



## **USAID Mekong Malaria Programme Core Partners' Meeting**

*Dusit Thani Laguna Phuket Resort*

Phuket, Thailand

27–29 April 2009

Final draft

## ABBREVIATIONS

ACT	Artemisinin-based Combination Therapy
ACTMalaria	Asian Collaborative Training Network for Malaria
AMI	Aide Medicale Internationale
ANEQAM	Asian Network of Excellence in Quality Assurance of Medicines
ART	Artemisinin
BVBD	Bureau of Vector-Borne Diseases
BMGF	Bill and Melinda Gates Foundation
CAM	Cambodia
CNM	Cambodia National Centre for Parasitology, Entomology and Malaria Control
CMW	Case Management Worker
DRA	Drug Regulatory Authority
FIND	Foundation for Innovative New Diagnosis
FY	Fiscal Year
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GMP	WHO Global Malaria Programme
GMS	Greater Mekong Subregion
IR	Intermediate Results
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
KEMRI	Kenya Medical Research Institute
Lao PDR	Lao People's Democratic Republic
LLIN	Long-Lasting Insecticide Treated Net
M&E	Monitoring and Evaluation
MMFO	Management of Malaria Field Operations
MMP	Mekong Malaria Programme
MOH	Ministry of Health
MOPH	Ministry of Public Health (Thailand)
MSH	Management Sciences for Health
OD	Operational district
PMI	President's Malaria Initiative
PPHO	Provincial Public Health Office
PSI	Population Services International
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test
SPS	Strengthening Pharmaceutical Systems
RITM	Research Institute for Tropical Medicine
TA	Technical Assistance
TES	Treatment Efficacy Studies
THL	Thailand
SEARO	WHO South-East Asia Regional Office

USAID	RDMA	United States Agency for International Development
		Regional Development Mission for Asia
USP		United States Pharmacopeia
URC		University Research Co., LLC
VHSG		Village Health Support Group
VHV		Village Health Volunteer
VHW		Village Health Worker
VMW		Village Malaria Worker
WHO		World Health Organization
WPRO		WHO Western Pacific Regional Office

## **1. BACKGROUND**

Since 2000, USAID's Regional Development Mission for Asia (RDMA) has contributed to malaria control in the Greater Mekong Subregion (GMS), particularly through its support of the Mekong Roll Back Malaria Initiative (RBM) involving six countries in the GMS – Cambodia, China (Yunnan province), Lao PDR, Myanmar, Thailand and Viet Nam – and other relevant partner agencies to initiate strategic projects and programs for malaria control in the Mekong region. The Mekong RBM initiative has since been re-named as the Mekong Malaria Programme (MMP). The WHO Mekong Malaria Programme (WHO-MMP) office, based in Bangkok, has the role of coordinating the activities of the MMP network, linking with all MMP partners including USAID-funded agencies.

To take stock of the progress of USAID-funded activities and reorient activities in light of current challenges facing malaria control in the Mekong region, USAID RDMA brings together its core funded partners for bi-annual meetings. The first meeting was held in Chiang Mai (Thailand) from 7–8 November 2006. Partners at this meeting highlighted the contributions of USAID-funded malaria activities since 2001, examined existing gaps in malaria control, and developed a strategy for future USAID-funded activities in the GMS. Subsequent semi-annual meetings have taken place every six months. Meeting reports are posted on the WHO-MMP website. The MMP strategy supported by USAID focuses on the following areas: (1) monitoring of antimalarial drug efficacy to support drug policy change and better case management, (2) monitoring of quality of malaria diagnosis and drugs, (3) improvement of procurement mechanisms, distribution and storage systems, (4) exchange of best practices, and (5) promotion of an enabling environment, e.g. through capacity building.

The last USAID core partners meeting took place on 7–8 October 2008 in Bangkok, Thailand. Report is available on the WHO-MMP website.

## **2. ACTIVITIES AND FINDINGS**

The agenda and the list of participants are attached as Annexes 1 and 2.

**Day 1: 27 April 2009**

## **Malaria Elimination in Phuket (field trip organized by Kenan Institute Asia).**

Background (presentation overview made by the Phuket Provincial Public Health Office – PPHO)

Phuket was free from malaria transmission during 1989–1996, but malaria re-emerged after that partially due to immigration of migrant workers from Myanmar. Following a few malaria cases reported among American travellers, the U.S. Centers for Disease Control and Prevention (CDC) was asked to support a malaria pre-elimination project in Phuket since a significant number of US citizens travel to this island every year. The aim was also to prevent Phuket being considered as a malaria endemic area where all travellers should be on malaria prophylaxis as recommended on the CDC website with necessary impact on the tourist industry. From all over the world, 4.7 million tourists visited Phuket in 2008 with an estimated income of US\$2 billion. The malaria elimination initiative started in Phuket also as a pilot approach in the perspective of further eliminating malaria in Thailand.

The malaria pre-elimination effort in Phuket island is supported by the Kenan Institute Asia with operations starting in October 2008 and funding ending 31 May 2009.

### Activities

The stratification of malaria into high, medium and low risk areas is based on the number of cases, vectors, population movement, migrant density and topography.

PPHO employs nine retired staff to assist in control activities and active case detection. Passive case detection is done by health centres and hospitals.

Activities included various training sessions for project staff, health volunteers, public health officers and local government staff. Staff were also trained in geographic information system (GIS). The project also carried out environmental surveys of camps, entomological surveys, impregnation of bed nets, fogging in selected areas, indoor residual spraying (IRS), active case detection and treatment, health education to risk groups and regular monitoring and supervision. There were also regular meetings with PPHO and other local partners involved. In 2008, household coverage with IRS was 95.75%, protecting 87.97% of the target population. A total of 860 bed nets were treated with insecticide (86.5% net treatment rate). 1

The current malaria data (1 October 2008 – 25 April 2009) show a total provincial population of 322,055, of which 18,129 people were examined and 28 were found to be positive for malaria (13 Thais and 15 Burmese labourers). Of the positive cases, 4 were diagnosed as *P. falciparum* among Thais and 16 among Burmese (72% Pf). *P. vivax* accounted for 7 cases (25%) and 1 case showed mixed infection. Cases are classified into four groups: A for indigenous (3 cases), BZ for infected from different province (5 cases), BF for infected from outside Thailand (19 cases), and F for unclassified, i.e. origin of infection being undefined after investigation (1 case). The three

indigenous cases were among rubber plantation tappers. However, more information is needed to determine if these indigenous cases occurred in clusters or are secondary cases. No genetic polymerase chain reaction (PCR) investigations were done to try to differentiate primary and secondary cases. Most of the migrants are actually undocumented workers engaged in forestry, construction and rubber plantation. There is a need for a further in-depth epidemiological investigation.

There has been good coordination between PPHO and the provincial governor's office as well as other local administration offices. The governor chairs a provincial level meeting to encourage the involvement of the private sector and local authorities. In the field site that the group visited, it was noted that the local authorities support some activities such as provision of insecticides and ultra-low volume (ULV) fogging machines. PPHO is also notified every 15 days of arrival of new migrants (registered).

However, challenges remain with the registration of migrants as private companies have to pay health insurance premiums and other registration fees to formally employ migrants. So they keep revolving the workers and also using the same names to avoid new registrations. This issue has to be seriously addressed beyond the health sector in the context of any disease elimination programme.

## **Day 2: 28 April 2009**

On Day 2, presentations from implementing partners consisted of progress reports and reports on status of activities, identification of obstacles and constraints and corrective measures. These were reported against the Intermediate Results (IR) of the MMP objectives as follows:

- IR 1: Access increased to prevention interventions
- IR 2: Access increased to care, support, and treatment
- IR 3: Access increased to strategic information
- IR 4: Enabling environment strengthened
- IR 5: Model programmes expanded and use of best practices strengthened

**John McArthur, Infectious Diseases Team Leader, USAID RDMA**, gave the opening remarks. He praised Kenan Institute's good effort in Phuket elimination work, pointed out that the Thai-Cambodian malaria containment project is gaining recognition, that significant funds from USAID are currently available but the focus should now be to successfully implement programme at a full scale. The next six months would be crucial to show President's Malaria Initiative (PMI/USAID) a good implementation rate. He also pointed out to all partners that the USAID portfolio review would have an external audit by the end of this year to evaluate the 2<sup>nd</sup> half of its five-year strategy. He also expressed a sincere hope that the time in Phuket would be spent interacting to keep each other in touch and up to date with progress and issues in respective countries and programmes. He also suggested that poster presentations and different formats of presentation could be considered for future meetings.

**Charles Delacollette, Coordinator, WHO-Mekong Malaria Programme (MMP)** also reiterated that significant funds are available and the focus should now be to successfully implement these activities. He highlighted that malaria elimination is a technical challenge at the country level with sub-regional implication. A technical meeting supported by the Kenan Institute Asia is planned in May 2009 in Chiang Mai to re-orient the Thai control programme towards elimination.

A round of introduction was then made among the participants.

### **WHO Mekong Malaria Programme**

Charles Delacollette, Coordinator, WHO-Mekong Malaria Programme presented the programme's progress report for October 2008 – April 2009. He summarized key objectives of the MMP in coordination/facilitation of MMP activities, technical support and coordination of therapeutic efficacy studies across GMS, support to monitoring of quality drugs and quality diagnosis (GMS and outside international partners) as well as coordination of technical assistance (TA), support to fund raising and proposal implementation including monitoring and evaluation (M&E).

#### **IR 1: Access increased to prevention Interventions**

\* MMP's involvement in the MMFO international course in Thailand was successful but faced constraints as there was a clashing of activities undermining participation in some training sessions and some modules such as surveillance need to be updated.

\* In increasing access to bed nets, extra logistical support was provided when needed including development of macro- and micro-delivery plan from Phnom Penh to target villages. The lack of information per village or household on insecticide treated net (ITs) and long-lasting insecticide treated nets (LLIs) use was a constraint faced. However, WPRO has provided assistance to Cambodia on logistic concerns for bed nets and drugs.

#### **IR 2: Access increased to care, support, and treatment**

\* In improving health care staff's case management for malaria, an update of the district guideline package for malaria control (Delhi, October 2008) is under finalization.

\* For Cambodia, an update of the malaria treatment guidelines and translation of the rapid diagnostic test (RDT) users' manual has been completed.

