MEETING REPORT

Sixteenth Meeting of the RBM Partnership
Monitoring and Evaluation Reference Group (MERG)
3-4 February2011
Siem Reap, Cambodia

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Acronyms

ACT	Artemisinin-Based Combination Treatment
A + M	Artesunate-Mefloquine
AR	Artemisinin Resistence
ASAQ	Artesunate-Amodiaquine
BCC	Behaviour Change Communication
CDC	Centers for Disease Control
DHA PPQ	Dihydroartemisinin-Piperaquine
DHS	Demographic and Health Survey
EIR	Entomological Inoculation Rate
Global Fund	Global Fund against HIV/AIDS, TB and Malaria
GMP	Global Malaria Programme (WHO)
GPARC	Global Plan for Artemisinin Resistance Containment
HH	Household
IPT	Intermittent Preventive Treatment
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
JHUCCP	Johns Hopkins University Center for Communication Programs
LLIN	Long-Lasting Insecticidal Net
LLIHN	Long-Lasting Insecticidal Hammock Net
LSHTM	London School of Hygiene and Tropical Medicine
M&E	Monitoring and Evaluation
MalERA	Malaria Elimination Research Agenda
MACEPA	Malaria Control and Evaluation Partnership in Africa
MDG	Millennium Development Goal
MDSS	Malaria Decision Support System
MEG	Malaria Elimination Group
MERG	Monitoring and Evaluation Reference Group
MESST	Monitoring and Evaluation Systems Strengthening Tool
MICS	Multiple Indicator Cluster Survey
MIS	Malaria Indicator Survey
MOH	Ministry of Health
NGO	Non-governmental Organization
NMCP	National Malaria Control Programme
PATH	Programs for Appropriate Technology for Health
PMI	US President's Malaria Initiative
PSI	Population Services International
PR	Periodic Review
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test
RDMA	USAID's Regional Development Mission for Asia
SEARO	South-East Asia Regional Office
SP	Sulfadoxine-pyrimethamine
SSF	Single Stream of Funding
TA	Technical Assistance
TOR	Terms of Reference
UN	United Nations
UNC	University of North Carolina
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization
WPRO	Western Pacific Regional Office

Participants

Chair: Rick Steketee (MACEPA-PATH), Richard Cibulskis (WHO)

Participants: Henrieta Allen (PSI), Fred Arnold (MEASURE DHS/ICF Macro), Achuyt Bhattarai (CDC/PMI), Steven Bjorge (WHO), Marc Boulay (JHCCP), Liliana Carvajal (UNICEF), Chantha Chak (USAID), Misun Choi (USAID/PMI), Mady Cisse (World Bank), Charles Delacollette (WHO), Erin Eckert (MEASURE Evaluation/ICF Macro), Thom Eisele (Tulane University/ MEASURE Evaluation), Bayo Fatunmbi (WPRO), Lia Florey (MEASURE DHS/ICF Macro), Elodie Genest (MACEPA-PATH), Deyer Gopinath (WHO), Najibullah Habib (WHO), Albert Kilian (Malaria Consortium), Ryuichi Komatsu (Global Fund), Megan Litrell (PSI), Renata Mandike (NMCP Tanzania), Steven Mellor (Malaria Consortium), Bernard Nahlen (PMI), Holly Newby (UNICEF), Robert Newman (WHO), Lucy Okell (Imperial College), Sujata Ram (MEASURE Evaluation/ICF Macro), Abdur Rashid (WHO), Rene Salgado (PMI), Ana Carolina Santelli (NMCP Brazil), David Sintasath (Malaria Consortium), Duong Socheat (National Center for Parisitology, Entomology and Malaria Control, Thomas Teuscher (RBM Secretariat), Jim Thomas (MEASURE Evaluation/UNC), Boi-Betty Udom (RBM Secretariat), Chansuda Wongsrichanalai (USAID/RDMA), Steven Yoon (CDC/PMI)

Logistics: Elizabeth Patton (MEASURE Evaluation/ICF Macro)

0.0 Meeting Objectives

1. Review 'lessons learned' from Southeast Asia and implications for countries outside the region
2. Consider evolution of M&E requirements as programs scale-up towards elimination
3. Consider new indicators and new estimation methods
4. Review current status of data collection, use of data, and global level reports
5. Examine the role of MERG in modeling
6. Discuss MERG Administrative issues
7. Update on MERG Task Force activities

1.0 'Lessons learned' from Southeast Asia and implications for countries outside the region

1.1 Bi-regional Malaria Indicator Framework

Charles Delacollette-WHO Mekong Malaria Programme

Dr. Delacollette presented the indicators contained in the Bi-regional Malaria Indicator Framework. These indicators, which are intended for use in the WPRO and SEARO regions, were developed collaboratively by WHO, MEASURE Evaluation, CDC, Malaria Consortium, and representatives from NMCPs in response to the reporting issues noted after the implementation of the "Kunming Indicators" in 1999 and the changing malaria burden in the region. This indicator framework supplements the WHO Global Malaria Indicators (GMI) in the two regions. It places indicators into eight distinct categories corresponding to a conceptual framework. These include: malaria control, policy and management, preventions, IEC/BCC, case management, vulnerable groups, strategic information and elimination. This is a living document which should be reviewed and updated every two years.

