MEETING REPORT

Twenty-ninth Meeting of the RBM Partnership
Monitoring and Evaluation Reference Group (MERG)
12 – 14 September 2018
Dar es Salaam, Tanzania

Acronyms

ACT	Artemisinin-Based Combination Therapy
CDC	Center for Disease Control and Prevention
DHS	Demographic and Health Surveys
DHIS2	District Health Information Software 2
HMIS	Health Management Information System
IRS	Indoor Residual Spraying
M&E	Monitoring & Evaluation
MERG	Monitoring and Evaluation Reference Group
NMCP	National Malaria Control Prevention
RDT	Rapid Diagnostic Test
RHIS	Routine Health Information Systems
SMC	Seasonal Malaria Chemoprevention
TOR	Terms of Reference
WHO	World Health Organization

Participants

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Caroline Lynch	LSTMH
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Renata Mandike	Tanzania NMCP
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Meeting Objectives

1. Discuss progress and challenges towards surveillance as a key intervention
2. Discuss data visualization and use for action
3. Address operationalization of surveillance guidelines
4. Examine developments in measuring malaria from survey data
5. Address RBM and MERG business issues

Meeting Notes

Objective 1: Discuss progress and challenges towards surveillance as a key intervention

1.1 Community-based entomological surveillance in Tanzania
Winfred Mwafongo, Tanzania NMCP

Winifred Mwafongo outlined vector mapping and entomological analysis in Tanzania to help guide vector control and malaria interventions. He reviewed the background of this in Tanzania and then the current needs and rationale behind moving from research to surveillance. This analysis is based on morphological characteristics, anophelene sampling and abundance, seasonality, and regions.

After the presentation, he discussed operational challenges and next steps for entomological surveillance in Tanzania.

1.2 Challenges from one percent onward: Reactive case detection in Zanzibar
Abdul-wahid Al-Mafazy, ZAMEP

Abdul-wahid Al-Mafazy reviewed malaria interventions and surveillance in Zanzibar, focusing on active case detection, including reactive and proactive approaches, and passive case detection systems. He also described the surveillance framework and patient data flow for positive malaria cases in Zanzibar. He then discussed challenges for their system and the way forward for malaria elimination in Zanzibar. Challenges included highly seasonal transmission that makes follow up difficult when there is a high case load, difficulty distinguishing if a case is a new infection versus recurrence, high positivity rates in households, delayed investigation of cases, patient's adherence to ACTs, and costs.

1.3 Towards Malaria Elimination in Southern Mozambique – 2018/2030
Baltazar Candrinho, Mozambique NMCP

Baltazar Candrinho described the epidemiological context of malaria in Mozambique and then discussed the surveillance roadmap for the two different types of endemic areas, low and high transmission. Their goal is to improve data surveillance by 2020 and achieve 22 districts in low transmission. They also performed a rapid assessment to help identify gaps in their current system and are building a data to action framework for all surveillance levels. Gaps identified include lack of integration of outputs from different electronic databases, delayed data transmission due to paper systems, lack of active surveillance protocol and strategic planning for outbreak response, weak data sharing across borders, limited inclusion of private-sector data, and limited data quality checks within DHIS2.

1.4 Discussion on evolving country needs for surveillance data
Samson Katikiti, African Leaders Malaria Alliance

The discussion began with general reflections on the previous presentations and was then narrowed to discuss how to harmonize the data collected in country and the importance of involving all stakeholders. Then there is a need to integrate data with program management. During the discussion, it was requested that MERG engage more with HMIS teams, who usually manage routine data collection and data management in DHIS 2. MERG members agree that a harmonized approach will not work for every country, but countries need to adapt recommended indicators and best practices to what works for them.

Other key issues to improve malaria surveillance are assessing in-country capacity to collect, analysis, and use HMIS data and then tailoring a training to address technical needs. Another key issue discussed was the ability of the surveillance system to identify cases at the laboratory and facility level, especially in low transmission settings, and to accurately understand cases and tailor the response. It is critical in a low transmission setting to maintain training for doctors and staff at local health facilities on diagnostics to ensure quality. In Zanzibar, ZAMEP scaled up their laboratory diagnostic and quality assurance systems to help them reach low-transmission rates.

