in target areas; and 3) strengthen malaria services in target areas.

In Burma, CAP-Malaria has been working to address the immense coverage gaps in malaria services in highly endemic areas by working at the community level through village malaria workers (VMWs), mobile outreach services, public health facilities, and employer-based malaria control programs, with a focus on areas with high concentrations of mobile and migrant populations. The project aims to strengthen malaria service delivery systems through training VMWs, health care providers, laboratory technicians, and local community-based organizations (CBOs) as sub-grantees, equipping them with rapid diagnostics tests (RDTs), microscopes, and anti-malarial drugs, and establishing systems for ongoing supervision. Long-lasting insecticide-treated nets (LLINs) were distributed or lent to target populations, accompanied by community mobilization to promote LLIN use, early diagnosis, and adherence to appropriate treatment. To increase the availability of strategic information, CAP-Malaria worked with the Vector Borne Disease Control Division (VBDC) to build up their capability, through supporting on improvement of health system, initiated the network of microscopists, and quality assurance/quality control (QA/QC) of RDTs and artemisinin-based combination therapies (ACTs).

In Year 4, a key emphasis will be on improving the quality of service delivery. Quality assurance systems for both diagnosis and treatment will be strengthened in the project townships of Tanintharyi Region and Kayin State. In addition, joint supervisory visits conducted by CAP-Malaria with township malaria officials and public health facility staff in project target areas will provide the opportunity for building trust, continuous monitoring of the quality of diagnosis and treatment, and on-the-job training. In particular, quarterly review of laboratory findings at the local level will build skills in microscopy and draw attention to the importance of vigilant quality control. Other key areas of emphasis include increased engagement of the private sector, cross-border collaboration, and coordination with the Regional Artemisinin Initiative (RAI) and other stakeholders, health systems strengthening such as partner coordination through annual operational plans (AOPs), joint monitoring and supervision visits with basic health staff (BHS), support enabling environment for QA/QC, and program support to conduct regular Technical Strategic Group meetings.

In Year 3, activities were initiated in six new townships: Manaung, Ramree, and Gwa in Rakhine, and Thandaung, Hpar-pun, and Kyain Seikgyi in Kayin. In Year 4, work will expand to

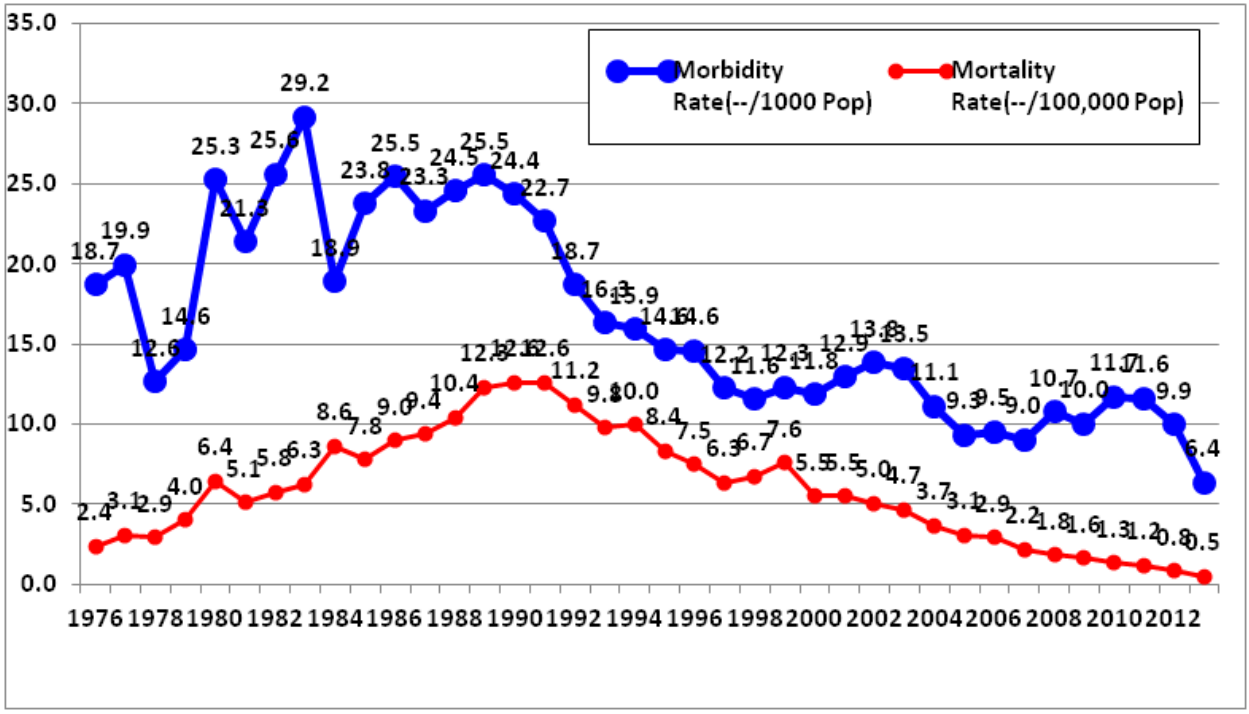
6 additional townships in Bago East and Kayah State, where recent evidence of artemisinin resistance has been detected.

The project has had minimal staff turnover with all senior staff continuing in their positions. During Year 3, the project updated the M&E plan and added staff in the new project target areas. In Year 4, the project will recruit a few additional staff to cover new expansion areas and improving quality of service areas. The costed activity matrix is attached in each respective intermediate results narrative section. This narrative provides the rationale and further explanation of upcoming activities in malaria endemic areas.

3 BACKGROUND AND CONTEXT

In 2011 there were 1.53 million malaria cases in Burma according to WHO World Malaria Report estimates (2012). Around 70% of the confirmed cases are caused by P. *falciparum*. The number of reported and confirmed malaria cases has increased since 2002, but there has been a decrease in the reported malaria number of admissions. The National Malaria Control Program (NMCP) attributes this to the increased availability of early diagnosis and appropriate treatment (EDAT) at the community level. The morbidity rate increased after 2007 due to the introduction of RDTs, and availability of more funding sources which enabled more cases to be diagnosed (Figure 1). There has been a continuous gradual reduction in the number of reported malaria deaths, from 2,634 in 2002 to 243 in 2013.

Figure 1: Trends in malaria mortality and morbidity in Burma, 1976-2012



The persistence of the high malaria burden can be ascribed to a combination of the following factors:

- A relatively large proportion of the population may still live in or near forested areas or have occasionally exposure to forested areas. This is particularly true of most migrant and mobile populations.
- Access to health facilities is difficult in the areas with the highest malaria burden.
- Specific malaria control investments have been inadequate, leaving large gaps in finance and service delivery areas.
- Topography, climatic condition favor for transmission of malaria and presence of difference species of efficient vectors enhancing the transmission.

States and regions along the border areas continue to have the highest malaria burden. The populations most at risk are those living in these highly endemic areas, especially pregnant women, children, and mobile and migrant populations (MMPs). MMPs are at particular risk because they often 1) lack previous experience with malaria infection, 2) do not know about malaria prevention, diagnosis, or treatment, and 3) have limited adequate access to malaria services. The continuing movement of migrants/mobile workers seeking employment in endemic areas is a challenge for malaria control efforts.

The need for strengthened malaria control in Burma is made more urgent by evidence of Artemisinin-resistant parasites that have been reported along the Burma-Thailand border, specifically in Tanintharyi Region, Mon State, Kayah State and Bago (East) Region. Several factors contribute to increasing resistance. Massive development projects and agri-businesses have resulted in large population movements from non-endemic to endemic areas in search of employment opportunities. Weak infrastructure and limited resources have created large gaps in malaria services. Counterfeit and sub-standard anti-malarial medicines also reduce treatment success and increase drug resistance. To prevent the spread of drug-resistance, priority geographic areas have been identified (Myanmar Artemisinin Resistant Containment Tier 1) and receive intensified malaria control activities.

4 GOALS AND OBJECTIVES

Goal: The goal of the project is to reduce malaria morbidity and mortality and delay the spread of artemisinin resistance in the Greater Mekong Sub-region.

Objectives: The objectives of the project are to:

1. Develop and scale-up cost-effective vector control interventions to prevent the transmission of malaria;
2. Improve the quality and scaling up of diagnosis and treatment of malaria at the community and health facility levels;
3. Support management bottlenecks of the NMCPs and local institutions to implement and monitor malaria control activities; and
4. Support the establishment and maintenance of strategic information for malaria control.
5. Strengthen Malaria control services for mobile migrant populations.

5 GEOGRAPHICAL AND POPULATION COVERAGE

Figure 2 below shows the current project townships. In Year 4, work will expand to 6 additional townships. Table 1 describes the geographical and population coverage.