1.2 Risk Stratification and Monitoring of large scale RDT role out effort in Laos

Deyer Gopinath-WHO Lao PDR

Dr. Gopinath reviewed the history of malaria control in Lao PDR. After a pilot phase in 2005, malaria control strategies, including RDT, ACT and bednets, have scaled-up rapidly at the provincial, district and village level. Incidence and malaria attributable mortality decreased substantially between 2000 and 2009. Lao's malaria risk stratification map, which was developed in 1997, was already out of date by the time that scale-up occurred. This resulted in the adoption of the same control strategies by 6000+ villages at different risk levels during R1 and R4 Global Fund Grant periods. With village based reporting available, in 2007 the NMCP realized there was an urgent need to re-stratify malaria risk areas in the country. A concentrated effort was made to collect and use this data to re-stratify and classify P. falciparum risk zones into the following categories: 1) 0 case per 1000 per annum; 2) >0<0.1 case per 1000 per annum; 3) ≥0.1-1 case per 1000 per annum; 4) ≥1-10 cases per 1000 per annum; 5) ≥10-100 cases per 1000 per annum;6) ≥100-1000 cases per 1000 per annum; and 7) unknown. The stratification exercise provided a number of valuable recommendations for the improvement of malaria control in Lao PDR and will be undertaken on a more regular basis in the future to keep up with the changing malaria burden in the country.

1.3 Containment of Artemisinin Resistance on the Cambodian-Thailand Border: M&E Implications and Tools

Najibullah Habib-WHO Cambodia

WHO has worked with a large number of partners in Cambodia and Thailand to contain artemisinin-tolerant P. falciparum parasites with the goal of eliminating P. falciparum malaria on the Thai-Cambodia border. Cambodia has been divided into three different zones by the project. Zone 1 has adopted an elimination strategy, Zone 2 has adopted intensified malaria control and Zone 3 will be covered by Global Fund Round 9. To eliminate resistant parasites by detecting all malaria cases in target areas and ensure effective treatment and gametocyte clearance the project works with over 1400 trained Village Malaria Workers (VMWs) nationally. They are equipped with rapid diagnostic tests (RDTs) and free antimalarials including Dihydroartemisinin-Piperaquine (DHA PPQ in Zone 1 and A+M in Zone 2. Long-lasting insecticide treated nets (LLINs) and long-lasting insecticide treated hammock nets (LLIHN) are promoted and distributed. Conventional nets, which are preferred by some are re-impregnated with insecticide. Day 3 positive surveillance is conducted by personnel at health facilities and VMWs. When day 3 positive cases are detected SMS technology is utilized to inform appropriate individuals and automatically report to Google Earth and the malaria database. Additionally, baseline and national household and outlet surveys have been carried out.

Focused screening and treatment (FSAT) was undertaken in the 10 most malarious villages in Pailin using RDT and PCR. Artemisinin-tolerance has been mapped and defined. Since the initiation of this project, Zone 1 transmission has dropped, zone 2 has been mediated, and zone 3 has seen little change. Case investigation is the next step to take care of hotspots.

Many of these efforts focus on mobile and migrant populations, most of which are internal migrants. Operations research has been undertaken to better understand these populations. A bed-net loan scheme has been implemented to reach this population using existing networks of farm owners and outreach through VMWs to assure coverage. This is also a difficult issue in Thailand where there are ~2 million migrants. The containment project is using respondent driven survey sampling to better contact migrants and get ideas of how to address these issues.

Another issue in terms of surveillance is that private providers test and treat and many patients go there. There is not much data on this, but PSI is working with CNM to address this. Surveillance in the private sector does not have a lot of good models from other countries. In the CNM falciparum elimination plan, treatment and diagnosis is free to all patients. Quality improvement has also been taken into account. This is an attempt to shift patients to the public sector.

Interest was expressed by meeting participants in seeing evaluation of the project including: cost analysis, formal evaluation to determine best practices and the application of the Elimination Scenario Planning tool to assess feasibility of elimination that was used in Zanzibar. A suggestion that the MERG think about pulling people together around the elimination issue to determine the way forward as programs scale-up to elimination was made.

2.0 Evolution of M&E requirements as programs scale-up towards elimination

2.1 Scale-up of diagnostics in Senegal

Robert Newman-WHO

Universal diagnostic testing has been recommended in the *WHO Guidelines for the Treatment of Malaria*, 2nd edition 2010. Treatment solely on the basis of clinical suspicion should only be considered when a parasitological diagnosis is not accessible. This is increasingly important as the burden of malaria decreases with the success of interventions as they scale-up. The WHO/FIND lot testing programme has provided guidance on the quality of RDTs as there are over 200 commercially available tests of varying quality.