Actions that were highlighted during this time were: harmonize data collection tools across partners (guided by NMCPs), continue to improve DHIS2 usability and response mechanisms, and address difficulties in integrating data into DHIS2. Solutions need to come from NMCPs, who can direct implementing partners that may have different goals. It was also suggested to share experiences and best practices working with DHIS2, so that countries can hear how others have integrated other data and systems into the platform and motivated facilities to use this tool. There was also discussions on solutions for data storage, analytics, decision making, coordination with technical working groups, and data documentation so that we have a better understanding of what is happening at the country level. The Tanzania NMCP offered some best practices to facilitate this, including:

- A national technical working group on routine data to enhance coordination
- Facility-level technical working groups to facilitate harmonization of data collection tools for HMIS

Another challenge stated by participants was how to strengthen entomological surveillance. Countries have been struggling with low numbers of entomologists. Further, entomological surveillance sites do not always coordinate with high malaria prevalence. Entomological surveillance needs to be integrated into DHIS2, and results need to flow back down to the facility level for decision making.

Objective 2: Discuss data visualization and use for action

2.1 Using and accountability dashboard to spark urgent action

Renata Mandike, Tanzania NMCP

Renata Mandike gave an overview of the malaria epidemiological profile and surveillance framework in Tanzania then focused on DHIS2 dashboards and how they are being used at all levels. The malaria dashboard, while still new, is an effective tool for real-time data use from the facility to national levels. It is enhancing accountability and building data use capacity for all levels. The accountability tool measures how drugs are being distributed to reflect the management of commodities at the facility level. The accountability tool then provides data visualization is various disaggregations. This tool also incorporates a data quality checklist for key indicators, which can be monitored on a monthly basis to see if they are improving.

Discussion following the presentation focused on the supportive supervision provided for the system, integration of non-routine data into the system, examples of how the dashboards have increased accountability, any challenges they are facing, and best practices to share. While they are still learning about the challenges, the NMCP has noticed discrepancies in the data and is encouraging team members

to look at the data critically. The dashboards have been in use for less than a year; however, the data quality checklists have not been used due to confusion around which checklists need to be used, the group suggested additional supportive supervision to help clarify the checklist process.

2.2 Mapping human and malaria connectivity

Shengjie Lai, University of Southampton

During this session, Shengjie Lai described innovative ways to track and map global malaria trends. By overlaying mobile phone data with surveillance data, we can visualize population distribution along with malaria incidence to identify malaria mobility and foci.

The discussion focused on how this could be operationalized to study Zanzibar's imported cases, and if this analysis could be used for interventions in sink areas, or areas where a population is exposed to malaria imported by someone from a higher endemic area.

2.3 Data use and data to action findings from the LINK project 2014-2018

Caroline Lynch, LSTMH

Caroline Lynch summarized the findings of the LINK project that is concluding this month. The project worked with NMCPs to create malaria country profiles and modeling maps to help improve malaria response. They identified three major challenges: data sharing, timeliness, and determining how and when to target. Potential solutions going forward included data sharing protocols, action oriented approach for routine data use, and behavior change within the health system itself.

The discussion focused on spatial targeting and the subsequent complications at different levels; next steps for data at sub-national levels including mapping prevalence and routine health information in Senegal; and data sharing and agreements, along with the action item of developing a venue for sharing sample agreements through an online repository.

2.4 Discussion on MERG role in strengthening data to action

Estifanos Biru Shargie, Global Fund

During this discussion, participants discussed how countries are already using data, how they are being generated, what the gaps are, and how to close these gaps. For example, in Mozambique they have difficulties ensuring facilities have registration books, which hinders data collection and comparison. The quantity of data gathered can be burdensome to collect, so processes need to be streamlined to ensure only data that will be used are collected. Participants agreed that country level data is improving and now programs need to move towards a data for action culture. Tanzania's experience using malaria dashboards was brought up as an example of encouraging facilities to look at malaria data for opportunities for improvement. Some facilities have started doing this; however, they encounter challenges like limited networks and limited capacity with computers.