\* Towards increasing use of quality malaria diagnostics, the microscopy / RDT quality assurance (QA) in Cambodia and slide bank has been completed. Lot testing of RDTs is ongoing. The QA RDTs which is currently performed at the Pasteur Institute Cambodia is not just for the national malaria programme in Cambodia but also for other Mekong countries (free of charge).

\* Microscopy accreditation is ongoing in collaboration (consultants) with the Australian Malaria Army Institute in Brisbane facilitated by WPRO and ACTMalaria. However, constraints have

been mainly inadequate follow-up after the training and action needs to be taken to improve and strengthen networking with countries. The microscopy QA manual is now finalized and disseminated and further training sessions with follow-up needed on microscopy QA.

\* RDT QA funded by the Foundation for Initiative New Diagnosis (FIND) with a position in Geneva. However, it needs to be resolved as to whether WPRO or SEARO will ensure follow-up and funding for RDT QA. Technical leadership in the region on microscopy and RDT is currently a vacuum with the departure of David Bell.

\* Microscopy – more focus and attention is needed in view of aiming for quality TES and elimination efforts.

\* Although substantial funds have been earmarked in Cambodia to prevent stock-outs, the constraints (e.g. searching for GMP products) have been significant delays in procurement from UNITAID – >2 years – and GFATM although there are on-going remedial actions in accelerating procurement procedures (e.g. response to suppliers' requirements, pushing UNICEF and GFATM, etc).

\* Support to community use of RDTs/ACTs in Cambodia (e.g. updated manuals) and procurement of ARI and ORS/Zn has been initiated but constraints in supply chains of drugs for community use (usually stops at HC level) will require official approval by MOH to supply beyond HC level to CMWs/VHSG.

\* Report available on trial on cool storage methods in Cambodia with a wider scale implementation of cooler boxes planned in Laos (R4) and Cambodia (through RCC and containment project) and Thailand (R7).

\* Assistance has also been provided to CNM on procurement of essential malaria commodities.

Certain constraints have been faced with the lack of strategic coordination between donors (e.g. GFATM), MOH (PR), malaria programme, and external assistance and remedial action is needed towards increasing technical leadership, coordination and information sharing.

### IR 3: Access increased to strategic information

#### *Treatment efficacy studies (TES)*

- \* Progress made in conducting and improving drug resistance surveillance includes:
  - a) Standardized Mekong TES protocol completed (Pf and Pv)
  - b) TES budgeted and supported in all Mekong countries (see details in the special presentation)
  - c) TES training conducted in Lao PDR and Myanmar with review of previous data (March and April 2009 – Dorin Bustos conducted training and field assessments)
  - d) Country visits to monitor and budget TES in Cambodia, Myanmar, Thailand and Viet Nam

Constraints:

- Concerns about quality of artesunate tablets have delayed start of studies in China and Viet Nam
- Strict administrative procedures (e.g. protocol to be fully completed before being submitted to ERC WPRO) need strong interaction with PIs and WHO staff
- Additional TES needed in Cambodia and Thailand as part of the containment project placing more burden on PIs with some competition involved (e.g. on staff incentives)
- A subregional database needs to be continuously updated

Remedial action:

- Certificate from the company to start studies backed up by cross-checking quality procedures by WHO (South Africa)
- Raw data to be shared with WHO and field visits needed to monitor actual interventions, cross-check microscopy procedures / slides and discuss budget face-to-face with PIs requested / randomly selected slides to be sent to reference centres (AMI)
- Training needed to ensure protocol compliance and bottleneck discussion (e.g. ethical procedures to be strengthened and followed up): Next one planned in Lao PDR early May

\* Next wrap-up GMS TES informal consultation tentatively to be held in Mandalay (Myanmar) on 30 September to 2 October 2009.

*Drug quality surveillance*

\* In improving drug quality surveillance through sentinel sites, activities in CAM, LAO, VTN and Thailand covered by USP, China by WPRO and Myanmar by SEARO (starting April 2009).

\* A workshop on improved sampling methodology is planned in Q3 2009 (WPRO).

\* Quality checked DHAPIP available for TES MMR through WPRO.

\* Most GMS countries have incorporated drug QM in their respective GFATM proposals.

*Improving rapid response to counterfeit drugs*

\* This has been done jointly with INTERPOL and the World Customs Organization with a very successful six-country Operation Storm on counterfeits; report available.

\* A meeting in Bangkok (4–6 May) is planned to wrap up and decide on next steps.

*Strengthening surveillance*

\* Country visits (Lao PDR, Thailand and VN) organised as a follow-up of the M&E surveillance framework meeting in Bangkok last October.

\* GMP Database and Global malaria report 2009: further to be consolidated within the region.

\* The MMP Coordinator also participated in the GMP surveillance, M&E TAG in Geneva (April 2009) to standardize global indicators and update the global draft surveillance guidelines.

\* As global malaria indicators are under revision (i.e. new global malaria surveillance guidelines are under development), training sessions, country support, etc, need to be anticipated and planned as soon as possible.

#### *Consolidation of subregional information*

\* Mekong Malaria Profile 2008 has been updated although the 2007 data for Myanmar are missing.

\* Although Mekong (and biregional) indicators under revision for 2008 data, these need to be aligned with GMP indicators. The next PPM meeting in Manila will discuss WP and SEA indicators articulated with GMP indicators.

\* Drafting M&E plans for malaria control programs, and improve M&E use to guide programme management is an ongoing development of GMS framework by MEASURE evaluation jointly with WHO and interested partners such as CDC/MC.

#### *Special studies / operational research*

\* Malaria prevention in pregnancy study, Cambodia: Protocol finalized (including TA), co-funding by MCH/WHO HQ programme secured, protocol ready to be used.

\* Non-malarial fever study: Progress report available (Nov 2008 meeting in CAM) with further data analysis needed from three sites in CAM and two in Laos; CSR WPRO involved; one FT person at IPC; clinical/lab algorithms to be developed integrating other causes of fever than malaria. The study is likely to be extended with additional non-USAID funds.

#### *IR 4: Enabling environment strengthened*

\* Technical assistance to update national malaria treatment policies is planned along with the review of TES results in Myanmar in March 2009.

\* Drug policy update planned in Cambodia (in the context of AMFm) in 2009.

\* China treatment guidelines changed to several ACTs as first-line drugs but not in compliance with the WHO guidelines.

\* Addressing malaria multi-drug resistance on the Cambodia-Thailand border: Starting in January 2009, a two-year multi-country US\$ 22 million containment strategy funded by BMGF through WHO is on-going and would face many challenges with high demanding intensive short-term project activities on top of (or clashing with) planned activities, new WHO (GSM) procedures and a need for more full-time country/field staff.

\* Malaria prevention and control strategies for vulnerable populations: Final report of ADB-WHO project available but strategic direction and control strategies for the region is still pending.

\* Aiding countries to obtain funding (GFATM and others): TA for Round 9 (CAM, China, THA and Myanmar Round 9) ongoing and USAID funds is seen as crucial in proposal development and implementation for GF in Mekong countries.

\* Increasing laboratory capacity for malaria drug quality monitoring is ongoing with USP through QA network and WHO.

\* Increasing public-private partnerships in malaria control: Country support to monitor public-private mix strategy (ongoing, Laos and Cambodia) and a Regional PPM Task Force could be the next step. Documentation of PP practices is ongoing with the country initiatives and an evaluation of Malachek / Malarine in the private sector project in Cambodia initiated in February 2009.

\* Maintaining the Mekong Malaria Programme network is also a crucial component for continued USAID funding in maintenance of the MMP office, consolidation of the Mekong TES network, organizing USAID partners meetings twice a year, coordination of partners and TA with focus on Thai-Cambodian links, facilitating linkages between partners and national programme, WHO-MMP website maintenance with WCO Thailand assistance, etc.

\* USAID is also providing on-going TA for programme implementation and monitoring with a long-term TA at the subregional and country levels, WHO fixed-term staff with office support in Cambodia and Myanmar, NPO in China and Viet Nam and 25% of a M&E staff in WPRO.

*IR 5: Model programs expanded and use of best practices strengthened*

\* Exchange of information on best practices is now possible with the MMP website with selected relevant MMP documents *available at:*

<http://www.whothailand.org/EN/Section3/Section113.htm>

\* There are also the Malaria Resource Centre and website: <http://resource.actmalaria.net/> and the RDT website: <http://www.wpro.who.int/sites/rdt>

**Questions:**

Q: Sylvia – Does the programme have sufficient funds for good quality TES in the next few years?

A: John Mc Arthur – TES is a high priority of USAID RDMA and MMP and USAID is prepared to continue funding TES in six countries to enable better monitoring and quality assurance.

Q: Souly – Are there concerns of quality of ART in the drug trials or routinely in the field?

A: Charles/Eva – Initially there were some concerns in drug efficacy trials in China and Viet Nam but they have been solved with QA now done in South Africa. With DHAIP it is more difficult and there is only one lab that tests this drug in Belgium. WHO HQ provides “routine” drugs for TES.  
John Mc Arthur – All USAID TES sites have to get their drugs QA'd before use.

Q: URC – RDT sensitivity use in low parasitemia context needs to be explored?

A: Eva – QA programme in place continuing funds with FIND and offered free of charge for countries in WPRO in two labs PI in CAM and RMT in PHL. Vivax tests are more vulnerable on sensitivity aspects.

**Comments:**

John McArthur – Is there a manufacturer that can standardize a quality cooler box product to cater for countries?

PMI policy is for LLIN and not ITNs and not for AMFm activities.

There should be a workshop to discuss drug quality issues. Last one was in 2004.

Raising visibility of the MMP could possibly take shape in an improved catchy web site, Mekong publications, etc.

Jim – Meetings in THL, MNYR and CHN are planned for TES. The measure should be how the TES is used for policy/decision-making in treatment guidelines. TES should not be for purely research purposes

**University Research Co. LLC (URC)**

Kheang Soy Ty made the presentation.

URC is supporting three Operational Districts (ODs) within the five ODs in the Zone 1 containment project in CAM.

IR 1: Access increased to prevention interventions

\* IEC/BCC strategy review and update for target risk populations is completed. Radio and TV broadcast is ongoing. Twelve billboards have been installed and 950 flipcharts have been printed (556 distributed). Integrated health education in schools comprising teams from health and education departments are working together but there is a need to clarify existing guidelines. Radio Call-In-Show Programme (carried out by Equal Access) in BTB and re-broadcasting in Pailin, BMC and OMC is on-going. Overall IEC/BCC activities require better coordination (leadership CNM, education department).

