



Mid-term Performance Evaluation: Control and Prevention of Malaria (CAP-Malaria) in Burma, Cambodia and Thailand

Evaluation Report

May 2014

This publication was produced at the request of the United States Agency for International Development. It was prepared independently and authored by Andrew A. Lover and James F. Kelley.

Photo caption: A community-based malaria volunteer at a rubber plantation in western Cambodia discusses her CAP-Malaria project work. (photo credit: Andrew A. Lover)

MID-TERM PERFORMANCE EVALUATION: CONTROL AND PREVENTION OF MALARIA (CAP-MALARIA) IN BURMA, CAMBODIA AND THAILAND

May 31, 2014

Cooperative Agreement Number: AID-486-A-12-00001

DISCLAIMER

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

ACKNOWLEDGEMENTS

The Evaluation Team is grateful for truly outstanding support from both the USAID/RDMA Office in Bangkok, and the staff of CAP-Malaria in all three countries.

Specifically, Dr. Kheang Soy Ty, Chief of Party of CAP-Malaria, gave generously of his time, and the time of his staff, to arrange visits on short notice and to help us understand the work of CAP-M; Dr. May Aung Lin and Professor Saw Lwin in Burma, and Dr. Darin Kongkasuriyachai who helped us with travel and data in Thailand.

We also are grateful to staff of the National Malaria Control Programs (NMCPs), partner agencies, and other implementers in all three countries who generously gave their time to provide us with insights about the CAP-M Project.

We would like to thank the Village Malaria Workers and Mobile Malaria Workers (VMWs/MMWs) in the project areas who took time away from their work and families to talk with us, and who are the true core of all these efforts.

We wish to express our appreciation to our drivers, Taing Seng (Cambodia), Songsak Kaewpaluk (Thailand), Mr. Jakkritt (Thailand), Phoe Thar (Myanmar) who made sure we got to where we needed to be. The work of our translators, Khuob Sopheak (Cambodia), Pete Thaloemgsakdanuvpngs (Thailand), Chanadom Ponsa (Thailand), Myat Thar (Myanmar), made all of this work possible.

Special thanks go to Bhavna Patel who travelled with us in Burma and Cambodia, and to Suzanne Polak who travelled with us in Thailand, both of whom greatly assisted with fieldwork.

Andrew A. Lover and James F. Kelley

Independent Consultants

CONTENTS

- ACRONYMS I**
- EXECUTIVE SUMMARY1**
 - EVALUATION BACKGROUND, PURPOSE AND QUESTIONS..... 1
 - FINDINGS..... 2
 - CONCLUSIONS..... 3
 - RECOMMENDATIONS..... 5
- I. EVALUATION PURPOSE AND EVALUATION QUESTIONS.....8**
 - EVALUATION PURPOSE..... 8
 - EVALUATION QUESTIONS..... 8
- II. PROJECT BACKGROUND9**
- III. EVALUATION METHODS AND LIMITATIONS11**
 - EVALUATION DESIGN..... 11
 - DATA COLLECTION METHODS..... 11
 - DATA ANALYSIS..... 12
 - LIMITATIONS AND RISKS 12
 - GENERAL ASSESSMENT OF PROJECT DATA COLLECTION AND REPORTING..... 13
- IV. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.....15**
 - BURMA – FINDINGS..... 15
 - BURMA - INTERMEDIATE RESULTS..... 16
 - BURMA - CONCLUSIONS AND RECOMMENDATIONS 21
 - CAMBODIA - FINDINGS..... 22
 - CAMBODIA - INTERMEDIATE RESULTS 23
 - CAMBODIA - CONCLUSIONS AND RECOMMENDATIONS..... 28
 - THAILAND- FINDINGS..... 29
 - THAILAND - INTERMEDIATE RESULTS 29
 - THAILAND - RECOMMENDATIONS..... 32
 - REGIONAL PROGRAM - FINDINGS 32
 - OVERALL CAP-M CONCLUSIONS AND RECOMMENDATIONS 34
- ANNEXES.....41**
 - ANNEX I: EVALUATION STATEMENT OF WORK 41
 - ANNEX II: SUMMARY OF PROJECT PROGRESS AT MIDTERM 54
 - ANNEX III: DATA COLLECTION INSTRUMENTS 57
 - ANNEX IV: SOURCES OF INFORMATION 61
 - ANNEX V: SCHEDULE OF COUNTRY VISITS 69
 - ANNEX VI: ILLUSTRATIVE PROJECT TARGETS..... 71
 - ANNEX VII: STATISTICAL METHODS 73
 - ANNEX VIII: DISCLOSURE OF ANY CONFLICTS OF INTEREST 74

ACRONYMS

ACT	Artemisinin-based Combination Therapy
AOP	Annual Operational Plan
ARM	Artemisinin-resistant Malaria
BCC	Behavior Change Communication
BHS	Basic Health Staff
BMP	Border Malaria Post
BVBD	Bureau of Vector Borne Diseases (Thailand)
CAM	Cambodia
CAP-Malaria	Control and Prevention of Malaria Project
CBO	Community-Based Organizations
CMS	Cambodia Malaria Survey
CNM	The National Center for Parasitology, Entomology and Malaria Control
CPD	Country Program Director (Burma)
COP	Chief-of-Party
D3+	Malaria parasite positivity after 3-day ACT regimen
DCOP	Deputy Chief-of-Party
DDF	Department of Drug and Food
DEC	Development Experience Clearinghouse
DO	Drug outlet
DOT	Directly Observed Treatment
EDAT	Early diagnosis and appropriate treatment
FDA	Food and Drug Administration (Burma)
FFH	Friends for Health
G2G	Government-to-Government
GF	Global Fund
GMS	Greater Mekong Sub-region
HC	Health Center
HF	Health Facility
IEC	Information, education, communication
INGO	International Non-governmental Organization
KAP	Knowledge, Attitude, Practice
KIA	Kenan Institute Asia
KII	Key Informant Interview
LLIHN	Long-lasting Insecticidal Hammock Net
LLIN	Long-lasting Insecticidal Net
MBCA	Myanmar Business Coalition for AIDS
MBDS	Mekong Basin Diseases Surveillance
MCC	Malaria Control in Cambodia
MHAA	Myanmar Health Assistant Association
MMA	Myanmar Medical Association

MMP	Mobile and Migrant Population
MMW	Mobile Malaria Worker
MOH-CMSD	Ministry of Health, Central Medical Store Department
MOU	Memorandum of Understanding
MP	Malaria Post
NGO	Nongovernmental Organization
NMCP	National Malaria Control Program
NSA	Non-state Actor
OD	Operational District
ODC	Operational District Coordinator
OPH	Office of Public Health
PC	Provincial Coordinator
PDO	Program Development Office
PHD	Provincial Health Department
PHO	Province Health Office
PMI	President's Malaria Initiative
PP	Private Practitioner
PPM	Public Private Mix
PSWGME	Provincial Special Working Group for Malaria Elimination
QA/QC	Quality Assurance/Quality Control
RDMA	Regional Development Mission for Asia
RDT	Rapid Diagnostics Test
RFA	Request for Application
RHC	Rural Health Center
SCI	Save the Children International
SOP	Standard Operating Procedure
SOW	Scope of Work
SRRT	Surveillance and Rapid Response Team
TA	Technical Assistance
TES	Therapeutic Efficacy Study
TICA	Thailand International Cooperation Agency
TMO	Township Medical Office
TWG	Technical Working Group
URC	University Research Co, LLC
USAID	United States Agency for International Development
USP	United States Pharmacopeia
VBDC	Vector Borne Disease Center (Thailand, district level)
VBDU	Vector Borne Disease Unit (Thailand, provincial level)
VHW	Village Health Worker
VMW	Village Malaria Worker
WHO	World Health Organization

EXECUTIVE SUMMARY

EVALUATION BACKGROUND, PURPOSE AND QUESTIONS

Control and Prevention of Malaria (CAP-M) is the flagship project of the President's Malaria Initiative (PMI) in the Greater Mekong Sub-region (GMS), running from October 2011 to October 2016. The University Research Co., LLC (URC) is the primary implementing agency. Kenan Institute of Asia (KIA) is the implementing sub-partner in Thailand, and Save the Children (SCI) and Myanmar Medical Association (MMA) are the sub-partners in Burma, all of which work closely with National Malaria Control Programs (NMCPs) and the many partners working on malaria control. The overall aim of the CAP-M project is to reduce morbidity and mortality from malaria in the GMS and to eliminate artemisinin-resistant parasites.

This midterm evaluation covered the first half of the overall program and aimed to assess project performance and progress towards intended results; it was conducted in Burma, Cambodia and Thailand from March-April, 2014. The evaluation, funded by the United States Agency for International Development (USAID) Regional Development Mission for Asia (RDMA), will be used to inform the second half of the project (2014-16) and allow for programmatic changes mid-term. The review consisted of 1) comprehensive review of available project materials 2) field visits for informal semi-structured interviews of key informants including project staff at national/regional/local levels, plus targeted populations and 3) triangulation of quantitative data with qualitative results, to allow wide-ranging analysis and recommendations.

The key populations at risk for malaria within the GMS are highly mobile and migrant populations (MMPs) with exposures or occupations in forested and border areas. These populations are generally socially, geographically and economically marginalized, with consequent limited access to health services.

This evaluation focused on five major queries¹:

1. **Preventative measures:** To what extent is CAP-M on-track to increase the use of preventative measures among at-risk populations?
2. **Diagnosis and treatment:** Has the CAP-M community-based approach contributed to increased use of quality diagnostics and treatment?
3. **Design and management:** How optimal are the design and management arrangements for achieving project objectives?
4. **Strategic information:** To what extent has the strategic information generated by the project been used?
5. **Sustainability:** What measures/mechanisms have been put into place to achieve sustainability?

¹ A comprehensive list of evaluation questions can be found in the statement of work (Annex I).

FINDINGS

The CAP-M project is off to a strong start, and has made extensive progress even in the face of multiple challenges related to political limitations, changing program focuses, procurement delays, and access/safety issues in some areas. Notable progress has been made throughout the first half of the grant by URC and its partners in increasing access to preventative measures and early diagnosis/appropriate treatment throughout the region, but progress has not been equal in all areas. While CAP-M is well positioned to build on these successes through the remainder of the project, particularly regarding widespread LLIN distribution and strengthened community-based activities, diverse challenges remain in the three settings of the country-specific projects. These findings are listed in more detail throughout the body of this evaluation.

Project implementation and performance have had very limited measurement to date, and consequently the mid-term evaluation team had major limitations in any ability to quantitatively assess impact of program performance. CAP-M has issued 3 sets of updated regional and county-specific work plans: July 2012 (FY 2012), February 2013 (FY 2013, Updated) and September 2013 (FY 2014). Each set contains a description of the annual plan, an activity matrix with an itemized budget and a timetable for implementation. The program has successfully been able to “get boots on the ground” based on these work plans and for the most part, successfully implement budgeted activities.

The Year 1 plan had consistent, highly detailed indicators for all three countries; this proved exceedingly challenging for implementers. These indicators were then superseded, “During Y2, CAP-Malaria began revising the PMP in response to changes in USAID M&E strategies. The list of performance monitoring indicators has decreased, with a greater emphasis on outcome and process indicators. The PMP is still under revision and will be submitted to USAID in Y3.”² However, this work plan has essentially all indicators listed as “to be determined” or “possible indicators” with no set targets. As a consequence, the first and only monitoring and evaluation plan including indicators, baselines, and targets for each country was released in February 2014, over 18 months after beginning the project and only one month before the mid-term evaluation.

Without consistent and ongoing data collection against measureable targets, the evaluators were not able to systematically measure impact. Where numbers have been reported we have evaluated progress against these values in this report or utilized numbers found in activity lines of Project year 1 and year 2 budgeted work plans. (For example work plans and targets, see Annex VI).

Deviations in project direction resulted from multiple sets of undocumented changes in the program budget throughout the project cycle. There appear to be two main reasons for these changes: the realization that initial indicators were not well aligned with operational and epidemiological realities, and the need for the project to be responsive to “gap-filling” requests by national programs. Additionally, this highly flexible implementation has made rigorous assessment of effectiveness exceedingly challenging, especially within the context of MMPs.

There have been important declines in morbidity and mortality from malaria at the national scale in Cambodia and Thailand, but it is not possible to directly attribute these changes specifically to project activities due to the sub-national implementation. However, there is evidence to suggest that the progress in reducing malaria morbidity in CAP-M districts in Cambodia has been accelerated relative to

² Project Year 3 Work plans—Cambodia; Burma; Thailand; November 2013.

non-project districts due to project activities. Data are currently fragmented and incomplete in Burma but there also appears to be a declining trend in malaria burden in areas that are accessible.

Beyond building capacity, the direct contribution of project activities to artemisinin-resistance containment (ARC) has been more limited. While molecular markers have recently been identified, the operational definition of this resistance is persistence of blood-stage parasites after 3 days (D3+) of ACT administration.^{3, 4} Aligned with international guidelines, CAP-M's efforts to contain resistance centers around community-based, D3+ monitoring to measure delayed parasite clearance, followed by intensified follow-up activities. The project has implemented pilot activities for rigorous D3+ follow up by village volunteers. If D3+ cases are identified, then a suite of interventions is implemented which include screening of surrounding households using RDTs, and provision of behavior change communication (BCC) and LLINs to households living near the parasite-positive patient. To date, a limited number of cases of delayed parasite clearance have been identified and treated with second-line regimens through project activities, but it is not possible to determine what proportion of total cases have been captured by project activities due to inherent incompatibility in data collection between project and national reporting streams.

Additionally, CAP-M has supported efforts to implement more rigorous therapeutic efficacy studies (TES). Specifically, in Cambodia, CAP-M has provided coordination support for setting up TES sites that are administered by other implementers.

The impact of the cross-border activities on the national programs has been very limited to date, but the project has provided an important forum through the twin cities initiative for building these critical international relationships; the project should focus on concrete outcomes in the second half. The current plans should be comprehensively reviewed to determine what progress is feasible during the last few years of the program.

CONCLUSIONS

Preventative measures. Increasing access and use of preventive measures is a complex and demanding task that needs to incorporate elements of LLIN effectiveness (especially in light of outdoor transmission), distribution mechanisms, social sciences, and end-user preferences to be successful. In some aspects, CAP-M has done well and made excellent progress in significant distributions, but has lagged in the management and monitoring of lending scheme interventions, and targeting of BCC campaigns. Simple distribution instead of lending in selected farms and plantations might be more effective in reaching target MMPs. If CAP-M/URC focused on re-aligning distribution together with qualitative and quantitative research to more fully understand the needs of users, it could lead to more targeted BCC/IEC materials and approaches during the remainder of the grant cycle.

Diagnosis and treatment. Based on observations in the field, the project's community-based diagnosis and treatment initiative is one of the strongest aspects of the CAP-M program, and has contributed to tested totals within national programs. However, as CAP-M totals are reported for fiscal years, and the NMCPs report by calendar years, it is not possible to accurately assess the annual

³ Arie F, Witkowski B, Amaratunga C, Beghain J, Langlois A-C, et al. (2014) A molecular marker of artemisinin-resistant *Plasmodium falciparum* malaria. *Nature* 505: 50–55.

⁴ WHO (2013) Emergency response to artemisinin resistance in the Greater Mekong Sub-region. Regional framework for action 2013-2015.

proportion contributed by CAP-M projects. Finally, comparable comprehensive national testing data are not available.

The successful community volunteer system in selected areas has been an anchor for improved diagnosis and treatment, likely contributing to observed reductions in morbidity. The community-based volunteer programs in Cambodia and Burma have been more fully aligned with project targets, while the program in Thailand has been hampered by attrition issues and need to build Burmese-language capacity within the health sector.

Targeting MMPs is a major challenge for the project in all countries, and these populations represent a major parasite reservoir⁵ that is a significant hurdle for artemisinin-resistance response. Project activities to support innovative approaches to reach less-accessible MMPs via malaria posts (MPs) and border malaria posts (BMPs) along the Thailand-Cambodia and Thailand-Burma borders are critical; to date the project has supported innovative initiatives (mass media, taxi driver malaria ambassadors) but the team was unable to evaluate performance of these initiatives due to the lack of measurable results collected throughout the first half of program implementation. The recent pilot activity to issue bilingual patient cards to MMPs who visit MP, BMPs and malaria clinics in Thailand has not yet been successful, primarily due to lack of service uptake and difficulties in following up MMPs. Finally, gender and vulnerable populations have not been effectively targeted or assessed: gender analyses have not been consistently incorporated into the project, and only a subset of reports include disaggregate data.

Design and management: The design and management of CAP-M is an area requiring significant attention. Competing mandates to focus on both flexibly filling gaps for national programs and to provide a robust evidence base for implementation in other settings has led to some confusion and frustration on the part of URC/CAP-M and RDMA. Moreover, CAP-M scientific leadership appear to be overburdened with managerial tasks that may impact their ability to innovate and focus on the core technical public health challenges.

These program inadequacies have presented major challenges for project staff both in terms of collecting the necessary data and time-consuming re-analyses in attempts to measure impact. The evaluation team also found that baseline surveys, and rigorous assessments of project activities have not always been implemented, including rapid assessment of service needs to support project expansion efforts or routine monitoring of activities such as D3+ follow up.

While the cross-border and twin cities components are important first steps that are critical to address the porous border areas, they have had limited impact to date beyond piloting of bilingual patient cards.

In addition to some discrepancies observed between the annual work plans and project performance reports, multiple sets of indicators were developed during the first two years, and the current indicators may still not be fully aligned with operational realities (especially in Burma).

Strategic information: CAP-M has not yet made full use of the strategic information available within or outside of the project. Several sets of studies have been done (entomology, KAP, etc.), but the results have not led to obvious changes in programming or design. While the methodological rigor of completed studies has improved over the course of the project, improvement is still needed. Specifically,

⁵ Cui L, Yan G, Sattabongkot J, Cao Y, Chen B, et al. (2012) Malaria in the Greater Mekong Sub-region: Heterogeneity and complexity. *Acta Tropica* 121: 227–239.

reporting of detailed methods, limitations and biases, and more nuanced discussion about how the results should inform project activities should be included.

Further, the evaluation team found it very challenging to determine what components had been implemented in which geographic regions, when/where pilot initiatives had been fielded, and what surveys had been conducted. This was primarily due to poorly catalogued project documentation including implementation schedules, pilot activities, and special survey reports, particularly in Thailand and to a lesser extent in Cambodia and Burma. Although difficulties in obtaining strategic information about MMPs exist, the project has been limited by poorly defined goals and strategies directed toward MMPs, which are a highly diverse population that may require equally diverse programming. Finally, data quality was found to be weak in some cases, which suggests a need for more data quality assessments, which were not implemented on a routine basis at any level of the project.

Sustainability: While important efforts are ongoing to address the sustainability of the project regarding microscopy and entomology, the long-term statuses of both village malaria workers (VMWs) and cross-border initiatives are unclear. However, the project has done well to advocate at the national level to increase buy-in and awareness of these issues. Although the onus to address this falls on national health systems, CAP-M has played an important role in advocating for development of sustainable solutions.

There is little indication that the current implementation of the cross-border and twin cities initiatives are sustainable without continued funding for travel and per diem. Data flow between twin cities has been limited to the meetings themselves, but progress is being made to increase the regularity and scope of this process to include other diseases. Finally, migration entities including immigration officials, police, military and border guard representatives generally are not invited to twin cities meetings, which may slow progress as well as hamper more comprehensive solutions.

RECOMMENDATIONS

Systematic document review and interviews with a wide range of key informants in all three countries identified multiple ways in which the CAP-M project can build upon the current foundation to make further progress towards strategic goals in the second half. Key recommendations are presented below with suggested lead parties to implement these recommendations.

CAP-M's strategic approach should continue to include interventions to both decrease morbidity and mortality and to contain artemisinin resistance. CAP-M has chosen to focus strategic efforts on decreasing malaria morbidity and mortality as well as artemisinin resistance containment (ARC). These efforts are not mutually exclusive due to the strategic geographic selection for project interventions. The synergy of these activities to strengthen national programs for malaria control (Burma) and towards elimination (Cambodia and Thailand) should not be neglected.

Evidence suggests that morbidity and mortality rates have declined in each country since the inception the CAP-M project⁶ and National data available from the CAP-M target areas also indicate declining morbidity,⁷ suggesting that CAP-M interventions are adding value. It is very difficult to ascertain, however, overall artemisinin resistance in CAP-M areas and “improvements” made to contain its spread

⁶ WHO, World Malaria Report, 2013

⁷ CAP-M Mid-term evaluation presentations, Cambodia and Burma

as a result of the project. As such, CAP-M should work closely with other partners conducting ARC efforts, such as GF, to explore improved methods to measure containment, possibly molecular screening, in addition to continuing successful containment activities, particularly detection and treatment such as directly observed therapy (DOTs) and D3+ screening and follow-up.

Comprehensively review all project indicators, specifically output indicators and targets to develop sets that are both operationally feasible, and programmatically useful within each country. The specific key challenges within each country setting should be incorporated into decision-making about new indicators. Important differences between the malaria epidemiology in sub-Saharan Africa and in the Mekong subregion should also be considered in this process (CAP-M, RDMA).

Regular dialogue should be initiated with other implementers to determine a comprehensive understanding of how CAP-M fits into the greater ARC landscape, and decide what strengths should be developed. There are important areas where CAP-M could focus the talent within the program to fill important underserved target population niches. The key strengths of CAP-M should be clearly identified, and then these components (RDMA, CAP-M)

Consider restructuring the regional program to be more fully aligned with the project aims. A set of three separate bilateral programs, with a full-time roving regional coordinator or other alternative structures developed in consultation with RDMA could provide a better-focused platform to build regional collaborations towards concrete outcomes. The administrative and managerial burden from the regional components might be more productively directed towards national and sub-national level issues. (RDMA, CAP-M).

Continue to prioritize targeted distribution of LLINs for high-risk populations (particularly MMPs), but focus on well-targeted BCC campaigns with rigorous assessment of usage patterns and uptake. Greater efforts should be directed towards a fuller understanding of the needs and preferences of target subpopulations within each country. (URC)

Consider replacing lending schemes at farms/plantations with mass distributions, and redirect these efforts towards addressing the more difficult problems associated with less-accessible mobile and migrant populations. The change would serve to both maximize rare project interactions with MMPs, and would allow these resources to be re-allocated towards activities with greater potential to inform regional MMP strategies. (RDMA, CAP-M)

Cross-border usage of bilingual patient cards should be closely monitored and evaluated as initial reporting suggests poor uptake and limited usage across borders. This novel initiative is addressing an extremely complex problem and may require very focused attention and input from other diverse sectors (migrant advocacy groups, social scientists, etc.) in addressing systemic barriers to successful implementation. The usage of cards could be temporarily suspended while these studies are ongoing, or continued with close and regular supervision using a variety of mixed methods. Additionally, the use of incentives (phone cards, etc.) could be explored to increase adherence. (CAP-M)

Prioritize data quality, completeness, appropriate analysis and use, and dissemination as a major focus for project activities at all levels. These themes should be integrated into all project activities especially for more innovative activities, and current systems of reporting, organizing and disseminating project documents should be wholly redesigned. The 2014 M&E plan should be closely followed and used as the primary guide to program evaluation and monitoring. Assessment of impact can only be done based on data collected and reported towards the M&E plan (CAP-M)

Baseline surveys for all new activities, and rigorous assessments of project activities should be implemented in strategic and routine ways if the project focus remains on providing an

evidence base. Greater attention should be directed towards baseline data collection and targeting for all aspects of the project, including IEC/BCC campaigns to MMPs beyond those at plantations and farms. (CAP-M)

Develop closer ties with technical staff at URC (Bethesda) and/or RDMA to support baseline surveys, analyses, editing and proofreading of project reports before final draft submission. Full and appropriate utilization of data from many project activities has been hampered by limitations in data collection, analysis and reporting. (URC, CAP-M, RDMA)

Consult with a gender specialist to identify opportunities to more comprehensively address issues of gender within the project. . Gender is a critical component of malaria risk, effective IEC/BCC programs, and potentially project sustainability at the community-level, and should be considered in all planning and evaluation activities. (CAP-M, Implementing Partners, USAID/RDMA Gender Advisor)

I. EVALUATION PURPOSE AND EVALUATION QUESTIONS

EVALUATION PURPOSE

A midterm evaluation of the President's Malaria Initiative (PMI) Control and Prevention of Malaria (CAP-M) project was undertaken in Burma, Cambodia and Thailand as pursuant towards the Cooperative Agreement No. AID-486-A-12-00001, "Greater Mekong Sub-Region (GMS) Malaria Control Project"⁸ with the University Research Co. (URC) as main implementer. This Cooperative Agreement is scheduled from Oct 2011 until 2016, with an estimated budget of \$24 million over 5 years.