Senegal has had a country-driven operational experience with large scale RDT implementation since 2007. RDTs have been introduced and training on how to utilize them has occurred in health facilities and at the community level. Over 500,000 RDTs were administered in 2009. Diagnostics have shown that a large number of febrile illnesses are not malaria. This demonstrates a need to address non-malarial febrile illnesses with appropriate interventions. It is necessary to consider what the cost of adding antibiotic treatment to roll out of RDTs will be. This RDT roll out produced a lot of data that can be very useful to program managers. There is a need to determine what kind of reporting of these data would be helpful and how to strengthen data for decision making skills.

2.2 Surveillance and Drug Resistance in Brazil

Ana Carolina Santelli-NMCP Brazil

Dr. Santelli reviewed the malaria situation in Brazil where the majority of cases occur in the Amazon region. Eighty-five percent of cases are due to P. vivax. Chloroquine is used for vivax and primaquine is used for radical cure. There is less than 3% G6PD deficiency. The surveillance system records malaria cases and deaths, identifies trends and risk factors/groups, detects outbreaks, monitors control measure results and guides activities for malaria prevention and control. A number of different information systems collect malaria data and these vary between the Amazon region and other regions and by purpose. The fact that some villages are very remote is a large challenge to control efforts and surveillance. Mostly in indigenous areas where people will migrate to more remote areas when they are no longer isolated. There is a move to have indigenous health workers to address this issue. Dr. Santelli expressed interest in the use of sentinel surveillance of parasite clearance and the use of SMS for disease reporting. She also identified that a framework of regional indicators and cross border surveillance may be helpful in the Brazilian context.

2.3 RBM MERG M&E Guidance for Scale Up and Beyond

Rick Steketee-MACEPA-PATH

After substantial reductions in prevalence through prevention, it will be necessary to treat the parasite in people to see further declines. When prevalence is reduced to this level, the magnitude of reduction will be less and MERG needs to look at how to measure this smaller reduction. Entomologists are starting to look at changes in transmission over time. EIR is difficult to collect where the vector population has been driven down. Efforts at measurement of transmission intensity should probably focus on parasite incidence instead. Measuring parasite prevalence for reporting will not be sufficient moving forward. People will also need to know how to act on these data rather than passing it up the system.

Parasite incidence depending on the surveillance system may not work when private sector treatment is common. There are two ways to move forward, by embracing the private sector or trying to reach populations at village level before they seek care in the private sector. Screening infections at community level can catch incidence in populations where prevalence is low, or has been treated off.

MERG has a valuable role to make sure that the potential for surveillance is explored/capitalized upon during the push for universal diagnostics. The group should consider creating a document about measurement of transmission similar to the Guidelines for Population Based Indicators. It should be made clear when the transition from measuring prevalence to incidence should occur.

Agreements and follow-up actions:

- Make recommendations on what data is needed in low transmission settings **(Morbidity Task Force)**
- Create guidance document/indicator to measure transmission **(Rick Steketee)**

3.0 New indicators and new estimation methods

3.1 Networks suggested indicators for Universal Coverage

Albert Kilian-Malaria Consortium

Countries, programs and partners urgently need some guidance on the definition of universal coverage and indicators to capture various aspects of universal coverage. Based on analysis of data from nine surveys, Albert Kilian recommended that universal coverage indicators should examine persons per net as opposed to nets per sleeping place, which is a highly variable measure that is not collected by most MIS. He proposed that four indicators together can clearly describe the "universal coverage" situation. These include: 1. % of hh with any ITN; 2. % of hh with people/ITN ratio ≤ 2.0 among hh with any nets; 3. % of existing ITN used last night; and 4. % of people using ITN last night decision and update. After a final decision on universal coverage indicators is made by the Household Surveys and Indicator Task Force, the Guidelines for the Core Population-based indicators will need to be updated.

3.2 Networks BCC indicators

Marc Boulay-JHCCP

Networks is developing a set of validated indicators to inform BCC program messages and evaluate BCC programs. The group will package these indicators into a resource document. Two theoretically-based scales were created and tested in surveys in Tanzania and Zambia. They relate to the perceived threat of malaria and confidence in ability to obtain and use nets (self-efficacy). These indicators were also included in post-campaign surveys in 5 Nigerian states in 2009-2010. Additionally, questions about discussion about net use within the household and perceived prevalence of net use among one's neighbors (social norms) were included in the Nigerian surveys. Results from Tanzania and Zambia suggested a fear/efficacy approach and data from Nigeria suggest using a social normative approach. This implies that BCC approaches may need to be context specific. Additional indicators will be tested in Senegal. If there is a move away from free distribution there would be a need to address individual decision-making.

The group discussed the use of population-based surveys for this purpose. Boulay pointed out that smaller surveys instead of focus groups allow programs to get an idea of the prevalence of behaviors and beliefs and assess whether they are related to the outcome on a population level. Qualitative information is valuable, but sometimes more is needed. Surveys allow Networks to test their theories and evaluate programmatic efforts. It was also mentioned that transmission should be taken into account when measuring coverage. If coverage increases and transmission does not decrease then there is an issue that may be pinpointed by BCC.