\* Malaria Week is in the process of being completed. Pailin conducted theirs in March 2009 covering 26 villages with a population of 4,000. Twenty-seven fever cases screened with RDT: two mixed infections detected. However, there was a shortage of insecticide to re-treat bed

nets. Similar shortages of insecticide were faced in OMC (AV & TP) and BTB and also anticipated in BMC if no corrective action is taken from CNM. This will be a serious obstacle since the rains have started early and accessibility to remote villages in rainy season is difficult.

\* Training and refresher training for community network (VMW, VHSG) were completed in zone I and will be completed in zone II. In the *Containment zone I*, a total of 240 out of 278 VMWs have been trained but only 25% of them have been given supplies. In *Containment zone II* refresher training has been conducted for 40 VMWs, but 99 villages need to set up VMWs. Serious obstacles are being faced mainly with insufficient RDTs (till early April 2009) and anti-malarial drugs. Low literacy level and high volunteer turnover are also issues. Better coordination and leadership from CNM is needed for logistic arrangements.

\* Support for ITN intervention is in progress. Procurement of LLIN and hammock nets for mobile and migrant population is ongoing but there is already a forecasted shortage of supplies (net and insecticide). Mobile populations will need to be given LLIN/hammocks by harvest season; end of May/June but supplies of nets and insecticide may not be adequate. Supporting field ITN implementation (distribution and re-treatment) will also need to be followed up closely.

#### *IR 2: Access increased to care, support, and treatment*

\* *The review and modification of the drug logistic system for ACT and training of health workers are in progress but still awaiting the containment policy and strategy to be finalized.*

\* Training for lab technicians on the use of RDT and microscopy *is* completed. Seventeen lab staff from 7 health facilities have been trained, 240 VMWs have been trained on the use of RDTs *and* QC on malaria smears in 17 health facilities with microscopes organized. However, again, the training materials and equipment were not adequate and better coordination from CNM leadership is required.

\* Training for private providers, pharmacists and drug outlets is in progress and a list of private providers has been updated. However, URC is still waiting for the new malaria policy on private health sector and the active participation from different departments to be coordinated by CNM.

#### *IR 3: Access increased to strategic information*

\* Training of health staff in using data for improving management and monitoring of malaria program has been completed. About 130 staff have been trained on logistic management and 60 staff on project cycle management. However, better leadership and coordination among counterparts and partners is needed.

\* The Project Baseline Survey on facilities, households and outlets in 2008 has been completed.

\* Regular supervision and on-the-job training is ongoing to improve malaria diagnostic capacity and supply system. Major obstacles have been with the supply of materials and equipment, i.e.

RDT, microscopes, reagents, cooler boxes, and severe case management equipment. The poor quality of slides and reagents is also an issue. Limited staff motivation is also a serious threat. Better forecasting and effective procurement system are needed along with overall strengthening of the community network to reduce workload at the health facility level.

*IR 4: Enabling environment strengthened*

\* Field Testing Strategy to Contain Malaria Parasites Tolerance/Resistance to Anti-Malaria Drugs in Western Cambodia is ongoing. Staff involved have been trained and operational teams set up. However, the 2nd line treatment with QN and tetracycline needs to be discussed in view of 7-day treatment at the community level. Better coordination of CNM and partners is also needed.

\* Training in severe malaria case management is completed with 22 MD/MA trained.

*IR 5: Model programmes expanded and use of best practices strengthened*

\* Efforts to *integrate* supplies of RDTs, anti-malarial drugs and education tools through existing supply system are ongoing. MoH has approved the integration of RDT, ACTs, etc, into the national logistics system down to the village level. However, the forecasting of and response to stock-outs need to be worked out.

**Questions**

Q: Sylvia – A dramatic decrease in incidence and an increase in the SPR are noted. Is the increase from the facilities?

A: Yes, from facilities. The survey was done in May just before the rainy season (annual) but the incidence reported is for one quarter.

Q: Souly – Issues on the cooler boxes need more clarification, i.e. effect of humidity on the packaging and the product itself, effect of opening and closing the box, etc.

A: Eva – Effect on ART blister packs was already done. Cooler boxes seem to be cost-effective for in-country production.

**Comments**

John – URC is not using USAID funds for procurement. However, URC has highlighted the issue of insufficient ITNs, insecticide, RDTs and ACTs and probably resulting in huge numbers of missed opportunities especially during the malaria weeks. More leadership from the national programme is needed.

John – We need a focal point to oversee the containment project on the ground to provide leadership among all stakeholders. The WHO P5 position would need to be filled quickly. Containment is not a Gates issue but all related partners have to be actively involved.

Eva – Containment project will see a coordinating committee and mechanism with all stakeholders that will overcome the technical and management bottlenecks in the procurement delays issues.

Charles – There needs to be more alignment of partners' indicators with existing global, national and containment indicators.

Chanta – There is still a few pending issues needing clarification, e.g. quality of data and definition of indicators, VMWs in Zone 1 never received nets, monotherapies are still marketed albeit recent government ban.

Rashid – RDTs currently used for only Pf. Only fever cases will be tested with COMBO at the community level. The COMBO RDTs need cooler boxes for recommended storage temperatures below 30 degrees Celsius. A simpler design is needed for cooler box. Net coverage needs standardized denominators, e.g. distribution of nets (2km or 5km from forest), treated *versus* IBN.

## **United States Pharmacopoeia Drug Quality and Information Programme (USP DQI)**

### **USP DQI Mekong Malaria Programme**

Laura Krech, Souly Phanouvong and Chris Raymond made the presentation.

#### *IR 3: Access increased to strategic information*

\* USP DQI's objective is to obtain antimalarial quality data through regional monitoring programmes mainly through the provision of TA and equipment and to enable data collection and testing. The challenge has been with the quality and consistency of data and corrective measures have been made through recent site visits to Viet Nam, Cambodia and Thailand and also with provision of needed reagents, reference standards, USP-NFs, other supplies. USP DQI is also providing updated, standard data collection and reporting forms.

\* There has also been an increase in the number of monitoring sites in 5 Mekong countries, from 17 in 2003 to 28 in 2006 and 37 in 2009.

\* Souly proceeded to explain the framework for monitoring and the framework for testing. From October 2008 – March 2009 Medicines Quality Monitoring results from four Countries were also presented. In Thailand, 1,271 samples collected out of which 590 were antimalarials in comparison to Cambodia, 243 samples and 78 antimalarials, Viet Nam, 320 samples and Laos, 194 samples and 54 antimalarials. Viet Nam and Thailand are still doing confirmatory testing. In Laos, only one sample (ampicillin was found to be counterfeit. In Cambodia, chloroquine phosphate, amoxicillin, ampicillin (different claimed mfr), and penicillin G potassium were counterfeit and in Viet Nam, artesunate and chloroquine (dissolution) were counterfeit.

\* USP DQI also reports on action taken by local, national and regional authorities using its results from antimalarial quality data. To date, in Lao PDR regulatory notices were issued to

affected provincial and district authorities and other provinces, thorough inspections and investigations were conducted at retail outlets, the pharmacy owners and main distributor were educated, warned and fined according to Laos law as well as obliged also to sign an agreement stating that they will strictly follow the Lao medicine laws and regulations and if they commit future violations, they will face serious punishment. The Food and Drug Department held awareness raising and collective action planning meetings to address counterfeit medicines and convened law enforcement officials from central and provincial levels (Medicines Regulatory Authority, economic police and customs, and trade). Photos and other relevant information on the products in question above were published in local newspapers (Vientiane Mai and Pasasone) and will be on the FDD website and its bulletin.

\* Similar good progress has been made in Viet Nam where NIMPE has collaborated with the Provincial Health Services and Team for Market Management and other relevant parties to solve the problem and to take following actions against counterfeit quinine sulphate; and in Cambodia where a monthly bulletin and leaflets have been produced for the target groups (pharmacies and communities). However, Cambodia is not able to take official actions to do seizures, closures, fines, etc.

\* Evidence is shared with INTERPOL/IMPACT, USAID. However, there are challenges in delays getting country data and necessary clearance to share. SOPs for timely reporting need to be developed.

\* USP DQI is also actively participating in Operation Storm which involves nine countries in the region. Data from the USP DQI medicines quality monitoring programme in Cambodia, Laos, and Viet Nam, were used in covert operations to identify fake medicines. Between 15 April and 15 September 2008, nearly 200 raids were carried out in Cambodia, China, Laos, Myanmar, Singapore, Thailand, and Viet Nam, resulting in 27 arrests and the seizure of more than 16 million pills with an estimated value of US\$ 6.6 million.

\* USP DQI is also raising public awareness of dangers of poor-quality drugs through targeted IEC materials to health professionals and the public. Data are presented in workshops, meetings, local newspapers, drug bulletins, PSAs distributed via email, websites and a documentary and Minilab filming is now available for download on the USP and USP DQI websites and the GPHF website. PSAs are available in four different languages for the Mekong subregion.

\* Activities are ongoing to estimate poor-quality antimalarials prevalence in Thailand/Cambodia cross-border provinces. There are 6 sites in Thailand and 6 sites in Cambodia where randomized sampling and testing has so far been done within its Round 1 with 702 samples collected. Results with Thailand XB Minilab shows 393 samples collected and a failure rate of 10.2% whereas in Cambodia, 309 samples collected with a failure rate of 7.5%. Challenges faced are delays in coordinating provincial data and confirmatory testing. Corrective measures would be to conduct monitoring, supervisory visits with national focal points and send Cambodia samples to Thailand for analysis.

IR 5: Model programmes expanded and use of best practices strengthened

\* Efforts are ongoing to obtain medicine quality data through a regional monitoring programme within a database of all medicines collected/tested in Viet Nam, Laos, Cambodia and Thailand, 2003–2008. Currently, work is in progress entering antimalarial data from 2007–2008. Obstacles arise due to non-standardized methods of collecting/testing data for which USP DQI is creating standardized forms for all regions and maintaining communication with the country and the database team when there are uncertainties. USP is also beginning planning for a global database.

**Questions**

Q: Ravi – Has there been an economic analysis to determine the feasibility in removing the profit margin on counterfeits?

A: Souly – No.

Erin – This is probably something the AMFm pilot could show.

Q: What are the kinds of sentinel sites? What is the overall methodology?

A: Souly – Public, private, illegal, street vendors, etc. Most sites are convenience sampling for each round. For cross-border collection, sampling is randomized.