This evaluation was commissioned by the Office of Public Health (OPH) within the USAID/RDMA office in Bangkok in order to improve Project performance and maximize development results during the second half of the CAP-M project period through 2016. The evaluation team consisted of two independent consultants, Andrew A. Lover (Team Leader) and James F. Kelley (Public Health Specialist), who were joined by Bhavna Patel (PMI, USAID/Washington) in Burma and Cambodia, and Suzanne Polak (USAID/RDMA) in Thailand.

The purposes of this evaluation process were to:

1. Assess the CAP-M project performance to date;
2. Analyze the value-added by CAP-M to national malaria strategies and organizational capacity building of local health institutions;
3. Recommend improvements needed for CAP-M to meet its intended results.

EVALUATION QUESTIONS

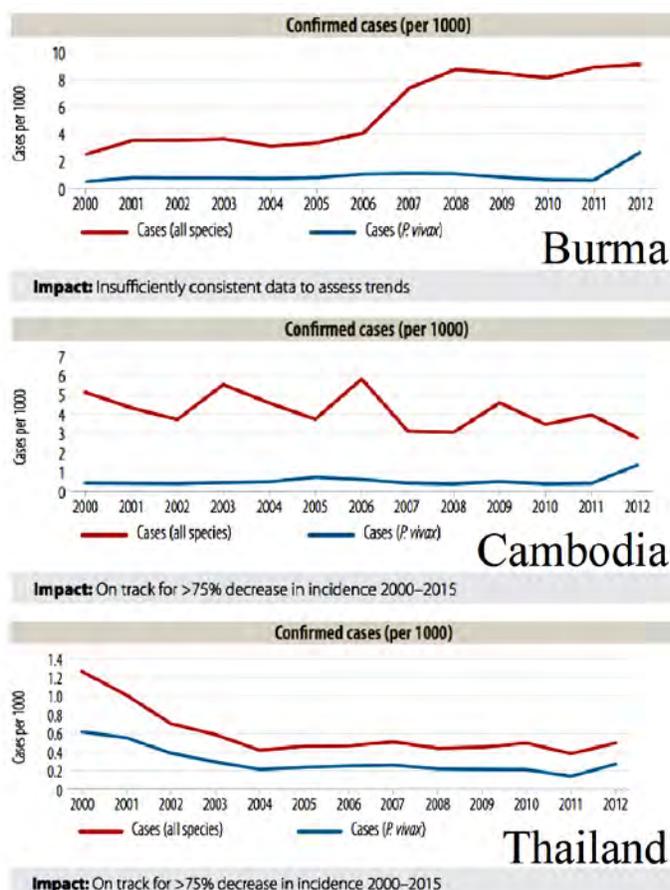
The team was tasked with focusing on these specific themes and queries:

1. **Preventative measures:** To what extent is CAP-M on-track to increase the use of preventative measures among at-risk populations?
2. **Diagnosis and treatment:** Has the CAP-M community-based approach contributed to increased use of quality diagnostics and treatment?
3. **Design and management:** How optimal are the design and management arrangements for achieving Project objectives?
4. **Strategic information:** To what extent has the Strategic Information generated by the Project been used?
5. **Sustainability:** What measures/mechanisms have been put into place to achieve sustainability?

⁸ URC RGN AID-486-A-12-00001-00 (countersigned)

II. PROJECT BACKGROUND

Malaria remains an important contributor to morbidity and mortality throughout the GMS. The burden of disease in Burma is extensive with limited data at all reporting levels, while Cambodia and Thailand have both made major progress in the past decade and are on-track to achieve the Millennium Development Goal target of a 75% reduction in reported cases (Figure I).



The emergence of *Plasmodium falciparum* strains resistant to artemisinins was first reported in 2009 in Pailin in western Cambodia.⁹ There have been several sets of responses to this situation at the regional and global levels; the most recent was released in 2013.¹⁰ The highest risk populations for malaria within the GMS are generally marginalized and mobile populations along international borders; a strong driver of these movements is economic migration, due to agriculture and forestry.¹¹ Reaching and effectively targeting interventions to these diverse populations is a major challenge for artemisinin resistance containment (ARC) programs.¹²

In line with the President's Malaria Initiative (PMI) and the 2009 Lantos-Hyde Malaria Strategy, the PMI Mekong Program through CAP-M, aims to control the spread of artemisinin-resistant malaria (ARM)¹³ by driving down the burden of malaria towards eventual elimination through delivery and scale-up of proven effective interventions.

Figure I. Comparative national-level malaria morbidity in project countries (2000-2012).¹⁴

⁹ I. Dondorp AM, Nosten F, Yi P, Das D, Phyo AP, et al. (2009) Artemisinin Resistance in *Plasmodium falciparum* Malaria. *N Engl J Med* 2009;361:455-67.

¹⁰ WHO, Emergency response to artemisinin resistance in the GMS. Regional framework for action 2013-2015.

¹¹ Mekong Malaria III, *Southeast Asian Journal of Tropical Medicine and Public Health*, Vol 44, Sup 1, 2013.

¹² Jitthai, N. Migration and Malaria: Knowledge, Beliefs and Practices among Migrants in Border Provinces of Thailand International Organization for Migration, 2012.

¹³ USAID Mekong Malaria Program Interventions: <http://www.usaid.gov/asia-regional/malaria>

¹⁴ WHO, World Malaria Report, 2013.

This project was designed to build upon the foundation of the Malaria Control in Cambodia (MCC) project, and includes expansion to Thailand and Burma, along with the addition of a strong regional component to more comprehensively address the challenges within MMP.

The overarching goal of CAP-M is to systematically prevent and control malaria and ARM in the GMS by reducing the morbidity and mortality caused by malaria and eliminating the artemisinin-resistant *Plasmodium falciparum* malaria in regions with confirmed resistance (Tier I) in Burma, Cambodia, and Thailand.

The project has four specific objectives: 1) develop and scale-up cost effective vector control interventions, 2) improve the quality and effectiveness of diagnosis and treatment of malaria at the community and health facility level, 3) reduce management bottleneck at national and local levels, and 4) support the establishment and maintenance of strategic information for malaria control.

Progress towards achieving the four specific objectives is to be measured by the following intermediate results (IR):

- **IR1:** Use of preventive measures against malaria increased among at-risk population in CAP-M areas;
- **IR2:** Use of quality malaria diagnostic and appropriate treatment increased among patients increased in CAP-M areas;
- **IR3:** Use of strategic information for decision making increased at local, national and regional levels;
- **IR4:** Malaria control services for mobile population strengthened through interagency and regional collaboration.

III. EVALUATION METHODS AND LIMITATIONS

EVALUATION DESIGN

After preliminary survey of background documents, the primary and secondary questions within the scope of work (SOW) were adapted and refined into a set of semi-structured interview guides (Annex III) that served as the primary instruments for data collection. These instruments were focused on the intended interviewee's interaction with the project (national, regional, or local project staff, other implementer, or beneficiary), and aimed to comprehensively address the themes within the evaluation.

DATA COLLECTION METHODS

The evaluation process began with a comprehensive review of all project documents available to the evaluation team, from RDMA, URC and within the public domain (internet). Also included were budgeted work plans, annual and semi-annual progress reports, data tables and survey reports created within the project, and a range of peer-reviewed publications (Annex IV). In each country, the evaluation team conducted a series of high-level (international and national) meetings with non-governmental organizations (NGOs), partners, and other implementers, along with meetings with the URC implementing offices to provide an overview of CAP-M project components, national programs, and the ARC landscape. The interview guides were utilized as a framework for these discussions, as well as allowing for probing inquiry and exploration of any emergent themes.

The team conducted a total of 122 interviews in the three countries, and the evaluators aimed to canvass a broad range of stakeholders in this process (table I; see Annex IV for full details).

Stakeholders	Specific organizations
Donors/USG partners	PMI (USAID/CDC), RDMA, USAID Missions
Implementers	URC regional, national and local
Sub-grantees	KI-Asia, SCI
Beneficiaries	Ministries of Health, NMCPs, plantation and farms, and other target populations receiving CAP-M services
External actors	WHO, Malaria Consortium, Population Services International/Cambodia, UNOPS, International Organization for Migration (IOM), American Refugee Committee (ARC), and JSI DELIVER

Table I. General list of stakeholders and specific organizations met by the evaluation team.

DATA ANALYSIS

All available documents were comprehensively reviewed for both qualitative and quantitative data related to the SOW queries. The key informant interviews (KII) were then used to explore the evaluation questions, and these results were captured and coded using grounded theory in MS Excel and TAMS software¹⁵ to explore all relevant themes. Any disparities between different KII's opinions were noted and triangulated using project reports where possible. In compliance with international evaluation standards, the team has protected the confidentiality of KIs by not attributing findings by name within this evaluation report.

LIMITATIONS AND RISKS

The interview process had several inherent limitations. The most important was respondent bias, as many interviewees were directly associated with CAP-M and therefore may have minimized some issues, while overemphasizing positive aspects of the project. To partially address these concerns, results were triangulated with data in reports, and responses from stakeholders not funded by CAP-M. A second important limitation was one of translation and cultural subtexts; there may have been linguistic and cultural subtlety that was not translated, particularly in Thailand where we had significant translation issues, decreasing the richness of these data. We also did not have complete freedom to choose sites for field visits due to travel permits (Burma) and logistics (Cambodia and Thailand). Finally, the time within each country, and at each field site, was inherently limited (for travel schedule, see Annex V).

Data availability and innate data quality issues across all three countries are inherent limitations to rigorous measurement of program progress towards targets. First and foremost, assessment of coverage in MMPs is exceedingly challenging in these settings.¹⁶ The number of migrants are crude estimates- in Cambodia it is assumed to be 10% of the population in certain districts, and in Myanmar it is estimated to be 3% of the population (150,000 total), whereas data from another USAID-funded report suggests these numbers could be underestimating totals by 10-fold.¹⁷

Secondly, and more critically for this evaluation, there have been extensive changes to targets and indicators in consultation with RDMA throughout the project, but with no documentation of the rationale or timing of these changes. This aspect makes alignment of work plans and annual reports exceedingly difficult. Additionally, many survey reports do not include a title, author, date, or contact information and there are no survey or annual reports of any kind available on the project website (capmalaria.org; April 2014). This makes identifying studies, and obtaining and citing these reports extremely challenging.

While the evaluators prepared to assess the impact of the project in reduction of morbidity and mortality, they found little or no available data.

In Cambodia and Thailand, if these data are available in country offices, they have not been presented or analyzed by CAP-M to illustrate program performance or impact on morbidity and mortality. From the field, the team determined that mechanisms are in place and structure to collect data present: i.e.

¹⁵ Open source, available at <http://tamsys.sourceforge.net/>

¹⁶ CNM, Strategy to address migrant and mobile populations for malaria elimination in Cambodia, 2013.

¹⁷ NetWorks Project Vector Control Assessment Report in the GMS, May 2012.

processes and responsibilities have been defined and data are being collected. The weaknesses are the lack of data compilation, proper presentation and analysis.

In Burma, there are fundamental limitations on available data at all levels of the health system, and these issues are not within CAP-M control. Population estimates will be available through a census being fielded in mid-2014, but may not be available to inform CAP-M efforts.

Each country office must take responsibility to properly compile data in collaboration with the NMCPs, and if not already trained on how to present these figures, work closely with the AOR to increase capacity. Without these figures, CAP-M cannot determine the effectiveness or impact of the use of preventative measures. However, longer-term trends in data reporting, highly flexible implementation schedules, and lack of a defined sampling frame for many hard-to-reach target populations means that it is difficult to assess outcomes or results for most aspects of the project. Moreover, the large number of international NGOs (INGOs) and government programs in many of the implementation regions suggests that directly attributable outcomes will be quite difficult to achieve for the CAP-M sub-national programs.

Despite these limitations, the evaluation team believes data collected were both sufficient and robust enough to provide results and recommendations that are representative and relevant for project re-alignments.

GENERAL ASSESSMENT OF PROJECT DATA COLLECTION AND REPORTING

A key consideration within this evaluation is to assess the overall quality of data collection and reporting throughout the project. While there is a wide range in thoroughness, many reported studies have important limitations. Some of the main issues identified were poorly defined or chosen sampling, improper comparisons, incomplete analyses, and many reports have limited discussion about potential biases. Finally, few if any reports indicate that survey instruments were pretested and revised; this may be a critical issue due to limitations in literacy, and linguistic/cultural barriers in target populations.

For example, in an evaluation of the Media One radio project, only a limited proportion (19%; 98/502) of the total survey respondents were part of the key target group of mobile and migrant populations, and the way in which these surveyed populations were identified is unclear.¹⁸

In a baseline household survey in Cambodia, it does not appear that reported totals have been weighed for complex cluster sampling design, and so represent very biased estimates. For example, overall ITN coverage is reported to be 95% for the survey, but survey clusters range from 29 to 99%.¹⁹ It is also reported that males had higher test positivity than females, but as the total tested was limited to 100, the 95% CIs overlap (33%; 95% CI: 24 to 43 versus 19%; 95% CI: 12 to 28).

A 2013 survey of migrants in Ranong, Thailand²⁰ utilized an official list of registered migrants as the sampling frame, but other CAP-M data from Ranong found that only a small minority of workers was officially registered (8.6%).²¹ This survey also appears to have had a 0% proportion of untraceable or unwilling to participate registered migrants.

¹⁸ URC Media One URC Project Evaluation Report, Jan. 2013

¹⁹ CAP-Malaria Cambodia Baseline Report, 2012

²⁰ Kraburi Migrant Survey Report (Draft), September 2013

²¹ Malaria Rapid Assessment In Ranong Province Report, 2012

Other reports have considerable limitations in the presentation and discussion of results; for example, in a report of school-based surveys, charts are difficult to understand, a range of irrelevant statistics are presented, and statistical comparisons are made that likely have very little practical importance (e.g., differences in mean tests scores of 4.4 vs. 4.7).²²

However, these studies are balanced by several others that are rigorous, comprehensive and complete, such as the 2012 baseline household survey done in Burma (SCI)²³ and the rapid assessment report in Thailand.²⁴

²² Cambodia School-based BCC Survey Report, 2013

²³ Burma Baseline Household Survey, Aug-Oct 2012

²⁴ Malaria Rapid Assessment in Chanthaburi Report, 2012

IV. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

- In the following sections, the key country-specific findings are presented for each of the five major queries with conclusions and recommendations made for each separately.
- Simplified tabular summaries of progress (“scorecards”) for each of the five main queries within each country program and for the regional efforts can be found in Annex I; maps of project areas within all three countries can be found in Annex IV.
- Common findings and regional aspects, with overall conclusions and recommendations then follow the country-specific sections.

BURMA – FINDINGS

The program in Burma had multiple challenges in the startup phase (Year 1), which included extensive delays of commodities due to factors outside of CAP-M control, and a rapidly changing landscape for NGOs within the country. However, these issues have been addressed in a competent and professional manner in Years 2/3, and the project has made important progress towards goals. The issues behind the initial procurement delays have been comprehensively addressed, and are not expected to recur. A shift in programming focus from RDMA in Bangkok to the Mission in Rangoon, was reported to have contributed to greater progress in the later part of the assessment period. CAP-M Burma has benefited from highly qualified and effective leadership, which has provided valuable operational and political support for program implementation and project expansion opportunities.

Political instability and access issues have been major considerations in several project regions. In 2013, CAP-M activities were suspended in Kayin, Hpa-an township, due to armed conflict, and activities were postponed in Tanintharyi and Kayin due to extensive flooding in July and August. Additionally, in Myawaddy from June to August, CAP-M workers were denied access into six project villages, requiring the brokering of new memoranda of understanding (MOUs) with authorities from a non-state actors (NSA) group.²⁵ The process to gain community trust and to build a willingness to work with CAP-M in these areas has been exceptionally challenging and highlights the critical importance of highly committed local staff.

A major issue that has the potential to impact project sustainability is that there appears to be little, if any, coordination of activities between project VMWs and other health staff, and no formal structure for collaboration exists between volunteers from other projects working in the same areas. CAP-M management is cognizant of this issue, but there are currently no concrete plans to address forming and strengthening these linkages.

While currently the evidence base is too limited to show direct impact of project interventions to increased access or treatment outcomes, CAP-M served 10 townships in Tanintharyi Region, 4 townships in Kayin and 4 townships in Rakhine State at the end of year 2. It reported by several KIs that CAP-M is the sole provider of services in several regions, but as service coverage by other malaria donors and implementers is unavailable we were unable confirm this.

²⁵ Burma Annual Progress Report, 2013

BURMA - INTERMEDIATE RESULTS

I. Preventative measures: To what extent is CAP-M on-track to increase the use of preventative measures among at-risk populations?

While annual reports (FY 2012 and 2013) showed that targets were not reached, the project has made large strides to expand coverage to underserved regions after startup procurement issues involving JSI-DELIVER were addressed. In 2013, a total of 88,135 LLINs of the targeted 123,000²⁶ were distributed in target villages covering 47,058 households and a population of 203,774 with the help of VMWs in community mobilization;²⁷ some access has been constrained due to safety and security issues in several townships. Late arrival of 100,000 bed nets in FY 2013 resulted in project area distribution shortages, but was related to the establishment of new systems in the country, and was resolved by improved lines of communication between partners. Moreover, many of these distributions have been to townships with limited other service provision.

The quality of evidence for prevalence and rate of change for project areas is extremely poor. The health system in Burma is lacking data to assess any trends in morbidity or mortality. This, plus the fact that activities were only implemented in late-2012, does not allow for quantitative assessment of CAP-M activities using population-based rates. After considering national-level official reporting data, the current World Malaria report emphatically states, "Impact: Insufficiently consistent data to assess trends."²⁸ The senior project management is well aware of these limitations, and is actively involved in discussions with the NMCP to address these issues. Gender analysis has also been inconsistently applied and does not appear to be a design criterion for all aspects of the project.

The process to identify, train and retain competent community-based health staff has achieved notable success and competency testing and supervision appear to be a regular part of Project activities. While some areas of training have exceeded targets-- 249 basic health staff (BHS)/VHWs were reported trained together, well above the target of 80 in Year 2--other areas, such as training laboratory staff on updated quality assurance (QA) and quality control (QC) standard operating procedures (SOPs) have fallen well short of targets: only 39 trained of 200 targeted.²⁹ Overall total trained, both government and CAP-M staff, using USG funding was 1,233 in both new and refresher trainings during the first two years.³⁰ Totals appear to have fallen short of goals largely due to conflict and access limitations in some areas.

Behavior Change Communication (BCC) activities have been implemented in Project sites targeting both resident and migrant populations along border areas with CAP-M developed materials, but overall reach and assessment of impact has been limited. The Project uses BCC materials developed by the NMCP and a range of other implementers (e.g., PSI) where appropriate. Baseline household surveys³¹ by CAP-M, and SCI indicated that only 20% of migrants at targeted plantations and worksites knew that sleeping under an LLIN could prevent malaria and 68% did not know the consequences of incomplete drug regimens. Results from follow up surveys have not yet been reported.

While well-organized LLIN distribution and training were demonstrated at the villages visited, data suggest that even with sufficient LLIN coverage, LLIN use is far below

²⁶ Burma annual budgeted work plan, 2013

²⁷ Burma Annual Progress Report, 2013

²⁸ WHO, World Malaria Report, 2013

²⁹ Annual budgeted work plans and monthly/annual progress reports

³⁰ Annual budgeted work plans and monthly/annual progress reports

³¹ Burma Baseline Household Survey, Aug-Oct 2012

ownership levels. Available survey data do not allow for a comprehensive assessment of LLIN use in all Project areas, as comprehensive surveys have not been implemented. Of those surveyed in Tanintharyi, 50% reported sleeping under an LLIN the previous night, while 94% responded to sleeping under ANY net the previous night.³² These data suggest a need for further IEC/BCC education and impregnation of untreated bed nets (currently being phased out) or LLIN distributions. Moreover, the barriers to correct and consistent LLIN usage in these target populations should be explored in greater detail.

LLIN lending schemes in migrant work sites and other LLIN distribution approaches have had limited impact. CAP-M proposed to distribute 5,000 LLINs for the pilot lending scheme in 2013. Of the LLINs distributed by CAP-M, 4,723 were given to farm owners who then distributed to workers at 2 project sites having a total over 28,000 workers.³³ Other distribution channels included 3,297 LLINs to 4,010 migrant workers across 29 workplaces; 943 to attendees of World Malaria Day 2013; and 1,047 to pregnant women who were tested for malaria during antenatal care services.

LLIN distribution in areas visited in Tanintharyi present logistical and operational difficulties. Coverage in remote or disputed areas appears to be exceedingly challenging as a high degree of cooperation is required from local residents and non-state actors (NSA) who must permit access to their villages/townships beyond the normal National-level procedures. Of the 88,135 total LLINs distributed in Burma through the mid-term, only 5,577 were distributed in two townships of Tanintharyi, Myitta and Ye Phiyu, neither of which are NSA-controlled areas.³⁴ The limited distribution illustrates that the process to gain trust of NSA groups, and to negotiate multiple sets of agreements, appears to have been exceedingly challenging and time-consuming for project leadership. Alternative options like LLITHs have not been distributed in Burma.

2. Diagnosis and treatment: Has the CAP-M community-based approach contributed to increased use of quality diagnostics and treatment?

Improved access to diagnosis and treatment has resulted from the introduction and expansion of access to RDTs/ACTs at the community level. In 2013, CAP-M VMW and MMWs together tested 65,859 people for malaria, and treatment was initiated for the 5,277 positive cases.³⁵ CAP-M training efforts have been very important for this success. In 2013, most training targets were surpassed: 320 VMWs/MMWs were targeted and 594 (277 male and 314 female) from 13 townships were reported to have been trained on RDT use and treatment, community outreach, record keeping and referral.³⁶ However, overall coverage remains limited despite plans to expand, particularly in NSA areas and hard-to-reach villages. Restrictive access, political unrest and lack of communication technologies limit recruitment and training of VMWs and assessment of program implementation.

Moreover, there are currently no accurate population estimates available, but a census will be fielded in mid-2014. With these limitations in mind, a cumulative total of 45,850 persons were tested by VMW.³⁷ In Dawei, a villager reported that in the absence of a VMW, travel to a clinic would cost 5000 kyat, and treatment about 10,000 kyat (for comparison, the daily wage for a manual laborer is ~ 2000 kyat). The potential for the presence and accessibility of VMWs to avert major delays in care-seeking is clear.