3.3 Case management indicators

Richard Cibulskis-WHO

There are some issues with the current recommended indicators for diagnosis and treatment. The treatment indicator can easily be misinterpreted as it measures treatment of children under five with a fever and does not account for the fact that diagnostics exclude children with non-malarial febrile illness from antimalarial treatment. Dr. Cibulskis suggested some potential alternative indicators. The collection of these indicators through household surveys would require that caregivers recall test results or that malaria treatment cards be issued. Potential issues with these indicators were reviewed. Next steps will include a review of experiences of places where recall of test results has been attempted and pilot testing of questions in areas conducting MIS in 2011.

It was pointed out that recall of test results may be questionable. In Uganda, Cambodia and Mozambique surveys reported an 80% test positivity rate. There is a good indication that there is a 10-20% overestimation of positivity when reported by mothers. There is a need for information on appropriate diagnostics and treatment to monitor whether people are being treated properly. Surveys are one of the few tools we have available, but if they are not appropriate it will be important to look for some other form of data collection. An alternative would be for these data to come from routine system. Surveys could then be used to check access to see how many people are being missed.

Additionally, with a shift in burden to older ages it will become more important to have a better idea of how adults are diagnosed and treated. Through surveys sample size will be very large when looking at adults.

Agreements and follow-up actions:

- Make final decision on Universal Coverage indicator **(WHO, HH Survey and Indicator Task Force, MERG)**
- Update Core Guidelines for Population-Based Indicators to reflect changes in Universal Coverage indicator and other indicators **(HH Survey and Indicator Task Force)**
- Create guidance on case management indicators/data collection **(HH Survey and Indicator Task Force)**
- Field test containment indicators **(Malaria Consortium)**

4.0 Current status of data collection, use of data, and global level reports

4.1 DHS/ MIS updates and malariasurveys.org

Lia Florey

Lia Florey presented the recently completed, ongoing and upcoming DHS and MIS. She then summarized the content and use of the www.malariasurveys.org site. This site is meant to hold the data and reports for all MIS. Currently, only DHS surveys have been posted. Data and reports from the Zimbabwe 2008, Namibia 2009, Botswana 2010, Malawi 2010, Swaziland 2010, Gambia 2010 and all Zambia Malaria Indicator Surveys were requested so that they can be placed on the site. Please contact Lia Florey at Lflorey@icfi.com to provide these documents.

4.2 MICS update

Holly Newby-UNICEF

MICS4 surveys with malaria modules, covering the 2009-2011 period, have started to be completed and available. The remaining surveys from this round are expected to be completed by the close of 2011 or early 2012. MICS are standardized surveys and their questionnaires and tables are harmonized with DHS as much as possible. However, as countries have ownership on the process, surveys can be customized according to their needs. MICS surveys have excellent documentation even though for some countries data sets might not be as standardized as DHS.

4.3 MIS Package Revision

Fred Arnold

The MIS package of tools for conducting household-level malaria surveys was prepared by MERG in 2005. The questionnaires have been updated in response to the changes suggested in the RBM Guidelines for Core Population-Based Indicators and the rest of the package is being updated currently. An MIS FAQ document is in preparation and members of the MERG may be asked to collaborate on this.

Some issues with the MIS still need to be addressed including: Does the MERG want to maintain comparability in core questionnaires for the DHS and MICS? Does the MERG want to take a stand on the acceptability of using RDTs instead of slides for prevalence estimates? How useful is it to include malaria-testing or information on malaria interventions in surveys not conducted in the high-transmission season? Can the MERG come up with a clear definition of the high-transmission season that is generally applicable? Is it practical/desirable for thick and thin smears to be included on a single slide, would it be better to have separate slides, or does it depend on the situation (e.g., availability of more experienced field staff)? Should we recommend the inclusion of additional questions on symptoms as a standard feature of MIS surveys that incorporate malaria testing? Issues in MIS revisions will need to be addressed by the MERG Survey and Indicator Guidance Task Force. Please send recommendations on these issues to Elizabeth Patton (epatton@icfi.com) before March 31.

Interest in adapting the MIS outside SSA was expressed by some MERG members. This may increase sample size so that adults can be included, but the package is meant to be open to the needs of countries. It was suggested that guidelines/a new methodology for low transmission settings should be created because district level data are going to be needed to match surveillance as transmission is reduced. Put this on next agenda-what data are needed, what precision at what

point in time, what methods. The starting point should be a discussion of what data are needed where.

4.4 2010 World Malaria Report, "Malaria Outside Africa" and "Elimination" Reports

Richard Cibulskis-WHO

The 2010 World Malaria Report was released on 14 December. It is an annual reference on the status of global malaria control & elimination including data to 2009. The principal data source is national programs in 106 endemic countries. The report summarizes key malaria targets & goals. It documents trends in financing, intervention coverage and malaria cases and deaths and provides country-by-country summaries. Measuring access to treatment is a weak point in the WMR. Private sector care seekers are less likely to receive antimalarials than those seeking in the public sector. The report is improving its ability to discern where regionally certain strategies are appropriate; clarity on this is important when reporting.

