WORKING PAPER

# Surveillance Data Review Meetings in Malaria-Endemic Counties in Kenya

WP-17-197

February 2017

USAID
FROM THE AMERICAN PEOPLE

PEPFAR

MEASURE Evaluation PIMA

WORKING PAPER

# Surveillance Data Review Meetings in Malaria-Endemic Counties in Kenya

**MEASURE** Evaluation
University of North Carolina at Chapel Hill
400 Meadowmont Village Circle, 3rd Floor
Chapel Hill, NC 27517 USA
Phone: +1 919-445-9350
measure@unc.edu
**www.measureevaluation.org/pima**

This presentation has been supported by the United States President's Emergency Plan for AIDS Relief (PEPFAR) through the United States Agency for International Development (USAID) under the terms of MEASURE Evaluation PIMA associate award AID-623-LA-12-000001. MEASURE Evaluation PIMA is implemented by the Carolina Population Center at the University of North Carolina at Chapel Hill, in partnership with ICF International; Management Sciences for Health; Palladium; and Tulane University. Views expressed in this presentation are not necessarily those of USAID or the United States government. WP-17-197

USAID FROM THE AMERICAN PEOPLE

PEPFAR

MEASURE Evaluation PIMA

# ACKNOWLEDGEMENTS

We thank the U.S. Agency for International Development (USAID) for supporting the work by MEASURE Evaluation PIMA reflected in this report.

We also thank MEASURE Evaluation's knowledge management team at the University of North Carolina at Chapel Hill for editorial and production services.

# CONTENTS

**Acknowledgements** ..... **4**
**Contents** ..... **5**
**Figures** ..... **6**
**Tables** ..... **6**
**Abbreviations** ..... **7**
**Introduction** ..... **8**
**Purpose and Objective of Malaria Surveillance Data** ..... **9**
**Review Meetings** ..... **9**
**Participants Targeted for a Malaria Data Review Meeting** ..... **10**
Decision Makers ..... 10
Data Users ..... 10
Data Producers ..... 10
**Steps in Conducting a Malaria Data Review Meeting** ..... **11**
Pre-Planning of a Data Review Meeting ..... 12
Advocacy and Meeting Structure ..... 12
Identification of Drivers of the Meeting ..... 13
Conducting the Malaria Data Review Meeting ..... 19
Step 1. Present graphs and interpret findings ..... 19
Step 2. Track action plans developed during the meeting ..... 19
**Outcomes of the Counties Supported by Malaria Data Review Meetings** ..... **22**
Demand and Use of Data to Inform Decision Making ..... 22
As an Avenue for Advocacy ..... 23
Improved Adherence to the Malaria Treatment Guidelines ..... 23
Promotion of Appropriate Antimalarial Medicine Use ..... 23
Improved Malaria Commodity Management ..... 24
Increased Knowledge of Malaria Surveillance ..... 24
Demand for Quality Data ..... 25
Identified Gaps During Data Review Meetings ..... 25
Challenges ..... 25
**Recommendations** ..... **26**
**Conclusion** ..... **27**
**Appendix: DDU Checklist Template** ..... **28**

# FIGURES

Figure 1. Steps to implementing a malaria data-driven review meeting ..... 11
Figure 2. Graph from Kisumu County Bulletin, Issue 2, showing the county outpatient cases confirmed per thousand people ..... 15
Figure 3. Migori County outpatient test positivity rate from Health Sector-Wide Profile, Issue 1 ..... 16
Figure 4. Graph from Homa Bay County Health Sector-Wide Profile, Issue 1, showing the percentage of malaria-suspected cases tested with a parasite-based test. ..... 16
Figure 5. Graph from Kisumu County Bulletin, Issue 3, showing outpatient malaria cases treated with artemether/lumefantrine (AL) as a proportion of confirmed malaria cases ..... 17
Figure 6. Graph from Vihiga Malaria Profile showing coverage of IPTp during ANC visits ..... 17
Figure 7. Graph from Kakamega Health Sector-Wide Profile showing total outpatient cases against malaria cases ..... 18
Figure 8. Graph from Homa Bay County showing reporting rates of malaria commodities by data sources ..... 19
Figure 9. Snapshot of Migori County Kuria West Subcounty PIP ..... 20
Figure 10. Reporting rates for malaria commodities ..... 22