³² CAP-M Burma office, mid-term evaluation presentation and survey data

³³ CAP-M Burma office, mid-term evaluation presentation and annual work plans

³⁴ Burma CAP-M LLIN distribution data (spreadsheet)

³⁵ Burma Annual Progress Report, 2013

³⁶ Annual budgeted work plans and monthly/annual progress reports

³⁷ CAP-M Burma office, mid-term evaluation presentation and annual work plans

The mobile clinic teams have had limited success in reaching targets due primarily to insufficient data to allow targeting of areas with highest transmission. While it is not possible to quantify coverage of mobile clinic services due to insufficient population data at township levels, the number of tests performed as part of EDAT programs was 51,589 through January 2014.³⁸ While the MMW teams had greater geographic reach and flexibility than VMWs, each tested similar numbers (VMWs 45,850 and MMW 51,589); however, the VMWs test positivity rate was 12% (95% CI: 11.7 to 12.3%) whereas mobile workers, who visit predetermined sites to test any ill community members, had a 4% (95% CI: 3.8 to 4.2%) positivity rate. In the absence of up-to-date epidemiological data, the VMW approach may be more cost-effective for case finding than mobile clinics. CAP-M is considering realignment of the mobile teams to be having greater responsibility in the supervision and monitoring of VMWs.

The interviewed CAP-M VMWs demonstrated sufficient knowledge about RDT diagnosis and ACT treatment. However, direct observed treatment (DOT) and D3+ screening and follow up are being piloted in targeted areas in Dawei township at only 6 sites in Kalane Aung area, Italian-Thai Development Company clinic and Thingan Tone village³⁹ and the low transmission at the sites meant that VMWs have little to no experience practicing D3+ screening and follow up process. This initiative could face significant long-term limitations if VMWs are in low-transmission settings with little opportunity to gain experience in implementing the expanded interventional package for D3+ case-patients. Moreover, there is very limited microscopy capacity to respond to potential D3+ cases, and there are currently no well-defined response capabilities for intensive interventions.

Laboratory diagnostics capacity is very weak and microscopy coverage is very limited.

There are significant and important limitations on the availability of trained microscopists that are crucial for comprehensive implementations of D3+ follow-up activities. Tanintharyi has better coverage, with at least one microscopist in each township supported by the project, but Rakhine has no microscopists in project areas. CAP-M has actively worked to address these limitations by providing TA to the NMCP to train 102 staff on refresher microscopy in year 2 of the project,⁴⁰ but further strengthening of microscopy capacity is needed. As microscopy before project initiation was extremely limited, these efforts are major contributions to improving access to “gold-standard” diagnostics.

Screening at transit points with high MMP populations (bus and ferry terminals, etc.) covered 3 townships. While this activity has had limited contribution to overall totals, it has a very high proportion positive (867 individuals were screened, with 165 positive; 19.0%, 95% CI: 16.5 to 19.0).⁴¹ This suggests this activity is testing target populations that may be difficult to capture via other means, even though many highest-risk individuals living in forested areas may not utilize official border crossings.⁴²

3. Design and management: How optimal are the design and management arrangements for achieving Project objectives?

CAP-M in Burma appears to have approached project design with the necessary flexibility to adjust for rapidly changing needs of national/regional malaria control, prevention and artemisinin resistance containment (ARC). The CAP-M management structure in Burma is similar

³⁸ CAP-M Burma office, mid-term evaluation presentation and annual work plans

³⁹ Burma CAP-M monthly report, Dec, 2013

⁴⁰ Burma Semi-annual Progress Report, 2013

⁴¹ Burma Annual Progress Report, 2013

⁴² Mekong Malaria III; *Southeast Asian J Trop Med Public Health*; Vol 44; Sup 1; 2013; pg. 166-200.

to that in Cambodia and Thailand, in that the central CAP-M office in Yangon is the hub for the regional program, and management processes appear to be functioning quite well. However, it was highlighted by other implementers that dialogue and thoughtful strategic thinking with key country partners is urgently needed to set coordinated and measurable intervention targets and avoid duplication of ARC efforts. The geographic overlap of malaria activities by partners is primarily the result of national government limitations (i.e. granting limited MOUs for access) while a general lack of coordination between partners may result in duplication of effort such as treatment services. However, CAP-M is making efforts to coordinating other implementers by hosting regular meetings of the TSG, which coordinates country-wide malaria activities.

The Project human resource capacity from national to township levels appears adequate to effectively and efficiently implement project activities. However, coverage for microscopy is limited by transportation issues and a limited number of trained microscopists both of which limit D3+ surveillance to monitor artemisinin-resistant parasites. Until the number of national microscopists increases, microscopy efforts will need to be sustained by external donors.

A primary limitation for expansion to new target areas has been an inability to obtain MOUs to operate in certain areas. This facet also contributes to the overcrowding of malaria/health/development operations by multiple donors, as access is limited to the same townships. It is evident that project leaders are well aware of these issues, and are engaged in continuing dialogue with the Ministry of Health to address this constraint. There are currently no comprehensive lists of implementers by township available.

Several important project targets have not been addressed. For example, training for 86 staff was budgeted for gender mainstreaming in FY 2012 and FY 2013,⁴³ but these trainings were not carried out. Mapping of cases has also not been occurring as per budgeted work plans, but reasons for these oversights do not appear in the annual reports. Major changes to activities or undocumented reprogramming of funds on pre-determined activities are not ideal practice, particularly without a concrete M&E plan to predict impact of changing course. Overall, these oversights may result in serious obstacles to achieving project goals. When asked by the evaluators about these shortcomings, URC responded that the activities were simply delayed.

4. Strategic information: To what extent has the Strategic Information generated by the Project been used?

The very dynamic political and epidemiological situation in Burma has made the use of SI quite challenging for CAP-M. While there is an awareness on the part of leadership that some activities may not be optimally targeted, initiatives to expand to areas or populations with higher burden have been stymied by conflict/access issues, and the need to negotiate MOUs from township and NSA organizations, which are outside the control of CAP-M staff.

CAP-M Burma's ability to respond to updated epidemiological information has been constrained due to an outdated NMCP malaria risk stratification structure. While there is a plan underway via the Regional Artemisinin Resistance Initiative to update this malaria risk scoring system, it is not clear when this will be implemented or by whom, and is beyond the scope of CAP-M. However, as this project is specifically targeting those with highest malaria risk, it has been exceptionally challenging for the project staff to direct efforts to these populations. Two small parasitological CAP-M

⁴³ Burma Budgeted Work Plans, FY 2012 and 2013

surveys were conducted in Myawaddy, with a very small number of cases found.⁴⁴ While all CAP-M project sites have been geo-tagged, these data have not been used to inform activities.

There has been a clear improvement in data quality and reporting through the first half of the Project but there are changes that could improve electronic storage and analysis. As the project has been implemented in Burma, the quality of reporting has improved, and current reports are well presented and analyzed, and the storage and organization of physical data at the district site visited were excellent. Additionally, standard national reporting forms from the NMCP are being used by CAP-M, helping to facilitate accurate data aggregation. Project data are sent quarterly to the NMCP; as such, CAP-M data are more current than NMCP data. CAP-M staff has also contributed to in-country capacity building by providing TA for township-level data management. It appears that senior management's focus on data quality has served to spread this mantra across all project levels.

However, some issues related to data quality include inconsistent coding, transliteration of place names, and issues inherent in the use of MS Excel for data storage and analysis. Merging of data for comprehensive analysis across years was not possible due to these data entry differences by the evaluators, and likely requires laborious manual merging by project staff.

Communication between malaria stakeholders is weak as there is very limited data sharing between all levels of the health and development sectors. Several key informants at regional levels suggested that CAP-M survey data (specifically entomology) had not been shared with other stakeholders after their having facilitated collection in these areas. It was also suggested that this lack of dissemination could also be causing duplication of efforts-- other INGOs have also implemented volunteer-based programs in project areas, with no coordination or collaborative structure.

Overall aims and field components of the project are unclear to other partners and implementers involved in malaria control and AR containment. This was highlighted by multiple stakeholders in-country, and highlights the very crowded donor/implementer landscape, and a general lack of communication/coordination between donors, outside of CAP-M. One illustration of this is a program that was highlighted by other implementers as being a critical CAP-M contribution, drug quality monitoring and system strengthening together with United States Pharmacopeia (USP) and the Burmese Food and Drug Administration (FDA), is in fact primarily supported through other PMI funding streams.

5. Sustainability: What measures/mechanisms have been put into place to achieve sustainability?

A prominent project mechanism to promote sustainability, the LLIN lending schemes at work sites (rubber plantations, etc.), has had limited success. In 2013, 4,723 nets were lent to workers in 2 project sites of over 1,300 migrant workers and over 27,000 resident workers.⁴⁵ However, the lending scheme has not been very successful at larger sites, as workers prefer to take LLINs with them.⁴⁶ Additionally, it was clear in discussions with owners and representatives that buy-in from plantation owners to track ownership of nets has been limited, as echoed in the FY 2013 annual report. Project staff in suggested that more directed targeting to other types of plantations where owners might be willing to take more ownership could be beneficial.

⁴⁴ USAID CAP-Malaria Semi-Annual Progress Report, April 2013

⁴⁵ Burma Annual Progress Report, FY 2013

⁴⁶ LLIN Lending Scheme Monthly Survey Reports and key informants

Incorporation of VMWs into the National health system has been identified as a key bottleneck to sustainability of these initiatives. There is currently no process in place or planning to design a pathway for the VMWs to join the national health system, or to ensure their continued involvement in the health sector at the close of the project. Currently the VMWs provide data to their supervisors, who then provide data to CAP-M field supervisors. CAP-M field supervisors compile township data monthly and send to the URC CAP-M M&E team monthly, and NMCP quarterly. This cadre of trained and motivated VMW staff represents an important investment in the future of the health sector.

Entomology has been highlighted as a key component of the CAP-M program in Burma. It was reported that a large cohort of entomologists has been trained but exact numbers have not appeared in project documents; these efforts are critical for strengthening surveillance and research capability in Burma. National-level capacity has benefitted from multiple training projects via Thailand International Cooperation Agency (TICA) and other mechanisms, and entomological surveillance has been set up at eight sites in the four Project townships. However, the results from these surveys do not appear to have been used yet to inform program planning or any changes to BCC materials in light of shifts in feeding times of vectors. A new entomology facility in Rangoon that was a joint JICA, CAP-M, and US-CDC/USAID effort was highlighted by multiple parties as a major contribution to sustained vector control in Burma.

Subgrantee projects in Burma that have specially been designed to assist NGOs are gaining familiarity and capacity to be full recipients of USAID funds in the future, but progress to date is limited. Currently, Myanmar Health Assistant Association (MHAA), Myanmar Medical Association (MMA), and Friends for Health (FFH) are included in this initiative. While it appears these relationships are professional and productive, we had no opportunity to interview representatives from these organizations and were therefore unable to assess progress towards self-sufficiency.

A comprehensive sustainability plan for CAP-M project activities in project areas should be developed and implemented to ensure strengthened local capacity; steps towards sustainability should be undertaken now. The Cooperative Agreement states: “URC will develop partnerships with local research and implementation groups as part of our strategy to develop local capacity and promote sustainability.” As observed in the field, CAP-M has made efforts to improve local relationships but there are no targets or concrete plans to achieve sustainability.

BURMA - CONCLUSIONS AND RECOMMENDATIONS

Project activities have not been implemented within a consistent or rigorous M&E framework. From the field, the evaluators determined that the project is progressing and an initial “foundation” has been set for activity implementation but without proper indicators and targets, impact cannot be determined. If CAP-M Burma continues implementation without aligning activities based on pre-determined measurable targets, as in the February 2014 M&E plan, it will not be able to determine success for the final evaluation in 2016.⁴⁷ Senior management are fully aware of these issues, and made major efforts to address them, within the Burma-specific 2014 M&E plan.⁴⁸

Currently the Project is constrained by dated malaria risk-stratification data; mass parasite surveys in key areas should be considered in collaboration with the NMCP. More informed targeting is urgently needed; the Project’s ability to contribute effectively to ARC will be directly

⁴⁷ Cooperative Agreement No.AID-486-A-12-00001 - “Greater Mekong Sub-Region Malaria Control Project”

⁴⁸ CAP-M Monitoring and Evaluation Plan (M&E Plan) Burma, February 2014

impacted by development and use of updated malaria risk stratification to target areas of highest transmission.

Another main limitation in reaching the highest-risk populations is constrained by an inability to obtain MOUs to operate in certain geographic areas. It is clear that CAP-M in Burma has made extensive efforts in this area; RDMA and USAID/Burma should consider exploring this space on political and diplomatic levels to assist CAP-M in obtaining MOUs for expanded coverage to critical areas.

The pilot D3+ follow-up activity should be continue to be expanded as rapidly as possible but not without evidence for effectiveness and close supervision. This requires both an evidence base from the current implementation, and an ability to train and retain microscopists at sub-regional levels. CAP-M should prioritize D3+ follow-up activities with VMWs and microscopists, especially supervision and assessment/feedback. Field Staff Coordinators should play a central role in supervising and assessing volunteers and microscopists. Priority activities could be oriented towards assessment of SOP implementation, quality data collection and timely reporting.

Greater effort should be directed to understand and integrate into the larger donor landscape within ARC. This arena is complex and uncoordinated making it difficult for CAP-M to navigate and build partnerships, or to optimally program strategy and implementation. All partners and implementers noted the need to strengthen NMCP capacity to coordinate and orchestrate activities of donors/implementing partners in containment efforts, especially with regard to implementation issues such as rationalizing VMWs placements to address gaps and harmonizing data collection methods, among others. CAP-M should continue to work within the Technical Steering Group (TSG) to build a comprehensive structure for collaboration within Burma, and should make efforts to build community-level connections between project staff and staff from the national health sector and other implementers. Stronger ties to the village-based volunteers from other implementers and the national health system should be prioritized.

CAP-M and USAID need to continue to engage in a broader dialogue around the incorporation of VWMs into the national system. This process will likely require coordination and support from multiple partners, and other implementers with VMWs, MOH, and NMCP.

CAMBODIA - FINDINGS

The CAP-M project in Cambodia has made excellent progress expanding upon the platform from the MCC project, and has continued to contribute to decreases in malaria morbidity and mortality observed throughout the country. The project has also piloted and transferred several important initiatives to the National program.

In both project areas and nationally, there has been a rapid decline in reported morbidity and mortality.^{49, 50} To examine CAP-M programs against the backdrop of national progress, the evaluators compared the rate of change in reported cases per 1000 persons in CAP-M districts vs. non-CAP-M districts for all malaria endemic ODs in Cambodia, aside from three that were implemented in Years 2/3 of CAP-M. This analysis (figure 2) suggests that the while there has been excellent progress nationally, the CAP-M districts have benefited from project activities and have made greater progress in reducing morbidity from malaria (see Annex VII for statistical methods). While this ecological analysis is not without biases, inclusion of all endemic districts and comparison of the rate of change relative to national trends minimizes these and suggests that CAP-M activities have accelerated progress.

⁴⁹ CAP-M Annual Progress Reports

⁵⁰ World Malaria Report, WHO, 2013; Cambodia Malaria Bulletin; Thailand Ministry of Public Health

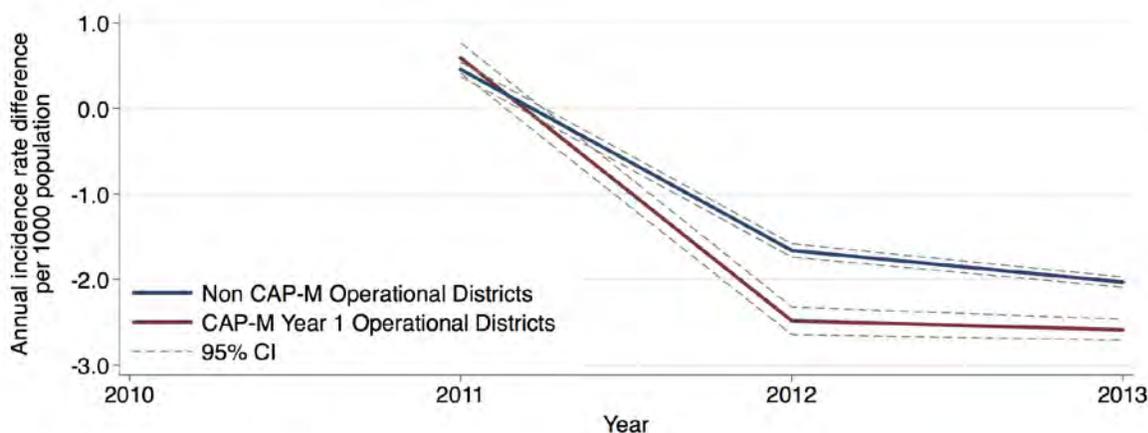


Figure 2. Comparison of change 2010-2013 in reported malaria incidence rate year-to-year between all non-CAP-M OD in Cambodia (n=33) districts and CAP-M districts (n=9) that were implemented in year 1 of the project (HIS data). Note: ODs that implemented CAP-M in year 2/3 (n= 3) have not been included.

CAMBODIA - INTERMEDIATE RESULTS

I. Preventative measures: To what extent is CAP-M on-track to increase the use of preventative measures among at-risk populations?

All visited workplace sites had adequate coverage of LLINs, and self-reported use of nets was high. These observations are supported by CAP-M data⁵¹ and LLIN lending scheme assessment data.⁵² CAP-M distributed 14,900 LLINs and 9,800 LLIHs procured by PMI/DELIVER to health facilities and village volunteers in 9 of the 10 target Operational Districts (ODs). CAP-M also supported the treatment of 39,454 conventional nets in 410 villages in 7 target ODs.⁵³ 93% of migrant workers interviewed owned a mosquito net, of which 90% were an ITN, and of those, utilization (self-reported as sleeping under an ITN the previous night) was reported to be over 98% across the 7 ODs assessed.⁵⁴ However, results were not reported by gender, and there is a potential for reporting bias as target populations might be hesitant to report not using the nets.

Net lending schemes have distributed a significant number of nets to target populations; however, “buy-in” from owners and tracking of nets within sites are both very limited. In 2012, CAP-M together with the MOH distributed 139,962 LLINs to 11,650 farm owners; in 2013, 207 farm owners were interviewed across 8 ODs.⁵⁵ This survey found that that all owners interviewed were very satisfied with the LLIN scheme because they received free nets, which would protect their workers from malaria. Our interviews with owners were congruent with these results, but we found there was extremely limited interest in purchasing any nets to protect workers. While prior results from the MCC project suggested that the lending scheme leveraged workers and owners to increase LLIN distribution

⁵¹ PMI indicator data reported by URC (Report Period: Oct 2012 - Sept 2013)

⁵² Assessment of LLIN Lending Scheme: Perception on, Access to and Utilization of LLINs among Migrant Workers, 2013

⁵³ Cambodia Annual Progress Report, FY 2013

⁵⁴ Assessment of LLIN Lending Scheme: Perception on, Access to and Utilization of LLINs among Migrant Workers, 2013.

⁵⁵ Assessment of LLIN Lending Scheme: Perception on, Access to and Utilization of LLINs among Migrant Workers, 2013.

and use among targeted populations, many workers brought nets with them and many nets lent were not returned to owners.⁵⁶

A subgrant to Media One for a novel radio call-in show suggests good access to MMPs but there is limited evidence of impact. Media One radio spots targeted areas around Phnom Penh, Battambang and Siem Reap with a call-in show focused on improving malaria knowledge. Assessment of the program suggested improvements in KAP in reported listeners to the program, but these comparisons were made against a comprehensive national survey⁵⁷ with very limited relevance. Moreover the project's main target was MMPs, but only 19% (98/502) of survey respondents were MMPs. There are several inconsistencies that suggest issues with survey design or implementation: among MMPs, 63% reported ever hearing the Media One call-in show, but 56.4% also reported never listening to radio of any type, and only 11.1% reporting liking the project station specifically. And while more than 90% of all respondents identified correctly the mode of malaria transmission suggesting improved KAP,⁵⁸ this number is essentially unchanged from CAP-M baseline data (86%).⁵⁹ A key informant from Media One mentioned that a threat to future programming was a lack of new and diverse malaria-related broadcast material.

Important components of LLIN distributions have not been well addressed. None of the LLINs examined in villages or lending schemes had CAP-M or PMI/USAID hangtags. While this appears to be aligned with CAP-M's role in assisting NMCP in distributing nets from other procurement mechanisms (Global Fund, etc.) there is the potential for greatly complicating any assessments of ITN coverage by CAP-M or other implementers. It was also reported during interviews with MMPs and project staff that distributed nets may be too small and have short lifespans of < 2 years. Project survey data from Mondulkiri also found that among 669 MMPs surveyed, most individuals (83%) preferred net mesh size smaller than Olyset and preferred nets to be higher (70%) and longer (68%) than Olyset; similar values were found among residents in parallel surveys. However, durability was not found to be a major consideration (6%) in these target populations.⁶⁰

CAP-M has piloted several innovative approaches (mass media programs, taxi driver messaging) to target MMPs; however, assessment of coverage or impact has been limited. While there have been no targeted surveys to assess this intervention, from Oct 2012-Sept 2013 a total of 80,358 migrants and 117,061 residents had interactions with the 104 CAP-M supported taxi ambassadors.⁶¹

Where survey data in target populations has been collected, impact on programs has been limited. The feedback loop of survey results and programming is not operating well in many aspects of the project. For example, a program to target school children with BCC campaigns was initiated during the MCC project and evaluated in 2013. It found high levels of correct malaria knowledge and self-reported LLIN usage in 93 schools in Battambang after 5 years of BCC campaigns. However, only 4% of students (63/1569) reported sharing health messages with their families,⁶² and there has been no re-orientation of these efforts in response to these limitations. Further, survey data has not been collected or disseminated to inform PMI reporting.

⁵⁶ Evaluation of the Malaria Control in Cambodia Project, Final Report, Sept 2012

⁵⁷ URC Media One URC Project Evaluation Report, Jan. 2013.

⁵⁸ Cambodia Annual Progress Report, FY 2013

⁵⁹ CAP-Malaria Cambodia Baseline Report, 2012

⁶⁰ Mondulkiri farm worker survey report, 2013.

⁶¹ Cambodia Annual Progress Report, FY 2013 (Table 8)

⁶² Cambodia School-based BCC Evaluation Report, March 2013

2. Diagnosis and treatment: Has the CAP-M community-based approach contributed to increased use of quality diagnostics and treatment?

The CAP-M volunteers (VMWs and MMWs) we assessed were well trained, and highly motivated; it was reported that these workers provide the majority of early diagnosis and appropriate treatment (EDAT) services outside the private sector in many project areas. In several areas (villages and plantations) CAP-M VMWs were cited as the only practical treatment option, especially during the rainy season, with probable decreases in treatment delays. Reductions in morbidity and mortality as a result of high community-based coverage were highlighted by multiple stakeholders as being a critical contribution from CAP-M that has greatly enhanced CNM's efforts.

CAP-M supported antenatal clinic (ANC) malaria screening (microscopy and RDTs) together with health education in 16 health facilities (HFs) and 3 ODs in 2013.⁶³ Efforts resulted in screening over 4,300 pregnant women, of which 36 were malaria positive. It was reported that these numbers accounted for a large number of overall cases diagnosed in these ODs, as CAP-M is the primary malaria services provider.

CAP-M has made important progress in expanding EDAT services, but D3+ procedures need strengthening. Basic microscopy training for CAP-M staff, and refresher training of NMCP staff by CAP-M have greatly increased the availability of high-quality microscopy at the HF level. Health facility microscopists were well trained and had sufficient numbers of slides per month to retain skill.