The P&I series report on Malaria Outside Africa, which will be released during mid to late 2011, will describe the different ecologies and summarize burden of disease outside Africa in Latin America, Mediterranean, Europe, South Asia, South East Asia, Pacific. For each region/ecology it provides a description of transmission characteristics, and populations affected. It reviews financing, program implementation and its challenges and trends in disease.

The elimination P&I series report reviews the evolution of elimination concepts over the past 60 years and examines changes in control strategies and influence of historical and socio-economic events. It includes an overview of countries that achieved elimination in the past 60 years and provides an outlook for 2011 – 2015.

4.5 Drug Resistance Report and Containment Action Plan

Robert Newman-WHO

WHO recently published the *Global Report on Antimalarial Drug Efficacy and Drug Resistance 2000-2010*. There is also a global database on antimalarial efficacy. Dr. Newman reviewed the various methods of testing drug efficacy and resistance. Molecular markers can be a good early warning system and are used for a number of antimalarials, but are not possible for artemesinin resistance yet because the nature of artemisinin resistance is not yet understood.

It has been shown that partner drugs for artemisinin combos matter in terms of resistence. There is correlation between amodiaquine resistance and ASAQ resistance. This has also been shown with SP and limitedly with lumefantrine. Efficacy for IPTp is maintained longer than it is for symptomatic treatment. Up to 50% failure rates still signify efficacy for IPTp. It is challenging to know the status of this because SP efficacy trials in children are not going on. It is important to be able to assess when IPTp using SP be stopped.

Artemisinin resistance has emerged on the Thai-Cambodia border but the clinical and parasitological efficacy of ACTs is not yet compromised. This situation has been taken very seriously and all available tools have been utilized to respond to the issue. In terms of treatment, DHA PPQ is now being used in the containment zone instead. In response to this, WHO has created the *Global Plan for Artemisinin Resistance Containment* (GPARC). The GPARC defines priorities to contain and prevent artemisinin resistance (AR), aims to motivate actions and provide clear accountabilities for key stakeholders and mobilize resources to fund AR containment and prevention. The working definition of artemisinin resistance in the GPARC is "an increase in

parasite clearance time, as evidenced by > 10% of cases with parasites detectable on day 3 after treatment with an ACT (suspected resistance) or treatment failure after treatment with an oral artemisinin-based monotherapy with adequate antimalarial blood concentration, as evidenced by the persistence of parasites for 7 days, or the presence of parasites at day 3 and recrudescence within 28/42 days (confirmed resistance). The next step after the GPARC roll out is to get countries to think about how to implement. Field testing indicators to see what works may be a good role for the MERG. Pascal is lead on this and should be connected with the MERG and case management working group.

4.6 Private sector initiatives (for diagnosis and treatment)

Deyer Gopinath- WHO Lao PDR

Three surveys conducted in 2001, 2004 and 2005 in Lao PDR found that a sizeable part of people (30-35%) with symptoms of malaria were treated outside the public health facilities, where knowledge of the new treatment guidelines was very limited. The Lao GFTAM Round 4 proposal aimed to install a mechanism for the participation of the private sector in the implementation of ACTs in Lao PDR. A pilot on Public Private Mixed (PPM) for Malaria diagnosis and treatment was initiated in 2007. The PPM is primarily intended to: 1. Improve population access to RDT and ACT; 2. Improve the quality of service provided by the private sector, (compliance to the national malaria standard treatment guidelines, decreasing need for fake/substandard antimalarials and artesunate monotherapy); and 3. Improve the completeness of the national malaria statistics by including information on patients tested, treated and referred from the private sector. A year one evaluation of the PPM project took place and found that PPM is working well and benefiting patients, providers and the government. The project is improving detection and treatment of malaria in Lao PDR. However, stockouts are the biggest problem to resolve.

This highlights the approach of engaging the private sector instead of trying to shut it down. This strategy augments the number of cases that are identified, but there are limitations. Only registered pharmacies and clinics are being pulled in. There are a large number of people accessing the informal sector which is not included. Additionally, migrants sometimes bring their own diagnostics and treatment from home country.

4.7 ACTwatch Outlet and Household Survey Data from Cambodia

Megan Litrell-PSI

From 2008-2010 ACTwatch completed 16 outlet surveys, 6 supply chain studies, and 7 household surveys to determine availability, volumes & price of antimalarials, determinants of price & availability of antimalarials at different levels of the supply chain and treatment-seeking behavior, respectively. Survey indicators sometimes need to be adapted or changed in different contexts.

An outlet survey and a household survey took place in Cambodia in 2009. The surveys were conducted one month after official government ban on monotherapy and the massive role out of VMW. Results showed that a large percentage of individuals seek treatment in the private sector and that at the time of the survey there were still some artemisinin monotherapies being sold in the private sector. Another issue identified in the survey was the use of drug cocktails to treat malaria.