Figure 2: CAP-Malaria Project Map in Burma

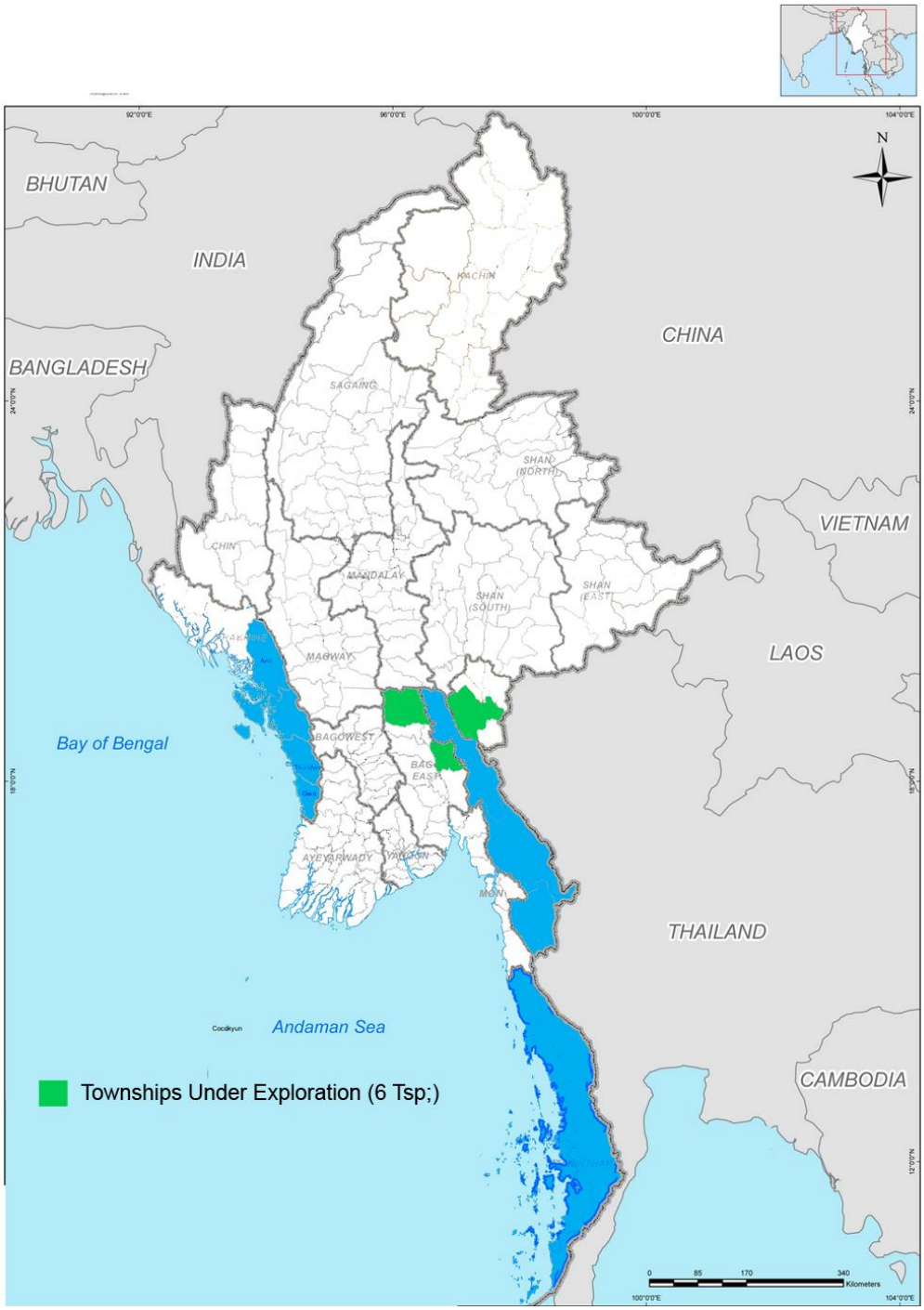


Table 1: Geographical and Population Coverage

Provinces/ states/ regions	Townships	Total local residents (2012 NMCP data)	Total population Covered by CAP M in high and moderate risk areas (2012 NMCP data)	% of Population coverage by CAP-M
Tanintharyi	Kawthaung	101,587	34,037	34%
	Kyunsu	163,756	46,656	28%
	Bokepyin	52,873	45,881	87%
	Dawei ITD	139,788	16,002	11%
	Yaebyu	148,005	32,700	22%
	Longlone	136,850	15,641	11%
	Tayetchaung	115,345	33,853	29%
	Palaw	169,132	26,030	15%
	Myeik	275,552	30,684	11%
	Tanintharyi	100,947	28,626	28%
Tanintharyi Total (10 Townships)		**1,403,835**	**310,110**	**22%**
Kayin	Hpaan	429,613	40,296	9%
	Hlaing Bwe	299,042	34,881	12%
	Kawkareik	303,101	39,848	13%
	Myawaddy	87,252	11,826	14%
	Kyain Seikgyi*	191,025	14,778	8%
	Thandaung*	99,622	2,998	3%
	Hpa-pun`	50,449	21,889	43%
Kayin Total (7 Townships)		**1,460,104**	**166,516**	**11%**

Rakhine	Kyaukpyu	196,668	56,255	29%
	Toungup	142,724	80,599	56%
	Thandwe	116,428	46,955	40%
	Ann	107,647	39,663	37%
	Manaung	71,855	20,489	29%
	Ramree	149,184	43,052	29%
	Gwa	63,718	29,016	46%
	Gwa*		15,114	24%
Rakhine Total (7 Townships)		**848,224**	**331,143**	**39%**
Bago (East) Total (3 Townships)				
Kayah Total (3 Townships)				
Grand Total	**30 Townships**	**3,712,163**	**807,769**	**22%**

Total village population covered 807,769 people at the project villages. Total estimated population covered by CAP-M Burma – approximately 1 million which includes migrants, IDP, and Refugees.

Remarks- (Tanintharyi Region and Kayin State Internal Displaced Person – 77,600 people & 106,800 people respectively; Data source – Oxford Burma Alliance 2011 and Tanintharyi Region Refugee- 6015 people: Data Source – UNHCR updated on June, 2014, South-East Asia Myanmar Information Management Unit.

6 ACHIEVEMENTS TO DATE AND PROGRESS

Prevention

- During Fiscal Year 3, 254,560 LLINs were distributed in the project area by means of different approaches. Summary of distribution are as follow.
    - 220,876 LLINs were distributed in village level based on target 2 persons per LLIN. Most of the LLINs were distributed in new project Townships of Rakhine State high transmission areas (strata 1 a) and to fill up the gaps in Tanintharyi Region and Kayin State.
    - 2,623 LLINs were distributed in workplaces.
    - 4,942 LLINs were lent through private companies.
    - 5,048 LLINs were distributed during ANC screening.
    - 21,071 LLINs were distributed during special events such as in World Malaria Day Ceremonies, Independent Day, Karen National Day and etc.
- Approximately 940,000 people, including 58,939 migrants, were reached with malaria preventive messages through interpersonal communication (IPC) and health education sessions (HE).

Case Management

- 160,904 people were tested for malaria parasites by means of mobile outreach, village malaria workers, screening and stationary clinics.
- 7,423 cases (MPR% 6.2) were found to be positive and were managed according to the National Treatment Guidelines (NTGs)
    - 4,022 *Pf* cases, 3,087 *Pv* cases, 313 mixed infection and 1 *Pm*. *Pf* and *Pv* proportions were 56.6% and 43.4%, respectively.

Capacity building on diagnostic and case management was achieved through

- Training on malaria diagnostic that covered 1,887 health care providers including 1,054 VMWs and 736 health staffs including 97 laboratory technicians.

- Training on malaria case management that covered 1,790 health care providers including 1,054 VMWs and 736 health staff.

In Y4 work plan, CAP-M will expand new project townships and we also provide IPC through Basic Health Staff, Mobile outreach team, VMWs, private providers and village chief.

Community mobilization activities to establish our community partners, Community Health Groups (CHGs), were formed at village level and Village Malaria Workers (VMWs) were mobilized to perform malaria prevention and control activities. Capacity building of CHGs on setting up and managing Community Revolving Funds in their villages was conducted.

7 CHALLENGES AND OPPORTUNITIES

Difficulties in finding malaria cases: In CAP-Malaria project villages, malaria cases are reducing in numbers, possibly as a result of scaling up of activities. National malaria data also report lower of malaria cases than previously estimate. In Y4, CAP-Malaria plans to intensify case finding through geographical expansion, identifying hot spots and hot populations using information from village-based assessment of positive cases in past one year period, day 0 and day 3 positive reactive case finding and management, and Intensified Case Finding and Management.

Implementation of activities in areas under Non-state Actors: Activities to be implemented in Non-state Actors' (NSA) areas are still under negotiation for improvement of area coverage to fill up the gaps. Improvements were seen through a series of Border Coordination meetings. Some international non-government organizations (INGOs) have been working with NSA including International Rescue Committee (IRC) and Community Partners International (CPI) through the USAID/Project for Local Empowerment. Access to these areas for project expansion can be challenging.

Unplanned emergencies and natural disasters: Due to the monsoon during the past rainy season, there was massive flooding in all project townships of Tanintharyi and Kayin in July 2014, continuing in some townships in August 2014. Some of the field teams were temporarily stranded in the villages where they were implementing CAP-Malaria activities. The massive flooding also affected the main towns. Roads were blocked, particularly roads leading to the villages. Activities in July had to be postponed and re-scheduled. CAP-Malaria/SCI needed to mobilize the field teams to deliver emergency relief goods in support of the Kayin State Ministry of Health. In August, Tanintharyi project teams were able to reschedule their mobile site visits. In Year 4, Disaster risk management will be included in the implementation plan.

Data Management System: In previous MARC areas (include Tanintharyi and Kayin) data is entered at the township/district level, and outside MARC areas, data is entered at the Region/State level supported by WHO/Myanmar and submitted to State/Region and

Central level. However, data generated from the field/periphery staff and volunteers can be delayed in reaching township/district level. WHO/Myanmar data entry and field coordinator posts also experienced high turnover rate with high recruitment process result in long vacancy, sometimes 6 months or more. National malaria control program staff (Malaria Inspector and Malaria Assistant, when available) prepares most information by hand including monitoring visit reports due to the lack of computer equipment and poor computer skills.

CAP-Malaria has been supporting collection of source data from BHS and VMWs at the periphery level to feed into the national Malaria Information System (MIS) in project area to minimize data gaps. There is potential for the project to support data collection from volunteers (in very remote area) to the BHS staffs; the BHS staffs are required to travel to township/district monthly for salary collection and data submission. While avoiding setting up parallel system for data entry/reporting (currently under WHO/Myanmar), CAP-Malaria could fill in the gap while these positions remain vacant to avoid gaps in data reporting. For information other than case management, CAP-Malaria can support the move towards electronic reporting. However, this may first require the need to supply computer equipment and basic training of township/district staff on basic computer skills.

Within the project, IT communication system can be still sporadic and spotty where CAP-Malaria operates resulting in delay of online database system. In Y4, CAP-Malaria has modified the data reporting to fit the Burma context. Field staff will submit the data offline using new data template based on MS Excel similar to current system, which can then be readily imported to the online database by CAP-Malaria Yangon M&E team. While much data has been collected, the current format is not amenable to efficient review and analysis. It is anticipated that the project database would provide accessibility to all project staff to review and analyze. Trainings on M&E, data management and data utilization will be provided for continuous improvement of personnel.

