INTRODUCTION TO SURVEILLANCE, MONITORING, AND EVALUATION FOR MALARIA PROGRAMS
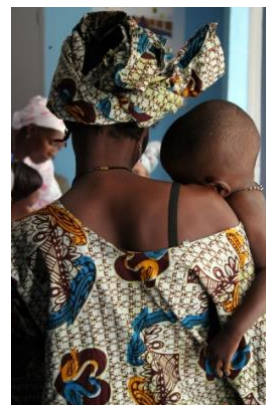
MODULE 3: INTRODUCTION TO SURVEILLANCE, MONITORING, AND EVALUATION FOR MALARIA PROGRAMS

This module describes the key players in surveillance, monitoring, and evaluation (SME) for malaria programs, common indicators for monitoring coverage of malaria control and prevention interventions, and challenges for SME for malaria programs.

Module Objectives

By the end of this module, you will be able to:

- Identify the key players in SME for malaria programs
- Identify the key goals and targets of the Roll Back Malaria (RBM) Partnership
- Identify common indicators for SME for malaria programs
- State common SME challenges for malaria programs

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Key Players in the SME of Malaria Programs

Surveillance, monitoring, and evaluation plays a vital role in all malaria control and prevention programs. A number of key players in SME of malaria provide valuable guidance and support for SME within country programs. The following are some of the key players in SME.

National Malaria Control Program

The national malaria control program (NMCP) is the main institution within a country that is responsible for formulating policies and strategies to reduce the malaria burden in the near and mid-term, as well as the global eradication in the long-term. National malaria programs may focus on control or elimination, which is reflected in their identity as NMCPs or national malaria elimination programs. Regardless of the name, the institution is in charge of coordinating, supervising, monitoring, and evaluating the implementation of these interventions.

Roll Back Malaria Partnership and Surveillance, Monitoring and Evaluation Reference Group

The purpose of the RBM Partnership to End Malaria's Surveillance, Monitoring and Evaluation Reference Group (MERG) is to facilitate alignment of partners on strategies and "best practices" in SME for malaria control and elimination programs. It also identifies emerging questions and needs related to the implementation of SME initiatives, communicates these to appropriate partners, and brainstorms solutions. The RBM MERG also advises on SME of international, regional, and national initiatives. It provides technical advice on state-of-the-art approaches to SME for malaria programs, including providing guidance on appropriate indicators, data collection methods, analytic strategies, and dissemination of recommendation for SME for malaria programs. The RBM MERG welcomes participation from all partners working on SME for malaria and actively pursues engagement with professionals in malaria endemic countries.

For more information, visit the RBM MERG website at https://endmalaria.org/our-work-working-groups/monitoring-and-evaluation.

U.S. President's Malaria Initiative

The U.S. President's Malaria Initiative (PMI) is an interagency initiative led by USAID and implemented together with the U.S. Centers for Disease Control and Prevention (CDC) and the U.S. Department of Health and Human Services. Its strategy goal for 2015–2020 is to work with countries and partners to further reduce malaria deaths and significantly reduce malaria morbidity, until reaching elimination. It works in 25 countries that have a high burden of malaria in sub-Saharan Africa as well as in Burma and Thailand. The agency works closely with country NMCPs, providing technical support, building capacity, and helping coordinate SME efforts within the country.

For more information, visit the PMI website at PMI.gov.

Global Fund to Fight AIDS, Tuberculosis and Malaria

The Global Fund is a global public/private partnership that attracts and disburses resources to prevent and treat HIV/AIDS, tuberculosis, and malaria. The Global Fund provides nearly 60 percent of all international funding for malaria and has invested more than $10.5 billion in malaria control programs in more than 100 countries from 2002–2017, using a comprehensive approach combining malaria education, diagnosis, prevention, and treatment.

For more information, visit the Global Fund website at https://www.theglobalfund.org/en/.

SME Goals and Targets for Malaria Control and Prevention

The WHO Global Technical Strategy for Malaria, 2016–2030 (GTS), is a technical framework intended to guide and support malaria endemic countries to achieve malaria control and elimination. The strategy contains three pillars:

1. Ensure universal access to malaria prevention, diagnosis, and treatment
2. Accelerate efforts toward elimination of malaria and attainment of malaria-free status
3. Transform malaria surveillance into a core intervention

The Global Technical Strategy targets are as follows:

- Reduce malaria mortality rates globally compared with 2015 by at least 40 percent by 2020, at least 75 percent by 2025, and at least 90 percent by 2030
- Reduce malaria case incidence globally compared with 2015 by at least 40 percent by 2020, at least 75 percent by 2025, and at least 90 percent by 2023
- Eliminate malaria from countries in which malaria was transmitted in 2015 in at least 10 countries by 2020, at least 20 countries by 2025, and at least 35 countries by 2030
- Prevent re-establishment of malaria in all countries that are malaria-free

Common Indicators for SME for Malaria Programs

There are a number of common household-level indicators for SME of malaria programs based on the four main malaria control and prevention strategies:

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- Vector control, including insecticide-treated nets (ITNs)/long-lasting insecticide-treated nets (LLINs) and indoor residual spraying (IRS)
- Chemoprevention, including intermittent preventive treatment for pregnant women and seasonal malaria chemoprevention
- Case management
- Malaria surveillance

Indicators monitor the coverage of each of these interventions. Coverage indicators help us understand how effective a program is, determine whether one strategy reached its goal more effectively than another, and identify underserved areas or regions. More information on indicators for malaria programs is found in Module 6.