Another survey is planned for June/July 2011. It is unlikely that AMFM will be rolled out by then. There should be communication between containment team and PSI regarding this survey. Please contact Kate O'Connell at kate@actwatch.info with questions.

4.8 Global Fund Update

Ryuichi Komatsu-Global Fund

There are several new developments that are important for the RBM MERG to provide inputs or to be more involved. This may include the new strategy development process, which focuses on M&E system strengthening, increasing lives saved and infections (episodes) averted, value for money, counterpart financing and additionality, and impact assessment requirement for the new Periodic Reviews.

Global Fund has now moved to utilize a new granting architecture. There is a Single Stream of Funding (SSF) with one 6-years consolidated grant per Principal Recipient (PR) per disease and with a three-year commitment cycle. Up to every 3 years a Periodic Review for continued funding decisions will take place. Grants for the same disease will be reviewed at the same time at Periodic Reviews that are, aligned with country reporting cycles. This assessment includes analysis of program impact and the possibility to accelerate strong performing programs. The assessment for Period Reviews focuses on: (1) progress towards Proposal goals and disease impact; (2) PR performance, and (3) identified grant or program-level risks, if any. Continued-funding recommendation to Board per grants will include a: i. Performance rating; ii. Recommendation category (with conditions, if any); and iii. Recommended additional commitment amount.

Global Fund will initiate assessment of QoS, similar together withto OSDV. The Global Fund will release a new M&E toolkit in summer 2011 that includes a revised version of the malaria indicators. Global Fund is committed to M&E system strengthening. While Global Fund and development partners encourage programs to use 5-10% of grant money for M&E, on average in 2009 5% was allocated to and M&E. Countries are not taking full advantage of opportunities available for M&E strengthening. The revised M&E Strategy has been developed and is being reviewed. It aims to strengthen data measurement and reporting frameworks at global and country levels, improve country M&E system performance and build country and global level capacity to support M&E system strengthening.

4.9 Review outcomes of the Multi-Agency Impact Workshop and implications for impact evaluation

Rene Salgado-PMI/USAID

On October 25-27, 2010, the Roll Back Malaria (RBM) Partnership, World Health Organization (WHO), Global Fund to Fight AIDS, TB and Malaria (GF), MEASURE Evaluation and U.S. President's Malaria Initiative (PMI) implemented a three-day workshop for ten sub-Saharan African countries on evaluating impact of malaria interventions in Dar es Salaam, Tanzania. The workshop led country representatives through the process of: initiating country teams to the needs and process of the impact evaluation efforts being undertaken by the global partners; drafting impact evaluation frameworks and analytic plans and country-specific action plans; reviewing existing country level data; conducting preliminary data review according to analytic plans; and planning appropriate technical assistance to collect/analyze necessary data. At this workshop the Dar es Salaam Statement on Malaria Impact Evaluations was drafted with input from partner organizations and country representatives. This statement clarifies the roles of national malaria control programs,

technical agencies and development partners during the planning and implementation of impact evaluations. It also provides guidelines for technical support, communication, advocacy & reporting, and capacity building.

The Reporting Task Force will aid in the coordination of the upcoming evaluations.

4.10 Tanzania Impact Evaluation Efforts

Renata Mandike-NMCP Tanzania

Tanzania is currently finalizing an impact evaluation which utilizes a number of data sources including four surveys which took place between 1999 and 2010. This will be released in April 2011. The evaluations seeks to quantify what impact malaria control has had on morbidity and mortality and demonstrate a plausible association between intervention & impact. It focuses on the period of malaria control scale-up and change in outcomes (1999-present). The evaluation is not restricted to PMI-funded malaria control and covers the Tanzania mainland only. Dr. Mandike reviewed the various challenges face related to stakeholder coordination, data sources, analysis approaches and report preparation.

4.11 P&I Series report for September 2011

Rick Steketee-MACEPA-PATH

In 2008, the UN Secretary General called for Universal Coverage of malaria prevention and control by the end of 2010. The publication of the Global Malaria Action Plan formalized these "2010 Universal Coverage Targets" and the "RBM 2010 targets". The May 2009 RBM Board approved in principle the convening of a "high-level event" in September 2011, linked to the UN General Assembly, to report on progress towards these targets. In addition, there was agreement that interim updates should be produced to track progress toward these goals. The Board created an Oversight Subcommittee to provide strategic direction and Board oversight to the reporting effort and the organization of the Global High-Level Event. Five reports with similar formats have been released so far in the 2010 in the Progress & Impact series. Several reports will be added to the P&I series during 2011 including: *Business investing in malaria control: economic returns and healthy workforce for Africa, Malaria Outside Africa*, *Malaria Elimination Update, the "High-level" report on progress towards 2010 targets for UN General Assembly* and some country reports.