Coordination: Coordination among implementing partners needs to be strengthened. Private companies should have more involvement in malaria prevention and control and elimination of Artemisinin Resistant Malaria (ARM). CAP-Malaria will explore cross-border collaborations with public and non-public sector to increase malaria services along the border. For example, some 10 villages in Tar Lel village tract in Kayin State were occasionally visited by informal mobile clinic teams by SMRU (Shoklo Malaria Research Unit) from Thailand. CAP-Malaria will coordinate with not only with iNGOs in Thailand working in Eastern Burma but also with NMCP to better leverage resources. Annual operation plan should help improve coordination and can be part of system strengthening.

Community level promotion of ITNs care and use: Low level of LLINs use by the communities where adequate LLINs have been distributed is a challenge in some of the project villages. Villagers are still using ordinary bed nets despite. Improve awareness on LLINs use and their benefits through BCC will be needed. Impregnation of ordinary nets by KO Tab may be possible solutions for

some population that prefers their own bed nets. The project has experienced delay arrival of KO Tabs (after the rainy season) for bed net impregnation which can impact the implementation and impact on malaria transmission.

Working with Informal Private Providers: Some VMWs are informal health care providers and formerly worked as quacks. By engaging these people, it can empower the relationship between public and private sectors. When providing these VMWs with technical information and also logistic (appropriate supplies of ACTs and essential medicines), we can improve access to free malaria services while at the same time improve the quality and access of other health care services in hard-to-reach areas for marginalized people in more sustainable manner.

Mobile /Migrant Population: Some of the mobile/migrant populations are working in hard-to-reach areas where malaria transmission is intense. Their worksites can be transient and difficult to identify. When identified, it can be difficult to reach these populations with health care services. Self- medication and incomplete treatment with antimalarials are common practices and can fuel the drug resistant problems. In some areas, CAP-Malaria plans to establish the mobile-migrant voluntary malaria workers and also work together with the informal private sector to provide malaria prevention and control services to these populations.

Working with armed forces: This population group is at high risk due to their required outdoor and remote station. There are many armed force units in Tanintharyi Region and Kayin State, whose members travel between Tier 1 (confirmed resistant areas) and Tier 2 (suspected resistant areas) and Tier 3 (areas yet with no evidence of resistance) and can potential spread the resistant parasite to other parts of the country.

Forecasting and Quantification of RDTs and ACTs: It has been difficult for the national programs and partners to quantify and forecast RDT and ACT requirements because of the lack of comprehensive information on the malaria burden in project areas. This had led to over estimation of malaria cases and resulted in oversupplies of RDTs and ACTs. Based on our implementation experience and data management in CAP-Malaria target areas, the project can provide a more accurate quantification and forecast RDT and ACT needs.

8 COLLABORATION WITH OTHER PARTNERS

To ensure comprehensiveness of malaria data and reduce the wide gaps in service delivery, an important strategy for CAP-Malaria is to engage international and national partners, including both the health and non-health private sectors. Examples of key partners are outlined in Table 2.

Table 2. List of Partners

Partner	Area of Collaboration
John Snow Inc. (JSI)	Procuring LLIN and anti-malarial drugs.
Population Services International (PSI)	Behavior change communication (BCC) – sharing BCC materials for Artemisinin Monotherapy Replacement Project.
United States Pharmacopeia (USP)	Quality control of anti-malarial drugs
Malaria Consortium (MC)	Support for research activities such as bed net consumer satisfaction assessments
WHO, IOM, other international partners	Proactive Information sharing with WHO
Maternal and Child Health (MCH) Division of the Department of Health	Introduce malaria screening and treatment for pregnant women during antenatal care
Department of Medical Research (DMR) in Lower Myanmar	Quality assurance and quality control, entomological activities, and research studies
Local NGOs such as MHAA, KBC, DEAR, MNMA, CDA	Capacity building activities, as described in scopes of work in each small grants program
State/Regional Health Departments Private-sector practitioners and companies, such as Yuzana Palm Oil.	Coordination up to the township level to develop AOP; Engagement with private practitioners to comply with the National Malaria Treatment Guideline. Linkages with private sector to maximize reach of target populations, such as plantation workers
CBOs including NSA area like Back Pack Health Team, Pact Myanmar (Shaetho Project)	Supporting commodities like LLIN, RDT, ACT and training by CAP-M

9 PROPOSED ACTIVITIES AND JUSTIFICATION

9.1 IR1: Use of preventive interventions among population increased in CAP-Malaria target areas.

The following are key activities and tasks in all CAP-Malaria target townships including major development projects (rubber plantation, deep seaport, etc.) and formal cross-border checkpoints. Activities will be measured according to the following indicators:

Indicators (*F-indicators):

- *Number of LLINs distributed that were purchased with USG funds in PMI target areas (monthly) **(F- indicator) (**the number of ITNs purchased by USG distributed will be counted in this F indicator)
- Number of people reached by malaria health education through inter personal communication

- Percentage of local residents in targeted areas who slept under ITN the previous night in CAP-M target areas
- Percentage of migrants in targeted areas who slept under ITN the previous night in CAP-M target areas

Activity 1.1 Community-level distributions of ITNs

a. LLIN distribution

The project will aim to cover the population of about 2.14 million living in target villages, of which approximately one-third are migrant and mobile population (MMP) during the project period. Total 350,000 LLINs will arrive in Y4: 100,000 will arrive at the end of Q1, and the rest will arrive in Q4. A target of 150,000 LLINs will be distributed in Y4 and the rest in Q1 Y5, in total covering 700,000 people (2 persons per LLINs).

Distribution will take place one to two months after arrival of LLIN prior to the rainy season. Due to the expected LLIN arrival date, LLINs will be distributed in Q2 Y4 and Q1 Y5. The distribution costs will vary by geographic area with a low end estimate cost at $0.30.

While the NMCP gives priority to high malaria transmission areas due to funding limitations, CAP-M aims to comprehensively cover all villages in project areas (high/moderate and low transmission villages). In Y4, CAP-Malaria plan to distribute LLINs in about 300 villages including hard-to-reach villages where there has been political instability and large numbers of returning migrants. CAP-Malaria will conduct LLIN surveys before distribution to identify gaps.

CAP-Malaria will train VMWs to distribute LLINs and to mobilize communities with support of project staff. LLINs distribution will include IPC on the use and maintenance (IR1.2), as well as on the importance of early diagnosis and appropriate treatment. From CAP-Malaria experiences from Focus Group Discussions (FGD) and KAP surveys, most people reported using bed nets, however, about half are aware or use LLINs regularly. Reasons for not using LLINs include net preference (e.g. thickness and lower height of LLINs) and reported allergic reaction to LLINs.

b. LLIN purchased with USG funds that will be distributed cost will be borne by CAP-M

PMI/USAID plans to provide 553,500 LLINs per request by the NMCP to be distributed in high malaria risk townships from selected states/regions. CAP-Malaria would support the cost for transportation of LLINs from township to the target villages and the intended users. Other resources required for distribution, such as production of IEC materials, forms and formats, logistic arrangement cost will be shared by NMCP and WHO. Coordination meetings with NMCP will be required to make detailed arrangement and distribution plan before PMI/USAID approval as this is an ad-hoc activity requested by the NMCP. These LLINs purchased by USG distributed will be shown in F indicators.

c. Monitoring net coverage and use

CAP- Malaria will conduct quarterly monitoring of net coverage and use in target areas. VMWs, and occasionally health facility staff, will assist in the implementation of these activities. The budget includes transportation and accommodation costs for joint monitoring visits. The monitoring will track the use of LLIN by community and migrants during and checking the number and condition of LLINs. Activities will be done concurrently with HE. When VHWs identify gaps in net coverage or use in the target areas; they provide malaria education and/or a LLIN to the family to ensure full coverage and effective use based on the monitoring findings.

d. LLIN durability and longevity survey

LLIN durability and longevity survey is MOP activity and will be conducted in Q3, Year 4, in 3 townships in Tanintharyi Region, Rakhine State and Kayin State. The activities include inquiry about duration and condition of LLINs (*e.g.* size of holes or tears), longevity (*e.g.* bioassay test), types of materials (polyethylene or polyester), Denier strength and distributed by whom and when. Longevity of nets will be conducted in conjunction with entomological team.

Activity 1.2 Community-level promotions of ITN care and use

Behavior change communication (BCC) activities will emphasize IPC approaches with reinforcement through small and mass media, and community mobilization. The key desirable behaviors to be promoted are: use of insecticide treated bed nets (ITNs), seeking diagnosis and treatment for malaria within 24 hours from trained health care providers, treatment adherence, and avoiding self-medication.

a. IPC for bed net use and malaria prevention by VMWs, Public Health Facilities staff, and mobile teams

CAP-Malaria uses a multi-pronged approach to disseminate the same key malaria messages to the target audience. The approach involves community leaders such as village chiefs and teachers, company owners, and health providers. Repetition of messages is effective in ensuring message recall, and more likely to lead to behavior change. In Y3, CAP-Malaria trained 1,641 VMWs, BHS staffs, private providers. In Y4, approximately 420 new volunteers (270 VMWs in 6 new townships, 150 VMWs to replace attrition) and 300 health facility staffs will be provided with a 3-days intensive training using NMCP-approved curriculum including diagnosis (by RDTs) and malaria treatment (include ACT) and IPC (Activity B2.1c). Cost will include travel and per diem and materials such as pamphlets and posters.

Minimum targets are set for each volunteer (10 patients per month for each VMW, 20 persons per month for each private provider). Informal private providers include quacks and drug sellers, and are usually the first contact point of health services for the community and migrants. Private employers will also be trained and advocated to help spread BCC messages.