Malaria SME Challenges

SME of malaria programs is not always straightforward. In many cases, it can be quite complex. As you gain more experience in SME for malaria programs, you will most likely face many of these challenges and grow to appreciate and understand all of the complexities.

Challenges in archiving SME data

For this course, we will begin to shed light on some of the main challenges that are faced in SME, specifically for malaria programs. At this point, the aim is to make you aware of these challenges so you can take them into consideration when you are developing SME plans, designing your programs and interventions, and analyzing and interpreting your data.

Challenges for SME for Malaria Programs: NMCPs

A key challenge that NMCPs face is being able to measure the impact of the malaria control and prevention interventions they implement. Measuring the impact of country programs has not always been routinely required. This is now changing with an initiative to evaluate the impact of these programs by the RBM Partnership and PMI.

In order to measure impact of interventions, such as the impact on malaria-specific mortality or morbidity, often a rigorous experimental evaluation design is required. Such an evaluation design can be complex and costly to undertake, and can thus potentially pose a challenge to country NMCPs.

Another common difficulty faced by NMCPs is developing a case definition for malaria that is practical in the field. Currently, most countries have policies in place to diagnose a malaria case using a blood test, such as microscopy or a rapid diagnostic test; however, sometimes those diagnostic tests are not available, there is a stockout, or there is a lack of confidence in the diagnostic tool. In situations in which diagnostic

tools for measuring malaria are not available, malaria is measured by onset of fever. In doing so, the precision for measuring malaria incidence and burden decreases.

Other common challenges faced by NMCPs are the variation in completeness of reporting over time and location and the low coverage and quality of vital registration systems in developing countries.

THINK ➤ **These are a few of the main challenges the field of SME faces for malaria programs. Can you think of others that you have faced in your work?**

Challenges for SME for Malaria Programs: Complexity of Malaria Epidemiology

The complexity of malaria epidemiology also poses challenges to SME for malaria programs by adding a layer of complexity to the interpretation of the data collected.

The relationship between transmission and mortality is not a perfect linear relationship. For example, a high level of malaria transmission does not necessarily result in a higher level of malaria-specific mortality. A population that experiences a high level of malaria transmission builds immunity over time with repeated infection with malaria. This immunity helps lessen the severity of the disease, resulting in fewer deaths. Meanwhile, people who live in areas with less malaria transmission do not build the same level of immunity and therefore are more vulnerable when they get infected with malaria.

Another important aspect of the disease to take into consideration is the complex relationship between transmission and immunity and how this can affect the severity and symptoms of malaria morbidity. For example, if there is high malaria transmission, it presents in the population in the form of chronic infections and severe anemia. If there is low malaria transmission, often it presents as higher life-threatening severe malaria. This is because with high transmission, the overall population's immunity rises, and with low transmission, the overall population has a lower immunity.

These are a few of the main complexities we must be aware of and take into consideration when we interpret the data we have collected.

Module 3 Assessment

Questions

Correct answers are provided on the next page.

1. Which key malaria SME player advises on SME of international, regional, and national initiatives, providing technical advice on state-of-the art approaches to SME for malaria programs?

   a. National malaria control programs
   b. Roll Back Malaria Surveillance, Monitoring and Evaluation Reference Group
   c. President's Malaria Initiative
   d. The Global Fund

2. Which statement about the WHO Global Technical Strategy is INCORRECT?

   a. Reduce malaria case incidence by at least 90 percent by 2030 is one of the GTS targets.
   b. Reduce malaria mortality rates globally by at least 75 percent by 2030 is one of the GTS targets.
   c. A pillar of the GTS transforms malaria surveillance into a core intervention
   d. The GTS is a technical framework intended to guide and support malaria endemic countries in achieving malaria control and elimination

3. Which program at the national level is in charge of elaborating and implementing malaria control strategies?

   a. National malaria control program
   b. The Global Fund
   c. Roll Back Malaria Partnership and Surveillance, Monitoring, and Evaluation Reference Group
   d. President's Malaria Initiative

Correct Answers

Correct answers are noted in bold.

1. Which key malaria SME player advises on SME of international, regional, and national initiatives, providing technical advice on state-of-the art approaches to SME for malaria programs?

   b. Roll Back Malaria Surveillance, Monitoring and Evaluation Reference Group

   The RBM MERG's role is to advise on SME of international, regional, and national initiatives. It provides technical advice on state-of-the-art approaches to SME for malaria programs, including providing guidance on appropriate indicators, data collection methods, analytic strategies, and dissemination of recommendation for SME for malaria programs.

2. Which statement about the WHO Global Technical Strategy is INCORRECT?

   b. Reduce malaria mortality rates globally by at least 75 percent by 2030 is one of the GTS targets.

   Reducing malaria incidence by at least 90 percent by 2030 is one of the GTS targets.

3. Which program at the national level is in charge of elaborating and implementing malaria control strategies?

   a. National malaria control program