Agreements and follow-up actions:

- Send MIS reports and data to Lia Florey to post on the malaria surveys website by April 1, 2011 **(MIS implementers)**
- Address issues with MIS guidance that were raised by Fred Arnold **(ICF Macro with input for MERG members)**
- Review MIS Package revisions **(Survey & Indicator Taskforce)**
- Finalize MIS FAQ document **(ICF Macro)**
- Reactivate reporting task force **(Rick Steketee and Rene Salgado)**
- Create guidance for HH surveys in low transmission settings **(ICF Macro & others)**
- Guidance on measuring completeness of reporting **(WHO & others)**

5.0 The role of MERG in modeling

5.1 Comparison of transmission models

Lucy Okell-Imperial College

Imperial College has worked with Clinton Foundation & WHO to conduct Elimination Scenario Planning. The model evaluates potential impact of current tools when combined. It accounts for the role of initial transmission intensity, vector species, seasonality, operational feasibility and other factors. It is also capable of modeling the impact of switching strategies over the course of a control programme. This model has open access on the Imperial College website at: http://www1.imperial.ac.uk/publichealth/departments/ide/research_groups/malaria/malariatools/ It is a more conservative estimate than the Smith model used at Swiss Tropical Public Health Institute (STPHI) as it takes into account the aging of nets and reduced efficacy of other interventions as they age.

5.2 LiST Model and comparisons with other work

Thomas Eisele-Tulane University/MEASURE Evaluation

The LiST model estimates relative reduction in child mortality from scale-up of empirically-proven child survival interventions. The model computes deaths prevented by cause each year as the difference between estimated deaths with intervention scale-up and estimated deaths that would have happened had no scale-up occurred from baseline year. It was recently used to estimate number of child malaria deaths prevented from vector control (ITNs and IRS) and prevention of malaria in pregnancy (IPTp and ITNs) scale-up in 2001-2010 across 34 malaria endemic countries in Africa. There are three primary input parameters for estimating child malaria deaths prevented from intervention scale-up: 1) Malaria mortality envelope starting in baseline year; 2. Protective efficacies (PE) of malaria control interventions (e.g. ITNs and IPTp); and 3. changes in intervention coverage estimates. LiST-derived estimates of child mortality from child survival intervention scale-up have been shown to yield reasonably reliable estimates when compared to measured changes in mortality across various settings. Additionally, the LiST model performs reasonably well at estimating effect of vector control scale-up on child mortality when compared against measured data from studies across range of malaria transmission settings. Tulane is working with STPHI to compare LiST modeled reductions in all-cause child mortality in Ifakara to their estimates from transmission model and results expected in mid-2011.

Overemphasizing models is a bit precarious when speaking to press. It is important to also have good quality data. Modeling is done when there is a lack data. If there is sufficient data, there is no need to model. Most models will fail when you have low levels of mortality. Sensitivity analysis with cost effectiveness where we see double the decline we see and have good data (Bioko). This will not be a good model for looking at areas where there are not deaths from malaria. It may be better to look at the STPHI or Imperial College models for this. It is also important to recognize that these models are not meant to drive evaluations. They add to plausabilty arguments.

Richard Cibulskis is also working with Global Fund and Harvard on a model for SSA. This will also look at productivity, labor and health services costs, which are difficult to model.

Agreements and follow-up actions:

- Update List Tool on RBM Toolbox Website **(Thom Eisele)**
- Share Expenditure Study methodology with other MERG participants **(WHO)**

6.0 MERG Administrative issues

6.1 MERG workplan 2010-2011

The MERG workplan for 2010-2011 has been developed and is being funded by RBM. The RBM Secretariat should be informed when they should expect deliverables and to help in financial planning.

6.2 MERG Co-Chairs

The process was begun for the election of a new MERG co-chair. Core members of MERG were identified as organizations who had sent at least 1 representative to three of the past four meetings. These core members are allowed to nominate and vote for the next MERG co-chair. They include: CDC, Malaria Consortium, WHO, USAID, UNICEF, MEASURE, World Bank, JHCCP, Tulane University, Global Fund, PSI, PATH MACEPA, and Malaria Endemic Countries.

Holly Newby of UNICEF and Ryuichi Komatsu of Global Fund were nominated. The vote will take place electronically on February 18. A contact person from each organization was identified to communicate the vote of each organization.

6.3 Upcoming MERG meeting

The next MERG meeting will take place in June 2011 in New York City.

Agreements and follow-up actions:

- RBM Secretariat to be given timeline for workplan **(MERG Secretariat)**
- Vote on next MERG co-chair will take place electronically on February 18, 2011. **(RBM Secretariat)**
- The next MERG meeting will take place June 15-17, 2011 in New York City **(MERG Secretariat)**

7.0 Update on MERG Task Force activities

7.1 Survey and Indicator Guidance Task Force
Erin Eckert-MEASURE Evaluation/ICF Macro

The MIS package revision is ongoing. The taskforce also needs to address some issues around indicators, guidance on low-prevalence settings, and transmission indicators in low-incidence settings. These will be addressed at a taskforce meeting in April.