**Comment**

Sylvia – Relationship between quality and resistance is quite difficult to measure but data on this would be useful.

**MSH – Strengthening Pharmaceutical Systems (SPS)**

Beth Yeager made the presentation.

IR 2: Access increased to care, support, and treatment & IR 4: Enabling environment strengthened

\* MSH/SPS is currently supporting the Bureau of Vector-Borne Diseases (BVBD) in Thailand to improve pharmaceutical management practices during expansion of malaria posts under GF Round 7. Conclusions and recommendations of its assessment report have been translated by Kenan and disseminated. A 2-day training course on management of malaria medicines and RDTs for provincial public health offices specifically orientated for the GF programme has been done with 36 participants representing 26 PPHOs with malaria posts supported under GF Round 7. Next steps include developing standard operating procedures and guidelines for managing malaria medicines and RDTs at district health offices and malaria posts under GF Round 7, capacity building at the district level and monitoring storage conditions.

\* Ongoing efforts are also focused on supporting the national malaria programme in Laos to improve pharmaceutical management practices. The quantification exercise WHO/Laos prepared for the annual procurement of Coartem and RDTs under the GF malaria grant was reviewed. An assessment on the procurement supply management (PSM) situation was done and findings presented to malaria stakeholders at meeting in Vientiane. A matrix was also

completed for partners to review progress to date in addressing assessment recommendations and define technical assistance needs. Next steps are to meet with national partners to prioritize technical assistance needs and develop an action plan. Priorities include: review of logistics guidelines, capacity building, quantification, and distribution.

\* MSH/SPS has provided technical leadership in pharmaceutical management for malaria to key regional organizations through its involvement in the Management of Malaria Field Operations Course (MMFO). SPS developed materials for the MMFO session on procurement and supply management and conducted a one-day training course, followed by a half-day field exercise. To follow up, SPS provided virtual support to course participants when they returned to their countries. Next steps are to further support Thailand, Laos and regional activities (MMFO) and possibly elimination initiatives and the containment project.

### **Comments**

John – The US is the largest contributor of funds to the GFATM and there is good progress so far in the provision of TA towards addressing bottlenecks in the areas of procurement and logistics within country GFATM grants.

### **MEASURE Evaluation**

Ravi Goud made the presentation.

MEASURE provides technical assistance in monitoring and evaluation. USAID *RDMA malaria projects include:*

- *RDMA Infectious Disease Performance Management Plan (ID PMP)*
- *Mekong Malaria M&E Framework*

#### *IR 3: Access increased to strategic information*

\* Work on the RDMA ID PMP is in progress with the rolling-out ID PMP, datasheets, and database. However feedback from partners about indicators and reporting requirements is needed to finalize the templates. Possible “bugs” with database also need to be overcome. IT support to RDMA during initial use of database will also be necessary.

\* MEASURE has made initial progress with the Mekong Malaria M&E Framework. It has just completed visits to two out of three Mekong countries and produced a draft framework. The main obstacles are with the varying country M&E systems, capabilities, and priorities as well as the GFATM reporting process which is frequently the priority for most national programmes. Next steps would be to review and harmonize country systems, reporting requirements, and international guidelines, plan a working meeting to create consensus indicator list and to involve GFATM to get their input and “buy-in”

A more detailed presentation on the PMP and datasheets and the Mekong Malaria M&E Framework to partners is planned for Day 2 of this meeting.

## **Comments**

*John – Discussed this initiative with the GFATM FPM (Fund Portfolio Manager) for Thailand. GFATM very much wants to be a part of this discussion on M&E framework. The Three Diseases Fund in Myanmar is also eager to get involved.*

*Erin – GFATM doesn't set indicators but look at WHO and RBM to determine its M&E tool kit. However, it is still very much based on African settings.*

*Ravi – The ideal objective is to look at how GFATM, WHO, USAID indicators can be harmonized to minimize reporting burdens for countries.*

## **Kenan Institute Asia**

Jim Hopkins made the presentation.

### *IR 1: Access increased to prevention interventions*

\* Towards building capacity for a school-based life skills education approach to mosquito-borne diseases (focus on malaria and dengue), a draft curriculum for grades 4-6 including a teacher's guide was completed. Further scale-up through GF Round 9 is being considered. A workshop to critique instructional package and production of prototype package is planned for 6–7May 2009.

\* In providing long lasting insecticide treated nets (LLINs) for migrant labourers in Phuket (pre-elimination pilot project), 1,000 LLINs are procured by IRC and an additional 3,000 being procured by K.I. Asia for the Phuket Provincial Public Health Office. However, there have been some delays in funding for IRC.

### *IR 3: Access increased to strategic information*

\* K.I. Asia conducts therapeutic efficacy Pf in vivo studies in Thailand in six sites (Mae Hong Son, Tak, Ratchaburi, Ranong, Ubon Ratchathani, Yala). Funding for these activities has been shifted under the support of WHO MMP as of 1 January 2009. A major obstacle faced now is the low number of malaria cases for testing. An annual workshop to review results of drug resistance/quality monitoring and policy implications for 2008 (Thailand) is planned for 14–15 May 2009.

\* HRP2-based in vitro sensitivity studies of Pf in eight sites is ongoing with also the same challenge of having low number of malaria cases for testing. Funding for these activities was shifted under the support of Global Fund Malaria Round 7 as of 1 January 2009.

\* Study on migration and malaria on the Thai-Cambodian border has been cancelled due to delays in proposal development. It is now to be implemented under a BMGF-funded project in Thailand and Cambodia.

IR 4: Enabling environment strengthened

\* *The initial funding phase for the Phuket malaria pre-elimination project is to be completed on 31 May 2009. A meeting with the private sector and the local government is planned for 26 May 2009 followed by a wrap-up workshop on 26–27 May 2009.*

IR 5: Model programmes expanded and use of best practices strengthened

\* A workshop is planned for 12–13 May 2009 on lessons learned and to develop a strategic framework for elimination of malaria transmission in Thailand. A WHO field manual on elimination has already been translated into Thai and a pilot implementation proposed for Trat Province under GF Round 9.

**Questions**

*Sylvia – Is there going to be a report on lessons learned on Phuket elimination? Will this be shared with other Mekong countries?*

*Jim – The Malaria Association of Thailand is going to do an evaluation and a dissemination meeting is planned. The Phuket initiative is still preliminary as programme re-orientation from control to elimination has not been done yet. Currently, the materials are in Thai.*

*John – Perhaps translation also required in English so that it can be further translated in other Mekong countries.*

**CDC and Malaria Consortium (MC) partnership**

Sylvia Meek made the presentation.

The partnership aims to contribute to developing a comprehensive updated base of evidence on malaria burden (epidemiological, economic and social), efficient systems for ongoing information management, link with the Malaria Elimination Group (CDC) and further intensive work on resistance containment by ensuring M&E in place for short-term response and collaborating to develop long-term strategy

IR 1: Access increased to prevention interventions

\* In the context of the malaria containment project, it aims to restrict the spread of artemisinin-derivative resistance by linking case management with targeted intensified prevention in areas of documented resistance. A net tracking activity is ongoing to ensure very high coverage and to avoid possible misuse. However, detailed data are needed. MC also highlighted the need to monitor targeting strategies for ITNs. Longer-term net tracking mechanisms need to be looked into to ensure sustained coverage and misuse.

\* Development of a scheme for progress reporting on coverage with preventive tool is ongoing. MC organised a workshop on containment indicators (*building on existing indicators*). However, obstacles were faced when dealing with cross-border issues for which a cross-border information exchange mechanism is suggested.

### IR 2: Access increased to care, support, and treatment

\* Initial field visit is in process as a preliminary assessment towards a qualitative research on perceptions of risk, diagnosis and treatment strategies and to propose strategies for improving outreach services to at-risk populations. CDC's preliminary assessment of qualitative research in western Cambodia is on the way.

\* A fact-finding mission is ongoing towards testing new strategies to tailor treatment provision for mobile populations (not ethnic minorities during the six-month period) as well as working with community leaders to determine and overcome barriers to access. A qualitative research project on perceptions of risk and preventive strategies is planned in November.

### IR 3: Access increased to strategic information

\* Further analysis of Cambodia 2007 survey and support to Thai M&E strengthening efforts for GF Round 7 would contribute to assessing changes in malaria burden in time and place using historical data and spatial analysis. This could also possibly be used to develop a model for other countries. Scoping work on spatial analysis is planned for May.

\* MC is also currently engaging in discussions on TA for Lao PDR's national net survey. Details are being worked out.

\* A social science research study is ongoing to investigate risks associated with forest exposure vs. temporary agricultural labour.

\* A large number of garment factories have closed down in mainly low transmission areas and workforce has returned to their hometowns. Further strategies need to be considered especially in regard to IEC/HE activities.

\* MC is also collaborating with WHO and MEASURE in updating regional indicators and working towards development of the Mekong M&E framework. As indicators of case management are less well developed than prevention indicators, MC is also exploring adaptation of prescriber behaviour methods used in East Africa for GMS countries and identify best strategies for collecting data where facility attendance with malaria is low.

\* Another area that MC would be exploring is the development of new methodologies for TES in view of decreasing the number of patients for example. This could be from malaria registers from health facilities and hospitals that could serve as a warning system for treatment failures.

\* Towards supporting operational research around containment, activities that are identified are mainly in the areas of inputs to Mass Screening and Treatment research, qualitative

research with farm workers, developing research collaboration on AMFm in Cambodia and also in identifying dates for regional op research meeting (challenge – too many meetings, so aim to link to another meeting).

\* MC is also supporting countries on GFATM M&E in looking at how countries can become eligible for strategic plan channel as well as M&E needs which also would involve harmonisation of information systems. TA is also provided for indicator development, measurement, and GFATM application as with ongoing work in Cambodia.

#### *IR 4: Enabling environment strengthened*

\* Collaborating with ACTMalaria, MC has provided TA in curriculum review, course design and facilitation. S Mehra has developed and facilitated project management module for MMFO. J Hwang and Holly Williams worked on the situation analysis module. D Sintasath provided support on the module development and individual project evaluation. MC has also participated in ACTMalaria's partners' meeting and has presented a proposal for a M&E course which has been well received. Next steps would be to consult with countries on M&E content, plan the M&E course and develop M&E curriculum. MC also plans to increase its engagement in epidemiology module for next MMFO (planned for 2010).