MERG members also discussed how to facilitate data sharing so that NMCPs and country programs collect the most useful data to be used for strategic decisions. Participants discussed paring down current data elements to only those that are used and creating a standardized, minimal set of data collection points for data use for countries. NMCPs need clear objectives for the data, as there seems to be a disconnect between what is collected and then what is used. These data points could then feed into a dashboard for minimal malaria indicators. We do not need to reinvent the wheel but rather build on what other countries are currently doing that works.

Objective 3: Address operationalization of surveillance guidelines

3.1 DHIS2 Data Warehouse and Dashboard: AFRO Malaria data repository for National Malaria Programmes (NMPs)

Khoti Gausi, WHO AFRO

This session described the WHO AFRO malaria data repository module based on the malaria module in DHIS2. This system provides support to endemic countries for malaria surveillance, including data collection, analysis, interpretation, and dissemination. Khoti Gausi described content, repository flow, dashboards, current status, and different levels of access.

Discussion after the presentation focused on how partners can get user accounts for the malaria dashboards presented (via email) and the decision making process for what is included in the dashboard, which is based on monthly district data on malaria burden and data quality. As for data sharing, the annual data is accessible but the full database is not and users can only see the tables and maps at a national or regional level.

3.2 Surveillance systems in Zambia, Senegal, and Ethiopia: Incorporating the WHO guidelines to different surveillance approaches

Michael Hainsworth, PATH

This session focused on dashboards in Tableau to improve malaria surveillance in endemic countries. Michael Hainsworth presented interactive dashboards on data quality, tracking trends, reactive case detection, more specific to low burden countries. The presenter also discussed looking at time between diagnoses and reporting, tools for tracking interventions, and overlaying additional data, such as climate data, to create dashboards and visualizations.

Discussion centered on how to redesign the Zambia dashboards for high-burden countries to generate more data use. Participants discussed how the cost of Tableau may be prohibitive for program level use, but the presenter explained that the license is not as expensive as commonly perceived and over time, can be a valuable investment for country programs. PATH is also creating guidelines to help interpret the dashboards.

3.3 Assessing and strengthening malaria surveillance in Mozambique

Arantxa Roca-Feltrer, Malaria Consortium

Arantxa Roca-Feltrer described a surveillance assessment for the Mozambique health information system, including the sampling methods, analytical approach, and tools. This assessment was recently completed and she presented preliminary findings and priorities for improvement.

In the discussion that followed, participants asked about difficulties with data quality and determining which patients received drugs. Participants also discussed the human component of the surveillance system, especially at the health facility level, and patient flow at the facility level.

3.4 MERG MDQSA

John Painter, CDC

John Painter presented PMI's work on a routine DQA system to help improve surveillance data and allow for forecasting trends within endemic countries. This systems uses seasonal, trend, and random outbreak data to create a modelling system that could help countries anticipate and prepare for when a malaria outbreak may occur. This is anticipated to be an easy-to-use tool and will hopefully be integrated into the DHIS2 system to increase ease of use.

Following the presentation, participants discussed issues around time series analyses, stockouts and their implications for indicators, if the model accounts for seasonality of outbreaks, potential automation of the modeling program, how this can improve surveillance reporting, using the modeling as a data quality check, and if environmental data can be incorporated into the model.

3.5 Discussion on MERG role in operationalization of surveillance guidelines

Roger Tine, Université Cheikh Anta Diop

During this discussion, Roger Tine led the plenary group in a discussion on how to best operationalize the new WHO guidelines. The main challenged identified is that countries need a brief standard operating procedure (SOP). The guidance document can be overwhelming, and may be broader than what is needed at the national program level. It was suggested that MERG find a way to share what tools are currently out there and to build on what has already been done.