School students can play a key role in further disseminating key malaria messages to their family members. During Y3, CAP-Malaria developed a malaria education toolkit and pre-tested in approximately 400 students in collaborations with the Regional Health and Education offices. The toolkit was introduced in 109 schools in Dawei, reaching about 12,900 primary students. A systematic assessment of the toolkit is planned in Q4 and will include randomize school surveys.

b. Small media

Reinforcement of BCC messages will be done through the use of information/education communication (IEC, posters, pamphlets, leaflets, CD/VCD, booklets, and stickers). Types and dissemination strategies will be according to the specific target groups. Additional IEC materials will be developed in Y4 to support Day 3+ case management and promotion of malaria screening points. HE through bus system and appropriate transportation system (*e.g.* boat) in target townships (Kawthaung, Dawei in Tanintharyi Region, Myawaddy-Hpaan in Kayin and Thandwe, Toungup in Rakhine) will be expanded to reach approximately 300,000 residents, visitors and migrants in endemic areas using NMCP-approved materials. Malaria screening points at transportation terminals (see IR2) can be done in parallels. Advocacy and orientation of transport groups have started in Y3 and continued in Y4, with an assessment is plan for Q3.

c. Mass media

Mass media such as TV and radio is not very accessible in Burma. Billboards at high-traffic junctions, bus stations, and jetties can reach travelers including migrant workers with key malaria messages. In Y4, 22 billboards will be strategically placed with key malaria messages. CAP-Malaria will leverage private sector to contribute in this activity. One successful example is the installment of LED (Light-Emitting Diode) malaria billboard in collaboration with Super-One Coffee Mix Company in Dawei Township.

d. Community mobilization (private companies and community engagement)

CAP-Malaria has worked with large corporations to organize malaria-focused activities (e.g. diagnosis and treatment, and HE) for their employees and the surrounding communities in conjunction with salary distribution such as Yuzana Palm Oil Company, Dawei Deep Sea Port, Rakhine Gas Pipeline Company. CAP-Malaria will advocate to engage new companies through planned meetings and

site visits in Bokpyin, Dawei, Launglon, Thayetchaung, Yebyu, Myeik, Kyunsu, Tanintharyi and Toungup with a target of reaching 25,000 migrant-mobile population.

CAP-Malaria will continue to support the Referral Funds and Community Revolving Funds in existing 109 sites to help village patients obtain effective treatment in a timely and sustainable manner. Self Help Groups have been established to manage this fund after receiving training. This activity will be conducted in 191 villages from four townships of Kayin State in Y4, reaching 104,000 people. VMW is a member of the Self Help Groups who will perform malaria testing and treatment of positive cases, along with BCC activities. An anticipated 20 World Malaria Day events are expected to reach 6,000 people with HE, malaria screening and treatment, LLIN distribution and net treatment.

IR 1 ACTIVITY MATRIX: Use of preventive interventions among population increased in CAP-Malaria target areas.

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (Year 4)
IR 1: Use of preventive interventions among population increased in CAP-Malaria target areas								
B1.1 Community Level distribution of ITNs	a.	LLIN distribution (CAP-M)	30 Townships	100,000			50,000	150,000
	b.	Support NMCPs to distribute USG-LLIN (distribution cost)	47 Townships (NMCP/ USAID) (Kayah State)					553,500
	c.	Monitoring on net coverage and net use	24 Townships	Monitoring tool reviewed	1	1	1	Quarterly in all townships
	d	LLIN durability and longevity survey	3 townships (1 in Tanintharyi, 1 in Rakhine and 1 in Kayin)			Survey team identified and trained	Conduct survey	Report produced

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (Year 4)
B 1.2 Community level promotion of ITN care and use	a.	IPC (Inter-Personal Communication)	24 Townships	62,500	62,500	62,500	62,500	250,000 *(people reached by IPC)*
		a1. Training of HFs staff, VMWs, Mobile Teams in diagnosis and case management with ACT, and HE by IPC. *(Some townships to include Day 3+ case management)*	24 Townships	300 HF *(Diagnosis,, case management, IPC)*	420 VMWs *(Diagnosis, case management and Day+ case management, IPC and LLIN distribution)*			720 *(420 VMWs, 300 HF staff)*
		a2. Private Providers (Trained private providers; advocacy meetings with private companies, Implementation)	Bokpyin, Dawei, Launglon, Yebyu, Thayetchaung, Myeik, Kyunsu, Tanintharyi, and Toungup	150 *Private providers advocated and trained in case management, and IPC*				150
				4 *Advocacy meeting with private companies in each township*	5 *Advocacy meeting with private companies in each township*			9
		a3. School malaria Education	Dawei District	Assessment on Year 3 Performance and revise on education kits		Monitoring	Monitoring	3 monitoring visits
	b.	Small Media						
		b.1. Design and produce of BCC materials *Design, produce IEC materials, distribution to VMWs, CHGs*	All townships					400,000 *Materials produced*

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (Year 4)
		People reached by distribution of BCC materials to community	All townships					400,000 People reached
		People reached by video show						15,000 *People reached*
		b.2. Bus services	Dawei, Thandwe Kawthoung, Toungup, Hpa-an, Myawaddy	Expansion of activity in same township	Assessment of Y3 Bus services activity , continuation of health education services through bus activities			300,000 *People reached through bus services*
	c.	Mass Media						
		c. Billboards		Advocacy and assessment	22			22
	d.	Community Mobilization						
		d.1. Worksite HE *(private sector engagement)*	Bokpyin, Dawei, Launglon, Yebyu, Thayetchaung, Myeik, Kyunsu, Tanintharyi and Toungup	Advocacy and planning with private companies				25,000 *Migrants reached by group HE*
		d.2. World Malaria Day , events (VMW and community events)				20 WMD and social events organized		6,000
		d.3. Trained Community - Help Group (CHG)	Hpa-an,Hlaingbwe, Kawkareik and Myawaddy					30 *CHG volunteers trained*

9.2 IR2: Use of quality malaria diagnostics and appropriate treatment increased among malaria patients in target areas

CAP-Malaria's key approach for rapid diagnosis and treatment of malaria cases is to strengthen the community network and its linkages with the public health system. In addition to expanding coverage through VMWs, mobile team and screening points, CAP-M places a strong emphasis on improving the quality of services through intense supervision of case management by VMWs and mobile team by project staff and health facility staff, laboratory QA/QC including RDT QC in collaboration with the NMCP and Lower Myanmar Department of Medical Research.

The capacity building under IR2 will focus on training of public HF staff, VWMs, project staffs, laboratory technicians and private providers on malaria diagnosis and treatment and logistics management. Case management will be done through outreach services, VMW services and screening points. CAP-Malaria will also strengthen the capability of these staff for case management and control during malaria outbreaks (including report of unusual occurrences).

Indicators (*F-indicators):

- *Number of health workers trained in case management with artemisinin based combination therapy (ACT) with USG funds (quarterly) **(F-indicator)**
- *Number of health workers trained in malaria laboratory diagnostics [rapid diagnostic test (RDT) or microscopy] (quarterly) **(F- indicator)**
- *Number of RDT purchased with USG fund that were distributed to project staffs and VMWs (**F – indicator**)
- Number of confirmed cases reported from VMWs, mobile teams, screening points, private providers in CAP-M target areas (monthly)

Activity 2.1 Training on malaria diagnosis (RDT & microscopy) and proper case management

a. Basic health staff (BHS)

Scaling up the quality of malaria diagnosis and appropriate treatment among malaria patients is a key activity. Most health providers, even in larger hospitals, are not familiar with the updated malaria case management guidelines or resist changing their service delivery methods. They have little knowledge about ARM and how to prevent the spread of this parasite. In collaboration with Township Medical Offices, the NMCP curricula will vary for each category of health provider: district hospitals, station hospitals, rural health centers, and sub-centers. Basic training for sub-center staff will provide updates in malaria epidemiology, malaria diagnosis and treatment, patient referral, and patient counseling to promote bed net use, early care-seeking, and treatment adherence. The follow-up training will introduce new updated topics including management of ARM and QA. For higher levels, the training will focus on topics such as treatment of complicated malaria. Y4 target is to train 300 BHS from new expansion township.

b. VMWs

VMWs play a key role in reaching at-risk populations in remote areas and migrant populations with limited access to health facilities. Directly Observed Therapy (DOT) will be incorporated to VMWs case finding and management activity for *Pf* cases to assure the compliance including ACT+PQ. Individual case investigation will be done in those villages with less than 5 malaria (all) cases. Total of 721 VMWs already have experience in malaria service delivery. In each new target village, one volunteer will be nominated by the community to be trained and provided with a VMW toolkit (e.g. RDTs, ACTs, thermometer, malaria HE flip chart, and patient registration). Basic training covers malaria epidemiology and SOP for malaria diagnosis and treatment, DOT, case investigation, patient referral for complicated malaria, and patient counseling. During refresher training, the VMWs will receive technical updates and share their experiences with each other to strengthen their network. We anticipate training 420 new VMWs in Y4 (270 new VMWs from 6 expansion townships and 120 new VMWs for replacement in existing townships). C includes participant costs include transportation, perdiem, room and board, training supplies.

c. Private providers

A large proportion of malaria services in Burma are provided by the non-formal health sector. It is critical to improve the quality of their service delivery and better integrate them with the public sector. While Y3 focus on project expansion and integrate Malaria + ANC services, effort to engage private providers will be focused in Y4. CAP-Malaria will ensure that there is no overlapping with PSI activity who currently works with private general practitioner. CAP-Malaria began collaborating with 130 private providers (mostly informal providers) from all townships. Most of the private providers are informal private providers like quacks, volunteers from private sectors, drug sellers from large and small drug outlets; CAP-malaria will select and work with these groups in coordination with TMO and local authorities. After mapping the private providers in Q1, advocacy and training will be provided in Q1-2. Training will focus on malaria case management according to NTGs and discontinuing monotherapy treatment. CAP-Malaria will conduct monthly data collection, quarterly monitoring visits and biannual assessment to monitor performance.

d. Laboratory technicians

The quality of malaria microscopy in Burma is very low due to high use of RDTs and low interest in microscopy. Laboratory technicians from township/district hospitals from 284 malaria endemic townships will be provided with intensive 2-weeks training using WHO curriculum by CAP-Malaria staff and NMCP Chief Technician; 100 of whom were trained in Y3. CAP-Malaria produced an updated QA/QC SOPs, approved by NMCP in Y3. Dissemination workshop is planned in Y4 to launch the implementation of updated QA/QC SOPs starting in Tanintharyi Region and Kayin State. Microscopists in the project areas will be routinely assessed by NMCP reference technicians with technical assistance and support from CAP-Malaria.