#### *IR 5: Model programmes expanded and use of best practices strengthened*

\* A dissemination workshop on lessons learned from survey implementation (e.g. 2004 and 2007 surveys in Cambodia) is planned.

\* A migrant's bibliography is ready for dissemination.

\* Currently working with partners on revitalising RBM Case Management Working Group – ensuring M&E issues fully addressed (linking with MERG).

#### **Comments**

*John – There seems to be multiple partners working for one expected result. There needs to be an activity matrix to differentiate the different sources of funding and harmonization of activities. He would also like to see a timeline on the M&E activities by involved partners.*

*Ravi – ACTMalaria and other Mekong partners should discuss and collaborate on M&E with MEASURE and link to current efforts.*

*Eva – There are many cross-cutting issues in the MC plan especially with the Cambodia containment project. We need to have a technical forum within this meeting to work out how to have a clear operational plan that outlines both coordination and technical aspects.*

*Melissa – A thematic-based presentation could be a better way to for partners to present in subsequent partner's meetings.*

*Charles – There is a need to link with other partners working on the same issues, i.e. drug use (harmonizing with work on clinical and lab algorithms) and M&E (harmonizing framework, training timelines, etc); and effective communication and coordination should be improved. The objective should be product orientated and leadership has to be delegated.*

*John – Tangible progress needs to be seen. MC needs to take the lead on the M&E and facilitate better effective networking.*

*Leonard – Ownership of countries of the M&E framework is crucial and needs to involve them in this process.*

*Charles – GFATM should be involved along with the national focal points on the development of the M&E framework*

## **ACTMalaria Foundation**

Cecilia Hugo made the presentation.

### *IR 2: Access increased to care, support, and treatment*

\* The Management of Malaria Field Operations course was organized from 19 January to 13 March 2009 by the Ministry of Public Health's BVBD – Thailand. Attending the course were 18 participants from 7 member countries and 5 from Pacific islands (the Solomon Islands and Vanuatu). A few constraints were noted, mainly that the allocated budget for the training was inadequate to cover all estimated expenses and last minute cancellation of participants from two member countries. The current solution is that most member countries have sought support for the per diem and travel expenses of their participants (GFMalaria, national governments, WHO) and participants from Solomon and Vanuatu were supported by AUSAid/PACMISC.

\* Preparation is ongoing for the Broadening Involvement Team Training Workshop to be held in November 2009. Transfer of Training Technology has been postponed to May 2010 as Malaysia needs to focus on pre-elimination. The Integrated Vector Management training is another priority but requires time to formulate and scheduled for May 2010.

### *IR 4: Enabling environment strengthened*

\* Towards strengthened inter-country network for malaria control, ACTMalaria successfully organized the EB & Partners meeting in Vientiane, Lao PDR on 16–18 March 2009. Ten Member countries were present with the exception of Bangladesh which faced administrative difficulties. The meeting saw the Chairmanship handover to Lao PDR.

\* Support for the Secretariat and AIRC staff is ongoing. The AIRC, ACTMalaria website has been re-formatted and modified as a database driven site. Reportorial Requirements were submitted.

However, country programmes were willing to contribute to the AIRC but materials require translation; incentives and equipment were provided to satellite libraries but key contacts are busy with programme concerns that little time could be allocated to scanning and uploading of materials.

\* An External Assessment of Competency of Malaria Microscopy is ongoing with Cambodia (2<sup>nd</sup> round after 3 yrs.) and East Timor (October 2008). Lao PDR and Viet Nam are planned for September 2009. Refresher Course on Malaria Microscopy for TES and National ISD on Malaria Microscopy Myanmar (WHO-SEARO) is also planned. Accreditation is useful on a 2-3-year cycle. The interim period requires microscopy refresher courses that perhaps could be done by the accredited national experts.

\* A slide bank also needs to be given priority currently maintained in RITM (coordinates validation of slide collections by six readers in Asia, KEMRI and AMI; species confirmation by PCR). Further maintenance is planned with support from WHO-WPRO.

\* ACTMalaria is also trying to seek funds to conduct insecticide resistance training and establish an info exchange network.

### **Comments**

*Charles – Is it possible to have a Mekong “corner” on the ACTMalaria website and/or a Mekong corner in each partner’s website? Could partners send to WHO-MMP their updated URL? MMFO module development is time-consuming and needs to be updated towards pre-elimination targets with a focus on surveillance. Training durations are also lengthy. Can we have a comprehensive curriculum, guideline orientated, that emphasizes surveillance data and capacity building in basic field epidemiology? TES microscopy QA needs to be improved considerably, perhaps with cross-country validation.*

*Deyer – Most national control programmes have many staff trained in MMFO over the last few years. Could provincial and district MMFO be the focus now and use national resources for in-country training? Outcomes or final products of the MMFO at country level should be highlighted.*

*Leonard – As mentioned above, M&E should be done on the final products from the country MMFO projects.*

## Overview of therapeutic efficacy studies and drug resistance in the Greater Mekong Subregion – Dr Charles Delacollette

Charles Delacollette gave an overview of therapeutic efficacy studies and drug resistance in the Greater Mekong Subregion. Issues highlighted:

\* Last informal consultation on TES in the GMS in September 2007 with representatives from all Mekong countries.

\* *In vivo* monitoring of first-line antimalarials planned in sentinel sites every 2 years in all countries in the GMS; standardized 28-day protocol, WHO Excel data entry programme.

\* *In vivo* TES workshops conducted in Cambodia in 2006; China, Solomon Islands and Thailand in 2008, Myanmar in 2009. *In vivo* TES workshops planned in Viet Nam and Lao PDR during Q2 2009, monitoring visit planned in Yunnan in early June 2009 and Lao PDR in early July 2009.

\* All GMS countries visited at least once since September 2007 (follow-up supervision, proposal development and finalization with PIs, budget, articulation with non-WHO funded TES, etc.). Reports are available.

\* Progress made: Regular updating of drug resistance database at WHO HQ with WHO-MMP, SEARO and WPRO. They are various funding sources (USAID through WHO-MMP, GFATM, research institutions, domestic funding, etc). USAID funds are available to support TES in the GMS through WHO-MMP at around US\$500,000–600,000 per year.

\* A Network of Sentinel Sites in the GMS 2008 (through WHO) has been set up. The sentinel sites for 2009 are tentatively as follows:

1. Cambodia: Preah Vihear (AS+M; CQ), Sampouv Loun (DHAPIP; CQ), Pailin (DHAPIP; AP)
2. China: Puer, Yunnan (DHAPIP), Ruili, Yunnan (CQ)
3. Lao PDR: Khammoune (AL), Savanakheth (AL) (Wellcome Trust), Luang Namtha (AL+CQ), Attepeu (AL)
4. Myanmar: Tachileik (AL; CQ), Bago (AL; CQ), Kawthaung (AL;CQ), Kalay (AL; CQ)
5. Thailand: Tak (AS+M), Kanchanaburi (AS+M), Mae Hong Son (AS+M), Ranong (AS+M), Chanthaburi (CQ), Yala (CQ)
6. Viet Nam: Quang Tri (AS7), Gia Lai (AS7), Binh Phuoc (DHAPIP), Ninh Thuan or Gia Lai (CQ)

\* Treatment failure rates (%) of antimalarial drugs (1990–2008) and ACT efficacy (2000–2007) in the Mekong Subregion countries were also presented (see PPT presentation). Latest results show:

ASU+MEF efficacy in Thailand: Tak (2008) 99% ACPR (MEF+ASU 3-day dose from 2008), Trat (2007): 90% ACPR.

ASU+MEF efficacy in Cambodia: Pailin (2008) 100% ACPR, Pursat (2007) 90% ACPR

\* Efficacy of chloroquine in *P. vivax* malaria was also presented. CQ resistance for vivax infections is not a cause of concern so far in the GMS compared to the Pacific Region. Need to start also with PQ.

\* Many technical challenges still persist:

- Decline in cases in some sentinel sites (recommended sample size unable to be reached)
- Microscopy QA
  - Quality of thick and thin smear and Giemsa stain questionable
  - Cross check slide validation by proficient microscopists needed
- PCR confirmation (in-country or sent out)
- CQ PK (filter papers to be sent to MORU, Mahidol, Bangkok)
- Regular on-site visits by and with PIs
- Preparation and review of technical proposals and reports
- Regular updating of drug resistance database at SEARO, WPRO and WHO HQ
- Sharing of raw data for analysis and quality cross-check of data
- Timely information sharing through network (publication means delay)
- Logistics delay

## Comments

John – Duration of TES also needs to be standardized to 28 days. Parasite clearance times (3 days) needs to be analyzed. With the limitations of quality of microscopy, should filter paper PCR be introduced instead of determining clinical/parasitological failures?

Heng – In some sites, 80% of hospitalized malaria is vivax treated with CQ injectables sought from private sector. Any profile to the early failures in Cambodia? High parasitemia?

Eva – When you remove selection pressure of MQ, parasites have reverted back to the non-resistant wild strains.

Sylvia – CQ sensitivity; less of gene mutation in the population over time. ART tolerance needs a fast reaction.

Charles – PK studies are quite complex. Increasing gametocytes might also be an indication of early failures.

John – Risk factors for failures should be analyzed and need to be presented.

Sylvia – Although there is a need for standardized protocol, bilateral funding for TES may not be the best way as funding since the future cannot be fully ensured.

Chansuda – WHO recommendation is that the partner's drugs should have at least 80–85% efficacy by itself to qualify as an effective partner's drug.

Charles – It was not the case when ACT started in Africa in 2003 with partner's drugs like SP or AQ not fully efficacious.

John – WWARN plans to set up an office in Asia for database purposes. In vivo monitoring awarded to WHO whereas in vitro pharmacokinetics was awarded to WWARN.

## **BMFG-supported and WHO-led Artemisinin Tolerant Malaria Containment Project – Dr Eva Maria Christophel**

Eva Christophel made the presentation.

\* She presented the project organogram starting with the international task force, WHO headquarters and country level.

\* Project grant distribution totals US\$ 22.5 million over 2 years.

- *Contract holder/grantee:* WHO HQ -> WHO WPRO, WHO SEARO
- *Sub-grantees:* Cambodia CNM, Thai BVBD, Malaria Consortium, MORU
- *Sub-contractors:* Mahidol BIOPHICS Unit, Pasteur Institute Cambodia, TBD Cambodia (on GIS-supported surveillance)

\* Project governance structures at both international (International Task Force) and country levels (National Task Force) were briefly explained.