# TABLES

Table 1. Titles of possible meeting participants ..... 12
Table 2. Review meetings conducted with PIMA support ..... 20

# ABBREVIATIONS

| | |
|---|---|
| ANC | antenatal care |
| AL | artemether/lumefantrine |
| CHMT | county health management team |
| CME | continuing medical education |
| DHIS | district health information system |
| DQA | data quality audit |
| HMT | hospital management team |
| IDSR | Integrated Disease Surveillance and Response |
| IPTp | intermittent preventive therapy in pregnancy |
| LLIN | long-lasting insecticide-treated net |
| M&E | monitoring and evaluation |
| MOH | Ministry of Health |
| NMCP | National Malaria Control Programme |
| PIP | performance improvement plan |
| PMI | President's Malaria Initiative |
| SCHMT | subcounty health management team |
| WHO | World Health Organization |

# INTRODUCTION

The Kenya malaria strategy objective four states that by the year 2018, all counties should have strong and sustainable monitoring and evaluation (M&E) surveillance systems so that key malaria indicators may be routinely monitored, reported, and evaluated.

In an effort to improve the surveillance systems for malaria in Kenya and generate the core World Health Organization (WHO) surveillance graphs, the National Malaria Control Programme (NMCP), with support from MEASURE Evaluation PIMA, developed a surveillance curriculum package and used it to roll out surveillance trainings countrywide. With funding from the President's Malaria Initiative (PMI), MEASURE Evaluation PIMA supported the rollout of training to the malaria high-burden, high-priority counties of Kisumu, Siaya, Migori, Homa Bay, Kakamega, Busia, Vihiga, and Bungoma. To date, a total of 4,669 health workers have been trained on malaria surveillance nationally. In the malaria lake endemic region of west Kenya, a total of 1,152 health workers were trained. To ensure that the skills and competencies gained by the health workers during the training are used, MEASURE Evaluation PIMA conducted a number of post-training activities in the targeted counties. The aim of these activities was to instill high demand for data and good data use practices among health workers, thereby developing a culture of data use for decision making. These post-training activities included stakeholder mapping, data/performance review, malaria technical working groups, mentorship visits, continuing medical education, and data quality audits (DQAs). This report provides a summary of the data/performance review meetings that took place within the PIMA-targeted counties.

# PURPOSE AND OBJECTIVE OF MALARIA SURVEILLANCE DATA

## Review Meetings

A data review is a process of thoroughly examining data routinely (monthly, quarterly, biannually, and annually) to provide feedback on data quality and data use comparing performance targets and achievements, discussing appropriate action on using data for decision making, and sharing the information with stakeholders. Data reviews are led by the county health management teams (CHMTs), subcounty health management teams (SCHMTs), and health facility managers.

Data review meetings provide a regular forum to create awareness of the malaria data collection processes and methods, the available data sources, the quality of those data, and use of the data to inform action. The meetings provide an opportunity to address barriers to data use and improve the sharing of data resources among the users and producers of the data. They also provided the CHMT, SCHMT, and hospital management team (HMT) an opportunity to integrate malaria data from various data sources, conduct analysis, and use the information for action planning, in addition to sharing experiences on data use to improve decision making.

The specific objectives of the review meetings reported on here were:

- To improve data quality and availability
- To improve data use for decision making at county, subcounty, and facility levels
- To build capacity in malaria surveillance, monitoring, and evaluation

Efforts to collect, analyze, synthesize, interpret, and use data in decision making may be done by the same person, but are more commonly engaged in by people with distinct job functions, at different levels of the health system, and who understand each other's work to varying degrees. Often, data producers are responsible for the design, implementation, and management of information systems, while data users manage or make policy decisions for service delivery programs. Training of health workers undertaking one or both of these functions is therefore imperative. In most cases, especially in low-volume facilities, the same officer performs the two functions at this level. However, meaningful interaction between the data producer and user is essential for improved and strengthened use of data for informed decision making and overall improvements in the health building blocks. The relationship of improved information, demand for data, and continued data use creates a cycle that leads to improved health programs and policies.[1] Improving data demand and use is necessary to improve the effectiveness and sustainability of a health system.
When data users and data producers work together, they become more aware of the data collection processes, the available data sources, and the quality of those data. They have the opportunity to improve and identify key programmatic questions and link these questions to the data available in their settings. Lastly, they can jointly analyze and interpret data to answer programmatic questions. By understanding the data users and producers and linking them to each other's work, ownership of data is clarified, the information cycle is strengthened, data-informed decisions are made, and the value of data in relation to program improvement becomes more clear.