Activity 2.2 Supervision on quality malaria diagnosis (RDT and microscopy)

a. Quality Assurance of RDTs at the community level

RDT is used at the community level HF staff and VMWs. To monitor the quality of RDTs under field conditions, CAP-Malaria team will conduct lot quality sampling on a biannual basis. The collection (includes storage and transport conditions) will be part of CAP- Malaria's routine QA/QC. The RDT quality will be cross-checked by the Lower Myanmar DMR team. Results will be shared with relevant partners and to the HF staff and VMWs on a biannual basis.

b. Set up and implement routine QAS at CAP-M target HFs

For routine QAS, all positive and 10% of negative randomly selected malaria slides examined by the township lab technician (trained under B2.1) will be cross-checked by a senior lab technician on the State/Region VBDC team or NMCP who will send result of discrepancy slides to the National Reference Laboratory for confirmation. In 14 project townships (all townships in Tanintharyi and 4 townships in Kayin State), CAP-Malaria will support logistic arrangement on cross-checking of slides including financial support for transportation of senior lab technician to township laboratories and cost for transporting slides from township to State/Region or Central VBDC laboratory, as well as cost for microscope updates and lab reagents. Arrangement will be made to send feedback on the quality of slides and accuracy of results to the township/State/Region lab technicians with recommendation for further improvement. On-the-job training will be provided, mainly during technical supervision. Some areas within the townships can be difficult for monitoring due to logistics and transportation barriers. To prepare for national QA assessment, slide bank collection will be developed. CAP-malaria is supporting the Senior Technicians from the project and NMCP for training with the WHO/ Asia Collaborating Training Centre in the Philippines in Y4.

c. Supply diagnostic tools (RDT, Lab material supplies, reagents, etc.)

CAP-Malaria will monitor supply chain and availability of malaria RDT (and ACTs under B2.3a) under the project. VMWs and private providers will be trained to ensure a continuous supply of RDTs by redistributing from overstocked to under-stocked areas to avoid stock-outs. Monthly monitoring form will be developed to collect the information. Based on the Year 3 experiences, CAP-M will improve forecasting and quantification of RDT (including ACT).

Activity 2.3 Case management at the facility and community level

a. Supply anti-malaria drugs (ACT, Chloroquine (CQ), Primaquine (PQ)):

Health staffs and VMWs require an uninterrupted supply of quality assure antimalarial drugs for effective service delivery and treatment. CAP-Malaria will distribute antimalarial drugs to VMWs monthly and when shortages are anticipated. For QC of drugs, samples will be randomly collected for testing (in coordination with USP). USP will train on how to collect drug sample. Now NMCP is working on supply of quality assured antimalarial drugs together with Food and Drug Administration (FDA), and United State Pharmacopeia (USP). CAP-M will support to NMCP on collection of drug samples

b. Support VMWs, project staffs to conduct EDAT

Malaria diagnosis using RDT will be used by VMWs and project staff to diagnosis and treat confirmed uncomplicated *P. falciparum* cases with ACT+PQ. Other species are to be treated with chloroquine. VMWs will be assigned as DOT providers and in low prevalence area where case investigation to assess local transmission foci. Day 0 reactive screening around *Pf* cases will be included in areas where it is difficult to conduct follow-up by our mobile team.

c. Monthly VMW discussion and monitoring

Monthly VMWs meeting (township level) will be conducted to monitor performance, collect and verify data, and replenish supply materials and drugs, and discus about case management and migrant activities in their community (see B2.2c and B2.3a). This is a key opportunity to maintain VMW engagement and motivation while ensuring continuous quality service delivery at the community level. Monthly VMWs meetings may be conducted in different places depending on the geography of the townships. CAP-M township team continues to monitor and supervise VMW at community/village level and based on findings, necessary support and improvement will be taken. Monitoring visits will be emphasized to villages with relatively high numbers of cases areas with the frequency of visit more often than once a quarter.

d. and e. BCC to support early diagnosis and adherence to appropriate treatment

Case management package includes IPC to assure treatment adherence and prevention to break transmission cycle. These activities are described in more detail under IR 1.2.

f. Sub-grants to build local capacity in malaria programming

In Y3, small sub-grants were provided to selected-local NGOs to build up their capacity in program management and malaria programming: four sub-grants of approximately $50,000 each, and $180,000 for Myanmar Health Assistant Association (MHAA) through SCI. These 4 sub-grants are Myanmar Nurses and Midwifery Association (MNMA), Karen Baptist Convention (KBC), Community Development Action (CDA) and Development for Environmental friendly Agriculture and Rural life of Myanmar (DEAR). In Y4, sub-grant activities will be closely monitored through ongoing technical support and supervision. An assessment of small sub-grant projects will be done after one year starting from implementation time.

Activity 2.4 Supervision on proper case management among networks of private providers

Along with training of 130 selected private providers (B2.1c), CAP-Malaria will conduct private providers mapping in the project townships. Most general practitioners, most of them are already covered by PSI franchising clinics and the Myanmar Medical Association (MMA) activities, mostly in the more urban areas. CAP-Malaria will emphasize on informal private providers who are more likely will be the first point of entry for migrants into the health systems. After mapping, some private providers will be mobilized and trained EDAT and LLIN distribution. After training, CAP-Malaria will supply monthly RDT and ACTs in exchange for data collection and validation. Regular supervision visit and on-the-job training are included to ensure delivery of quality services. Progress will be assessed after six months with findings disseminated in a

workshop for the private providers and township medical office (TMO) as part of continued advocacy and incorporation into the national MIS.

Activity 2.5. Support to CBOs for increasing the detection of malaria positive cases.

CAP-Malaria will continue to support Back Pack Health Team who are working in Non-state areas and the Shaetho Project under Pact/Myanmar. Main support is providing RDT and ACT, and training of Back Pack VMWs. These activities should not only increase malaria service coverage but improve case finding as these actors operates in areas have poor infrastructure and are often difficult to access by most public health and NGOs staffs and poor infrastructures.

IR 2 ACTIVITY MATRIX: Use of quality malaria diagnostics and appropriate treatment increased among malaria patients in target areas

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (FY 4)
IR 2: Use of quality malaria diagnostics and appropriate treatment increased among malaria patients in areas with existing or threatened Artemisinin – resistant malaria.								
B.2.1 Training on malaria diagnosis (RDT & microscopy) and proper case management	a.	Training on RDT use and case management for BHS staff	6 new project areas only	300	Follow-up training			300
	b.	Training on RDT use, case management, and referral of severe cases for VMWs	All townships (6 new tsps.)		Follow-up training			420 *(270 in new tsps and 150 as replacement) Also provided with VMW toolkit*
	c.	Train on RDT use and case management for Private Providers (PPs) *(include monthly monitor)*	All townships	130	Monthly monitoring visits conducted		Workshop on PPM held	130
	d.	*Train on microscope for township laboratory technicians*	*Nationwide (in discuss with NMCP)*					30 *Estimated technicians in CAP-M project areas*
B2.2 Supervision on quality assurance of RDT and laboratory result strengthen	a.	QA of RDTs *(in discussion with Lower Myanmar DMR)*	4sites (Dawei, Bokpyin, Kawthoung, Myawaddy, Rambree)					TBD

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (FY 4)
	b.	Set up and implement routine QAS at target health facilities in CAP-M areas	10 Tsps in Tanintharyi; 4 Tsps in Kayin	Dissemination workshop of updated QA/QC guidelines Advocacy at Region, State, Townships	QAS system established in Township Hospitals Regular assessment conducted according to national QA/QC guideline			14 *Township Hospital with functioning QC microscopy system*
	c.	Supply diagnostic tools	All project areas	Quarterly monitoring the supply system for RDTs Additional and emergency request/supply and buffer procurement of RDT				120,000 *RDT purchased with USG fund distributed to project staffs and VMWs*
B2.3 Case management at the facility and community level	a.	Supply Anti-malaria drugs	All project areas	Monthly supply checks conducted at each VMWs; Quarterly forecast and supply check of township stocks				15,000 *ACT doses purchased with USG fund distributed to project staffs & VMWs*
	b.	EDAT for uncomplicated malaria according to NTG by VMWs, mobile teams, screening points using DOT strategy, etc.	All project areas	2500	2500	2500	2500	10,000 *Est. un-complicated malaria cases*
	c.	Monthly VMW discussion and monitoring	30 townships	90	90	90	90	360 *sessions*
	d.	IPC to support EDAT by HF staffs, VMWs		Linked to activity IR 1.2. Activity B.1.2				
	e.	Small and mass media, community mobilization to support EDAT		Linked to activity IR 1.2. Activity B.1.2				

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (FY 4)
	f.	Sub-grant awards	4 tsps Kyarin-Seikkyi Thandaung Hpa-pun Gwa	Implementation and supervision of sub-grants activities.				4 Sub-grants
B2.4 Supervision on proper case management among networks of private providers	a.	Advocacy and dissemination workshop on Private Providers (PPs) network	All project areas	Mapping of PPs	Conduct quarterly monitoring visit			60 *(2 dissemination workshops in each district)*
					Semiannual dissemination workshop of PPM result			
B. 2.5. Support to CBOs to increase detection of malaria cases		Supporting commodities to Back Pack and Shaetho Project		Supporting RDT, ACT and assisting in Training (ad-hoc) Also include transportation cost				TBD

9.3 IR3: Use of strategic information for decision making increased at national, and local levels

CAP-Malaria continues to support health system strengthening and use strategic information. CAP-Malaria supports the development of State/Region level AOP with the involvement of partners and reviews progress of implementation. Joint supervision, monitoring and evaluation with CAP-Malaria and NMCP will be made in project areas to ensure quality of malaria services and build local capacity. Day-3+ comprehensive case management activity will be expanded, while ensuring quality, particularly DOT and reporting. New activity on Intensified Case Finding and Management in hard-to-reach area will be introduced based on analyses of local malaria information and local contexts.