\* The project started on 1 January. Funds received by sub-grantees (from WHO) at the end of February. Decision to do most CNM procurement by WHO WPRO (retaining funds >4 million USD). Enormous commitment and support could be mobilized within WHO RO senior management for this emergency project, overcoming many bureaucratic obstacles and GSM. Most difficult is HR.

\* By 1 May 2009, we have in place the Project Management Team (in Cambodia), one containment project manager, two NPOs, one administrative assistant, one research coordinator (in HQ) – intermittent, ½ M&E person in WPRO and SEARO, one data manager (PP) and one field coordinator (Pailin) – through Malaria Consortium.

\* Positions to be filled: one *social sector expert/epidemiologist (Malaria Consortium)*, one *driver and one secretary (WHO Cambodia)*. In addition, in CNM and BVDC, hundreds of national staff at all levels will receive salary top-ups. There would also be consultants in the field on migration, communications, film documentary, MSAT, private sector, GIS (MC), etc.

\* Procurement updates: in Cambodia (through WPRO), two missions of WPRO procurement officer have been made to ensure specification and other logistic issues are in place. LLIN (family, Xfamily), LL hammock nets, insecticides (long- and short-acting), RDTs (combo), DuoCotecxin have arrived in PP except for insecticides (ETA: mid May) and Malarone/MSAT.

**Thailand** (through SEARO): Procurements have not arrived yet (ETA in June).

\* A quick overview of the target populations in Zones 1 and 2 was also presented. A few challenges were highlighted:

LLIN distribution: Both macro- and micro-planning needed (nets distributed to Zone 1). Additionally, we have to consider new risk groups (laid-off workers, military). External monitoring of nets is also essential.

Project management issues: Leadership overall and leadership on different technical issues within the project and within the national programme.

Coordination – between project partners and with other partners working in the area (in and outside the project area).

Project team building is needed (including project, Malaria Consortium, WHO/CAM, and WHO/THA staff).

The possibility of setting up ad hoc technical committees for various components (case management, private sector, vector control, migrants, etc) needs to be discussed further.

Regular information exchange and project update, including for International Task Force (ITF) members that should include joint planning with involved partners and informal meetings on technical issues.

Within the project's objectives, there are also opportunities for stakeholders to work more closely together, involvement of other health programmes (EPI, EHA – regional and country level), involvement of non-health agencies (IOM), improved SOP nationally and regionally for certain interventions (LLIN distribution) and opportunities for improved monitoring on the ground.

### **Questions**

*Q: Souly – What rationale was used for drug selection for CAM and THL?*

*A: Eva – Thailand had already done trials with Malarone which is already registered. The concern is with a one point mutation, the drug is not useful. So it needs well regulated rational use enforcement. DHAPIP has >95% efficacy in 28 day CAM trials. DuoCotexin is for Zone 1.*

*Q: John – How to ensure effective commodity distribution? There is already a 30% quantification error with nets that needs to be addressed.*

*A: Eva – Population census needs to be updated and current population denominator for nets is underestimated by 30%. Micro-planning and population census are needed before distribution. TOT workshop on micro-planning for CNM (EPI to be involved) is planned. Adapting EPI rapid assessment methodologies for bed net distribution could prove beneficial. The format has already been developed for population census for use in all project areas. Macro-distribution*

*was completed to Zone 1 and storage conditions are adequate. Rapid coverage assessment needs to be done immediately after distribution (end of May) and before the onset of rains. There is also the possibility of joint EPI monitoring at the country level.*

*A: Heng – Census at the village level needs to be done carefully as well as understanding political sensitivities in net distribution. Other existing village-based programmes, sometimes non-malaria, including NGOs can be utilized for quick net distribution. Sylvia – There are already existing local networks such as CAM Red Cross, etc, that could be used.*

*Q: Leonard – Criteria for distribution for nets should not be used as we are aiming for total coverage of each village in Zone 1. What is the long-term plan after 2 years beyond the BMGF support?*

*A: Eva – The problem is with Zone 2 where the current denominators definition is 2 km from the forest. Mobile populations are also difficult to quantify; so are their needs for hammock nets, single nets, family nets, etc. The goal is to eliminate the parasite by 2015 but beyond the two years would be to go for a maintenance phase (e.g. GF Round 9 in Cambodia and Thailand).*

**Comments:**

*Souly – There needs to be product monographs for the drugs the countries are going to use.*

*Rashid – VMWs are now allowed to get the drugs from the nearest health centre/facility to avoid delays in availability.*

*Charles – There is a concern about so many partners; it is unsure we can obtain technical leadership. Leadership issues with different technical issues need to be established either with focal points or TWGs. This applies to both WHO and project partners.*

*John – The containment project cannot be “business as usual” and top priority has to be given to make progress. USAID and partners are called upon to assist with TA or other links with country programmes or initiatives, NGOs, etc, for WHO and countries for the containment project. Next six months will be critical to show BMGF to continue with its funding disbursement.*

**Day 3: 29 April 2009**

## **MEASURE**

Presentation made by Ravi Goud

### **RDMA ID Performance Management Plan: Roll-out and Implementation**

- \* ID PMP reporting is separate from the Mekong M&E framework initiative.
- \* For malaria, the ID PMP reporting sheets are by supranational and country level indicators.
- \* The roll-out and implementation plan will be to distribute ID PMP and example malaria datasheet to partners, briefly review ID PMP, demonstrate datasheet, roll out ID PMP and implement ID PMP.
- \* In its review, three programming areas (malaria, TB, other public health threats – OPHT) have been identified to be part of the ID PMP. Sub-IRs and indicators were chosen to reflect RDMA ID priorities. Separate PMPs for HIV/AIDS and avian influenza also exist. Work is still in progress and this is a living document.
- \* Reporting to RDMA every six months (but not every indicator will be reported). Indicator specifics are outlined in data reference sheets.
- \* Datasheets will be in the form of Excel spreadsheets that partners will use to report to RDMA. These are similar but more detailed than prior reporting sheets. There will be one Excel file for each disease (malaria, TB, OPHT)
- \* The roll-out process will require partners to read the indicator list in executive summary and again consider which indicators reflect their work and what they can collect data on. These should be discussed and clarified as to their reporting requirements with Chansuda. Partners should also identify baselines and reasonable targets in collaboration with Chansuda. As an initial learning curve is expected, partners should acquaint themselves with datasheets they will receive by email.
- \* The reporting would be every six months starting now and covering last reporting period. Partners should look at partner reporting requirement table (A 34), refer to relevant reference sheets and collect and report data to RDMA.
- \* It is proposed that partners discuss and review reporting requirements with RDMA 1–2 times per year (including discussion about possible adjustments to indicators). There would also be a need to occasionally assess quality of data reported (Appendix F).

### **Questions and Comments**

*Q: John – Would the reporting data requirements be too heavy for most partners?*

*A: Ravi – There are required data and those that are not mandatory.*

*Q: Jim – Reporting templates are not informative as partners still have to reference workplans to measure progress periodically. The GFATM monitoring template is commonly referenced. Can a similar template be used?*

*A: John – That can be done but will require more data entry by partners to monitor progress by quarter. USAID does not have similar reporting requirements and agreements like the GFATM.*

*A: Erin – For progress towards achieving annual targets, description of achievements can be captured in the comments column.*

*Q: Charles – The templates do not clearly differentiate USAID involvement and those by others, i.e. national programmes, partners, etc.*

*A: Erin – WHO is listed as a source/responsible agency for some indicators as a reference for most high-level indicators. Process and lower level indicators are more for the USAID partners to input.*

*Q: Souly – IT improvements can be suggested, for example having indicators brought up by individual partners, i.e. a database that allows partners to select and build their own reporting indicators and template. Are there ways to avoid double counting for indicators that more than one partner reports on?*

*A: Ravi – These templates are not readily exportable to a master database. Dropdown menus for some selected cells can be revised to allow more flexibility*

*A: Erin/John – Possibly more explanations and clarifications can be done in the comments columns. Templates need to be used and feedback on improvements.*

### **Mekong Malaria M&E Framework Country Visits**

\* Framework goals are to highlight key malaria issues across subregion, identify data that is useful for programme management and harmonize indicators and reduce reporting burden.

\* In October 2008, WHO and MEASURE convened an initial framework meeting with stakeholders across the Mekong Subregion (NMCP, WHO, USAID and partners) in which country programme representatives identified following areas of measurement: burden of disease, prevention, case management, strategic information, drug policy, special populations, behaviour change communication (BCC) and health education, and regional cooperation.

\* The conceptual model of the framework was presented. It uses a “target” and “arrows” to represent framework elements and their relationships with four distinct arrows representing distinct programming areas (prevention, drug policy, case management, and strategic information that point towards reaching the central goal: “Malaria controlled”. It also attempts to address four outer target rings representing cross-cutting issues ring: Health System Outcomes, BCC/IEC/Training, Special Populations and Regional Cooperation. The circles represent components to be included in the four distinct components (arrows).

\* Two countries were visited for an initial assessment: Viet Nam and Laos with WHO assistance (Thailand pending). The purpose was to meet with NMCP and GFATM PR (MOH in Laos, NIMPE in VN) to identify present data collected, current data reported internationally, collect relevant documents and to gather feedback on proposed framework.

### **Country Visits: General Observations**

- Lots of information collected (some needs to be translated)
- NMCP programmes in countries use vertical M&E system (plans to integrate in Thailand)
  - Causes significant reporting burden at clinics (>20 disease specific forms)
- Countries relying on VHW/VHV for community level intervention
- Lao GFATM, 95% of malaria activities; Viet Nam GFATM covers 30 provinces
- Focal transmission and specific populations are at risk
  - Thailand only country systematically collecting data on these populations
  - Viet Nam tracks legal internal migrants
- Countries stratifying risk and interventions
  - Viet Nam: 1 (never malaria), 2 (receptive), 3 (<5/1000), 4 (5–10/1000), 5 (>10/1000)
  - Laos: creating new stratification, old system based on theory
  - Thailand: village based
- General consensus was an agreement of the framework conceptual model as it captures key issues and their relationships. However, a suggestion was to add a supply chain component.

### **Current Data Collected**

- National M&E plans
  - Do not exist
  - Use GFATM M&E plan which covers the majority of malaria activities

National M&E plans should be developed independent of donor (i.e. GF) agenda.