The “intensified case management” intervention strategy for D3+ response was expanded to 10 HFs, of which four are zone I areas in Battambang, covering 119 villages and involving 205 VMWs.⁶⁴ In 2013, CAP-M supported a 3-5 day case management training course for VMWs (55; 34 male and 31 female) and HF staff (9; 4 male and 5 female).⁶⁵ The total interventions in communities with D3+ cases (30 of 30 enrolled index cases from January-October 2013, or 100% followup)^{66, 67} resulted in screening 1,015 people to identify 28 positive cases. While this represents substantial effort, it is possible these 28 cases (2.7%) may carry resistant parasites, and therefore these activities directly support ARC efforts.

While processes and training for DOT and D3+ follow-up at the community-level appear to be well planned at the sites visited, the subsequent supervision, data validation and interventions for post-D3+ cases (HF and OD responsibility) need strengthening.

D3+ follow-up activities were not initiated in all cases as per the SOP at one of the visited project sites, in the start-up phase. Additionally, staff members at several health centers (HCs) were unclear about what part of the response was CAP-M/HC responsibility, and what was under CNM control. Discussions with CNM staff at OD and provincial levels also indicated unclear reporting structures and responsibility.

Supervisory follow-ups from the HF staff were not completed at all sites visited, and the number of losses to follow-up is extensive: of 15 cases that were D3+ in Tier I areas from Oct 2012 to March 2013, eight moved from the area and were lost to follow-up at Day 7 (53%; 95% CI: 27 to 79%). Of these, 12 were residents and 3 were MMPs; 5 were women, and there were no children under 5.⁶⁸

⁶³ Cambodia Annual Progress Report, FY 2013

⁶⁴ Intensified Case Management of *Pf* Malaria at Health Facility-Community, Annual Report, October '12-September '13.

⁶⁵ Cambodia Annual Progress Report, FY 2013

⁶⁶ CAP-M Day 3+ Follow up records, 2012-2013

⁶⁷ CAP-M Mid-term Evaluation Presentation

⁶⁸ Cambodia Annual Progress Report, FY 2013

Other issues. CAP-M activities to strengthen the NMCP's Public Private Mix (PPM) strategy, which began as part of the MCC strategy in Pailin, have been limited to advocacy at the national level, and training private health care providers in appropriate and relevant malaria control and prevention including technical guidance on clinical symptoms for suspected malaria and case referral cases related issues.⁶⁹ Only 29% of patients referred from private providers (PPs) were reported to have shown up at their referral destinations, and PPs paid less attention to PPM work because they were more concerned with their own businesses.⁷⁰

At the two sites visited with microscopy, the total blood slides read per month were ~20/70 and ~70/200 for the dry/rainy seasons respectively. There were QA/QC programs in place, with well-logged supervisory visits that included slide-checking, and microscopists appeared well-trained and reported no issues with equipment or consumables. While the slides collected from VMW for D3+ were reported to be generally "very poor" these were reported to be readable. The microscopists reported that VMRs with poor slide quality were retrained on the spot, but with limited regular usage this may have limited impact.

At 5 of 6 sites visited having VMWs, midwives or microscopists, RDTs were found to expire within a month from last VMW meeting (4/2014). Additionally, near-stockouts of RDTs and ACTs (1-2 each) were found at a single community site.

3. Design and management: How optimal are the design and management arrangements for achieving Project objectives?

The CAP-M Cooperative Agreement is managed by the URC Chief of Party (COP) from the Cambodia CAP-M office in Phnom Penh; the Cambodian office manages both the Cambodia and Regional components. The senior staff is highly competent with extensive experience implementing malaria program activities.

Overall day-to-day management appeared to be conducted very efficiently. The primary weakness in program management has resulted from the lack of a well-designed M&E plan and a lack of a Performance Management Plan (PMP). These two tools are critical for effective program management and were delineated within the counter-signed Cooperative Agreement as key documents that should be produced rapidly after signing: "The M&E Plan will also be finalized within 90 days of the award. The PMP will be set up to track project performance against key indicators that are measurable qualitatively and/or quantitatively."⁷¹ Without these agreed upon implementation tools, there will be a continued inability to monitor performance regardless of how strong the management team and structure are.

URC has fulfilled the Cooperative Agreement's requirements of submitting annual and semi-annual work plans to USAID and while URC reported on progress to date, sufficient reporting of benchmarks achieved and targets met are lacking. And while it appears that during the startup phase, the COP was in close contact with the USAID Agreement Officer's Technical Representative (AOTR) to discuss project strategies and plans through an ongoing technical dialogue, it is unclear to the evaluators if this has been maintained.

Multiple activities that appear in budgeted work plans have not been implemented. These include diverse components like genotyping by Institut Pasteur, mapping of D3+ cases, G6PD testing,

⁶⁹ CAP-M Semi-annual Report, 2012

⁷⁰ Cambodia Annual Progress Report, FY 2013

⁷¹ Cooperative Agreement No.AID-486-A-12-00001 - "Greater Mekong Sub-Region Malaria Control Project"

comprehensive gender analysis, rollout of a taxi voucher system, and exploratory meetings with authorities from Lao PDR and Vietnam. The primary constraint appeared to be a large number of competing responsibilities on the part of the scientific leadership. It was reported that at least some of these activities were removed from the work plans by agreement with the AOR, but these changes were not documented or justified.

4. Strategic information: To what extent has the Strategic Information generated by the Project been used?

There is limited indication that SI generated within the project has been used to inform or improve project implementation. Some surveys or assessments planned in the annual work plans were not done, particularly for preventive measures and diagnosis and treatment services. For example, impact assessments of post D3+ follow-up interventions had not been done, making it difficult to assess mid-term effectiveness or appropriateness. While CAP-M reported that they have regular monthly meetings with OD staff to discuss SI, these data have not routinely been used for decision-making at subnational levels within the project. In a broader view, reports are not always shared with provincial or district-level health departments and other stakeholders, some of whom have supported the data collection. Some documents that need to be available in Khmer have not yet been translated; and conversely many SOPs are only available in Khmer and so we have been unable to assess their completeness.

There are important issues with data collection, aggregation and reporting that have not been comprehensively addressed. Data collection at all levels has significant limitations, and there are important potentials for problems in data aggregation at OD level with limited knowledge, auditing, or training to achieve the highest possible levels of data quality. Discussion with project staff suggested that the process to aggregate data is not well defined or documented in SOPs, and there was no consideration of any potential problems or any set processes to rectify discrepancies.

Within project reports, there was room for polishing of grammar and language, and some of the analyses and data reporting could be refined, and there is generally no consideration of potential biases in data. While many of these issues were also identified in the Dec 2013 data quality assessment⁷² and have been addressed in the year 3 work plan, a comprehensive framework with defined activities and responsibilities to systematically address these issues has yet to appear.

5. Sustainability: What measures/mechanisms have been put into place to achieve sustainability?

The very close linkages between CAP-M project initiatives and the national program are important components towards sustainability. Cooperative development of OD annual operating plans (AOPs) between CAP-M, Cambodia National Malaria program (CNM) and other donors, including Global Fund (GF), through the Provincial Working Groups for Malaria Elimination (PWGME) has strengthened accountability and long-term sustainability for planned activities. CAP-M leadership and supportive roles in the development of AOPs has also strengthened capacity at the OD-level to plan, budget and implement activities. This is particularly important as budgets and activities continue to be decentralized, especially in light of pre-elimination plans. Several other project components (volunteer-led surveys of net coverage) have also been incorporated into NMCP programs and serve to highlight

⁷² CAP-M Data Quality Assessment (DQA) Report, Cambodia, December 2013

these relationships and the opportunities for cross-fertilization of ideas. However, we are unaware of any plans for the national program to implement DOT beyond 2016 when the project ends.

Issues were noted at the community level that have potential to impact long-term sustainability. One VMW commented on a need for new shirts/badges or other official materials to promote standing within community, as shirts presented at the start of project were no longer usable. It was also reported that the reimbursements may not cover all costs related to patient follow-up activities in remote areas. Additionally, one VMW reported having had no refresher training in 3 years, potentially undermining community trust in the VWR's abilities.

The incorporation of CAP-M VMWs into the national system has been discussed, and is an important step towards sustainability. In 2012, CNM reported VMWs in 1,445 villages in 18 provinces⁷³ and CAP-M VMWs were present in 10 ODs of 7 Provinces.⁷⁴ Each CNM village strives to have a VMW team of one male and one female, often a couple where possible, which we observed in at least 2 CAP-M sites visited. The current CAP-M training materials have incorporated or adapted CNM tools and SOPs. However, unlike CAP-M, CNM VMWs' ability to diagnose and treat diarrhea and other types of fever was piloted in 52 villages and is now being expanded to cover 400 villages in 10 provinces. The future incorporation of CAP-M VMWs needs consideration and remains unclear as funding for CNM VMWs ends in 2015 with the expiration of the current GF grants.⁷⁵

CAMBODIA - CONCLUSIONS AND RECOMMENDATIONS

Given the success of the CAP-M community-based efforts, CAP-M should aggressively continue to support and strengthen the VMW/MMW system. This could involve increasing coverage to new unincorporated villages and informal settlements, together with related activities including training and supervision. However, this intensification of effort to harder-to-reach target populations should be based on a realistic consideration of necessary support and supervision staff.

RDMA, CAP-M and CNM should work closely together to rationalize, clarify and come to consensus on priority activities. Specific responsibilities and expectations, particularly regarding DOT, post-D3+ community follow-up interventions, data collection and reporting supervision should be included due to some confusion at field sites about the responsibilities in implementing the intensive D3+ package. This process should also include discussion to streamline and prioritize the work plan in consultation with the AOR.

A main priority should be the implementation of systems and procedures to maximize data quality as regular and routine parts of the project at all project levels. This additionally has large follow-on benefits for sustainability as Cambodia makes a strong commitment to malaria pre-elimination.⁷⁶ The results from the DQA in 2013 should be incorporated in the creation and implementation of actionable policies, and regular DQAs should be conducted throughout the remainder of the grant to inform activities. This should also involve utilizing SI to directly impact decision-making, project activity prioritization, and there should be annual SI reviews to maximize all new data to improve programming.

The lending scheme could be more closely aligned with the realities of working with MMP. If lending itself is problematic, and in consideration of the difficulties in interacting with MMPs, direct distribution might be more suitable for some populations in Cambodia, or more specific targeting to

⁷³ National Malaria Program Review, CNM, 2012

⁷⁴ CAP-M Cambodia Mid-Term Evaluation-7-03-2014

⁷⁵ National Malaria Program Review, CNM, 2012

⁷⁶ The National Strategic Plan for the Elimination of Malaria in the Kingdom of Cambodia, 2011-2025

farm owners with greater buy-in (already under consideration by CAP-M staff). Secondly, as contacts with MMPs are rare opportunities for interventions, net choices for distributions should strongly prioritize user-preferences and net durability over simple coverage if the cost of non-standard nets would limit total distributions.

CAP-M-Cambodia should actively seek technical assistance for editing/writing and data presentation from URC headquarters in Bethesda. The analysis and reporting should be carefully considered, and polished to be at a professional level, taking into account inherent limitations of source data. CAP-M Cambodia should consider submitting all reports to URC HQ in Bethesda prior to submitting to USAID for assistance with analysis and formatting, and for professional editing and proofing to achieve the highest possible professional standards.

With limited Public Private Mix (PPM) success via CAP-M in Cambodia, these efforts could potentially be redirected to other program areas to allow CAP-M to focus on its core areas. While CAP-M has committed to the NMCP to strengthen PPM in several ODs, concrete activities items have not appeared, and these efforts could be directed to core areas including community-based diagnosis and treatment and D3+ activities, particularly at the border areas. CAP-M surveys found that a considerable number of patients (70%) did not show up at their referral destinations after referral from registered private providers (PPs) and PPs paid less attention to PPM work because they were more concerned with their own business interests.⁷⁷

THAILAND- FINDINGS

Large concerted efforts to move the vast majority of direct project activities from CAP-M to national ownership under the Bureau of Vector Borne Diseases (BVBD) occurred during FY 2012. This transfer appears to have been successful, as there has been no disruption of project field activities, and contributes greatly towards sustainability. Currently, the majority of CAP-M project activities in Thailand are focused on TA and support of national programs, with limited support for field activities. Indeed, many project staff and other partners were unaware that any change had taken place, which suggests a seamless transition at field sites.

THAILAND - INTERMEDIATE RESULTS

I. Preventative measures: To what extent is CAP-M on-track to increase the use of preventative measures among at-risk populations?

Net lending schemes in-country have distributed a limited number of nets. In 2013, of 10,000 total LLINs procured for the pilot lending scheme, 1,196 were lent to MMP workers in Chanthaburi and 1,310 in Ranong,⁷⁸ but returns have been limited (~50-70%). As of March 2014, CAP-M enrolled 603 employees covering 8 villages as part of the lending scheme, covering a total of 3,629 people. Most of the plantations where lending schemes have been implemented are very small (with only 1-3 recipient families); the associated administrative and reporting burden of these schemes appears to be substantial. The remaining 8,804 nets not used for the lending scheme were distributed either during World Malaria Day or arbitrarily throughout the four target areas: Ranong, Tak, Chanthaburi and Trat. 100,00 LLINs are earmarked for BVBD are to be distributed to M2 visiting malaria clinics and BMPs/MPs regardless of malaria infection but this is only in the planning stages.

Knowledge of key malaria messages is limited in target populations. There has been some baseline assessment of malaria knowledge attitudes and practices, and prior LLIN and BCC coverage

⁷⁷ Cambodia Annual Progress Report, FY 2013

⁷⁸ CAP-M LLIN lending data, November 2013

among MMPs in Ranong.⁷⁹ The results demonstrated that about 50% of migrants were knowledgeable about the causes of malaria, clinical symptoms, prevention through the use of LLINs, and malaria drug resistance. The same survey found that 86% of migrant workers or their family members with fever sought treatment within 24 hours of fever onset and had limited knowledge of the potential impacts of presumptive treatment. While not analyzed by gender, these data indicate a need for increased malaria education among the highest-risk target groups.

2. Diagnosis and treatment: How has the community-based approach contributed to increased use of quality diagnostics and treatment?

The CAP-M and Strengthening Prevention and Control (SPAC)-Malaria volunteers (VMWs and MMWs) provide limited numbers of EDAT services in project communities. SPAC volunteers provided 5,815 malaria tests and treated 441 malaria cases from twenty-nine MPs and four BMPs in Tak and Ranong and screened 6,012 people and treated twenty-six cases in four targeted provinces from Oct 2012-Sept 2013.⁸⁰ Although malaria clinics exist in Thailand, they are located at the provincial or district levels, whereas CAP-M targets border regions. The average service access totals for CAP-M posts were reported as: 4 Thais and 7 non-Thais per post/ month from June to September 2012; and 6 Thais and 9 non-Thais per post /month from October 2012 to March 2013.⁸¹ It was noted that these limited numbers suggested that IEC/BCC programs should be increased, but no action items have been reported.

CAP-M has facilitated microscopy and entomology training of both national and CAP-M staff. In FY 2012, CAP-M provided technical assistance to train 87 national staff in microscopy and RDT use (both refresher and new), and in FY 2013 trained 30 entomology staff and technical officers. In Year 2, these trainings shifted to SAPC where CAP-M provided technical support for entomology training to 119 staff nation-wide in three training batches.⁸² These activities add capacity to the national program and help to train a cohort of talent in-country to replace staff that have left or retired, a fact highlighted by the BVBD. Blood slides are transferred to the national-level malaria posts for reading; the quality of equipment and staff at the visit site was very good; however, we were unable to assess any QA/QC programs.

3. Design and management: How optimal are the design and management arrangements for achieving Project objectives?

Indicators and work plans from years 1 and 2 have exceedingly limited relevance to current program activities, which are primarily directed towards TA and support. Tangible outputs from CAP-M's TA and support activities are limited, but include, year 1: rapid assessments of malaria situation in Ranong, Trat, Chantaburi and Tak and refresher training on malariology; and year 2: microscopy training. These rapid assessments identified several key gaps for CAP-M to focus on in each target area: 1) Tak: MPs needed in Ta Song Yang district (implemented) and microscopy refresher training course; 2) Trat: mobile malaria clinics needed for active case detection along border areas and malariology refresher training for provincial health care staff; 3) Ranong: MPs needed in Muang district, Kraburi district and La-Un (implemented); 4) Chanthaburi: microscopy refresher training and training on using EpiData for data entry and analysis. There is no record of any implementation for the remainder of these activities.

⁷⁹ CAP-M Migrant Survey Report, September, 2013

⁸⁰ Strengthen on Prevention and Control of Malaria (SPAC-Malaria) Annual Performance Report, 2013

⁸¹ CAP-M Semi-Annual Progress Report April 2013

⁸² Strengthen on Prevention and Control of Malaria (SPAC-Malaria) Annual Performance Report, 2013

Current (2014) output indicators that reflect TA programming include a) number trained in case management and b) number trained in laboratory diagnostics.⁸³ Part of the limited relevance of year 1 and 2 work plans with current activities is due to the transfer of funds (and programming) to the BVBD through the G2G in year 2 of CAP-M.

KI Asia is currently providing managerial and entomology TA to BVBD. Although the relationship from KI Asia's side to BVBD was cooperative, BVBD voiced difficulty in relating professionally sometimes with personnel working with BVBD both from KI Asia and CAP-M. Although the details of the personal difficulties were not voiced, consideration should be given to assessing the personnel requirements of BVBD, allowing BVBD to actively hire staff it needs with support from KI Asia.

The relationships and interfaces between CAP-M and SPAC-M are not clear to many actors within the health sector. While this may not directly affect implementation, it may prove a challenge for CAP-M or partners to define clear activities/outcomes, and may lead to a "blurring" of responsibilities.

The G2G initiative was delayed due to administrative issues, and it was reported to have been a significant administrative/financial reporting burden, but field activities have not been affected. In Y3, this funding mechanism will shift to fund Provincial Health Offices (PHOs) directly. As capacity is limited at even the national level for comprehensive project management, it is expected that the shift to PHOs will require extensive TA from RDMA to assist with financial, management and reporting requirements.

4. Strategic information: To what extent has the Strategic Information generated by the Project been used?

Due to the shift to national programming, there has been limited opportunity for direct use of strategic information by CAP-M within the project. Reports are not always shared with provincial or district-level health departments and other stakeholders, and data flow and feedback from CAP-M has been reported to be "slow" and occasionally "difficult" during some KIIs. Some documents that need to be available in Thai have not yet been translated; within project reports, there was room for polishing of grammar and language, and some of the analyses and data reporting could be refined.

The entomology manual developed by KIA is an important contribution to malaria control in Thailand. The manual was used for training and distributed in March 2014 as part of entomology training conducted by SPAC with assistance from CAP-M but has not been shared with all VBDC nor available for download at either the CAP-M or KI website. Assessing the data quality from VBDC's activities has not been possible and is outside the scope of this evaluation, and we have not been able to access translated reports that were budgeted for KI.

5. Sustainability: What measures/mechanisms have been put into place to achieve sustainability?

The Government-to-Government (G2G) funding mechanism appears to be an important step towards building sustainable programs. In spite of initial slow startup, the program has increased managerial and financial reporting capacity within the public sector, and the decentralized distribution planned for FY 2013 will continue this progress at subnational levels, but will likely require extensive TA.

⁸³ CAP-M Thailand M&E Plan, 2014 (Year 3)

The direct embedding of VMWs within the national system contributes to sustainability.

The incorporation of project activities in direct reporting lines within the national system appears to be working smoothly.

THAILAND - RECOMMENDATIONS

LLINs should be directly available at all BMPs and MPs. While the current system (whereby nets can be requested for later pickup at MPs/BMPs), is fully aligned with national guidelines, the potential for MMPs not returning to pick up these nets should be considered. Stocking of nets at the community-level for immediate distribution to MMPs should be organized if feasible.

The lending scheme model may not be suitable for Thailand and should be more closely aligned with the realities of working with MMP. The number of nets being distributed is quite limited, and the number of families per farm is very small. If lending itself continues to be problematic, and in consideration of the difficulties in interacting with MMPs, nets can be given directly so these efforts could be redirected to other project activities.

CAP-M-Thailand should more actively seek technical assistance for writing/editing and data presentation for reports from URC headquarters in Bethesda. The overall quality of analysis, writing and presentation could be more professional.

Based on local interest and expertise, the vector manual should be translated into English, Burmese and Khmer for regional distribution. This should be considered if there is local interest and technical expertise available, if there is sufficient overlap of vector species, and after appropriate review by expert entomologists.

The largest needs for TA from BVBD are managerial, financial and reporting (organization and grammar/writing support) for the administration of the G2G initiative. It is likely that these challenges will also be present for the new decentralized financial distribution mechanism for FY 2013. Additionally, the need for help to set up rapid and accurate channels for data flow was mentioned, and TA should be provided through KI or other channels to assist BVBD.

REGIONAL PROGRAM - FINDINGS

Several components of Regional budgeted work plans have not been implemented, and rationale for these changes does not appear in project documents. Examples include needs assessment and expansion of activities along Vietnam and Lao PDR border areas, generation of library of BCC/IEC tools available in multiple languages, and performance monitoring and development of relevant tools, and improved data management, which may have limited overlap with overall CAP-M goals. Work plans and progress reports with supporting documents are being rolled out, but gap filling and/or extensive reprogramming of funds as a result of changing priorities through the first half of the project have contributed to difficulties in measuring direct project impact

No strategic information, including progress reports or surveys results, is available on the project website. As of April 2014 there are zero reports available for download at capmalaria.org, and the only IEC components available are a video produced during MCC. However, news updates, including World Malaria Day, are current. There is also an opportunity for refining the grammar and language in some sections. A budget line of \$40,000 USD was approved for creation and updating of this resource. CAP-M Cambodia reported that all reports and SOPs were available in the CAP-M web base (www.khmerreal.com) but only authorized persons have access; Cambodia specific charts were available on the site but the team was unable to verify that region-wide data was available. While the function of the website may not be specifically for dissemination of resources, it represents a missed opportunity to a) highlight CAP-M contributions and b) potentially rectify lapses in reporting. For an example, see the <http://www.cap-tb.org/>.

Several important stakeholders have not been included in Twin Cities meetings. Several KIs suggested the inclusion of a broader range of organizations working in border areas, including police, military, and border guards. While Thailand has implemented comprehensive guidelines related to migrant status issues, important barriers remain.⁸⁴

While Twin Cities projects should be highlighted as an important initiative pioneered by CAP-M, progress on cross-border activities has been limited to coordinated meetings, bilingual signs, and piloting of cross-border follow-up cards. Despite improvements in coverage (4 malaria posts in Burma, and 29 in Thailand) data suggest that only a small proportion of border migrant workers have been reached due to very limited access to services and other constraints such as financial, linguistic and migratory status.^{85, 86} However, CAP-M is the only implementer focused on concrete cross-border activities at the sub-national level. Cross-border meetings have set the stage for developing bilingual materials and data sharing, and there has been significant work to optimize and install bilingual signage at border posts. Site visits to two border crossing areas revealed well made and easy to spot bilingual signage in appropriate local languages (Thai/Myanmar) with basic BCC messaging and maps to nearby MPs and BMPs.

The LLIN lending scheme has limitations and may not be a well-targeted intervention. The lending scheme was pioneered in Cambodia during the MCC project, and has had much more “momentum” there in comparison to Burma and Thailand. Strategic information gathered in 2013 from Cambodia LLIN monitoring activities, including two trainings with over 40 VMWs from over 40 villages and a number of OD and HF staff, highlighted weak management of the lending scheme by many farm owners, including lack of record keeping, and a lack of accountability in some LLIN buffer stocks.⁸⁷ The monitoring tool/activity developed by CAP-M was designed to assess farm owners’ management and lending procedures as well as monitor workers’ knowledge of malaria and to assesses any difficulties in borrowing from farm owners. While these assessments have been most consistently done in Cambodia--measuring percentage of nets lost, broken and useable--as a result of the activity being done as part of MCC, assessments have not been done (or to a very limited degree) in Burma or Thailand.