Possible Indicators:

- Percentage of P.f cases with parasites detected on day 3 after ACT treatment in selected sites (villages) in CAP-M target areas (Quarterly)
- Percentage of CAP-Malaria service delivery points that experienced a stock-out of first line ACT. (Quarterly)
- Number of joint visits on supervision and monitoring (Quarterly)

Activity 3.1. M&E of CAP-malaria activities

a. Conduct simple baseline surveys in new target areas.

CAP-Malaria will conduct simplified baseline surveys in six-new target townships by using 2 sampling frames, one from Bago East Region (3 townships) and Kayah State (3 townships) where implementation will begin in the second half of the Y4. Findings will be used to revise BCC messages and improve services. Most of the questionnaires are designed to detect rapid changes within one year (*e.g.* LLIN ownership rate, LLIN utilization rate and type of LLIN (polyester or polyethylene).

b. CAP-Malaria's M&E 'Online' system.

To facilitate the easy sharing of project data, CAP-Malaria will introduce the online M&E online system to project staff in 27 townships from project area (excluding sub-grant townships) in close consultation with the CAP-Malaria/regional M&E team on selected questionnaire. However, the internet connection system is still sporadic and spotty for online database system but we would like to know feasibility and capability of this system.

c. *Gender analysis*

To strengthen availability of information on how the project is affecting women and men and to improve gender integration, CAP-Malaria will hire a consultant in Q2 to review current activities and approaches and make recommendations for improvement. The Consultant will be responsible for ensuring that the project's gender practices adopt global best practices and to build capacity in gender among gender staff and partners.

Activity 3.2 Coordination of strategic information at township and State/Region, and National levels

a. State and Region level Annual Operational Plan (AOP) development, review, and joint supervision

State and Regional Annual Operational Plans (AOPs) aim to facilitate the coordination of malaria control activities done by the various partners, and establish joint strategies and shared targets. CAP-Malaria will work with the Coordination Body headed by respective State/Regional Health Director to gather all partners working in malaria control to develop Comprehensive AOPs during Q1, Y4. AOP should be viewed as a living document in which the detail activities to be planned and updated at the quarterly reviews head by the State/Region and the Coordination Body supported by CAP-Malaria. The budget includes one-day meetings at five State/Regional levels for approximately 50 government staffs from townships, NGO and private sector representatives, and other stakeholders. Quarterly monitoring reviews will be held at each township to assess progress on AOP objectives and updates provided to the NMPCs.

b. Support health system strengthening for strategic information.

Support Malaria Technical Strategic Group (TSG) meeting

The TSG has an existing structure and terms of reference. It meets quarterly to share information about partner interventions and discuss malaria control data. CAP-Malaria will work with WHO and the DOH to support the TSG meeting to ensure that evidence from malaria research and monitoring is used to guide policies and program implementation and activities are harmonized. TSG is primarily intended for technical support to GF activities, but has now included Myanmar Artemisinin Resistant Containment (MARC), 3 MDG funds, and other technical supports. TSG members include NMCP, WHO, implementing partners, and other key stakeholders. CAP-Malaria is one of the TSG members and serves as the secretariat for M&E working group.

Support monitoring and supervision including joint monitoring and supervision visit with Basic Health Service staff

Monitoring and supervision visit will be conducted by CAP-Malaria team jointly together with BHS staff. During this visit, team monitor on VMWs activities, data reporting and verification. BHS can have an ownership role and increase trusts within the community not only for BHS, but also for CAP-Malaria staff and VMWs, as BHS also treat other illnesses. BHS can also provide immunization program (for children under 1 year old) and maternal and child health services and compliment CAP-Malaria mobile activities and VMWs monitoring visit. The community can get more benefit from the joint mobile teams. It will be planned to conduct in 21 townships on a quarterly basis. CAP-M team will more frequent in villages with high malaria caseloads.

Support lab QA/QC

This activity will be linked to activity B.2.2.b. CAP-M support on creation of enabling environment to implement QA/QC effectively by NMCP.

Support NMCP for screening points – **pending PMI/USAID approval**

c. Quarterly regular staffs meetings at central level

Regular central level staffs meetings will be conducted quarterly at appropriate sites to assess the performance, challenges, suggested solutions and to develop next quarter work plan. During those meetings, additionally capacity of the staffs will be built up such as technical skills improvement, and project management.

Activity 3.3 Access increased to strategic information

a. Development of Village-based strategy in CAP-M target areas.

NMCP stratified the villages based on transmission intensity (km from forest and HF), however, it is not enough to identify hot spot and hot-pop to tackle malaria problem effectively. CAP-Malaria has stratified malaria risks at the village-based in project areas to develop appropriate strategies that takes in to account not only malaria cases but other local factors; some criteria such as Annual Parasite Index, remoteness (e.g. cost of transportation, weather, health facility nearby), security and political stability, population (e.g. migrant movement, risk group and life styles), back ground information on the villages (e.g. existing partners and activities, gaps, private providers, entomological information). Village with similar characteristics will be group together. Guideline for village-based strategy will be developed and identified appropriate prevention and control package for particular village group. Training will be provided at township level BHS and project staffs on village-based strategy. Activities will be implemented according to village – based strategy.

b. Monitoring stock out of first line ACT

To reduce case load and prevent severe malaria and un-necessary deaths due to malaria, early diagnosis and appropriate treatment with ACT or *P. falciparum* case is critically important; an uninterrupted supply of first line ACT should be assure at the service delivery points down to the VMWs in the villages. Monthly monitoring on stock out at service delivery point will be conducted and rapid replenishment of ACT will be done by project staffs.

c. Day-3 (+) case management

ARM has been confirmed in Tanintharyi region and Kayin State, Bago East Region, Kayah State (Tier 1). CAP-Malaria will conduct community-level Day-3(+) case management in 4 selected HF and villages (4 sites in Kayin, 3 sites in Kayah, 20 sites in Tanintharyi and Rakhine) based on **quality microscopy service is available** high malaria prevalence area, relatively good communication system for day 3 blood smear collection and response. DOT will be emphasized by VMWs, who will prepare slides on Day-0 and Day-3 and will be compensated for sending to CAP-M staff or HFs. If Day-3 (+) is identify, a comprehensive package of services will be provided including case investigation to determine infection foci and travel history of the index cases, screening surrounding index case (~50 people) at the village and exposed people (according to travel history) and providing treatment to these subsequent positive cases, and

LLIN distribution and intensive malaria education. The budget includes $3 for the VMWs to conduct 5 DOT visits (Day-0, Day-1 and Day-2) for *Pf* infections and taking Day-3 blood smear.

In some villages with many *Pf* positive cases or logistically difficult to follow-up patients, Day-0 *Pf*+ reactive case management will be conducted using the same comprehensive package as described in Day-3 (+) case management.

DMR will continue its Day-3 Therapeutic Efficacy Surveillance to monitor the Artemisinin resistant in Gwa township of Rakhine State in collaboration with CAP-M.

d. Intensified Case Finding and Management of malaria in hard to reach areas

Some hard-to-reach areas are very difficult to reach and not possible to go regularly due to high transportation cost or lack of appropriate communication mechanisms to communicate with VMW (requiring for monitoring visits by CAP-Malaria staffs and travels by VMWs to attend monthly VMWs meeting). Routine or frequent mobile outreach activity on case detection and treatment may not be cost effective (some villages require several hundred dollars for transportation). CAP-Malaria village-based strategy has identify such kind of villages in 21 townships (about 80 villages) where intensified case finding and management to all population (regardless of fever or malaria symptoms) and treatment of positive cases according to NTGs will be conducted on a semiannually schedule. According to evidence in some project areas Out of 326 people tested with RDT 200 people were found to be positive. Among them 265 non-fever cases, 152 people showed positive. Malaria positive rate among non-fever 57.4% even with RDT. In GMS Malaria Elimination Strategy Guideline, one of the proposed strategy is reducing transmission in the high transmission areas in Myanmar's eastern, northern and western states and regions to low levels approaching the threshold for entering elimination phase. Intensified Case Finding and Management is one of the approaches for reducing case load and based on the findings of cases appropriate prevention and control measures will be introduced. This activity is not just case finding and treatment but also action oriented activity for further reducing malaria problem in hard – to- reach hot spot areas.

e. Entomology survey

CAP-Malaria will conduct entomological studies in five townships in Tanintharyi Region and Rakhine State to better understand the seasonal fluctuation in species and density. In Y4, 8 new entomological study sites will be selected in Tanintharyi Region and Rakhine State. Vector bionomics, susceptibility to insecticides, and bioassay studies will be carried out. As suggested by the entomology consultant (Dr. Moh Seng Chang), the project will assess each site every two months for two consecutive years. Insecticide susceptibility tests will be conducted 2 times in each township. The budget includes the entomology team, supplies, ELISA costs, as well as transportation and per diem costs.

CAP- Malaria will support entomological training for NMCP by the PMI team and qualified partners. Three indicators will be used to monitor the entomological activities: number of insecticide susceptibility test conducted, number of IEC materials produced based on

entomological findings; and number of entomological dissemination session conducted. The latter two indicators are to ensure that entomological survey findings are benefiting the NMCPs in program planning and the community in increase awareness and local participations. One prototype of IEC materials will be produced which reflect entomological findings and two sessions of entomological dissemination workshop will be conducted in Year 4.

f. Dissemination of information

Semi-annual, annual reports, survey findings will be distributed to all CAP-M partners.

g. Development of the Year 5 Work Plan

In Q4, the Y5 work plan will be developed in CAP-Malaria/Burma at the central level with participation of township team leaders and team assistants.