- RHIS
  - Easy for programmes to collect and report these data because the forms are based on GFATM M&E plan.
  - Viet Nam says some of this data is used locally for management, but not so in Lao PDR.

- Surveillance
  - Drug quality and efficacy exist
  - Surveillance for cases through clinics
- Surveys: Capacity and survey plans vary greatly in countries
- Diagnosis:
  - Countries collect vivax data at different administrative levels with microscopy
  - Laos:
    - Indirectly by treating “-” RDT and high clinical suspicion with CQ
    - Recording testing by RDT, microscopy, and both
  - Viet Nam:
    - Record testing, but some tested after treatment
    - Also record the patient as malaria case if other causes are ruled out and responds to treatment
- GFATM grant indicators the priority
  - Report to other programmes as possible but expend less effort
- Report on Kunming indicators
  - Difficulty with “probable cases” (unconfirmed treated)
    - Due to terminology – only one word in Vietnamese and Lao for both probable and suspected cases
    - Less difficulty once terminology clarified

### **Initial Conclusions**

- Countries seem to face similar issues
- Programms share similar organization and approaches
- Framework may need minor adjustment, but seems appropriate
- GFATM needs to participate in process
- RDMA M&E technical partners need to clarify next steps

### **Next Steps**

\* Immediate steps are to complete the Thailand country visit, may review Cambodia, China, and Myanmar M&E systems and convene a M&E programme officers meeting 8–9 June to develop consensus on the indicator list.

### **Questions and Comments**

*Ravi – Feedback is essential from the stakeholders. The current working documents and drafts are still living documents and these need to be further defined within the broad themes and consensus on the specifics reached. Ideally, it reflects a key set of processes relevant to needs and capacity of countries levels of control.*

*Sylvia – Human resource development, management capacity should also be looked at as cross-cutting issues that are an integral part of the strategic information process.*

*Erin – The graphic framework presentation tries to demonstrate that almost all the components are cross-cutting in comparison to the previous linear M&E frameworks.*

*Melissa – Logistic issues could fall into the case management and ITN component.*

*Eva – Drug policy should be under programme management and not the case management component. Malaria control should be replaced with elimination for some countries. Special populations should be replaced with vulnerable populations. Health systems outcomes should be replaced with HSS and should be the outermost ring.*

*Heng – The private sector should be an additional ring.*

*David – Perhaps Operational Research should be an additional circle.*

*Charles – The graphic framework should be a little more relevant for Mekong and possibly Asia-Pacific countries.*

*John – Is this GMS or Asia-Pacific framework as many AP countries would go for elimination?*

*Eva – China and Viet Nam are going for elimination.*

*Rashid – The graphic conceptual model should also try and reflect the shifting status, i.e. from control to elimination.*

*John – Country involvement at all steps of this process is essential, but we also have to keep in mind the GMP needs.*

*Eva – Thirteen indicators at GMP but regional indicators can have additional specific to the region and sub-regional countries. Regional/sub-regional indicators should be harmonized.*

*Ravi – Clear definitions from WHO on indicators as well as denominators and numerators are needed.*

*Leonard – There is also a need to have more collaboration with other non-health ministries that relate to malaria control, i.e. forestry, agriculture, mining and industry, etc. HMIS country key persons should also be involved in some countries.*

*Deyer – Capacity issues are a critical part to consider. Keeping the framework simple for data and indicators collected from village level that can be used right up to the central, regional and global levels.*

*Charles – Data should be collected at the village level and used at the village level. Where malaria is not a burden, relying on health systems should be the direction to go.*

*Souly – Countries should propose a set of indicators. The September timeframe for a final draft is too quick as it may take time to distil down and obtain a wider discussion with sub-national levels.*

*John – This partnership should contribute to this process as an informal TWG.*

## **Closing Remarks**

### **Charles Delacollette, Coordinator, WHO-Mekong Malaria Programme**

- Partners would be encouraged to get involved in coordinated M&E and surveillance of Mekong initiatives.
- A two-day pre-programme managers technical M&E and surveillance meeting is planned early June in Manila with the aim of agreeing on updated Mekong indicators.<sup>1</sup>
- The next USAID partners meeting is planned on 6–7 October 2009; location to be decided.
- A wrap-up workshop to review progress on the TES in the GMS will be organised by MMP and WCO Myanmar prior to the next USAID meeting in Myanmar (tentatively in Mandalay, 30 September – 2 October 2009).
- There is a need to explore quickly for more TA for Cambodia as part of the containment project with regard to serious recurrent procurement issues.
- Surveillance guidelines (based on GMP/HQ draft guidelines) need to be finalized before the next ACTMalaria training.
- A more comprehensive USAID-MMP plan of action/matrix including all partners with their interventions to be completed before the next USAID meeting with US CDC assistance.

### **John McArthur, Infectious Diseases Team Leader, USAID RDMA**

- RDMA would consider including poster presentations in the next October meeting. There should also be more time for technical discussions and results of surveys, etc, to be presented.
- He reiterated that the next six months progress is crucial for USAID.
- Containment efforts in Cambodia and Thailand are considered as high priority by USAID and partners should focus and intensify efforts towards this programme,
- USAID is now in a position to potentially fund Myanmar.
- Next year's allocation of funds for partners will depend on implementation rates this year.
- New partners are to join the partnership, mainly in the areas of molecular surveillance, BCC and assistance to Thailand in its artemisinin-resistance containment efforts.
- USAID FY 2010 has potentially more funds expected for malaria under PMI.

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<sup>1</sup> Postponed to July 2009.

## Annex 1

### USAID Mekong Malaria Programme Core Partners' Meeting

#### *Dusit Thani Laguna Phuket Resort*

Phuket, Thailand

27–29 April 2009

#### AGENDA

#### 27 April 2009 (Pre-meeting afternoon session for interested participants)

14:00 to 18:00 Visit organized by Kenan to the Provincial team in Phuket / other locations to discuss progress made and challenges pertaining to malaria elimination in Phuket

#### 28 April 2009 (DAY 1)

- |       |                                                                                                                                                                                                                           |                                                                                   |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 08:15 | Registration of participants                                                                                                                                                                                              |                                                                                   |
| 08:45 | Opening remarks <ul style="list-style-type: none"><li>▪ USAID</li><li>▪ WHO</li></ul>                                                                                                                                     | <i>John MacArthur &amp;<br/>Charles Delacollette</i>                              |
| 09:00 | Introduction of participants                                                                                                                                                                                              |                                                                                   |
| 09:10 | Nomination of chairperson and rapporteur                                                                                                                                                                                  | <i>Charles Delacollette</i>                                                       |
| 09:15 | Presentations from USAID-funded partners on past 6-month achievements against FY 2008 planning (20 minutes presentation, 5 minutes Q&A) <ul style="list-style-type: none"><li>▪ WHO</li><li>▪ URC</li><li>▪ USP</li></ul> | <i>Charles Delacollette<br/>Kheang Soy Ty<br/>Laura Krech</i>                     |
| 10:30 | <i>Coffee break and Group photo</i>                                                                                                                                                                                       |                                                                                   |
| 10:55 | (continued) <ul style="list-style-type: none"><li>▪ SPS</li><li>▪ Measure Evaluation</li><li>▪ Kenan Institute Asia / BAAM</li><li>▪ CDC / Malaria Consortium</li><li>▪ ACTMalaria</li></ul>                              | <i>Beth Yeager<br/>Ravi Goud<br/>Jim Hopkins<br/>Sylvia Meek<br/>Cecilia Hugo</i> |
| 13:00 | <i>Lunch</i>                                                                                                                                                                                                              |                                                                                   |

14:15	Monitoring drug efficacy in the GMS: progress to date	<i>Charles Delacollette</i>
14:45	BMGF-supported and WHO-led Containment project: progress to date	<i>Eva Christophel</i>
15:15	Plenary discussion: <ul style="list-style-type: none"> <li>▪ Clarification on previous presentations</li> <li>▪ Identification of technical challenges which need further support from USAID partners</li> </ul>	<i>Chairperson</i>
15:45	<i>Coffee Break</i>	
16:15	<ul style="list-style-type: none"> <li>▪ Identification of technical challenges which need further support from USAID partners (continued)</li> </ul>	<i>Chairperson</i>
16:45	USAID RDMA Performance Monitoring Plan (PMP) and related indicators : partners' performance against proposed indicators	<i>Ravi Goud and Chansuda Wongsrichanalai</i>
17:30	Closure of Day 1	

**April 29, 2009 (DAY 2)**

08:30	USAID RDMA Performance Monitoring Plan (PMP) next steps	<i>Ravi Goud and Chansuda Wongsrichanalai</i>
09:15	M&E and surveillance in the GMS: Lessons from country questionnaire and from country visits (Laos, Viet Nam and Thailand); Proposed next steps	<i>Ravi Goud</i>
	<i>Coffee Break</i>	
10:15		
10:45	Plenary session: Clarification on the above presentations Additional issues, if any	<i>Chairperson</i>
11:30	Next steps including FY 2009 perspectives	<i>Charles Delacollette John MacArthur</i>
12:00	<i>Lunch</i>	
13:30	Closure of the meeting	

## Annex 2

### USAID Mekong Malaria Programme Core Partners' Meeting

27–29 April 2009

Dusit Thani Laguna Phuket Resort

Phuket, Thailand

#### LIST OF PARTICIPANTS

##### **ACTMalaria Foundation**

###### **Ms Cecilia T. Hugo**

Executive Coordinator  
ACTMalaria Foundation, Inc.  
11th Floor, Ramon Magsaysay Center  
1680 Roxas Boulevard, Malate  
Manila, Philippines  
Tel: +632 536 5627  
Fax: +632 536 0971  
Email: [cecil\\_hugo@actmalaria.net](mailto:cecil_hugo@actmalaria.net)

##### **CDC**

###### **Dr Stephen Patrick Kachur**

Chief, Strategic and Applied Sciences, Malaria Branch  
US Centers for Disease Control and Prevention  
(CDC), Atlanta, Georgia, USA  
Tel: +1 770 488 3600  
Fax: +1 770 488 4206  
Email: [skachur@cdc.gov](mailto:skachur@cdc.gov)

###### **Dr Jimmie Hwang**

Epidemic Intelligence Service Officer  
Malaria Branch  
US Centers for Disease Control and Prevention  
4770 Buford Hwy, MS F-22  
Atlanta, GA 30341, USA  
Tel: +770 488 7118  
Fax: +770 488 7794  
Email: [jhwang@cdc.gov](mailto:jhwang@cdc.gov)