[1] Foreit, K., Moreland, S., & Fond, A. L. F. (2006). *Data demand and information use in the health sector: A conceptual framework.* Chapel Hill, NC: MEASURE Evaluation.

# PARTICIPANTS TARGETED FOR A MALARIA DATA REVIEW MEETING

## Decision Makers

Institutionalization and success of data review meetings is subject to the support of a strong champion from the leadership of the organization. Leaders or their delegates must be willing (and able) to take the time to prepare for and participate in meetings in order for the process to be taken seriously and perceived as valuable by the stakeholders. The main role of leadership is to ensure that the data being generated are actually used to inform decisions and give guidance and support to the team by filling gaps identified during the meeting.

The leader's delegate needs to be recognized as fully representing the leader and empowered to make decisions. During the county malaria data review meetings, for example, the county director for health was represented by the county malaria control coordinator.

## Data Users

In the context of malaria data review meetings at the county level, the data users are the "end users" of data. They may be directly involved in analyzing integrated datasets and examining the findings to plan actions or make decisions. Data users include heads of programs/departments; program managers such as county malaria control coordinators, county health records officers, county public health nurses, public health officers, county records officers, and pertinent stakeholders, including both implementers and donors. The roles of data users are to:

i. Provide questions and information needs of the organization
ii. Participate in interpretation of the indicator results
iii. Provide strategic direction and participate in decision making and action planning

## Data Producers

Data producers are staff engaged in cleaning, transforming, and presenting data in formats that can be understood by the targeted data user. This will facilitate easier interpretation of the data to support decision making and programming. The key role of data producers during and prior to a data review meeting is to:

i. Obtain the desired information needs
ii. Transform data into clear, readable charts, tables, or diagrams
iii. Prepare and communicate the results of the meeting to all participants
iv. Keep track of the findings, issues, requests, and actions called for during the meeting
v. Follow up on requests for information and on the status of actions requested during the meeting
vi. Communicate in advance with expected participants on the content of the forthcoming meeting

# STEPS IN CONDUCTING A MALARIA DATA REVIEW MEETING

The following are the core components of a data-driven review meeting that were employed for a malaria data review meeting with participants from all levels (Figure 1).

**Figure 1. Steps to implementing a malaria data-driven review meeting**

### Steps to Implementing a Malaria Data-driven Review Meeting

***PRE-PLANNING STAGE***

***1) Engage in advocacy***

***I.*** Engage leadership (decision makers at the CHMT, SCHMT, and HMT) to get buy-in for data reviews and representation.
***II.*** Establish the frequency of the meetings.
***III.*** Identify data users and producers either from the county, subcounty, or health facility who will attend the meeting (maximum of 30 participants), and define their roles.

***2) Establish meeting structure (2 weeks prior to the meeting)***

***I.*** Decide in partnership with Ministry of Health (meet with the CHMT) whether it will be a programmatic or thematic review meeting.
***II.*** Develop the agenda.

***3) Identify key drivers for the meeting (1–2 weeks prior to the meeting)***

I. Identify the key questions of interest generated from the core malaria surveillance graphs.
II. Prioritize the key questions of interest.
III. Identify information needs and data sources.
IV. Prepare a Power Point presentation with graphs and tables highlighting the key questions of interest.

***4) Prepare for the meeting (at least 1 week prior to the meeting)***

I. Organize a planning meeting with the Ministry of Health to agree on the structure of the data review meeting and ensure focused and targeted presentations.
II. Outline the key messages to be communicated to other team members.
III. Clarify the meeting structure and the roles and responsibilities of facilitators.
IV. Circulate the program prior to the meeting.

***REVIEW MEETING***

***5) Facilitate the meeting***

I. Set the agenda of the meeting.
II. Present graphs and interpretation of findings.
III. Facilitate action planning session (includes reviewing the previous action plans).
IV. Track progress in the performance improvement plans (PIPs).