However, self-reported ITN usage was found to be very high (92%) among surveyed migrant workers. Although there is potential for social response bias in this survey as MMPs might feel pressure to respond with the “correct” answer, these data suggest that consideration should be given for direct distribution over a lending scheme, even in Cambodia where the scheme is more established.

In contrast to the lending scheme in Cambodia, monitoring activities or trainings for the lending scheme have not been done in Burma or Thailand. High managerial burden and low cost of ITNs, however, together with observations of limited accountability by farm owners, suggest this intervention may not be well aligned in these settings.

Direct distribution might be more suitable for highly marginalized populations, or more specific targeting to farm owners with greater buy-in (already under consideration by CAP-M staff). Finally, as any contacts with MMPs are rare opportunities for interventions, net choices for distributions should strongly prioritize user-preferences and net durability over maximizing simple coverage.

⁸⁴ Migration and Malaria: Knowledge, Beliefs and Practices Among Migrants in Border Provinces of Thailand. International Organization for Migration, 2012.

⁸⁵ Migration and Malaria: Knowledge, Beliefs and Practices Among Migrants in Border Provinces of Thailand. International Organization for Migration, 2012.

⁸⁶ Mekong Malaria Report III, Malaria Situation in the GMS, Chapter 2, pg. 51.

⁸⁷ CAP-M Annual Progress Report FY 2012 (October 2011 - September 2012)

A pilot activity to use bilingual cards for cross-border patient follow up, while novel, has made very limited progress. The Pailin-Chanthaburi border-crossing site first piloted bilingual patient cards to improve MMP follow-up efforts. In fourth quarter 2013, 3 HFs in Chanthaburi issued 16 bilingual patient appointment cards and 4 cases were diagnosed at HFs different than follow up.⁸⁸ Most patients did not complete day-28 follow-up, and some cross-border cards needed to be re-issued. Project records for Chanthaburi-Pailin pair appear to show a total of 22 cross-border cards have been issued with a single one returned. Reports have suggested significant disincentives for patients to follow-up, including limited transportation, limited support from employers, as well as communication and migrant status issues.^{89, 90} This activity should be suspended until CAP-M better understands how to monitor MMPs.

Limited regional trainings have been completed, with none for microscopy or entomology. Joint training sessions on surveillance and rapid response team (SRRT) were conducted for Kawthoung-Ranong, Myawaddy-Mae Sot, and Tachilek-Mae Sai in May, June, and July 2013, respectively and funded by TICA. Follow up to these recommendations to define outbreak classification has not been completed, limiting the ability of training teams to respond. An entomology survey is being implemented by SPAC but trainings have not been done. Furthermore, while a trilateral partnership on cross-border health between TICA, USAID and Burma MOH may serve as a useful platform to employ cooperative activities, no additional progress has been reported to date.⁹¹ Training activities have included refresher RDT sessions for all 10 malaria screening posts along the border districts of Pongnamron and Pailin on card use and data collection; however, no microscopy trainings and entomology studies have been reported.

OVERALL CAP-M CONCLUSIONS AND RECOMMENDATIONS

Through the mid-term, the CAP-M team has not implemented activities based on a consistent M&E plan or strategic framework having static targets; all parties should actively and comprehensively address this. If implementation continues without well-defined and practically measurable targets, it will prove exceedingly challenging to determine success for the final evaluation in 2016. Therefore, it is critical to immediately solidify indicators and expected outputs with targets for the next two-year term (based on the first two-year term) and implement based on an agreed upon M&E plan. The Cooperative Agreement RFA states that a final performance report must state “details of current progress achieved towards objectives, keyed to project indicators and targets, mid-term milestones/benchmarks, and end of project results referencing baselines detailed in M&E plan.”⁹² These issues have been directly addressed in the three country-specific M&E plans,⁹³ but close attention should be directed towards fidelity of implementation.

The data collection/reporting strategy and specific indicators are not aligned with operational realities and present many significant challenges, and should be comprehensively re-evaluated. Multiple sets of indicators were developed over the course of the first two years, and the current indicators may still not be fully aligned with the realities of data

⁸⁸ Twin city cross-border collaborations on malaria control and prevention between Cambodia-Pailin and Thailand-Chanthaburi, March 2014

⁸⁹ Migration and Malaria: Knowledge, Beliefs and Practices Among Migrants in Border Provinces of Thailand. International Organization for Migration, pg. 29, 2012.

⁹⁰ Mekong Malaria Report III, Malaria Situation in the GMS, Chapter 2, pg. 51.

⁹¹ CAP-M Semi-Annual Progress Report March, 2013.

⁹² Cooperative Agreement No.AID-486-A-12-00001, “Greater Mekong Sub-Region Malaria Control Project”

⁹³ Monitoring and Evaluation Plans (M&E Plans), Burma; Cambodia; Thailand, February 2014.

(especially in Burma), and have presented major challenges for project staff both in terms of collecting the necessary data as well as time-consuming re-analyses. All data have costs associated with collection; the cost-benefit ratio should be considered in all future indicators, with a focus on data that have direct relevance for programming.

Extensive and unresolvable discrepancies were observed between the annual work plans and project performance reports; details behind this reprogramming should be documented and justified. For example, gender mainstreaming trainings were planned for both FY 2012 and FY 2013 (36 and 50 staff, respectively in Burma) neither of which has been done. The disconnect between planned and implemented activities makes an assessment of progress towards targets exceedingly difficult, and the rationale behind these changes are not clear. There should be strategic thinking on creating of realistic indicators and targets to ensure that this trend of constant realignment can be avoided in the second half of the grant. Regarding planned activities that have not been implemented, URC should rapidly, in consultation with RDMA, re-visit activities that were unmet, and clearly document in the upcoming semi-annual report the reasons these activities were not implemented. This should be followed by a discussion how they will ensure that expected outcomes will be met within the agreed timeframes.

The project has also been limited by poorly defined strategies and goals directed towards MMPs, which are a highly diverse population requiring equally diverse programming. Greater attention should be directed towards surveying and targeting IEC/BCC campaigns towards MMPs beyond those at plantations and farms.

Project documentation including implementation schedules, pilot projects, and special survey reports are very poorly described and catalogued. It has been exceptionally challenging to determine what components have been implemented in which geographic regions, when/where pilot initiatives have been fielded, and what surveys have been conducted due to a lack of any comprehensive project component listing or Gantt-type charts. In several instances we were unaware that an activity had even taken place aside from a chance mention in another report. This scenario was predominantly found in Thailand, and to a much smaller extent in Cambodia and Burma.

The regional structure has had limited impact and should be re-assessed to improve program alignment with the diverse political and epidemiological settings within the three countries. While the cross-border and twin cities components are important first steps that are critical to address the porous border areas, they have had limited impact to date. A work plan to address regional components was produced in 2013,⁹⁴ but indicators are undecided, and many of the planned activities (development of novel BCC materials, updating the website) have had limited completion to date. It was reported that some mapping of border posts has been completed, but as the online maps are “locked” we were unable to verify coverage. However, multiple KIs reported that these had not been used by any of their staff to inform response or programming.

The evaluation team suggests the possibility for three separate bilateral programs, with a full-time roving regional coordinator to actively liaise, coordinate and focus on regional aspects. This would also free the scientific leadership in each country to focus on implementing country-specific programming at the highest possible level of evidence, especially the community-based D3+ follow-up activities if ARC remains the key focus of the project.

The cross-border and twin-cities programs should continue regardless of the project administrative structure, but could be re-focused to provide more concrete outcomes. The use of the standardized

⁹⁴ CAP-M Project Year 3 Work Plan Inter-Country Activities, Sept. 2013

Mekong Basin Disease Surveillance (MBDS) forms is an important development, but will have limited impact unless these data are available and utilized.

The regional TSG within CAP-M should remain intact and expand to include other malaria partners. If direct regional programs are re-oriented, it would provide an important opportunity to test the sustainability of the current structure for continued collaborations at the local level.

Cross-border use of bilingual patient cards should be closely monitored and evaluated (currently in planning, Mar. 2014), as initial reporting suggests poor uptake and limited usage across borders. Preliminary data suggest that many of the cards distributed are lost and need to be re-issued, and follow up past the 3-day DOT is limited.⁹⁵ This activity should be prioritized to rapidly assess the feasibility of the system and redesign or reconsider if needed.

A broader range of stakeholders should be invited to participate in Twin Cities meetings. To more effectively direct cross-border and twin cities initiatives towards practical outcomes, border control entities including immigration officials, police, military and border guard representatives should be invited and encouraged to regularly attend the scheduled bi-annual border crossing meetings, where politically feasible.

A comprehensive assessment of gender activities and opportunities to incorporate gender perspectives into activities, data collection and analyses needs to be done. URC proposed in the Cooperative Agreement that the project's "M&E strategy includes continuous monitoring of how interventions are affecting women and men differently through sex-disaggregated data, through gender-specific indicators, and by using attitudinal indicators on the status of women. Our [URC's] initial gender analysis will identify specific barriers to utilizing health services that are experienced by women, men, and cross-gender populations. Based on the research, specific communication approaches will be tailored to provide the information that is needed in a manner that encourages behavior change." However, a gender analysis has not yet been done.

TO USAID/RDMA/PMI

There should be reconsideration about the assumption that CAP-M can provide a robust evidence base during highly flexible implementation. The project to date has been hampered by two competing mandates: for the project to fill gaps for national programs, and to provide a robust evidence-base to allow implementation of project elements in other areas. The compatibility of these approaches and, moreover, a realistic consideration within the inherent data quality issues for MMP, should be considered. At a minimum, pilot projects should develop clear and well-defined targets at the planning stages with a rigorous evaluation completed at the end of pilot implementation.

Discussion with other health programs within USAID with experience in hard-to-access populations (e.g., HIV, sex workers, MSMs) should be considered to explore other program options beyond the Migrant Health Conference in 2014. Stronger ties should be created to technical staff within other USAID departments with programmatic experience in hard-to-reach populations (HIV/AIDS, migration, etc.).

⁹⁵ Chanthaburi-Pailin Cross-border Meeting Report, March 4, 2014

Finally, the importance of pragmatic studies should be considered, where “lessons learned” could be as informative for future programming as quantitative indicators which may prove illusive in the current context.

CAP-M has requested clear and direct/decisive guidance from RDMA for creating an appropriate M&E plan with standardized indicators and targets. A comprehensive working group should be convened to design indicators that are a) practically implementable for country-specific use b) realistic for fluid populations and c) which capture important data that will be immediately useful for future project initiatives. At a minimum, refining output level indicators may be suitable, and should include collection of urban and rural in addition to gender disaggregation. The use of standard PMI indicators should be discussed in the context of the very different epidemiology of malaria in SE Asia, and in consideration that these were not included in the RFA.

Capability and systems to both produce data of the highest possible quality and to conduct subsequent analysis are limited and need to be strengthened. CAP-M should consider sponsoring dedicated training courses for CAP-M regional staff in data management and analysis using appropriate tools (databases and statistical software as opposed to MS Excel). Other regional URC projects could also be included to maximize efficiencies.

Clear and realistic objectives for the project should be defined, taking into account the unique epidemiology and target populations within the border regions. This process should include stakeholders from regional ARC programs, and well as other implementers to define a niche for PMI initiatives beyond the current implementation.

TO CAP-M AND IMPLEMENTING PARTNERS

I. Preventative measures

While novel, the inherent limitations and high staff input to monitor the lending schemes plus the limited results so far, suggest that these should be de-prioritized and shifted towards mass distributions supported with IEC/BCC. While there are implicit tensions in provision of LLINs to the private sector, these contacts represent an important opportunity to target high-risk populations and should be maximized. The lending scheme may not be the most appropriate strategy in all settings, and these interventions could be reprogrammed towards simple distribution unless new mechanisms can be found to increase buy-in and accountability from plantation owners.

Project efforts could then be shifted to working with other partners a) to implement rigorous qualitative and quantitative research to more fully understand the needs of target populations and b) design and evaluate more targeted BCC/IEC materials.

The very high turnover of MMPs at plantations, a key rationale for the lending schemes, suggests that if simple distribution replaces lending, then a similar timeframe should define who is given LLINs. Additionally, all IEC/BCC campaigns should be repeated on an equally regular basis to account for this turnover; this should be incorporated into both programs and assessments.

Additionally there could be greater exploration of other preventative measures for outdoor biting (clothing, topical repellents, etc.); however the evidence-base for these interventions is very limited.^{96, 97}

2. Diagnosis and treatment

The project is currently focusing on resident populations and migrants at plantations/farms. While these are critically important activities, more work should be considered to capture less-accessible populations, where feasible. While work within and indicators for these populations are even more challenging than current programs, these MMPs represent a large, highly underserved parasite reservoir.^{98, 99} CAP-M's focus within the national health programs and close linkages with field sites could make these initiatives feasible. Additionally, these would provide data on poorly understood populations to allow more comprehensive future programs, and would add a distinctive element to CAP-M programs.

Consideration of gender and vulnerable populations should be emphasized in all programming. Although the majority of MMPs laborers are male, there are many family members who travel as well and that are at-risk due to daily habits and activities. Studies have suggested that Burmese women are at equal risk of malaria exposure due to leisure and work activities at dawn and at dusk.¹⁰⁰ In addition, some of the migrants crossing the border from Burma into Thailand through forested areas are pregnant women seeking health care services, and pregnant women represent an especially vulnerable population.¹⁰¹

Gender analysis has not been consistently incorporated into the project, and only a subset of reporting disaggregates data. Many of the community-based volunteers are women, and while those interviewed reported few barriers in their work, there has been no consideration of issues women may face in attending meetings or travelling for follow up. A review of these issues among both community volunteers, and target populations should be undertaken so that these issues can be more comprehensively addressed in the second half of the project.

3. Design and management

The very talented and dedicated scientific leadership within the project appear to be overextended with a large range of project management tasks, and should shift these duties to dedicated project management staff. This may be compromising their ability to focus on the key scientific and public health challenges, to form productive linkages with other implementers, and

⁹⁶ Durnez L, Coosemans M (2013) Residual Transmission of Malaria: An Old Issue for New Approaches. In: *Anopheles mosquitoes - New insights into malaria vectors*. Manguin S, editor. InTech. <http://dx.doi.org/10.5772/55925>

⁹⁷ Chen-Hussey V, Carneiro I, Keomanila H, Gray R, Bannavong S, et al. (2013) Can Topical Insect Repellents Reduce Malaria? A Cluster-Randomised Controlled Trial of the Insect Repellent *N,N*-diethyl-*m*-toluamide (DEET) in Lao PDR. *PLoS ONE* 8: e70664. doi:10.1371/journal.pone.0070664.

⁹⁸ Cui L, Yan G, Sattabongkot J, Cao Y, Chen B, et al. (2012) Malaria in the Greater Mekong Sub-region: Heterogeneity and complexity. *Acta Tropica* 121: 227–239.

⁹⁹ Kritsiruwuthinan K, Ngrenngarmert W.; Molecular screening of *Plasmodium* infections among migrant workers in Thailand. *J Vector Borne Dis*. 2011, 48(4):214-8.

¹⁰⁰ Tin-Oo P et al. Gender, mosquitoes and malaria: implications for community development programmes in Laputta, Myanmar. *Southeast Asian Journal of Tropical Medicine and Public Health*, 32(3):588-594.

¹⁰¹ Roll Back Malaria. Malaria in Pregnancy: RBM Infosheet #4.

to develop and pilot novel interventions. Dedicated project management staff should be hired to direct the minutiae of daily implementation to free up scientific leadership for the “bigger” challenges.

There should be stronger efforts to liaise and align program activities with other implementers involved in ARC and community-based volunteer programs. This is a critical component to avoid duplication of efforts and sharing of best practices and “lessons from the field” towards ARC; and to build broad-based health linkages between volunteers with diverse treatment focuses towards comprehensive primary health care.

Baseline surveys, and rigorous assessments of project activities should be implemented in a strategic manner and on a regular basis within the project if the focus remains on providing an evidence base. For example, in Burma and Cambodia, baseline surveys or rapid assessments in new or expanding areas of Project implementation are needed, whereas in Cambodia and Thailand, efforts to improve assessment of ongoing activities, such as taxi ambassadors, D3+ follow-up and community interventions, LLIN lending schemes and entomology, are recommended in order to provide strategic information.

4. Strategic information

Capture, quality, availability, and use of strategic information should become a main focus for all future work within the project. While there is an excellent focus on data quality at the community-worker level, this focus should be expanded to all levels of the project, with a critical eye for where slippages could occur. DQAs should be implemented on a regular basis at all levels of the project, with a goal of supporting staff to make creation of high quality data as simple and easy as possible. As countries move sub-regions toward elimination status these issues will become more and more critical. Greater consideration should be directed towards the identification and collection of the key strategic information that is crucial for project improvements.

The current status of reporting, organizing and disseminating project documents should be wholly redesigned. All reports should be numbered with an identifier, i.e., “CAP-M Burma 2014, document 10,” appropriately titled, dated, and should include contact information. Formatting should also be standardized where possible.

The website, a critical element for dissemination of results and data both within and outside of the project, should be updated on a regular basis. In its current state, it is not fulfilling this role, and should be rapidly updated and/or wholly revamped if needed, to allow rapid and easy access to work plans, annual reports, and survey results for all stakeholders in a professional manner. The site should allow sharing of protocols, and design elements of surveys and studies, as well as facilitate comparing/contrasting results across epidemiological settings.

5. Sustainability

The large and important gains made by the project should be built upon to create a cohort of trained and motivated public health specialists within each country and the region. Systems to ensure retention of these trained staff in the health sector should be explored. While this is a major initiative across all health systems and outside direct project control, CAP-M should continue to advocate and dialogue with national health authorities to work towards the development of sustainable solutions.

Novel mechanisms for public-private funding should be explored. There has been extensive work within the project to connect with international corporations (large plantations; the Deep Sea Port program in Burma, etc.) and these activities should be continued and expanded.

ACTION ITEMS TO BE EXPLORED

The following are suggestions for major new project components with potential to address some of the limitations in current CAP-M initiatives. Some are activities that have been implemented in other settings, and others are novel programs that the evaluators believe could begin to address limitations with current CAP-M implementation.

Deploy bilateral test-and-treat teams (BTATTs). This novel activity would develop and deploy mobile teams consisting of health staff from both countries with all necessary travel permits and MOUs for each side of international borders with a mandate to travel widely in border areas to screen, distribute LLINs, and BCC/IEC materials to highly mobile and otherwise unreachable segments of the mobile and migrant populations. This would allow concrete and regular outcomes from cross-border activities, and address underserved populations, but any activities should be harmonized with the broader ARC framework.

Consider use of capture-recapture methods. These studies could produce more accurate estimates of MMPs in project areas, potentially using specifically tagged LLINs.¹⁰² This would allow assessments of coverage for project activities, as well potentially allow targeting of sub-regions with largest MMPs in consultation with RDMA and the project AOR.

Consider “mystery shopper” methods to explore limitations in the use of cross-border treatment follow-up cards. Use of MMP volunteers could potentially identify addressable problems in cross-border follow-up activities. This could potentially identify modifiable facility-level barriers to greater usage of the cross-border cards.

“Saturate” easily reachable M1 and M2 populations with LLINs and appropriate IEC/BCC messaging, and shift efforts to harder-to-reach populations. Utilize the relative ease of access to the documented populations at plantations to distribute LLINs that prioritize user preferences and appropriate messages. Project energies could then be focused to contacting and gaining better understanding of the harder-to-reach populations.

Explore development of a simple SMS system that allows MMPs to find the location of the nearest treatment facility, and to connect with VMWs across international borders. While the technical challenges could be significant, this system could allow one-time contact with MMPs to be expanded into longer linkages and facilitate follow-up to day 28.

Consider the means by which the project will measure impact and ensure sustainability through 2016.

¹⁰² Van Hest R, Grant A, Abubakar I (2011) Quality assessment of capture–recapture studies in resource-limited countries. *Tropical Medicine & International Health* 16: 1019–1041.

ANNEXES

ANNEX I: EVALUATION STATEMENT OF WORK

Statement of Work for Mid-Term Project Performance Evaluation of the Control and Prevention of Malaria (CAP-Malaria) Project

I. PROJECT TO BE EVALUATED

Cooperative Agreement No. AID-486-A-12-0001 Titled “**Control and Prevention of Malaria**”
Implementing Agency: University Research Co., LLC.

Total Estimated Cost: \$24 million for 5 years Cooperative Agreement contract under Regional Development Mission for Asia

The effective date of this Cooperative Agreement is October 14, 2011 through October 13, 2016.

Sub-partners:

Burma: Save the Children

Thailand: Kenan Institute

Cambodia: None (URC implement directly)

2. PROJECT BACKGROUND

2.1 Context

As the flagship project of the President’s Malaria Initiative (PMI) in the Greater Mekong Sub-region (GMS), USAID/RDMA, through PMI, is providing funding to The University Research Co., LLC. to implement the Control and Prevention of Malaria Project. The Control and Prevention of Malaria project (“CAP-Malaria” or “Project”) strives for systematic prevention and control of malaria and artemisinin resistant malaria (ARM) in affected regions of Thailand, Cambodia, and Burma, aiming to contain the spread of multi-drug resistant *Plasmodium falciparum* malaria in the GMS.

The CAP-Malaria Project began on October 14, 2011 and will end on October 13, 2016. The Project has planned for a budget of \$24 million over this 5 year period. The University Research Co., LLC. is the prime cooperating agency. The University Research Co., LLC. (URC) leads a consortium of sub-partners. In Thailand, CAP-Malaria’s sub-partner includes the Kenan Institute of Asia. In Burma, sub-partners include the Save the Children, and the Myanmar Medical Association. In Cambodia the Project is implemented by URC itself. The CAP-Malaria Project also collaborates with the National Malaria Control Programs (NMCPs), private sector partners, the World Health Organization, and other international non-governmental organization partners working on malaria control.

2.2 Plan

USAID/RDMA, USAID Burma and Cambodia Missions, through PMI, are providing funding to The University Research Co., LLC. to implement the Control and Prevention of Malaria Project. As stated in the Cooperative Agreement, the CAP-Malaria Project builds on the significant investments of the U.S. government to strengthen efforts to contain the spread of multi-drug resistant *Plasmodium falciparum* malaria in the GMS.

The strategic areas of project implementation include:

- 1) Increase access to proven preventive intervention to reduce the transmission of malaria;
- 2) Improve accessibility and quality of diagnostic and appropriate treatment of malaria at the health facility and community levels;
- 3) Strengthen health system to increase access to strategic information for decision making
- 4) Promote enabling environment for collaborations for improved utilization and management of resources to reduce transmission of drug resistance malaria in the region; and
- 5) Identify best practices and innovative model program for shared lessons learned and for scale-up.

CAP-Malaria's approach emphasizes health systems strengthening (informal and formal system); improving both the content and the process of malaria service delivery; building a unified response that brings together communities at high risk of malaria, public health officials, and the private sector; supporting research to develop and test the most effective ways for preventing and controlling malaria among various high risk groups in each of the three countries and working with national partners to use data in developing their strategic plans, annual operational plans and budgets; and developing a platform for cross-border collaboration.

2.3 Project Implementation

CAP-Malaria focuses on highly endemic areas with evidence of reduced therapeutic efficacy, which, in Burma, Cambodia, and Thailand, are found along the border areas (see map on page 3). It is implemented in Cambodia, Burma, and Thailand. In Cambodia, the CAP-Malaria Project is implemented in Tier 1 and 2 artemisinin resistance containment zones including Pailin, Battambang, Sampov Loun, Banteay Meachey, Oddar Meanchey (each a former target of Malaria Control in Cambodia Project funded by USAID) as well as in four new operational districts including Maung Russey, Sampov Meas, and Sen Monorum.