Another challenge that came to light during this conversation was the link between a surveillance system and an immediate response, which depends on the country strategy for either easing burden or moving towards elimination. Programs need to consider both long term and immediate responses, guided by the surveillance systems.

Data need to be collected and used during annual reviews, which create platforms for using information for decision making.

Objective 4: Examine developments in measuring malaria from survey data

4.1 Assessing caregivers' recall of antimalarial treatment for their children at health clinics and community health workers in Mali

Ruth Ashton, MEASURE Evaluation

Ruth Ashton described a validation study of caregiver's ability to recall drugs given to children with fever. They did this to determine if children receive the recommended treatment in Mali. They performed a prospective, unmatched case-control study, with caregivers of children 1-59 months who received ACT as cases and caregivers of children 1-59 months who did not receive ACT as controls. Results found 39% could not name drug, brand, or purpose of drugs received. The presenter recommends adding simple checks into data collection tools, especially for setting with low literacy or a large range of drugs available.

Discussions following the presentation centered on whether the prescription packaging had any effect on the results; including all types of packaging yielded the best results. Participants also asked which indicator was used for counting children under five receiving ACT, and for this study they used if the child had a fever because they were unsure if they could get caregivers to get confirmed malaria cases.

4.2 Let's talk about nets

Bola Olapeju, Johns Hopkins Center for Communication Programs

This presentation gave an overview of VectorWorks, including analyses on key indicators for net distribution and potential next steps for improving the key indicators. After the presentation, the presenter facilitated a discussion around misclassification of net distribution denominators, low distribution channels, and recommendations for questions in the DHS. Much of the discussion focused on tweaking current indicators to best fit reality in countries, explanations for low reach of distribution channels, and then comparing programmatic data with DHS data.

4.3 Variations in sensitivity of rapid diagnostic tests: Implications for estimation of malaria prevalence

Anna Bowen, CDC

In this presentation, Anna Bowen presented a study to validate RDTs used for assessing malaria prevalence. To do this they quantified HRP2 from mean fluorescence on a standard curve by identifying RDT results and dried blood spots to measure HRP2 concentration. They found RDTs results should be interpreted with some caution. Prevalence estimates found with different types of RDTs should take different sensitivities into account.

4.4 Quantifying the malaria prevention gap: Proposed indicators for measuring human exposure to malaria vectors

April Monroe, Johns Hopkins Center for Communication Programs

April Monroe presented on vector exposure gaps, and asked whether an indicator to capture this data is relevant to programs or in-country data collection. She discussed looking at both human and vector behavior to better understand exposure even when a net is used. The group then discussed the relevancy of an indicator to capture this information for different country settings and programs.

Towards the end of the presentation, there was discussion around the importance of having an outdoor biting intervention, especially to understand if such an intervention is plausible for low, medium, or high transmission areas, for a single person or a group, and at what point in the life cycle of a vector the intervention should target.

4.5 Discussion: Objective 4: Examine developments in measuring malaria from survey data

Cameron Taylor, The DHS Program

During this session Cameron Taylor guided the group through a discussion on developments in measuring malaria from survey data. She reviewed DHS data and new learning e-sources that are available. The discussion then turned toward how household data and data from routine systems complement each other, and that the right mix of the two is necessary for moving forward to obtain a complete understanding of malaria in countries.

MERG partners agree that they need to help NMCPs think through what data, both from survey and routine sources, is most critical to program needs and how to improve data use overall, focusing on interpretation.

Objective 5: Address RBM and MERG business issues

5.1 Updates from RBM Partnership

Kaka Mudambo, Roll Back Malaria

Kaka Mudambo gave an overall update on RBM, focusing on malaria control and the action plans needed. RBM is working on attracting more funds for supporting malaria and engaging leadership. He also gave an overview of the new RBM governance model, which is creating new avenues for engagement. They are providing technical assistance based on what countries want, and they are creating a new malaria initiative for the great lakes region in east Africa.