##### **Kenan Institute Asia**

###### **Mr James Hopkins**

Senior Program Manager  
Public Health Program  
Kenan Institute Asia – Chiang Mai Office  
Siripanich Bldg., 4th Flr, 191 Huay Kaew Rd., T.  
Suthep, Amphoe Muang  
Chiang Mai 50200, Thailand  
Tel: +66 53 907 224  
Fax: +66 53 213 039  
Email: [jimh@kiasia.org](mailto:jimh@kiasia.org)

###### **Ms Phungpit Kaewphet**

Deputy Manager, Public Health Program  
Kenan Institute Asia – Chiang Mai Office  
Siripanich Bldg., 4th Flr, 191 Huay Kaew Rd., T.  
Suthep, Amphoe Muang  
Chiang Mai 50200, Thailand  
Tel: +66 53 907 224  
Fax: +66 53 213 039  
Email: [phungpit@kiasia.org](mailto:phungpit@kiasia.org)

###### **Mr Trairat Banchong-Aksorn**

Malaria Advisor  
Kenan Institute Asia – Chiang Mai Office  
Siripanich Bldg., 4th Flr, 191 Huay Kaew Rd., T.  
Suthep, Amphoe Muang  
Chiang Mai 50200, Thailand  
Tel: +66 53 907 224  
Fax: +66 53 213 039  
Email: [trairatb@hotmail.com](mailto:trairatb@hotmail.com)

##### **Malaria Consortium**

###### **Dr Sylvia Meek**

Technical Director  
Malaria Consortium  
Development House  
56-64 Leonard Street  
London EC2A 4LT, UK  
Tel: +44 (0) 20 7549 0214  
Fax: +44 (0) 20 7549 0211  
Email: [S.Meek@malariaconsortium.org](mailto:S.Meek@malariaconsortium.org)

###### **Dr David M Sintasath**

Regional Consortium  
Regional Asia Office  
Multi-purpose Building (Room 805)  
Faculty of Tropical Medicine, Mahidol  
University, 420/6 Rajavidhi Road  
Phya Thai, Bangkok, 10400  
Thailand  
Tel: +66 2 354 5628  
Fax: +66 2 354 5629  
Cell: +66 8 0949 0008  
Email: [d.sintasath@malariaconsortium.org](mailto:d.sintasath@malariaconsortium.org)

**MEASURE**

**Dr Erin Eckert**

Principal Investigator/Epidemiologist  
MEASURE Evaluation, Macro International  
11785 Beltsville Drive, Suite 300  
Calverton, MD 20705  
Tel: +301 572 0397  
Fax: +301 572 0981  
Email: [erin.eckert@macrointernational.com](mailto:erin.eckert@macrointernational.com)

**Dr Ravi Goud**

Infectious Disease M&E Specialist  
MEASURE Evaluation, Macro International  
11785 Beltsville Drive, Suite 300  
Calverton, MD 20705  
Tel: +301 572 0532  
Fax: +301 572 0961  
Email: [ravi.goud@macrointernational.com](mailto:ravi.goud@macrointernational.com)

**MSH/SPS**

**Ms Melissa Thumm**

Senior Program Associate  
Strengthening Pharmaceutical Systems program  
(SPS)  
Center for Pharmaceutical Management  
Management Sciences for Health  
4301 North Fairfax Drive  
Arlington, VA 22203, USA  
Tel: +1 510 898 1386  
Fax: +1 703 524 6575  
Email: [mthumm@msh.org](mailto:mthumm@msh.org)

**Ms Beth Yeager**

RDMA Program Manager  
Strengthening Pharmaceutical Systems program  
(SPS)  
Center for Pharmaceutical Management  
Management Sciences for Health  
4301 North Fairfax Drive  
Arlington, VA 22203, USA  
Tel: +1 703 310 3432  
Fax: +1 703-524 7898  
Email: [byeager@msh.org](mailto:byeager@msh.org)

**URC**

**Dr Kheang Soy Ty**

Chief of Party  
USAID -URC/Malaria Prevention & Control in  
Cambodia  
Tel: 855 23 22 24 20  
Fax: 855 23 22 14 33  
Mobile: 855 12 88 93 88  
Email: [ksoyty@urc-chs.com](mailto:ksoyty@urc-chs.com)

**Dr Heng Somony**

M&E Advisor  
USAID -URC/Malaria Prevention & Control in  
Cambodia  
Tel: +855 23 22 24 20  
Fax: +855 23 22 14 33  
Email: [sheng@urc-chs.com](mailto:sheng@urc-chs.com)

**USAID Washington**

**Ms Lisa Ann Nabuscakco**

Monitoring and Evaluation Advisor  
Bureau for Global Health, Office of Health, Infectious  
Diseases and Nutrition  
2800 Quebec Street, NW, #740; Washington, DC  
20008  
Tel: +1-202-712-1018  
Fax: +1-202-216-3702  
Email: [لمانiscalco@usaid.gov](mailto:لمانiscalco@usaid.gov)

**USAID RDMA**

**Dr John MacArthur**

Infectious Diseases Team Leader  
USAID RDMA  
GPF Witthayu Tower A, 3rd Floor  
93/1 Wireless Road  
Bangkok 10330, Thailand  
Tel: +66 2 263 7411  
Fax: +66 2 263 7499  
Email: [jmacarthur@usaid.gov](mailto:jmacarthur@usaid.gov)

**Dr Chansuda Wongsrichanalai**

Infectious Diseases Strategic Information  
Office of Public Health  
USAID RDMA  
GPF Witthayu Tower A, 3rd Floor  
93/1 Wireless Road.,  
Bangkok 10330, Thailand  
Tel: +66 2 263 7400  
Fax: +66 2 263 7499  
Email: [cwongsrichanalai@usaid.gov](mailto:cwongsrichanalai@usaid.gov)

**Ms Thitima Klasnimit**

Project Management Specialist  
USAID RDMA  
GPF Witthayu Tower A, 3rd Floor  
93/1 Wireless Road  
Bangkok 10330, Thailand  
Tel: +66 2 263 7400  
Fax: +66 2 263 7499  
Email: [tklasnimit@usaid.gov](mailto:tklasnimit@usaid.gov)

**USP**

**Dr Souly Phanouvong,**

Manager, Drug Quality Assurance and Policy Development

The United States Pharmacopeia Drug Quality and Information Program

The United States Pharmacopeia

12601 Twinbrook Parkway

Rockville, MD 20852-1790, U.S.A.

Tel: +1 301 816 8582

Fax: +1 301 816 8374

Email: [xp@usp.org](mailto:xp@usp.org)

**Ms Laura Krech**

Programme Manager

International Activities Group

United States Pharmacopeia

Drug Quality and Information Program

International Technical Alliance Programs

12601 Twinbrook Parkway

Rockville, MD 20852-1790, U.S.A.

Tel: +1 301 816 8167

Fax: +1 301 816 8374

Email: [lk@usp.org](mailto:lk@usp.org)

**Mr Christopher B. Raymond**

Regional Project Coordinator for Southeast Asia

United States Pharmacopeia

Drug Quality and Information Program

International Technical Alliance Programs

Kenan Institute Asia,

Queen Sirikit National Convention Center

60 New Ratchadaphisek Road, Khlong Toei

Bangkok 10110 – THAILAND

Tel: +66 2 229 3131-2 ext 222

Fax: +66 2 229 3130

Email: [chrisr@kiasia.org](mailto:chrisr@kiasia.org)

**USAID/Cambodia**

**Mr Chantha Chak**

USAID/Cambodia

Office of Public Health

US Embassy Phnom Penh

Cambodia

Tel: 855 23 728000

Fax: 885 23 430263

Email: [Cchak@usaid.gov](mailto:Cchak@usaid.gov)

**WHO**

**Dr Eva Maria Christophel**

Medical Officer/MVP

Division of Combating Communicable Diseases

WHO-Western Pacific Regional Office

Manila, Philippines

United Nations Avenue Corner Taft Avenue, Manila

Tel: +632 528 8001

Fax: +632 521 1036

Email: [christophele@wpro.who.int](mailto:christophele@wpro.who.int)

**Dr Abdur Rashid**

Medical Officer

Malaria, other Vector-Borne and Parasitic Diseases

WHO Cambodia

PO Box 1217, Phnom Penh

Cambodia

Tel: +855 2321 6610

Fax: +855 2321 6211

E-mail: [rashidm@wpro.who.int](mailto:rashidm@wpro.who.int)

**Dr Deyer Gopinath**

Medical Officer/MVP

WHO-Lao PDR

Vientiane, Lao PDR

Tel: +856 21 353 902-4

Fax: +856 21 353 905

Email: [gopinathd@wpro.who.int](mailto:gopinathd@wpro.who.int)

**Dr Tran Cong Dai**

Project Officer/MVP

WHO-Viet Nam

PO Box 52, Hanoi 10000

63 Tran Hung Dao Street

Ha Noi

Tel: +844 943 3734

Email: [trancongd@wpro.who.int](mailto:trancongd@wpro.who.int)

**Dr Leonard I. Ortega**

Medical Officer

Malaria and Other Mosquito-Borne Diseases

Water and Sanitation

Environmental and Occupational Health

WHO Country Office, Myanmar

Tel: (+95-1) 250-583; 250-584 Ext: 4222

Fax: (+95-1) 241-836; 250-273

Mobile: (+95-9) 513-0862

Email: [ortegal@searo.who.int](mailto:ortegal@searo.who.int)

**Dr Charles Delacollette**

Coordinator  
WHO-Mekong Malaria Programme  
c/o New Chalermprakit Building  
Faculty of Tropical Medicine  
Mahidol University, 420/6, Rajavithi Rd.  
Bangkok 10400, Thailand  
Tel: +66 2 6435859 / 5860 (direct)  
Fax: +66 2 6435870  
Mobile: +66 819111705  
Email: [delacollette@searo.who.int](mailto:delacollette@searo.who.int)

**Ms Benja Sae-Seai**

Administrative Assistant  
WHO-Mekong Malaria Programme  
7th Flr., New Chalermprakit Building  
Faculty of Tropical Medicine  
Mahidol University, 420/6, Rajavithi Rd.  
Bangkok 10400, Thailand  
Tel: +66 2 6435859  
Fax: +66 2 6435870  
Email: [benja@searo.who.int](mailto:benja@searo.who.int)