***Tools to be used and completed during the data review meeting are the Data Demand and Use (DDU) checklist (see Annex) and PIPs (Figure 9).**

## Pre-Planning of a Data Review Meeting

### Advocacy and Meeting Structure

The overall purpose of the data review meeting is to bring together the key players, i.e., data users and producers.

Table 1 shows the titles of targeted officers or offices from which the pre-planning team should choose.

**Table 1. Titles of possible meeting participants**

| Cadre/Department | | County Health Management Team | Subcounty Health Management Team | Hospital Health Management Team |
|---|---|---|---|---|
| **County Malaria Data Review Meeting** | | | | |
| 1 | Manager | County executive committees/chief officer, health services/county director of health | Subcounty medical officer of health | |
| 2 | Malaria control coordinator | County malaria control coordinator | 1 subcounty malaria control coordinator per subcounty | |
| 3 | Pharmacy | County pharmacist | 1 subcounty pharmacist per subcounty | |
| 4 | Laboratory | County laboratory coordinator | 1 subcounty laboratory coordinator per subcounty | |
| 5 | Health records | County health records officer | 1 subcounty health records officer per subcounty | |
| 6 | Clinician | County clinical officer | | |
| 7 | Nurse | County nursing officer | | |
| **Health facility malaria data review meeting** | | | | |
| 8 | Manager | County malaria control coordinator | Subcounty malaria control coordinator | Facility medical superintendent/ facility chief executive officer/ facility in-charge |
| 9 | Pharmacy | | | Facility pharmacist in-charge |
| 10 | Laboratory | | | Facility laboratory in-charge |
| 11 | Health records | | Subcounty health records officer | Facility health records officer in-charge |

| | | | | |
|---|---|---|---|---|
| 12 | Clinician | | | Facility clinical officer in-charge |
| 13 | Nurse | | | Facility nursing officer in-charge |

Participants of the pre-planning meeting should

i. Assign roles and responsibilities to managers
ii. Prioritize key questions of interest and respective indicators
iii. Identify relevant key stakeholder and decision makers for the meeting
iv. Draft invitation letter to the key participants of the meeting
v. Develop the draft agenda

## Identification of Drivers of the Meeting

The following four steps based on the MEASURE Evaluation PIMA approach are necessary to facilitate a successful malaria data review meeting.

### *Step 1. Identify the key questions of interest*

One of the requisites for a data review is to identify program and policy phases that the review is supporting (i.e., advocacy and policy formulation, program formulation, program monitoring, program evaluation). By identifying the question of interest, you will begin to think about the ultimate use of your results and the programmatic and policy decisions they may influence. Available data can be analyzed in a targeted way to facilitate identification of issues to be addressed.

The overarching reason for the malaria data review meetings at the counties was to help with advocacy for support for the program from the county health leadership. Since health was devolved from the national government to the counties, it was the mandate of the county government to provide health services to its population. Malaria control was one of the services that counties were required to take up. The malaria data review meetings provided an avenue to advocate for the necessary support, from both the national and county government, for the smooth running of the malaria program at the county level. The national government had made a lot of gains in control of malaria in the region, and this was at risk if the county government did not provide the necessary support towards consolidating and sustaining the effort achieved to date.

The malaria program at the county level also requires routine monitoring to determine the progress made towards malaria control as per the set targets in the malaria M&E plan. This therefore required specific indicators be used to track progress.

### *Step 2. Prioritize key questions of interest*

Prior to the meeting, the program will have identified key priority programmatic questions they would like answered and priority indicators to monitor. Identifying key questions of interest ensures that the most important issues and problems are addressed first and that questions that can be answered using existing routine data are selected. This process of identifying the broad program questions or issues can be derived

from the M&E plan, data use plan, or the annual work plan. To prioritize these questions, the team should consider the following specific criteria and discuss each question in depth:

- Programmatic relevance—Is the question of interest programmatically relevant and/or of a public health interest? Are others in the community interested in the information?
- Answerable—Is it possible to answer this question of interest or measure performance with existing data or data that could be collected?
- Actionable—Does the department have the authority to act upon the answers to the key questions of interest? That is, if data indicate a need for a change in the current course of action, can the department make the required changes? If not, can they influence those with the authority or ability to effect change?
- Timeliness—Is there a timeline for answering this question or making a decision about the issue at hand? Can some key questions be tabled for discussion later to allow the group time to focus on questions that must be addressed more quickly?