7.2 Capacity Building Task Force
Erin Eckert-MEASURE Evaluation/ICF Macro

This taskforce hopes to do a needs assessment. At the start of the taskforce there was a needs assessment though Malaria Consortium and AFRO. After assessing needs the leadership will lay out high priority deliverables and put those items forward for phone calls.

7.3 IT Task Force
Steve Yoon-CDC/PMI

The IT task force has had several phone calls. They are sharing documents from other fields (PEPFAR) to assure that efforts are not duplicated.

7.4 **Routine Systems Task Force**
Steve Yoon-CDC/PMI

In 2011, the task force will complete the data quality assessment toolkit, implement malaria bulletin in additional countries, work with countries implementing community-based surveillance (Ethiopia); work with countries implementing new HMIS to ensure appropriate malaria data are collected (DHIS2 – Ghana, Liberia); and work with MERG IT Task force and update Routine System Strengthening Guidance. Malaria Consortium would like to participate in the bulletins being produced in Mekong. WHO would like to continue as to have a co-chair on this task force.

7.5 Economic Task Force
Steve Yoon-CDC/PMI

There are a number of groups doing some work including Deb McFarland and Clinton Foundation. They should be represented at the next meeting so they can update the MERG on their work. Steve Yoon will follow up with individuals at CDC who are involved in this. Global Fund is also interested in playing a role. World Bank needs to check with its base to see about participation.

7.6 Mortality Task Force
Erin Eckert-MEASURE Evaluation/ICF Macro

Many meetings have taken place to create a mortality guidance document building on Alex Rowe's 2007 document. A final draft has been circulated to authors and the group asked for individuals who would be willing to review document. James Banda, Rick Steketee, Rene Salgado, IHME, and Steve Yoon were identified to review. The task force hopes to produce peer reviewed journal article from this larger document.

7.7 Morbidity Task Force
Richard Cibulskis-WHO

Dr. Cibulskis proposed that the morbidity task force merge with routine task force. It was pointed out that this task force would be needed to recommend how a measure of transmission in low-incidence settings. Hence it was decided to continue the morbidity task force. Rick Steketee will follow up on measures of transmission.

7.8 2011 Reporting Task Force
Rick Steketee-MACEPA-PATH

Rick Steketee recommends the reactivation of the reporting and dissemination task force which disbanded before to work on the Progress and Impact series. He will follow up with various groups. At the next meeting, we can decide if we need to keep this group going beyond the high level report.

Agreements and follow-up actions:

- Invite Deb McFarland and Clinton Foundation to update the MERG on their work at the next MERG meeting **(MERG Secretariat)**
- Hold household survey and indicator taskforce meeting **(ICF Macro)**
- Review guidelines for mortality measurement **(James Banda, Rick Steketee, Rene Salgado,**

8.0 Summary of Agreements and Follow-Up Actions

Action Item	Person/ Organization Responsible	Tentative Due Date
Create guidance document/indicator to measure transmission	Rick Steketee	Report at next MERG
Make final decision on Universal Coverage indicator	HH Survey & Indicator Task Force, Malaria Consortium/ WHO – VCWG	At next HH survey task force meeting
Update Core Guidelines for Population-Based Indicators to reflect changes in Universal Coverage indicator and other indicators	HH Survey & Indicator Task Force	At next TF
Make recommendations on what data is needed in low transmission settings	Morbidity Task Force	Report at MERG
Create guidance on case management indicators/data collection	HH survey task force – UNICEF/ WHO	Report at MERG
Field test containment indicators	Malaria Consortium	
Address issues with MIS guidance that were raised by Fred Arnold	Elizabeth Patton and Fred Arnold	March 15
Review MIS Package revisions	HH Survey & Indicator Task Force	June 2011
Finalize MIS FAQ document	ICF Macro	May 2011
Send MIS reports and data to Lia Florey to post on the malaria surveys website	MIS implementers	April 1 2011
Reactivate reporting task force	Rick Steketee and Rene Salgado	March 2011
Create guidance for HH surveys in low transmission settings	HH Survey & Indicator Task Force	Report at MERG
Guidance on measuring completeness of reporting	WHO & others	
Share Expenditure Study methodology with other MERG participants	WHO	Feb 2011
Send updated tools for RBM toolbox to Betty	RBM Secretariat	March 15
RBM Secretariat to be given timeline for workplan	MERG Co-chairs and Secretariat	March 2011
Vote on next MERG co-chair will take place electronically on February 18, 2011.	Boi-Betty Udom	February 18, 2011

Action Item	Person/ Organization Responsible	Tentative Due Date
The next MERG meeting will take place June 15-17, 2011 in New York City	MERG Secretariat	June 2011
Invite Deb McFarland and Clinton Foundation to update the MERG on their work at the next MERG meeting	MERG Secretariat	June 2011
Review guidelines for mortality measurement	James Banda, Rick Steketee, Rene Salgado, IHME, and Steve Yoon	
Implement Malaria Bulletin in additional countries	Routine Task Force &WHO	
Hold household survey and indicator taskforce meeting	ICF Macro	April 2011
Finalize Surveillance Guidelines	Routine Task Force &WHO	