From October 2013 to September 2014, CAP-M will include four new operational districts: Ratanakiri, Stung Treng, Kratie, and Pravihear. In Burma, CAP-Malaria Project works in Tanintharyi (10 townships), Kayin (5 townships), and Rakhine (7 townships). In Thailand, CAP-Malaria supports activities along the Cambodian-Thai and Burmese-Thai border areas at key twin-city pair areas (Kauthaung-Ranong, Myawaddy-Mae Sot, Pailin-Chanthaburi).

The Project goal: To reduce malaria morbidity and mortality and contain the spread of artemisinin resistance in the GMS.

The specific objectives of the Project include:

- 1) Develop and scale-up cost-effective vector control interventions to prevent the transmission of malaria;
- 2) Improve the quality and effectiveness of diagnosis and treatment of malaria at the community and health facility levels;
- 3) Reduce 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.



CAP- Malaria Results Framework

The Project Overall Strategic Objective (SO), Intermediate Results (IRs) and Outputs are listed below.

SO: Contain the spread of multi-drug resistant *Plasmodium falciparum* malaria in the Greater Mekong Sub-region.

IR1: Use of preventive measures against malaria increased among at-risk population in CAP-Malaria areas.

IR2: Use of quality malaria diagnostic and appropriate treatment increased among patients increased in CAP-Malaria areas.

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

IR4: Malaria control services for mobile population strengthened through interagency and regional collaboration.

3. EVALUATION TYPE, PURPOSE AND KEY QUESTIONS

This mid-term evaluation will be a performance evaluation as defined in the USAID Evaluation Policy (see Annex: Criteria to ensure the quality of the evaluation report). The main purpose is to assess the

Project performance and its progress towards intended results. The evaluation will provide insights and important feedback to each of the partners and stakeholders to understand both the strengths and areas where technical, administrative and management efforts could be improved.

3.1 Purpose of the Mid-Term Evaluation

This mid-term evaluation is being undertaken to analyze the CAP-Malaria Project performance to date and obtain recommendations on improvements needed for the Project to meet its intended purpose. In addition, the evaluation will analyze the value-added by CAP-Malaria to the National Malaria Strategies and organizational capacity building of local health institutions. The evaluation conclusions and recommendations are to be used by the PMI GMS program, RDMA's OPH office and the implementing partner to strengthen Project implementation. It will provide an opportunity to allow for any mid-course adjustments to improve coverage and impact. It will also enable an assessment of the extent to which stakeholders and partners are aware of the Project's objectives and activities as well as how well the Project is coordinated.

The evaluation will be managed by USAID/RDMA in collaboration with the Burma and Cambodia Missions. The report shall be provided to USAID/RDMA for electronic distribution to implementing partners at various levels and key stakeholders in each country. RDMA Office of Public Health (OPH) will be provided with hard copies and an electronic copy of the report. The dissemination strategy will include an electronic copy of the Executive Summary together with the full report on the CAP- Malaria website by URC. A copy of the full report will also be submitted via RDMA OPH and Program Development Office (PDO) to USAID's Development Experience Clearing House (DEC.)

3.2 Evaluation Questions and Methodology

General and specific evaluation questions provide guidance for the overall evaluation and may be incorporated into the five key evaluation questions that are set for this task. The five key evaluation questions relative priority is indicated in percentage terms at the end of each.

Overarching evaluation questions:

1. What has the Project achieved (i.e., what have been the actual results) relative to the expected results and outcomes as stated in the Program Description in the cooperative agreement? The evaluation team should assess evidence of Project coverage, effectiveness of the interventions, efficiency of program delivery and sustainability.
2. Is the Project on-track to meet its targets and objectives?
3. Where has implementation fallen short of achieving expected results and what factors including gaps or shortcomings have constrained Project performance?

Specific evaluation questions:

- 1) **Project performance: To what extent is the CAP-Malaria Project on-track to increase the use of preventive measures against malaria among at-risk populations in Project areas? (relative priority: 20%)**

Data gathering and analysis should include but is not limited to the following:

- The number of beneficiaries who have been reached through prevention activities disaggregated by sex;
- Evidence of impact/effects from this Project's activities, including reductions in malaria morbidity or mortality, or hospitalizations, particularly in Cambodia, following the Malaria Prevention and Control

in Cambodia (MCC) project, implemented by the University Research Co., LLC. (URC) from October 2007 through September 2011;

- Evidence of improved knowledge or/and practices of community members with regard to malaria prevention;
- Effectiveness of behavior change communications (BCC) activities;
- Effectiveness and efficiency of distribution and promotion of Insecticide Treated Bednets (ITNs) to local residents and mobile/migrant populations in endemic areas;
- Gender analysis of uptake of preventive measures by men and women.

Suggested methodological approach: (1) Use data from Performance Monitoring Plan and indicators, work plans, agreements, quarterly and yearly reports, baseline, mid-point surveys and BCC survey reports; (2) Interviews and/or other rapid appraisal methods should be used with country implementing partners and sub-partners; (3) Focus group discussion with community health volunteers and beneficiaries and review of health facility records and data; and (4) Analyze by country and respondent categories (when appropriate, disaggregated by gender) as well as across countries.

2) Project performance: How has the CAP-Malaria community-based approach contributed to increased use of quality malaria diagnostic and treatment practices? (relative priority: 20%)

Data gathering and analysis should include but is not limited to the following:

- The number of beneficiaries who have been reached through treatment activities disaggregated by sex;
- Management of malaria diagnostics and treatment practices at district and provincial health systems, i.e., quality of services, capacity of health care providers, etc.;
 - Case management and referrals for complicated malaria;
 - Quality of diagnosis, treatment and patient follow-up (DOT);
 - Laboratory diagnostics capacity;
 - Community mobilization and training of volunteers, lab technicians, etc.;
 - Monitoring and evaluation for community based management of malaria treatment;
 - Involvement of private health care providers; and
 - Gender analysis of uptake of diagnostics and treatment practices by men and women.

Suggested methodological approach: (1) Use data from Performance Monitoring Plan and indicators, work plans, agreements, quarterly and yearly reports, baseline and mid-point surveys. (2) Use interviews and/or other rapid appraisal methods with country implementing partners and sub-partners, community health volunteers, health facility involved in the Project and a sample of those attending the training. (3) Hold focus group discussions with community health volunteers and beneficiaries (malaria patients) and review health facility records and data. (4) Analyze data by country and respondent categories (when appropriate, disaggregated by gender) as well as across countries.

3) Program design and management: How optimal are the design and management arrangements for achieving Project objectives efficiently and effectively taking into account the differences among the health systems and services in Cambodia, Thailand and Burma? (relative priority: 30%)

Data gathering and analysis should include but is not limited to the following:

- Appropriateness of CAP-Malaria's regional and cross-border strategies to the control of resistant malaria among those at greatest risk;
- Contributions and added value of regional and cross-border strategies to country-specific strategies;

- Appropriateness of country-specific CAP-Malaria's strategies for achieving results;
- Understanding of the goals and objectives of CAP-Malaria Project by stakeholders and development partners such as the NMCPs, The Three Millennium Development Goal Fund (3MDG), World Health Organization, Japan International Cooperation Agency, Thai Ministry of Health, Thailand International Development Cooperation Agency (TICA) and the level of collaboration;
- Support to health system strengthening efforts – directly and indirectly – and coordination with other health initiatives such as tuberculosis (TB) and HIV;
- Coordination with other health projects: Trilateral project (USAID's direct government to government grant (G2G) between United States and Thai governments to provide assistance to a third country (Burma in this case on reducing malaria burden) and TICA's malaria activity), Control and Prevention of Tuberculosis (CAP-TB Project) and Control and Prevention of 3 Diseases Project (CAP-3D);
- The Project's flexibility to adapt both technically and geographically to the continuous changing dynamics of the malaria response, particularly in Burma;
- Management of the technical assistance and capacity building inputs; and
- Identification of local partners and capacity building efforts to enable them to receive direct future funding from USAID.

Suggested methodological approach: (1) Use Project documents including the Project monitoring and evaluation plan and data; (2) Interview country and regional stakeholders, relevant USAID Missions, PMI Headquarter, RDMA, country implementing partners, relevant provincial government authorities and NGO partners; and (3) Interview relevant stakeholders to seek evidence of the relationships and level of engagement with key stakeholders mentioned above in respective countries.

4) Strategic information: To what extent has the Strategic Information generated by the Project been used? Note: Strategic information comprises epidemiological data, monitoring data and research findings that can be used to inform strategic planning, policies and interventions. **(relative priority: 15%)**

Analysis should include but is not limited to the following:

- Entomological studies, net preference studies, baseline surveys and other research;
- Quality of strategic information;
- Use of strategic information, including behavioral change communications assessments/surveys, for project planning by CAP-Malaria and other Project partners;
- Methods for identifying and targeting the most-at-risk populations;
- Monitoring, data collection and management, data quality assurance, reporting design and processes and use of data for programming;
- Ability to collect and report on PMI Mekong and PMP indicators; and
- Gender analysis for programming.

Suggested methodological approach: (1) Review strategic information available data; (2) Interview persons in each country (regional government, implementing partner managers and staff, NGOs and facilities engaged in Project activities; and (3) Analyze data by country and respondent categories (when appropriate, disaggregated by gender) as well as across countries.

5) Sustainability: What measures/mechanisms have been put in place to achieve sustainability? (relative priority: 15%)

Analysis should include but is not limited to the following:

- Activities undertaken to assure sustainability;
- Level of integration of Project activities with existing national malaria priorities and health systems;
- Measures to help ensure country adoption or adaption of the approaches used in implementing the CAP-Malaria activities;
- Ability of implementing partners to leverage other partnerships and resources as a result of CAP-Malaria to implement approaches used in their activities;
- Linkages with country and regional malaria control initiatives such as the Emergency Response to Artemisinin Resistance Initiative, the Global Fund and donor financed projects; and
- Barriers to sustainability and areas where sustainability still needs to be addressed.

Suggested methodological approach: (1) Use existing data from Project documents. (2) Perform interviews and/or other rapid appraisal methods with lead partner, government counterparts at national and regional levels as well as with NGO partners, health facility managers and Project lead staff involved in implementing the CAP-Malaria models. (3) Review national malaria/strategic plans/operational plans and identify areas where the model can better contribute to the achievements of the national objectives.

4. ANALYTICAL FRAMEWORK

The overall analytical framework should include analysis on the relevance of the Project design and interventions to the current malaria situations and provide recommendations on what modifications that may need to be made.

In addition, the Evaluation Team shall include a strategic assessment and analysis to generate ideas and recommendations on future priorities and directions for PMI Mekong RDMA based on findings from the CAP-Malaria Project performance evaluation and additional input from the other stakeholders.

5. GENDER CONSIDERATIONS

The Evaluation Team should identify and address relevant gender inequalities and women's empowerment opportunities and challenges within the Project's areas of implementation. This should also assess the extent to which the Project has been able to clarify gender issues and address them. Recommendations should outline the most significant gender opportunities and challenges that need to be considered during activity implementation and monitoring. Describe how both women and men were engaged in and affected by the work undertaken by URC/the Project; disaggregate by age or other dimensions as appropriate.

The desk review should include a specific gender analysis relating to Project implementation. Where applicable, the data in the evaluation should be disaggregated by gender. The final report should include a gender analysis.

6. TECHNICAL TEAM AND WORK PHASES

6.1 Team composition and leadership:

This Statement of Work (SOW) is for two international consultants (Evaluation Team): 1) a Malaria or Evaluation Specialist who will be the "Team Leader"; and 2) a "Public Health Specialist". Each will have expertise in conducting program evaluations, communicable diseases control and prevention as well as an understanding of drug-resistant malaria control interventions and field experience working with community and public health service delivery programs in Southeast Asia. The Evaluation Team may be supported by a Senior Malaria Adviser from PMI Headquarters and/or USAID staff from RDMA, Burma, and Cambodia Missions, where possible. Each Team member will have writing responsibilities for drafting and finalizing the report. Translation and transportation support services will be arranged by URC in all countries. The Evaluation Team members should have expertise in conducting program

evaluations, and previous work experience with malaria programming, and community-based approaches.

The Evaluation Team Leader will be responsible for overall coordination within the team, to identify essential information sources, detail individual responsibilities, and plan the overall team schedule in consultation with the CAP-Malaria Project Lead/Chief of Party and RDMA. The Evaluation Team will present the findings to PMI Mekong, consolidate feedback and submit a final report to RDMA's OPH. The Team Leader will ensure the quality and timeliness of the deliverables described under Section 6. The Team Leader, will provide the following:

- Preparatory work: Work with the RDMA staff, before the evaluation team members assemble, to refine a plan of action for information gathering, including document review, key informant interviews and site selection.
- Management of field work: Lead the field work process and maintain communications with RDMA.
- Report writing: Ensure quality of the final report by providing an annotated outline of the final report, discussing with team members, assigning writing responsibilities and ensuring timely and quality team contributions.

7. DELIVERABLES

The Evaluation Team Leader will be responsible for coordinating and managing the drafting of deliverables, consolidating the individual contributions, and submitting the drafts and final report. Each evaluation team member will be responsible for contributing to the deliverables and drafting relevant sections of the documents based on his/her expertise and the tasks assigned by the Team Leader. The required deliverables as a joint output for the Evaluation Team are listed below:

1) Evaluation Design, Tools and Work Plan

Two weeks prior to the beginning of the field work and based on their review of the Project documents, resources, sub-partners and Project sites, the Evaluation Team Leader will submit to RDMA OPH a draft work plan for the evaluation, including an analytical framework. In addition, it will submit to the evaluation contracting officer representative (COR) for the evaluation activities a rigorous and appropriate methodology which includes but is not limited to the following for each of the evaluation questions:

- Sub-questions that lead to answering the larger evaluation question;
- Data sources (what existing data and sources to obtain new information.) In instances in which community client input is provided, the Evaluation Team shall propose a feasible plan for sampling;
- Data collection methods (guided by, but not limited to those suggested above);
- Plan for analyzing (a) quantitative and (b) qualitative information. The plan should be based on obtaining country-level analysis and, as applicable, aggregation of data across the countries, and
- Proposed data collection instruments.

The Evaluation Team, led by its Team Leader, will make revisions as necessary based on RDMA comments. Approval for the work plan from the evaluation COR is required before the Evaluation Team commences field work.

2) Outline of the Evaluation Report

An annotated outline of the evaluation report, including sub-sections of the main body of the report, shall be submitted to RDMA for approval by the end of two weeks of field work.

3) Debriefings

Debriefings on findings, preliminary conclusions and recommendations will be provided to USAID/Burma and USAID/Cambodia prior to country departure. Likewise, in each of these countries the Evaluation Team will begin its field work by a meeting with USAID representatives. At the conclusion of the field work, RDMA OPH and representatives from USAID/Burma and USAID/Cambodia will be debriefed on the main evaluation findings, and preliminary conclusions, recommendations and lessons learned. The Evaluation Team will also present a mission-wide debriefing with a focus on findings and recommendations. Guidance on the structure of the presentation can be found in Annex 2. The oral debrief will be accompanied by a written document or powerpoint presentation, with electronic copies provided to the evaluation COR.

4) Draft Evaluation Report

Following the required structure for final reports and addressing comments from debriefings, a draft of the evaluation report will be submitted to RDMA OPH within 10 working days of receipt of written feedback from the final debriefing. The draft evaluation report should also include feedback received from the various debriefings. RDMA will provide written feedback from the debrief to guide the formation of the evaluation report.

5) Revised Draft Evaluation Report

A revised draft evaluation report will be submitted within 5 working days of receiving written comments from RDMA OPH which will coordinate feedback from all offices concerned. The revision will incorporate all feedback provided by RDMA OPH reviewing team, the RDMA Monitoring and Evaluation Working Group, and RDMA PDO. The report should conform to USAID Evaluation Policy “Criteria to Ensure the Quality of The Evaluation Report (see Annex 1).

6) Final Evaluation Report

The Final Evaluation Report will be submitted within 5 working days of receiving comments from RDMA on the Revised Draft. The full report must not exceed 30 pages, excluding appendices.

The structure of the final report should be:

- Executive Summary of the Evaluation, no more than 3 – 5 pages, that concisely states evaluation purpose, methodologies, key findings, conclusions, recommendations, and lessons learned;
- Acknowledgements;
- Acronyms;
- Table of contents;
- Main body of the report: introduction, background and methodology along with a statement related to methodological limitations; findings/conclusions/recommendations on each evaluation question and in general/overall Project conclusions, recommendations and lessons learned and highlight lessons learned;
- References and list of persons contacted; and
- Appendices: at a minimum the appendices will include Evaluation SOW, Final evaluation design and work plan, any statements of differences, all data collection tools, and any other sources of information.

The Team Leader shall ensure that the final report meets USAID required standards for evaluation reports (See ADS 203.3.1.8). This includes but is not limited to specifying that the Contractor is expected to put a high quality photo representative of the Project evaluation on the front cover, with a brief caption on the inside front cover explaining the photo with photographer credit. Permission is required from those in photo/place of photo and photographer to use in a public document. It is imperative that proper ethical procedures be observed in using photos of persons. For additional

guidance on preparing an Evaluation Report, please see the USAID Evaluation How-To Note found at the link: [here](#).

7) Electronic Handover of Data and Records

The Evaluation team will hand over to the Evaluation COR for the evaluation activities any data and records collected by the Evaluation Team (e.g., interview transcripts or summaries) in an electronic file in an easily readable format agreed upon with RDMA. The data should be organized and fully documented for use by those not fully familiar with the Project or evaluation. USAID will retain ownership of all datasets.

8) Submission of the RDMA Approved Report to the DEC

In order for RDMA to submit the report to the Development Experience Clearing house (dec.usaid.gov), the Contractor/Team Leader must provide an electronic copy of the final evaluation report within one month following the debriefing meeting. The RDMA PDO will be responsible for uploading the final version of the evaluation report to the DEC.

8. PERIOD OF PERFORMANCE

Time period for the Evaluation: in/about March 1, 2014 – May 30, 2014.

Payment: First payment of 20% will be made upon submission of the work plan. The final of 80% payment will be made upon approval of the final report.

The overall period of performance of this entire consultant services for the Evaluation Team Leader is expected to require approximately 42 working days over an elapsed 12-week period and the Public Health Specialist is expected to require approximately 38 working days over an elapsed 12-week period. An **illustrative** schedule and time requirement are as follows (exclude Sundays as free time):

Description	Team Leader	Public Health Specialist	Period
	<i>(No. of days)</i>	<i>(No. of days)</i>	
Preparatory phase includes planning meeting (in person or teleconference) with RDMA and reading background documents and first deliverables and revised deliverables.	6	5	Week 1/2
Meeting with RDMA, URC and CDC and flight to Cambodia.	2	2	Week 2
Field work in Cambodia, including data analysis and initial draft report for Cambodia. Travel to Burma.	8	8	Week 2/3
Field work in Burma, including briefing & debriefing with Mission in Burma, data analysis and initial report for Burma section and travel to Thailand.	8	8	Week 4
Field work in Thailand, data analysis and initial report for Thailand section.	7	7	Week 5
Data analysis and report writing.	4	4	Week 6
Debriefing at USAID/RDMA.	1	1	Week 7
Submission of 1 st draft that incorporates feedback from the debriefing.	1	1	Week 7
Respond to USAID and PMI HQ, RDMA comments & finalize the report.	4	2	Week 10
Submission of final report by the end of May 2014.	1	0	Week 12
Total	42	38	

9. RELATIONSHIPS AND RESPONSIBILITIES

Consultant Team Leader

The Team Leader will coordinate and manage the evaluation team and will undertake the following specific responsibilities throughout the assignment:

- Plan and facilitate assessment-related team planning meetings with the other international consultant and USAID evaluation team member(s).
- Be the primary point of contact with URC and RDMA.

The Team Leader who is responsible for ensuring the quality and timeliness of deliverables for USAID will coordinate and manage the Evaluation Team and will undertake the responsibilities described above.

The Public Health Specialist

The Public Health Specialist will assist the Team Leader to ensure that all the required deliverables are completed in a timely manner. She/he will be assigned by the Team Leader the tasks suitable to their expertise and experience to ensure that all evaluation questions have been answered and the Evaluation has been successfully completed.

URC

As the lead for CAP-Malaria, URC will be responsible for the following:

- For each of the three countries, provide for each geographic area a list of names with titles of key partners, facilities, trainees, and community-based organizations engaged in the Project to RDMA to transmit to the Team Leader no later than three weeks prior to commencement of the evaluation;
- Provide an electronic copy of all country-level data, disaggregated by sub-partner, and if available, its catchment areas (sites), to RDMA no later than four weeks prior to commencement of the evaluation;
- Provide to RDMA electronic copies of all semi-annual and annual reports, M&E plans, the latest fiscal year implementation plan, special studies, and other documents on CAP-Malaria, including the gender assessment report, if available;
- Send letters to key partners and sub-partners about the upcoming evaluation; and
- Following guidance from the Team Leader, URC country program staff member set up appointments with the key stakeholders and sub-partners to be visited.
- Provide translation support and in-country transportation support for the Evaluation team.

RDMA OPH

Prior to contracting with Evaluation Team members, RDMA OPH will respond to any queries about the SOW and/or the assignment at large. In addition, to avoid conflicts of interest (COI) or the appearance of a COI, RDMA OPH will review previous employers listed on the CVs for all respondents and obtain additional information regarding potential COI with the Project contractors or NGOs evaluated/assessed and information regarding their affiliates.

RDMA OPH will designate a staff person to serve as the point of contact and a source of technical information about the Project activities.

- RDMA OPH shall serve as the point of contact between URC and the Team Leader prior to the beginning of the field work and after completion of all field work.
- RDMA OPH shall ensure that all documents, files and lists mentioned above are obtained from URC and transmitted to all members of the Evaluation Team in a timely manner.
- RDMA will provide the Evaluation Team with a list of key stakeholders in each country.

- To ensure that the field portion of the evaluation begins as scheduled, RDMA OPH shall provide the Team Leader with comments on the first deliverable within four working days of receipt of the document.

RDMA OPH, USAID/Burma, USAID/Cambodia shall assist the Team Leader with the following:

- Provide guidance on recommended secure hotels and methods of in-country travel (i.e., car rental companies and other means of transportation) and if necessary, identify a person to assist with logistics (i.e., visa letters of invitation etc.).
- Provide timely review of draft/final reports and approval of the deliverables.

10. REQUIRED QUALIFICATIONS AND APPLICATION PROCESS

A consultant bidding on the evaluation should submit a written statement of interest and a CV. He/she should specify clearly the position being applied for. Both Team Leader and the Public Health Specialist should submit a succinct description of the proposed methodology, evaluation design and approach. The proposal should not exceed 7 pages.

Evaluation team members will have different roles and responsibilities as follows

I. Team Leader

The Evaluation Team Leader will have the primary responsibility as point of contact between the team and the USAID Missions (in RDMA, Burma and Cambodia). The Team Leader is also responsible for the overall management and coordination of the Evaluation Team, including detailing individual responsibilities, tracking performance, and ensuring the delivery of high-quality and timely deliverables to USAID.