IR3 ACTIVITYMATRIX: Use of strategic information for decision making increased at national and local levels

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (FY 4)
IR 3: Use of strategic information for decision making increased at national and local levels.								
B3.1 M&E of CAP-malaria activities	a.	Simple Baseline household survey in new target areas	6 townships *(3 in Bago Region, 3 in Kayah State)*	3	3	Findings analysis and disseminated		6
	b.	CAP-M project M&E online system	27 townships	Monthly collection of data from township level by using online M&E format				1 *Online system*
	c.	Gender Analysis	1 study in project areas			1 study in project area		Documented Report
B3.2 Coordination and support of strategic information at townships, state/region and national level	a.	State/Region AOP development and review	Tanintharyi Region, Kayin State Rakhine State	3	Quarterly review on AOP progress and follow up action			3 *Region/State AOP, updated quarterly*
	b.	Support health system strengthening for strategic information						
	b.1	Support Malaria TSG meeting	National	TSG quarterly reviews conducted. M&E activities as assigned to CAP-Malaria				4 *Quarterly reviews*
	b.2	Support joint monitoring and supervision visit (and mobile activities) with BHS	All project areas	Developed monitoring plan and schedule, forms and checklists	Quarterly monitoring and supervision joint visits with BHS according to the supervision plan			63 *Quarterly joint visits in 21 townships*
	b.3	Support lab QA/QC	10 townships *6 in Tanintharyi 4 in Kayin*	QA/QC guideline Dissemination workshop	Support NMCP to conduct regular laboratory QA/QC (Township Hospitals)			10 *Township Hospitals under QA/QC*
	b.4	Financial support to NMCP for screening points function	Pending PMI/USAID approval					*20 (Screening points)*
	c.	Quarterly regular staffs meeting at central level	All target townships	Quarterly regular staffs meeting including one re-treat meeting				4 meetings

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (FY 4)
B3.3 Access increased to strategic information	a.	Develop of Village based strategy in CAP-Malaria target areas	CAP-M all project areas	Guideline for defining village-based grading system Classified villages based on guideline Implement prevention packages according to strategy				1 *Village-based classification*
	b.	Monitoring CAP-Malaria service delivery points on stock out of first-line ACT	All VMWs	monthly monitoring on stock out of first-line ACT				Stock out <4%
	c.	Day 3(+) *Pf* case management	4 sites in Kayin, 3 sites in Kayah and 20 sites in Tanintharyi and Rakhine	Train field staffs, lab technicians, and VMWs Revise SOPs report forms	Conduct Day 3 (+) case management and comprehensive response.			At least 90% Day 3(+) *Pf* cases received comprehensive case management package
	d.	Intensified Case Finding and Management in remote areas	80 villages in remote, hard to reach areas	Training on Intensified Case Finding and Management	Intensified Case Finding and Management conducted quarterly in hard-to-reach, hot spot, hot pop areas.			300 Intensified Case Finding and Management sessions
	e.	Entomological Survey	8 new sites in 4 townships of Tanintharyi Region & Rakhine State	Entomology surveys conducted at 8 sites IEC materials with entomology finding incorporated Entomology dissemination workshops				8 Studies of insecticide susceptibility conducted 1 Package of IEC materials produced based- on entomological findings 2 Entomological dissemination workshops conducted
	f.	Dissemination of information	To all IPs	Dissemination of semi-annual reports, gender analysis study report, survey reports/peer review publication				4 times

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (FY 4)
				and presentation				
	g.	Preparation of development of year 5 work plan (M&E)	Central level				1	1 workplan

9.4 8.4. IR4: Malaria control services for mobile populations strengthened through interagency and inter-country collaboration.

CAP-Malaria supports the strengthening of the NMCP, State/Regional, and township malaria in implementing malaria control. This includes support for technical assistance, supplies and equipment, emergency response, twin-cities collaborative activities, program management, and technical capacity building.

Possible Indicators:

- Number of interagency advocacy meeting sessions conducted.
- Number of twin-city pairs that develop implement a joint action plan quarterly.
- Percentage of Twin-city joint work plans implemented

Activity 4.1 Enabling environment strengthened

a. Disaster risk management

Disaster risk management training will be conducted respond to disaster common to the local area like flood, heavy rain and etc.

CAP-Malaria will respond to ad hoc and emergency requests from the NMCP as appropriate, such as investigation of outbreaks and responses to natural disasters. This allows the project to support the national health system through targeted assistance and support community needs.

b. Advocacy meeting in expansion of new geographical areas for involvement of other agencies to cover more migrant populations.

CAP-Malaria plan to expand to 3 new townships in Bago East Region and 3 townships in Kayah State for Y4 under Tier 1 (pending NMCP approval). Most of the migrants in these areas work in gold mining area, plantation and farming in forested areas, wood cutting and charcoal baking. By expanding to these areas, project can cover more migrant populations and also prevent the spread of ARM. After pending approval, CAP-Malaria plan to conduct interagency advocacy meeting for involvement of local authorities, other health related departments, community based organization, and INGOs.

Activity 4.2 Country level support and coordination to increase cross border twin-city collaboration

CAP-Malaria shares the vision of health ministries in Burma and Thailand on twin-city model to strengthen collaboration on cross-border health, particularly for malaria. Kawthaung-Ranong Working Group meets regularly to develop and update on the implementation of joint workplan (*e.g*. data sharing, malaria screening at border-crossing points, HEs and community mobilization activities such as World Malaria Day. The project will scale-up activities by exploring mechanisms to improve follow-up among cross-border migrants using multi-lingual patient cards agreed upon by the Kawthaung-Ranong working group, which has already been introduced on the Cambodia-Thailand border, Palin-Chanthaburi. Normally, one representative from Central

level is invited but participants are mostly from local level. Exchanges between pairs of twin-cities pairs may be included in Y4 to shared experiences and lesson learned, and to advocate other twin-cities and leverage funding from other sources.

Activity 4.3. Programs expanded and use of best practices strengthened

- Employer-based malaria control: In Y4, CAP-Malaria plan to expand successful partnerships with development corporations that employ large numbers of MMP, informal private health care providers.
- BCC through bus system: During Y3, CAP-Malaria started working with bus line and disseminated health messages through video services, health messages printed on cover of seat- cushion. Private bus lines were engaged with CAP-Malaria in this activity which is running in Dawei, Kawthaung and Kyaukpyu Townships. This effort will be expanded to the after assessment and review in Q1, Y4 with support from CAP-Malaria/Regional BCC team and URC/Headquarter.
- CAP-Malaria is introducing several of the interventions such as Day 3(+) case management and Intensified Case Finding and Management in hard-to-reach areas. CAP-Malaria will gather lessons learn from these activities for continuous improvement.

IR4 ACTIVITY MATRIX: Malaria control services for mobile populations strengthened through interagency and inter-country collaboration

Indicator No.		Planned Activity	Geographic Areas	Milestones/Targets				
				Q1	Q 2	Q 3	Q 4	Target (FY 4)
IR 4: Malaria control services for mobile populations strengthened through interagency and inter-country collaboration.								
B4.1 Enabling environment strengthened	a.	Respond to unforeseen local requests related malaria control		Training and planning on disaster risk management	Development of workplan on disaster risk management			TBD
	b.	Advocacy meeting on expansion of geographical areas to cover more migrant populations	6 new townships	6		6		12 *Local advocacy meetings*
B4.2 Country level support and coordination to increase cross border twin-city collaboration	a.	Country level support and coordination to cross border twin-city collaboration	***Ongoing***: Kawthaung-Ranong Myawaddy-Tak ***New***: Dawei-Kanchanaburi	Development of bi-annual work plan Implementation of twin city activities Twin-city malaria working group *e.g.* Share information, training, BCC, malaria week				2
	b.	Twin-cities Workshop for case study reports	Burma					1
B4.3 Model programs expanded and use of best practices strengthened	a.	Report and disseminate on project's interventions		Linked to other activities				TBD

10 PROJECT M&E

During Y3, CAP-Malaria began revising M&E plan and streamline project indicators according to country specific interventions, with a greater emphasis on F indicators, and outcome and process indicators. Y4 workplan activities and indicators are now linked to the current M&E plan (updated in September 2014). CAP-Malaria's M&E team will continue to refine the data collection tools according to ensure quality improvement of activities without changing on M&E planned concept. The performance monitoring data will track project process, outputs and outcomes indicators in the communities, townships, State/region, and national level. It will summarize data from project monitoring tools for LLIN distribution, communication activities, case management, commodity management, human resource management, and other project supported activities. CAP-Malaria/Burma (Yangon) will provide training to Township Team Leaders and Data Assistant (township). During the preparation of monthly CAP-Malaria report, data verification, editing, analysis are made and prepare the report for the data use for strategic decision making. Field Operational Director and the Field Operational Coordinator also check the reports for validity, integrity, precision, reliability, timeliness and completeness of data.