Following the presentation there was discussion around how to best coordinate working groups for RBM and prioritize strategic plans for these working groups for improved support at the country level.

5.2 Learning from impact evaluations of large SMC programs

Louise Maranda, Malaria Consortium

Louise Maranda's presentation discussed how Malaria Consortium is now transitioning SMC programs in West Africa to focus on three main points: coverage, adherence, and impact. She stressed the

importance of correct project implementation in order to have helpful impact evaluations. She gave a summary of results for Malaria Consortium's campaign with SMC, noting that certain factors can skew results. They encountered issues with denominators, targets vs. reality, routine data, random RDT data availability, design options, and competing activities by other partners. The concluded that routine data was not suitable for SMC impact assessment as there is not enough information at a granular level.

5.3 SMC Task Force: Progress and future plans

Chrestien Yameni, Catholic Relief Services and Louise Maranda, Malaria Consortium

The SMC group is working on developing guidance on SMC to harmonize and standardize approaches to better measure impact and effectiveness of the intervention. The task force plans to review its current TOR to make sure it is feasible and then create a time-bound plan with specific deliverables for measuring the impact of SMCs.

There was discussion following the group's presentation, where participants encouraged cross-fertilization between task forces and improving operational tools. Participants also advised on making decisions for SMC based on current data and by coordinating with competing activities so that efforts are not duplicative. They also asked if donors expect outcomes at the individual intervention level or from the overall package level; as of now donors expect individual level numbers for activities.

5.4 IRS indicators taskforce update

David Larsen, Syracuse University

David Larsen presented on IRS indicators and then asked the MERG plenary to discuss the current IRS indicator denominator. The task force proposes updating the recommended indicator's denominator from "structures sprayed" to "structures in a targeted area." The presenter gave an overview of case studies, e.g. looking at Ghana and determining rooms vs. structures. With evidence from these case studies, he explained limitations with the current denominator and that it does not reflect a true number of structures in a community. It also effectively creates an acceptance rate. The task force gave two case studies as an example of challenges with the current indicator, one in Bioko Island and the other in Zambia. These show a need to measure actual structures at the community level using population estimate, traditional leaders' knowledge, ground enumeration, satellite enumeration, or world population data.

A discussion then began around the cost for changing the indicator, approaches to handling a country's rejection of the change, potential problems from partners, including all structures for a more reliable proportion, and how to standardize a potential new indicator. Participants further discussed that there needs to be clear communication among all partners to ensure the same indicators are used consistently.

5.5 Evaluation Task Force: Progress and future plans

Samantha Herrera and Ruth Ashton, MEASURE Evaluation

The Evaluation Task Force updated the plenary on progress made toward developing a framework on impact evaluations in low to moderate transmission settings. They recognized that thinking and approaches for evaluation need to evolve for changing settings to understand the impact of programs. They found that current tools were not adequate for this.

The task force has completed a second draft of the framework. The next steps are to incorporate input from reviewers and to potentially pilot the framework in a low or moderate transmission setting.

5.6 Review action items for MERG

Jui Shah, MEASURE Evaluation

Work Area	Party Responsible
Sponsorships to increase NMCP and potentially HMIS participation at MERG	All MERG partners
Develop operational SOP for NMCPs to strengthen surveillance	John Painter and Caroline Lynch to form task force
Collate data sharing templates of use to MERG	Caroline Lynch
Design standardized malaria dashboard and corresponding guidance for each level of user	Ryan Williams, Jui Shah, John Painter, Michael Humes, Lolade Oseni

Task Forces	Party Responsible
Re-Launch RHIS Task Force to review existing data quality audit sources and tools relevant for malaria	Michael Humes, Michael Hainsworth
SMC TF: Circulate materials to regroup	Louise Maranda, Chrestien Yameni
IRS TF: Share indicator proposal with MERG membership, VCWG, and WHO	David Larsen
Evaluation Task Force: Finalize and disseminate framework document	Ruth Ashton, Samantha Herrera