As the Team Leader, the consultant will:

- Work with the RDMA staff and the team members to finalize evaluation methodology and to refine a plan of action for information gathering, including a document review and key informant interviews, as described in Section 6: Deliverables.
- Work with the Evaluation Team to draft and finalize questionnaires for key information interviews and focus groups.
- Finalize the team's overall schedule in consultation with the CAP-Malaria Project Lead/Chief of Party, as described in Section 6: Deliverables.
- Provide an annotated outline for the final evaluation report, discuss with team members, and assign writing responsibilities; ensure timely and quality team contributions toward the deliverables described under section E.
- Debrief RDMA's Office of Public Health and other USAID staff, consolidate all draft sections from team members, and finalize the report for RDMA.
- Manage the performance of and ensure that deliverables are met for all team members.
- Act as the primary point of contact with USAID and with other key stakeholders, and as the lead communicator when presenting and debriefing on aspects of the evaluation findings. .
- Assume responsibility for the quality and timeliness of all deliverables submitted to USAID throughout the evaluation.
- Plan and facilitate team meetings and briefings with USAID.

The qualifications of the Team Leader should include:

- A graduate or doctorate degree in Public Health, Evaluation, or related field;

- Minimum of ten years of experience in a field related to malaria control and prevention, drug-resistant malaria or public health programming and infectious diseases control and prevention interventions;
- Understanding of malaria and drug-resistant malaria transmission, and prevention, treatment and care strategies;
- Field experience working with malaria control programs;
- Experience working in Southeast Asia;
- Experience managing or participating in infectious diseases focused evaluations;
- Excellent analytical, writing, and presentation skills;
- Experience managing teams, including logistics, planning, and budget management; and
- Experience in undertaking operational research.

II. Public Health Specialist

The Public Health Specialist will assist the Team Leader to draft relevant assigned sections of the Evaluation Report, assist the Team Leader to draft and address comments from USAID on initial and revised draft reports, as well as to prepare presentations for briefing/debriefing with USAID/RDMA and USAID country offices.

The Public Health Specialist should have comprehensive experience in working on communicable diseases control and prevention. Considerable knowledge on and experience in malaria control and prevention, drug-resistant malaria diagnosis, treatment and follow-up will be essential. He/she should be familiar with issues connected with strategic information in relation to planning, programming and policy making. It is particularly important that he/she has “extensive experience in operational research”.

Desired qualifications and skills include:

- Post-graduate qualification, e.g., PhD/Masters in Public Health or related fields;
- Minimum of 5 years of experience in community diseases control and prevention programming;
- Field experience working with community and public health service delivery programs in Southeast Asia;
- Considerable experience in drug-resistant malaria control interventions;
- Knowledge and experience in community disease control and prevention program management, including program monitoring and evaluation;
- Excellent analytical skills focusing on sustainability and feasibility within a non-project context, and excellent writing skills in English; and
- Experience conducting evaluations, preferably with USAID.

Supporting Document for Preparation Work

Necessary supporting documents will be supplied to the evaluation team prior to arrival to RDMA.

ANNEX II: SUMMARY OF PROJECT PROGRESS AT MIDTERM

Note: On-track,¹ Moderate,² Slow³ are defined as below, but represent only a simplified summary. The full report should be consulted for context and contributing factors.

Key Question	Progress	Main Barriers / Challenges Identified
Preventative measures	On-track	Limited physical access; lack of quality morbidity and mortality data to assess trends; lack of BCC assessment; logistical and operational challenges for LLIN distribution.
Diagnosis and treatment	Moderate	Lack of population estimates (national census available soon); insufficient morbidity data to drive targeting of mobile clinics; VMWs lack “in-field” experience for DOT and D3+ FU; limited microscopy coverage; difficulty targeting and tracking high-risk populations (MMPs).
Design and management	Moderate	Too many priorities and lack of coordination; access challenges (MOU related); delayed activity implementation.
Strategic information	Slow	No comprehensive framework for collection or analysis of data; dynamic political situation; limited data sharing among stakeholders; lack of gender delineated data, donor crowding / lack of cooperation and coordination.
Sustainability	Moderate	No process in place to integrate VMWs into national program; no sustained vector control due to lack of data-driven programming; slow progress by sub-grantees; no comprehensive sustainability plan to date.

Annex Table 1: Summary of progress, Burma.

¹ On-track: theme-related activities effectively implemented and objectives likely to be met by project end.

² Moderate: theme-related activities partially/mostly implemented and objectives may be met by project end; theme should be reexamined by CAP-M to ensure intended outcome.

³ Slow: theme-related activities slow to be implemented and intended objectives most likely will not be met if project does not ramp up implementation towards specified theme.

Key Question	Progress	Main Barriers / Challenges Identified
Preventative measures	On-track	Lack of evidence to determine impact of BCC; LLIN preferences not considered; lack of assessment of innovative approaches; survey data demonstrate limited impact.
Diagnosis and treatment	On-track	D3+ follow-up success limited by lack of clear responsibility b/w CAP-M and CNM.
Design and management	Moderate	Lack of clear M&E plan; leadership overburdened with responsibilities.
Strategic information	Slow	Lack of data use to drive programming; some document not translated to Khmer; lack of utilizing URC HQ for polishing USAID reports, lack of gender delineated data.
Sustainability	On-track	Good integration with national program.

Annex Table 2: Summary of progress, Cambodia.

Key Question	Progress	Main Barriers / Challenges Identified
Preventative measures	Moderate	Small project footprint; multi-language challenges for implementation at border areas; lack of key malaria messages in target populations.
Diagnosis and treatment	Moderate	Small project footprint; challenge to track and monitor MMP cases; cross-border collaboration.
Design and management	Moderate	Personnel challenges between sub-grantees and BVBD; misalignment of project work plans and implementation; “blurring” of responsibilities.
Strategic information	Slow	Limited sharing of information between partners, CAP-M and national program.
Sustainability	On-track	Good integration with national program.

Annex Table 3: Summary of progress, Thailand.

Key Question	Progress	Main Barriers / Challenges Identified
Preventative measures	Slow	Cross border activities limited to meetings; lending scheme limitations.
Diagnosis and treatment	Slow	Cross border activities limited to meetings; bi-lingual patient card have very limited reach; challenge of monitoring MMPs.
Design and management	Moderate	Limited rationale for reprogramming of funds.
Strategic information	Slow	Website outdated; important stakeholders not invited to border meetings; data not shared between meetings or utilized.
Sustainability	Slow	No sustainability plan.

Annex Table 4: Summary of progress, Regional.

ANNEX III: DATA COLLECTION INSTRUMENTS

A. Interview Guide for Care Providers

Informant: _____ **Affiliation:** _____

- 1) How long have you been in this position? ___Y or ___M
- 2) What services do you provide to target populations under the Project?
Followup: Estimated caseload / workload?
- 3) How are patients referred to you?
Followup: Are there any challenges in patient referral, DOT, or parasitological followup?
How about networking and feedback mechanisms (both vertical & horizontal)?
- 4) What kind of training(s) did you receive from the Project?
Followup: How often were these sessions? What did you like, and dislike?
Did it help you to do your job better? Why or why not?
How did you apply the knowledge/ skills in your work?
Do you feel comfortable sharing ideas with co-workers?
- 5) What activities were generally implemented as planned?
Followup: What were key factors contributing to such achievements?
- 6) Were there any activities that were usually *not* implemented as planned?
Followup: What were the key obstacles? Stock outs? Quality?
- 7) What were the main difficulties in providing your services to the community members or patients?
Followup: Environmental & contextual barriers? How did you overcome the challenges?
What kind of support/ supervision/ mentoring did you receive?
Were there differences in different sub-populations?
What kinds of changes were implemented to address these issues?
- 8) What positive changes did the Project provide to your community?
Followup: Have any of these changes been sustainable? In what way?
- 9) How about the health service system? What were changes and how they have been sustained?
- 10) What services did the community members/patients requested that you were not providing? Do you provide such services now? If not, why not?
- 11) How did you/your team design the implementation model (or BCC strategies)?
Followup: Who was involved in the design? How were any targets set?
Were your previous experiences and data/information used in the design?
Followup: What is your involvement in the Project M&E?
- 12) How well do you think the implementation model/BCC strategies fit within the local context? What fits or does not fit? Why? Suggestions for improvements?
- 13) In your opinion, were the services effectively implemented? Why/ why not?

Followup: How well do the services meet the needs of each of the different target sub-populations? [Forest exposures, MMPs, women, etc.]

14) Are there any other groups/NGOs providing malaria services within your targeted areas?
Followup: Who are they? What did they do? How/if do you interact with them?
Is there any duplication of services? Do you collaborate/coordinate with them? Have you seen any added value from the collaboration/coordination?

15) What were some outstanding innovations and/or good practices from the Project in your opinion? Why do you consider them as good practices?

16) In your opinion, what would be the best ways to improve effectiveness of malaria prevention and control in your community?

17) Any other issues?

B. Interview Guide for Community Members and Patients

Informant: _____ **Location:** _____

Part I: Personal and Migration Data

1) Sex 2) Age 3) Marital status 4) What do you do for living?

Followup/observe: Living conditions & associated risks to malaria infection.

Do you spend time and/or live in forested areas, farms, or plantations?

5) Where are you from?

Followup: If from outside interview site, have you ever visited your home town since your move here? If so, how often? When was the last time?

Info about migration routes, means, reasons, malaria risks along migration routes

6) How long have you been living in this town?

Part II: Health Condition and Health Service Access

7) Have you ever been sick in the past 12 months (malaria or other)?

Followup: What type(s) of illnesses? When? How did you handle it?

8) Tell me any difficulties you encountered in accessing public health services.

Followup: Distance, money, provider's attitudes, fear of arrest, etc.

9) What kind of improvements would make access to health services easier?

Part III: Malaria Related Knowledge, Awareness and Practices

10) Tell me what you know about malaria. What's it like?

Followup: What causes malaria? How can it be prevented?

Can it be recurrent / relapsed?

11) How did you learn about malaria? How malaria is transmitted? Can it be treated and cured? How?

Who are at higher risk for getting malaria?

12) Have you ever participated in any malaria prevention activities in your current living/working area?

Followup: If yes- What? When? Where? By whom?

If participated more than once, ask about just most recent time.

How much you could understand the contents? What were obstacles?

13) Did you get enough information (or enough good information) to protect yourself and/or your family from malaria? *If no*, what kind of information did you need?

Followup: If you *wanted* to find out more about malaria, where would you look for information? (newspapers, TV, NGOs, health care providers, etc.)

14) Do you know or have heard of any government or NGOs that provide malaria information, prevention and treatment services to people in your community?

Followup: Which ones? How would you get in touch with them?

Do you think you would get in touch with them? Why/or why not?

15) Do you have a bednet/ do you usually sleep under a bed net?

Followup: If yes- How often? What type of net? How about last night? How did you get the net? How many nets do you have for how many family members? How do you share the nets? *If possible*, could you show me the net, and how you use it?

Followup: If you know about malaria transmission & prevention but don't always sleep under your net, what are the obstacles for not using it?

Followup: If do not know about malaria transmission & prevention but usually sleep under a bed net, what's your purpose of using a bednet?

Followup: Do you know about the hammock nets? Have you ever seen it? Do you have it? Whether/how often do you use it? Why/or why not?

Do you believe that it can prevent malaria? Why/ why not?

If possible, please show me the hammock net and how you use it.

16) Did you ever have malaria **before** you moved to this village?

Followup: If yes -When? Where? How many times?

Followup: Treatment including self-medication, mosquito net use.

Did you receive any support? From? How? How long had you been on medication?

If didn't complete medication, why couldn't you? What were the difficulties? (Socio-environmental factors, side effects, etc.)

Who /what helped you to overcome such difficulties?

(VMWs, taxi drivers, health care providers, employers, etc.)

How- Counseling, home visits, transportation support, etc.

Anything in particular that you needed to do while on medication?

Who told you that? How well you could follow?

What was the treatment result? Who told you? Tell me your understanding about it.

Anything you do to avoid getting malaria again?

17) Have you ever got malaria **since** you moved to this village?

Followup: If yes -When? How many times? How did you know that it was malaria (last time)?

How did you handle it (last time)?

(Treatment including self-medication, ITN use.) Any support received? From who? How?

Anything in particular that you needed to do while on medication (last time)? Who told you that?

How well you could follow?

How long had you been on medication (last time)?

If didn't complete medication, why couldn't you? What were the difficulties? (Socio-environmental factors, side effects, etc.) Who /what helped you to overcome such difficulties?

(VMWs, taxi drivers, health care providers, employers, etc.)

How-Counseling, home visit, transportation support, etc.

18) Any ideas to improve prevention or treatment here?

C. Interview Guide for Other Partners/Stakeholders/Project Staff

Informant: _____ **Location:** _____

1) How would you describe your/your organization's role in malaria control in the Project?

Followup: How did you become involved?

2) How would you describe the actual relationship? Was it what you expected?

3) Did you receive any capacity building opportunities?

4) What is your understanding of the purpose of the Project?

5) What are the areas of greatest strength and success of the Project?

Followup: In what ways has the Project been a success?

6) What were the most important contributions of the Project so far?

7) What were the areas where the achievements were most dissatisfactory?

8) Has the Project strengthen the public sector health? What areas? How? Do you see these as sustainable?

9) What is your understanding on the Project's "community-based initiative" concept/model?

Followup: Examples of community-based initiatives the project has implemented. Do you feel these initiative(s) were technically sound? Appropriate for the setting? Were they effectively implemented?

10) What are the key elements of the project that should be prioritized for sustaining if the funding is reduced in the future?

11) What have been the most important lessons learned and good practices?

12) In your opinion, what would be the best way(s) to improve effectiveness of malaria prevention and related services in your community/country?

13) If a similar project is to be designed, what changes would you recommend?

Followup: What should be replicated/modified for future programming? What should be avoided?

ANNEX IV: SOURCES OF INFORMATION

Documents reviewed

CAP-M Project Documents (PMI, USAID, RDMA and URC)

Malaria Operational Plans (MOPS), Work Plans, Budgets and Planned Obligations, PMI Greater Mekong Subregion, FY2011, FY2012, FY2013.

USAID-RDMA-486-11-037-RFA with URC Program Description: Greater Mekong Sub-Region Malaria Control Project. July, 2011.

Mid-term Review of Mekong Malaria Partners Activities FY2010 in the GMS: Activities and Progress Made from Oct 2010 - April 2011, RDMA, April 2011.

Annual Work Plans and Budgets (CAP-M): Burma, Cambodia, Thailand and Regional; FY2012, FY2013, FY2014.

Annual and Semi-annual Progress Reports (CAP-M): Burma, Cambodia, Thailand and Regional; FY2012, FY2013.

Monitoring and Evaluation Plan (CAP-M): Burma, Cambodia and Thailand, FY2014.

Rapid Assessment Reports, Tak, Trat and Ranong, Thailand, URC, 2012.

Data Quality Assessment Report (CAP-M), Cambodia, Dec 2013.

Assessment of LLIN Lending Scheme: Perception on, Access to and Utilization of LLINs among Migrant Workers (CAP-M), October 2013.

Presentations from CAP-M Country Offices, Mid-term Evaluation Briefings, 2014.

Standard Operating Procedure (SOP) CAP-M mHealth, Day 3 Surveillance, 2013.

Evaluation of the Malaria Control in Cambodia Project: Final Report, RDMA, September 2012.

Media One Project Evaluation Report, URC, Jan. 2013.

Cambodia School-based BCC Evaluation Report, March 2013

Strengthen on Prevention and Control of Malaria (SPAC-Malaria) Annual Performance Report, BVBD, Thailand, 2013.

Twin City Cross-border Collaborations on Malaria Control and Prevention, Meeting Reports, 2013-2014.

Migrant Health Needs: Recent Research, Advocacy, and Pilot Interventions, RDMA, February 2013.

PMI Partners Meetings and Twin Cities Meetings Report. URC, 2012-2014.

Monthly Program and Training Reports, URC, 2012-2013.

Partners and Collaborators (SCI, KIA, IOM, MC, PSI, WHO)

Migration and Malaria, Knowledge, Beliefs and Practices among Migrants in Border Provinces of Thailand, IOM, July 2012.

Shafique, M and George, S (2014) Positive deviance: An asset-based approach to improve malaria outcomes www.malariaconsortium.org/learningpapers.

Trends in Malaria Prevalence and Net Coverage: Cambodia 2004-2010, Malaria Consortium Progress Symposium in Asia on 25-26 March in Phnom Penh, Cambodia.

Addressing Vector Control Challenges in Our Region, Malaria Consortium Progress Symposium in Asia on 25-26 March in Phnom Penh, Cambodia.

Cambodia Malaria Surveillance System, Malaria Consortium Progress Symposium in Asia on 25-26 March in Phnom Penh, Cambodia.

Malaria Consortium's Experiences on mHealth in Cambodia, Video:

http://www.malariaconsortium.org/pages/joint_international_tropical_medicine_meeting_bangkok_december_2013.htm

Torre, S et al, Understanding the feasibility and potential impact of screening for asymptomatic malaria in households where a febrile case of malaria has been reported in a malaria elimination setting in Pailin province, Western Cambodia, Malaria Consortium Poster, Malaria Eradication Scientific Alliance. (MC-Cambodia)

Kenan Institute Asia, News Bytes, Online: <http://www.kiasia.org/web/upload/newsbytes/109.pdf>

Private Sector Healthcare - Myanmar: Evidence from the 'Sun' Social Franchise; June 2013.

<http://www.psi.org/resources/research-metrics/publications/child-survival/private-sector-healthcare-myanmar-evidence-su> (PSI-Myanmar)

Aung T, et al, Validation of a New Method for Testing Provider Clinical Quality in Rural Settings in Low- and Middle-Income Countries: The Observed Simulated Patient, PLoS One. 2012; 7(1): e30196. (PSI-Myanmar)

O'Connell K, et al, "Souls of the ancestor that knock us out" and other tales. A qualitative study to identify demand-side factors influencing malaria case management in Cambodia, Malaria Journal 2012, 11:335. (PSI-Cambodia)

Yeung S, et al, Socially-marketed rapid diagnostic tests and ACT in the private sector: ten years of experience in Cambodia, Yeung et al. Malaria Journal 2011, 10:243, <http://www.malariajournal.com/content/10/1/243> (PSI-Cambodia)

Third International Task Force Meeting for the Strategy for the Containment of Artemisinin Tolerant Malaria Parasites In South-East Asia Project, Meeting Minutes, WHO, 2011.

Joint Assessment of the Response to Artemisinin Resistance in the Greater Mekong Sub-Region, WHO/DIFD/PMI-USAID/AusAID/BMGF, 2012.

World Malaria Report, WHO, 2013.

Emergency Response Plan to Artemisinin Resistance in the Greater Mekong Subregion: Action Plan 2013-2015, WHO, 2013.

Global Plan for Artemisinin Resistance Containment (GPARC), WHO, 2011.

Consideration of Mass Drug Administration for the Containment of Artemisinin Resistant Malaria in the Greater Mekong Subregion: Report of a Consensus Meeting, WHO, 2010.

Malaria in the Greater Mekong Subregion: Regional and Country Profiles, WHO, 2010.

Networks Project Vector Control Assessment in Greater Mekong Subregion: Review of Malaria Prevention - Strategies, Tools, Stakeholders, Target Group Segmentation, Behavioural Issues, Private Sector Development Options, Malaria Consortium (PMI/USAID), May 2012.

Roll Back Malaria. Malaria in Pregnancy: RBM Infosheet #4.

Long-lasting Insecticidal Nets for Malaria Prevention: A Manual for Malaria Programme Managers, WHO, 2007.

Disease Surveillance for Malaria Control: An Operational Manual, WHO, 2012.

Malaria Microscopy Quality Assurance Manual, Version I, WHO, 2009.

Malaria in Pregnancy: Guidelines for Measuring Key Monitoring and Evaluation Indicators, WHO, 2007.

Malaria Elimination: A Field Manual for Low and Moderate Endemic Countries. Global Malaria Program, WHO, 2007.

Methods for Surveillance of Antimalarial Drug Efficacy, WHO, 2009.

Regional Action Plan for Malaria Control and Elimination in the Western Pacific (2010-2015), WHO Western Pacific Regional Office, 2010.

Artemisinin Resistant Malaria in the Greater Mekong Sub-region: Options for the Global Fund, The Global Fund, December 2012.

Material from National Programs (Burma, Cambodia and Thailand)

The National Strategic Plan For Elimination of Malaria in the Kingdom of Cambodia 2011-2025

National Laboratory Standard Operating Procedures (SOPs) for Malaria Microscopy Quality Assurance, Treatment Guidelines and Flow Charts (Cambodia), CNM MOH, 2013. (Khmer and English)

National Strategic Plan for Malaria Prevention and Control, Union of Myanmar, 2010-2015.

Strategic Framework for Artemisinin Resistance Containment in Myanmar (MARC) 2011-2015, Department of Health, MOH, Myanmar, 2011.

Myanmar Artemisinin Resistance Containment Project: Baseline Survey Report, Department of Health, MOH, Myanmar, 2012.

Strategy to address migrant and mobile populations for malaria elimination in Cambodia, 2013.

Intensified Case Management of *Pf* Malaria at Health Facility-Community (Cambodia), Annual Report, Oct '12-Sept '13.

Cambodia National Malaria Program Review, CNM, 2012

Entomological Survey Report on Behavioral Patterns of Malaria Vectors in Relation to Human Behavior and Environmental Change (May 2012-April 2013). CNM, 2013.

Peer Reviewed Manuscripts and Books

Mekong Malaria III, *Southeast Asian Journal of Tropical Medicine and Public Health*, Vol 44, Sup 1, 2013.

Cui L, Yan G, Sattabongkot J, Cao Y, Chen B, et al. (2012) Malaria in the Greater Mekong Subregion: Heterogeneity and complexity. *Acta Tropica* 121: 227–239.

Kritsiriwuthinan K, Ngrengarmmlert W.; Molecular screening of *Plasmodium* infections among migrant workers in Thailand. *J Vector Borne Dis.* 2011, 48(4):214-8.

Tin-Oo P et al. Gender, mosquitoes and malaria: implications for community development programmes in Laputta, Myanmar. *Southeast Asian Journal of Tropical Medicine and Public Health*, 32(3):588-594.

Van Hest R, Grant A, Abubakar I (2011) Quality assessment of capture–recapture studies in resource-limited countries. *Tropical Medicine & International Health* 16: 1019–1041.

Ariey F, Witkowski B, Amaratunga C, Beghain J, Langlois A-C, et al. (2014) A molecular marker of artemisinin-resistant *Plasmodium falciparum* malaria. *Nature* 505: 50–55.

Carrara VI, Lwin KM, Phyo AP, Ashley E, Wiladphaingern J, et al. (2013) Malaria Burden and Artemisinin Resistance in the Mobile and Migrant Population on the Thai–Myanmar Border, 1999–2011: An Observational Study. PLoS Med 10(3): e1001398.