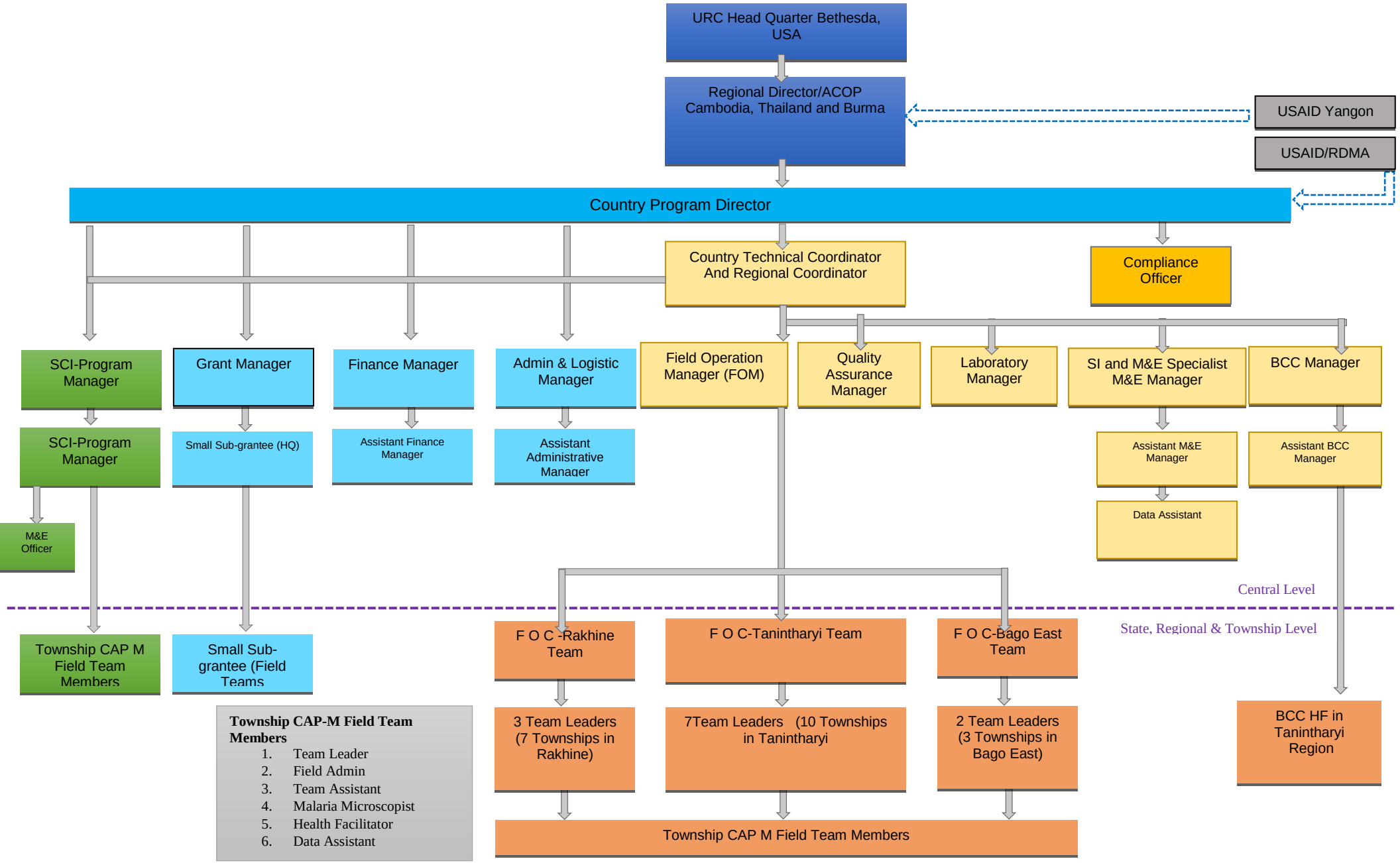
At the township level, CAP-Malaria will institutionalize a process of using data to improve results by bringing together township project staffs every quarter to review local performance in detail and identify potential malaria hotspots.

At the central level, regular review meeting will include CAP-M staffs implementing partners SCI, sub-grantees and review meeting assess the performance, challenges, suggested solution and next quarter work plan will be discussed.

CAP-Malaria will make efforts to share project reports to all implementing partners.

11 PROJECT MANAGEMENT AND STAFFING PLAN

CAP-Malaria management team continues in Y4, with Dr. Soy Ty Kheang, COP/Regional Director (RD), providing leadership for the project, and supported by the Deputy COP, Dr. Darin Kongkasuriyachai. The Burma Country Team will be led by Dr. May Aung Lin and Dr. Saw Lwin in close collaboration and coordination with CAP-M's direct partners including Save the Children and MHAA and other teams. In Y4, recruitment of new staffs will be done in the six new expansion townships to form the township implementation teams. In addition, the project will use short-term technical assistance strategically to provide support for the design of specific policy initiatives, for carrying out evaluations as well as development of specific guidelines and tools to further refine the project implementation.


URC Head Quarter Bethesda, USA
Regional Director/ACOP Cambodia, Thailand and Burma
USAID Yangon
USAID/RDMA
Country Program Director
Country Technical Coordinator And Regional Coordinator
Compliance Officer
SCI-Program Manager
Grant Manager
Finance Manager
Admin & Logistic Manager
Field Operation Manager (FOM)
Quality Assurance Manager
Laboratory Manager
SI and M&E Specialist M&E Manager
BCC Manager
SCI-Program Manager
Small Sub-grantee (HQ)
Assistant Finance Manager
Assistant Administrative Manager
Assistant M&E Manager
Assistant BCC Manager
M&E Officer
Data Assistant
Central Level
State, Regional & Township Level
Township CAP M Field Team Members
Small Sub-grantee (Field Teams
F O C -Rakhine Team
F O C-Tanintharyi Team
F O C-Bago East Team
BCC HF in Tanintharyi Region
3 Team Leaders (7 Townships in Rakhine)
7Team Leaders (10 Townships in Tanintharyi
2 Team Leaders (3 Townships in Bago East)
Township CAP M Field Team Members
Township CAP-M Field Team Members
1. Team Leader
2. Field Admin
3. Team Assistant
4. Malaria Microscopist
5. Health Facilitator
6. Data Assistant

12 EXIT STRATEGY

Develop an exit and a sustainability plan for what should happen to project outputs at the end of the project, and to explore which ones should be sustained further and how.

1. Exit plan

1.1. Revisit project outcomes

Project key persons revisit the project outcomes that we anticipate, the changes of project will stimulate or enable, and its impact on the reduction of the malaria morbidity and can show reducing the Pf case load in project areas. Project staffs, as well as health facility staffs should have improving in teaching, learning, and use of strategic information. It is plan to show outcomes of four intermediate results relate to what people will be able to improve/ know/ do better, faster, or more efficiently because of what project have done. All key indicators will be assessed whether project can achieve as target and meet the health needs. Some of the end line survey will be carried out to know the behavior change of the community. Strength and weakness of key activities will be mentioned in report.

1.2. Action for take-up

Project outputs may include tool kits (like school BCC Tool kits/ Bus BCC Tool Kits), models (Village based strategy model), guidelines (Laboratory QA/QC), case study (Entomological study/success stories), reports (semiannual/annual reports) will be properly handover to National Malaria Control Programme in hard copy and soft copy for future reference and use. Some of these things are already hand-over during the project period and NMCP started to use it (for example- Day 3 case management response, Laboratory QAQC guideline is recently adopted by NMCP for future use). Whole sets of document on projects (including administrative and finance) will be kept for minimum of 3 years in the project. With the permission of PMI/USAID, not only NMCP but also consider other stakeholders views and how to make outputs available and accepted.

1.3. Action for exit

Exit plan should consider access, preservation, maintenance, and intellectual property:
PMI/USAID take the lead role for this action for exit.

- **Access** PMI/USAID will host the deliverables after the project ends. According to instructions/ guidance from PMI/USAID, project will hand over the any deliverables to any host with documented manner. All exist actions will be made available on CAP-M project web site.
- **Preservation** All deliverables must be archived in the appropriate Jisc data centre or managed repository, and core project documents must be archived in the Jisc records management system. It should be kept in PMI/USAID and CAP-M Project.

- **Maintenance** Identify supporting documentation will be needed to maintain all deliverables, e.g., motor-bikes, office equipment, computer, documents etc. Any deliverables which need for ongoing maintenance will identify and estimate the cost for maintenance.
- **Intellectual property** Third-party rights need to be cleared before the end of project to make sure deliverables can be accessible to prevent and control malaria after the project ends. Some soft wares need to be registered or used after permission.

2. Sustainability plan

2.1. Sustainable outputs

Marked reduction in malaria positive rate, Annual Parasite Incidence Rate in project areas contribute to further reduction of malaria problem. CAP-M Burma project, there won't be sustainable outputs. The work the project has done has been taken up by the either National Malaria Control Program or other Implementing partners, leading to changes in further improvement of malaria situation including drug resistant problem. All field activities run by CAP-M need to be implemented by dedicated Village Malaria Workers and Basic Health Staffs and need to be sustained not on technical knowledge but on field operation cost. At present moment field activities are run by nearly 1000 VMWs.

But for some project outputs, there may be sustainable outputs, particularly in the area of guideline, software, and tools. It may be creating content that could be made available to the teaching, learning, or strategic information on a permanent basis. GMS Malaria will work closely with NMCPs to build local capacity in planning, implementing and evaluating quality improvement activities. GMS Malaria plans to shift the responsibilities of providing technical support to the NMCP and key local partners starting from Year3 of the project. It is necessary to identify the outputs of the project that should live on after the project ends, who will want to use them. Technical strategic inputs have being provided to NMCP through Technical Strategic Group where CAP-M served as secretariat of M&E working group.

Also CAP-M staffs' capacities are the sustainable outputs, they are ready to use their knowledge in other Artemisinin Resistant preventing and control project.

2.2. Sustainability options

At present moment, it is difficult to identify the villages to implement malaria prevention and control through volunteer approaches. Nearly all of the INGOs implement in Regional Artemisinin Initiative areas are run by Global Fund Support, USAID. The project will work closely with the GFATM, USAID and other health programmes to further strengthen the malaria prevention and control activities. To sustain the activities run by Village Malaria Volunteers depend on 2 factors. First, political situation in Myanmar, if it is favorable condition, funding sources will continue to support the National Malaria Control Program. Second point is if Artemisinin resistant P.falciparum spread to India, most of the funding will be moved to India and less funding support to Myanmar and have difficult position for sustainable options.

Template for exit plan and sustainability plan (Oct/2015 – Sep/2016)

Activity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Meeting on Exist Strategy Discussion	X											
Collection of all soft / hard ware documents	X	X										
Preparation of soft /hard ware documents for improving access		X	X									
Discussion with NMCP & Stakeholders on sustainability options			X									
Regular assessment of the project outputs/outcomes	X			X			X			X		
End-line survey conducted and finalization of report in 3 project sites	X						X					
Intellectual property									X	X		
Access & Preservation										X	X	X
Maintenance											X	X
Discussion with NMCP on sustainability options										X	X	
Handover of documents and reports to NMCP												X