Key Informants Interviewed

	Location (Dates)	Organization	Name	Job Title	Email
Thailand (March 13-16 / April 6-17, 2014)					
	Bangkok	USAID RDMA	Mr Christopher Barrett	Health Development Officer and Deputy Director, Office of Public Health	cbarrett@usaid.gov
			Dr Wayne Stinson	Regional Malaria Advisor, Office of Public Health	wstinson@usaid.gov
			Dr David M Sintasath	Regional Malaria Advisor, Office of Public Health	dsintasath@usaid.gov
			Ms Pratin Dharmarak	Project Management Specialist (Malaria), Office of Public Health	pdharmarak@usaid.gov
			Dr Jittinee Khienvichit	M&E Specialist, Office of Public Health	jkhienvichit@usaid.gov
			Nigoon Jitthai	M&E Specialist, Program Development Office	njitthai@usaid.gov
			Ravipa Vannakit	Strategic Information Specialist, Office of Public Health	rvannakit@usaid.gov
			Dr Aye Aye Thwin	Director, Office of Public Health	aathwin@usaid.gov
			Dr Mya Sapai Ngon	Health Program Manager, Burma Mission	mngon@usaid.gov
			Dr Suzanne Polak	Regional Learning, M&E Advisor, Program Development Office	spolak@usaid.gov
			Shalene Bagga-Taves	Health Officer, Burma Mission,	sbagga@usaid.gov
		URC	Dr Darin Kongkasuriyachai	Deputy Chief of Party, Lab Advisor, CAP-Malaria Project	dkongka@urc-chs.com
Myanmar (March 17-26, 2014)					
	Nay Pyi Taw	Ministry of Health	Dr Thar Tun Kyaw	Director (Disease Control)	tartunk@gmail.com
	Yangon	USAID Burma Mission	William Slater	Director, Office of Health	slaterw@state.gov
		Ministry of Health Bureau of Vector Borne Disease (BVBD)	Dr Thaug Hlaing	Director (Malaria Control)	thaughl@gmail.com
		URC	Professor Saw Lwin	Country Coordinator	slwin@urc-chs.com
			Dr May Aung Lin	Country Program Director	lmay@urc-chs.com
			Dr Zaw Tun Win	Monitoring and Evaluation Coordinator	zwin@urc-chs.com
		Save the Children	Dr Adelaida A, Gallardo-DeGregorio	Deputy Country Program Director	adelaida.degregorio@savethechildren.org
			Ricard Lacort Monte	Global Fund Program Director	ricard.lacort@savethechildren.org
			Yves Bourny	Senior M&E Manager	yves.bourny@savethechildren.org
		WHO	Dr Krongthong Thimasarn	Medical Officer, Malaria	timasarn@searo.who.int
		UNOPS	Dr Elisa Hamid	M&E Specialist (Principal Recipient for GFATM)	eisah@unops.org
		PSI	Chris White	Senior Malaria Technical Advisor, Asia Pacific	cwhite@psimyanmar.org
		Malaria Consortium	Yasmin?		
	Dawei	URC	Dr Thin Thin Chit	Field Operation Director	unavailable
			Dr Naung Naung	Field Operation Coordinator	nnaung@urc-chs.com
			Dr Ye Hein Naing	Assistant Monitoring and Evaluation Coordinator	yinaing@urc-chs.com
			Khin Zaw	Village Malaria Volunteer (VMV), Kaloat Htar Village	unavailable
		Department of Health (Tanintharyi)	Dr Kyaw Zaya	Regional Health Director (Tanintharyi)	unavailable
			Thandar Win	Mid-Wife, Thingan Tone Village Rural Health Center	unavailable
			Dr Tin Soe Moe	Regional Vector Borne Disease Control, Acting Team Leader	unavailable
		Village Monastery	Pyinnyar Won Tha	Monk/Village Leader, Kaloat Htar Village	unavailable
		Aung Myat Thein Rubber Plantation Company	Kyaw Win Oo	Assistant Manager	unavailable

CAP-Malaria Midterm Evaluation Report

Cambodia (March 27-April 5, 2014)				
	Phnom Penh	USAID Cambodia Mission	Monique Mosolf	Director, Office of Public Health and Education (OPHE) mmosolf@usaid.gov
			Tara Milani	Deputy Director, Office of Public Health and Education tmilani@usaid.gov
			Karen Exel	Program Office Director kexel@usaid.gov
			Dr Sotheara Nop	Development Assistant Specialist for Infectious Diseases, OPHE snop@usaid.gov
		Ministry of Health	Dr Char Meng Chuor	Director, National Center for Malaria Control, Parasitology and Entomology mengchuor@cnm.gov.kh
		URC	Dr Kheang Soy Ty	Chief of Party/Regional Director ksoty@urc-chs.com
			Dr Nguon Sokomar	Country Program Manager for Cambodia nsokomar@urc-chs.com
			Dr Kiv Sokha	M&E Regional Director ksokha@urc-chs.com
			Dr Chy Say	Malaria Technical Officer/Research Coordinator csay@urc-chs.com
			Mao Sokkhieng	Laboratory Specialist msokkhieng@urc-chs.com
			Ek Sovann	PPM/Migration Coordinator esovann@urc-chs.com
			Khuob Sopheak	Interpreter ksopheak@gmail.com
			Taing Seng	Driver taingseng1@gmail.com
		WHO	Dr Pascal Ringwald	Coordinator, Drug Resistance and Containment, Global Malaria Program ringwaldp@who.int
			Dr Walter M Kazadi	Regional Hub Coordinator ERAR-GMS kazadimulombow@wpro.who.int
			Dr Md Abdur Rashid	Medical Officer, MVP rashidm@wpro.who.int
		UNOPS	Dr Seshu Babu Vinjamuri	Public Health Program Officer vinjamurib@unops.org
			Preap Sodavuth	Program Officer sodavuthp@unops.org
		PSI	Henrietta Allen	Malaria Technical Officer hallen@psi.org.kh
		USP	Lang Siv	Project Coordinator langziv@yahoo.fr
		Media One	Koy Borey	Executive Director kborey@mediaone.org.kh
		John Snow Incorporated (JSI)	J Chris Warren	Senior Technical Advisor cwarren@jsi.com
			Kinsy Hood	Resident Logistic Advisor kinsy_hood@jsi.com
		Malaria Consortium	Fiona Davidson	Country Manager/Regional Program Manager f.davidson@malariaconsortium.org
	Anlong Veng / Samr	URC	Uong Saroeum	District Coordinator, Anlong Veng, Trapeang, Prasat unavailable
			Heang Chantha	Provincial Coordinator, Udon Meanchey unavailable
			Qeurn Dara	Village Malaria Worker (VMW), Peam Khnong Village unavailable
		Ministry of Health	Ouk Kimsoeum	Director, Provincial Health District (PHD), Udon Meanchey unavailable
			Puon Porng	Provincial Malaria Focal Point, Udon Meanchey unavailable
			Pech Sokha	Hospital Director, Anlong Veng Hospital (Regional Health Facility) unavailable
			Yun Sarom	Administrative Staff, Anlong Veng Hospital unavailable
			Leng Yen	Laboratory Technician (Microscopist), Anlong Veng Hospital unavailable
			Yun Yam	Laboratory Technician (Microscopist), Anlong Veng Hospital unavailable
		Tai Ninh Rubber Plantation	Khet Phan Xuan Huong	Vice Manager unavailable
			Khop Toeu	Village Malaria Worker, Peam Khong Village unavailable
		Samrong Rubber Industry	Veth Tolavy	Administrative Representative unavailable
			Non Samoeun	Village Malaria Worker unavailable

CAP-Malaria Midterm Evaluation Report

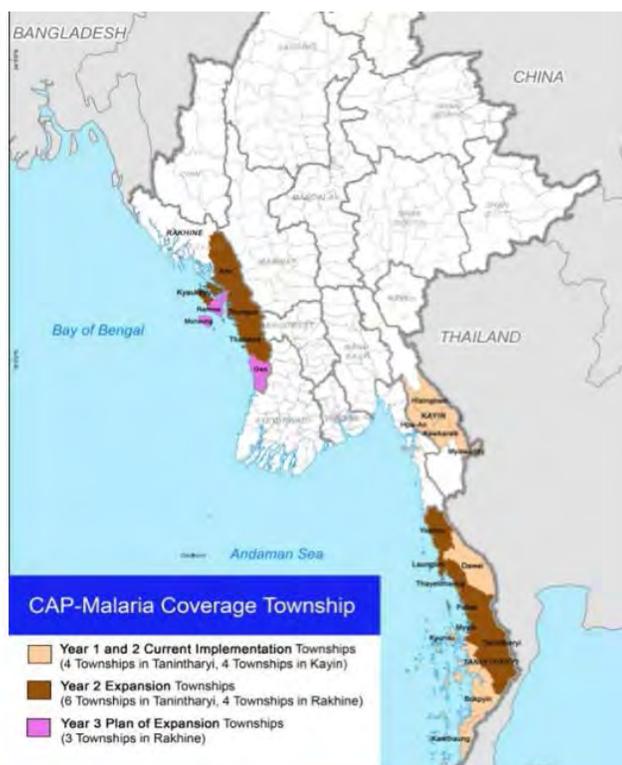
Cambodia (March 27-April 5, 2014, Continued)

	Battambang / Samlot / Veal Veng, Pursat	Ministry of Health	Dr Ouk Vithiea	Deputy Director, PHD, Battambang	ovithiea@yahoo.com
			Tat Veyvath	Malaria Specialist, Operational District, Battambang	unavailable
			Dr Chan Davoeung	Malaria Specialist, Provincial	unavailable
			Dr Yuos Pov	Deputy Chief, Operational District, Battambang	unavailable
		Taxi Company	Vong Sophanna	Driver	unavailable
		Media One	Nhem Chan	Programming Director	unavailable
			Ek Trai Rath	Malaria Coordinator	unavailable
		Ministry of Health	Pov Pheng	Deputy Chief, Tasanh Health Center	unavailable
			Yon Nop	Laboratory Staff, Tasanh Health Center	unavailable
			Tith Phanny	Laboratory Staff, Tasanh Health Center	unavailable
			Sok Chhong	Chief, Promauy Health Center	unavailable
			Vaing Chhum	Laboratory Staff, Promauy Health Center	unavailable
			Seth Srey	Mid-wife, Promauy Health Center	unavailable
			Ouk Marineth	Mid-wife, Promauy Health Center	unavailable
		URC	Pin Sophany	Village Malaria Worker, Phnom Ras	unavailable
			Chhuom Hul	Village Malaria Worker, Phnom Ras	unavailable
		Plantation	Soeur Chanty	Village Malaria Worker, Phnom Ras	unavailable
			Treang Gnin	Representative, Veal Veng	unavailable
			Khaul Maravan	Village Malaria Worker, Veal Veng	unavailable

Thailand (April 6-17, 2014)

	Bangkok	Ministry of Health	Dr Pongwit Bualombai	Deputy Director, Bureau of Vector Borne Diseases (BVBD)	pongwit@yahoo.com
			Rachaneekorn Veveriga	Foreign Affairs Officer, BVBD	veveriga@hotmail.com
		Kenan Institute Asia (KIA)	Saowanit Vijaykadga	Country Program Manager, Public Health Program	saowanit@kiasia.org
			Bongkot Soonthornsata	Technical Field Coordinator	bongkot@kiasia.org
	Chanthaburi	Ministry of Health	Uthai Sriprom	Representative, Provincial Health Office (PHO)	gischan01@yahoo.com
			Ratree Cheuchalard	Malaria Clinic Health Worker, Pongnamron District	unavailable
			Walailuk Srihana	Worker, Border Malaria Post (BMP)	unavailable
		International Organization for Migration	Ramphonipham Jittham	Malaria Focal Person	rijittham@iom.int
		URC / CAP-M	Bhuddicha Saart	District Coordinator, Pongnamron	bhuddicha@gmail.com
	Ranong	Ministry of Health	Jeeraphoi Jeerakuntit	Head, Vector Borne Diseases Unit (VBDU), Kraburi	unavailable
			Panom Somjai	Head, VBDU, Jor Por Por	unavailable
			Dr Suriya Guharat	Provincial Chief Medical Officer, Ranong	unavailable
			Santi Kanjananiyom	Chief Public Health Officer, Kraburi	unavailable
			Uraivan Pikuntong	Worker, Malaria Post (MP), Hadjig	unavailable
			Wittaras Jiwahoud	Head, VBDU, Laun	ybdc1152@gmail.com
			Hnuengruetai Boonmee	Program Assistant (Global Fund), PHO	khoneheart@gmail.com
			Napporn Bamrung	Staff, District Health Office (DHO), Laun	toysasukla_on@hotmail.com
			Thalerngsak Piriyaoporn	Assistant Chief, DHO, Laun	unavailable
			Saowalak Tinsuk	Worker, Malaria Post (MP), Laun	unavailable
		Plantation	Saitong Ruengchan	Owner, Loompolang Moo 5	unavailable
			Prompan Saekang	Owner, Loompolang Moo 10	unavailable
		ARC	Thitiya Rakmuang	Provincial Coordinator	arcgml.rng@gmail.com
			Somchai Churatsami	Field Supervisor	arcgml.rnbfs2@gmail.com

**Project area maps
Burma**



Annex Figure I. CAP-M project areas in Burma. (Source: FY2013 Annual Performance Report, CAP-M Burma; highest resolution available).

State/Region	Operational Townships		
	Year1	Year 2	Year3
Tanintharyi Region	Kawthaung Township	Kawthaung Township	Kawthaung Township
	Kyunsu Township	Kyunsu Township	Kyunsu Township
	Bokepyin Township	Bokepyin Township	Bokepyin Township
		Dawei ITD/Township	Dawei ITD/Township
		Yaebyu Township	Yaebyu Township
		Longlone Township	Longlone Township
		Tayetchaung Township	Tayetchaung Township
		Palaw Township	Palaw Township
		Myeik Township	Myeik Township
		Tanintharyi Township	Tanintharyi Township
Kayin	Hpaan Township	Hpaan Township	Hpaan Township
	Hlaing Bwe Township	Hlaing Bwe Township	Hlaing Bwe Township
	Kawkareik Township	Kawkareik Township	Kawkareik Township
	Myawaddy Township	Myawaddy Township	Myawaddy Township
			Kyarin Seikgyi Township*
		Thandaung Township*	
		Hpa-pun Township*	
Rakhine		Kyaukpyu Township	Kyaukpyu Township
		Toungup Township	Toungup Township
		Thandwe	Thandwe Township
		Ann	Ann Township
			Manaung Township
			Ramree Township
		Gwa Township	
Kachin	Waingmaw Township		
	Tanai Township		
	Mohnyin Township		
	Hpakon Township		

Annex Table 4. CAP-M project areas in Burma. (Source: FY2013 Annual Performance Report, CAP-M Burma).

ANNEX V: SCHEDULE OF COUNTRY VISITS

Schedule of visits in Burma

The evaluation team traveled to Burma from March 17 to March 26, participating in meetings in Yangon, Nay Pyi Taw and Dawei (Tanintharyi).

March 17: Yangon. Joined in-brief with USAID/Burma at US Embassy and oriented with URC/CAP-Malaria Project.

March 18: Nay Pyi Taw. Day trip from Yangon to meet the Director of Disease Control, National Malaria Control Program, Ministry of Health.

March 19 - 22: Tanintharyi. Met with MOH staff, CAP-Malaria staff and partners. Travelled to Thingan Tone and Kaloat Htar villages to meet with village leaders, volunteers and health facility staff. VMWs were interviewed at rubber plantation and monasteries visited.

March 22 - 26: Yangon. Met with partners including WHO, UNOPS, PSI, Malaria consortium and Save the Children.

Schedule of visits in Cambodia

The evaluation team traveled to Cambodia from March 26 to April 4, participating in meetings in Phnom Penh for four days and then traveling to Anlong Veng, Battambang and Veal Veng for 5 days, returning to Phnom Penh on April 3.

March 26 – 29: Phnom Penh. Joined in-brief with USAID/Cambodia at US Embassy, oriented with URC/CAP-Malaria Project, and met with Ministry of Health to discuss CNM participation; also met representatives from Malaria Consortium, WHO and UNOPS, John Snow Inc. (DELIVER), Media One and United States Pharmacopeia (USP).

March 30 – 31: Anlong Veng and Samrong. Joined brief with URC CAP-Malaria District and Provincial (Oddar Meanchey) Coordinators and traveled to Peam Khnung Village to meet Village Malaria Workers (VMWs) both in the village and within local rubber plantation companies participating in the bed net lending scheme program. Visited Anlong Veng Regional Health Facility to interview Hospital Director and microscopists. Also met with the Director of the Oddar Meanchey Provincial Health District (PHD) and district malaria focal point.

April 1 - 3: Battambang, Samlot and Veal Veng (Pursat). Joined brief with CAP-Malaria staff and met with the PHD Director and Operational District (OD) Deputy Chief of Battambang. Also met Media One representatives at the local radio station and local taxi drivers. Travelled to Samlot and Pramroy to visit Health Centers and a local rubber plantation in Tasanh Village. VMWs were interviewed in rubber plantations visited.

April 4: Phnom Penh. Met with URC to clarify several issues from field visits, and held debrief with USAID/Cambodia at the US Embassy.

Schedule of visits in Thailand

The evaluation team traveled to Thailand from April 07 to April 11 and met with representatives from the Thailand Ministry of Health, Bureau of Vector Borne Diseases (BVBD), Kenan Institute Asia (KIA), plantation owners/workers, and others partners involved in the CAP-M project. The team began in Bangkok and traveled to Chanthaburi and Ranong Provinces.

April 7 – 8: Chanthaburi. Met with Ministry of Health staff including the Provincial Health Office (PHO) representative, border malaria post (BMP) malaria health worker and the malaria clinic representative in

Pongnamron. The team also met the CAP-M District coordinator (Pongnamron) and the malaria focal person of the International Organization for Migration (IOM).

April 9: Bangkok. The evaluation team met with the Deputy Director of the BVBD, Thai Ministry of Health and Country Program Manager and Technical Field Coordinator from KIA who presented recent project updates.

April 9-11: Ranong. The team met with Provincial and District Health staff from 2 districts, Kraburi and La-un. At the Provincial level (PHO), the team met the Chief Public Health Officer, the Chief Medical Officer and Global Fund Program Assistant. In Kraburi, the team met with the Head of the Vector Borne Disease Unit (VBDO) and District and village level staff, volunteers and LLIN lending-scheme plantation owners.

ANNEX VI: ILLUSTRATIVE PROJECT TARGETS

Objectives/Activities	Indicators	Data Source	Frequency	End of project target	End of project actual
	Percentage of individuals in areas at risk of malaria who slept under long-lasting insecticidal net/insecticide-treated net the previous night*	Household and migrant surveys	Baseline, midterm, and final evaluation	90% (PMI) OR 95%***	
	Percentage of respondents that are aware of key messages (to be clearly defined under BCC)**	Household and migrant surveys	Baseline, midterm, and final evaluation	95%	
1.1.1 LLIN distribution	Number of LLINs distributed**B30	PMIS	Semi-annually		
	Number of nets treated/re-treated**	PMIS	Semi-annually		
1.1.2 Community outreach and communication	Number of BCC outreach sessions implemented	PMIS	Semi-annually		
	Number of migrants and mobile people visited by trained VMW/MMW				
1.1.3 Strengthen village volunteer network	Number of VHSGs/VMWs trained in malaria prevention and control	PMIS, NGO (mobile and migrant pop)	Semi-annually		
	Number of migrants and mobile people visited by trained VMW/MMW	PMIS, NGO (mobile and migrant pop)	Semi-annually		
1.1.4 Develop/adapt (LLIN lending scheme in Cambodia), pilot and scale-up models to cover mobile and diverse populations, reaching both women and men with LLIN/LLIHN/ITNs	Number of pilots/models developed or scaled-up	PMIS, NGO	Semi-annually	5	
Objective 2: Improve the quality and effectiveness of diagnosis and treatment of malaria at the	Percentage of suspected malaria cases with parasite-based diagnosis *	Routine reporting	Semi-annually	95%	

CAP-MALARIA

CAMBODIA M AND E WORKPLAN

Source: All Region- Control and Prevention of Malaria (CAP-Malaria) Work Plan for Activities FY: 2012 (July 2012)

Goal: To reduce malaria morbidity and mortality and delay the spread of artemisinin resistance in the Greater Mekong Sub-region						
Strategic Objective: To reduce malaria morbidity and mortality in areas with documented and/or threatened artemisinin resistance in Burma, Cambodia, and Thailand						
Intermediate Result 1 - Use of preventive intervention among community at-risk increased						
Possible Indicators: a) Number of people reached by key malaria prevention messages; b) Number of healthcare workers using IEC/BCC messages, c) Number of communities covered by IEC/BCC campaigns, d) Number of ITN distributed in project area						
Activities	Tasks	Staff and other human resources	Product	Cost (US\$)	Month / Year Timeline	Remarks
				FY13		
C.1.1 Support LLIN distribution for resident and mobile/ migrant population	Continue census and distribute LLINs to MMP (mobile families, mobile workers/farm owners and companies)	CAP-M MMP coordinator, CNM, PHD/OD/ HC/VMWs/MMWs	LLINs distributed	\$28,500	Feb-13	Before rainy season
C.1.2 Net lending scheme for mobile-migrant population	Conduct training/refresher training to HC/OD staff, VMWs/MMWs on monitoring LLIN Lending scheme	CAP-M MMP coordinator, OD/ HC/ VMWs/ MMWs	Monitoring forms introduced	\$2,000	Bi-Quarterly basis	Routine monthly meeting of VMWs/MMWs
	Conduct monitoring/supervision on lending scheme and the use of LLINs	CAP-M MMP coordinator, OD/ HC/ VMWs/ MMWs	Monitoring report	\$12,000	Bi-Quarterly basis	Keep track on LLIN coverage and net use
	Initiate voucher system of LLIN for mobile and migrant population (MMP): -Private seller: LLINs -Taxi driver: voucher -HC/OD: Deploy LLINs and collect voucher at private sellers	CAP-M MMP coordinator	Voucher launched	\$6,000	May-13	Taxi station in Battambang and Pursat
C.1.3 Re-impregnation of bed nets	Support impregnation of conventional nets (e.g. refresher training of staff, community event to treat nets)	CAP-M MMP coordinator and PHD/OD/HC	Nets treated	\$22,450	Jun-13	

Source: CAP-Malaria Annual Work Plan FY 2103, (February 2013).

ANNEX VII: STATISTICAL METHODS

To compare the rate of change of reported morbidity due to malaria between CAP-M districts that implemented in Year I of the project (n=9) and non-CAP-M districts (n=33) the reported cases were used as reported by the national health system (Cambodia Malaria Bulletin; provided by URC-Cambodia, available at <http://www.cnm.gov.kh/>).

These values were then combined with population data for each year 2010-2013 by ODs (provided by URC-Cambodia) to produce annual reported malaria case rates (per 1000 population) for pooled CAP-M and pooled non-CAP-M districts (reported cases per 1000 for both categories for each year).

Exploratory analyses examined HIS reported data and VMW worker data separately, and the total of the two. While the broad trends were similar, data inconsistencies were evident the VMW data. Whether this is due to increasing case-capture rates due to project activities, or data irregularities is unclear.

The absolute difference in the rates from the previous year using the consistent HIS data were then compared for each of the two categories with appropriate 95% confidence intervals using the `-ir-` suite of commands in Stata 13.1 (College Station, TX, USA).

ANNEX VIII: DISCLOSURE OF ANY CONFLICTS OF INTEREST

Name	Andrew A. Lover
Title	Epidemiologist
Organization	Independent consultant
Evaluation Position?	<input checked="" type="checkbox"/> Team Leader <input type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	USAID Project No. AID-486-A-12-00001
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Control and Prevention of Malaria (CAP-Malaria) in Burma, Cambodia and Thailand
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:</p> <p><i>Real or potential conflicts of interest may include, but are not limited to:</i></p> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 	

<p>5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.</p> <p>6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.</p>	
--	--

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	May 4, 2014

Name	James F. Kelly
Title	Public health specialist
Organization	
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number <i>(contract or other instrument)</i>	USAID Project No. AID-486-A-12-00001
USAID Project(s) Evaluated <i>(Include project name(s), implementer name(s) and award number(s), if applicable)</i>	Control and Prevention of Malaria (CAP-Malaria) in Burma, Cambodia and Thailand
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes answered above, I disclose the following facts: <i>Real or potential conflicts of interest may include, but are not limited to:</i> 7. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 8. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 9. Current or previous direct or	

<p><i>significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.</i></p> <p><i>10. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.</i></p> <p><i>11. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.</i></p> <p><i>12. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.</i></p>	
---	--

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

<p>Signature</p>	
<p>Date</p>	<p>May 4, 2014</p>

U.S. Agency for International Development
Regional Development Mission for Asia
Athenee Towers, 25th Floor
63 Wireless Road, Pathumwan,
Bangkok 10330
Thailand