For the malaria data review meetings, MEASURE Evaluation PIMA provided technical support for the teams to narrow down pertinent programmatic issues/questions for decision making with the aim of strengthening data demand and use among program staff and policymakers more broadly.

### *Step 3. Identify information needs and sources*

The prioritized questions of interest are used to generate the information needs. A data review is effective when the targeted stakeholder needs are identified prior to the meeting in order to meet the needs of the stakeholders who will be present in the meeting. To identify and focus on specific data needs and sources for the malaria data review meetings, the following were considered:

- How frequently or at what intervals do we need this information? The frequency was determined by the data collection for the indicator; in this case, since we were using the routine malaria data from the DHIS 2 and integrated disease surveillance and response (IDSR), the data was being mined on a monthly basis.
- Do the data already exist and are they readily available? The malaria metadata were available from DHIS 2.
- Are the data of sufficient quality? With malaria reporting rates of more than 90 percent within the region, the data quality was sufficient, although other aspects of data quality, including completeness and accuracy, were still an issue.

### *Step 4. Transform data into informational presentations*

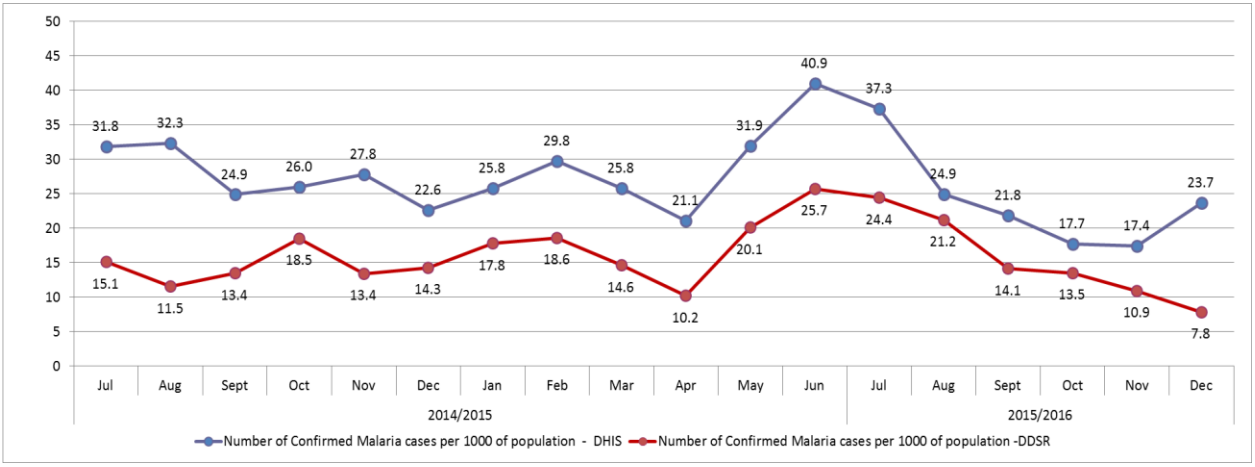
Data should be made available to data users for the purpose of evidence-based decision making. The available data need to be synthesized into formats appropriate for the different types of data users, so that they can be retrieved in a timely manner by those who need them and communicated frequently to all who are involved in producing and using the data.

MEASURE Evaluation PIMA supported the county editorial team to mine malaria data from the DHIS 2 and IDSR, and analyze, interpret, and package the data into formats that could be easily consumed by different audiences. PIMA supported the county teams to develop information products, e.g., Malaria Bulletins and County Health Sector-Wide Profiles, using the analyzed data. These products were disseminated during the data review meeting and were used during discussions while participants addressed the key priority questions that had been identified beforehand. It was important to share this information with the county malaria control coordinator prior to the meeting, because this was the officer who was chairing the meeting on behalf of the county director of health. This encouraged meaningful deliberations and informed decisions and action plans. These information products included malaria indicators whose trends over time were tracked in the form of graphs and tables. The effectiveness of the malaria program and its various malaria control interventions was measured through use of these graphs. Routine data from the district health information systems (DHIS) and IDSR were used to develop these graphs, which formed the basis for discussions during the data review meeting. A step-by-step procedure on how to mine data from the DHIS and transfer the mined data into the analysis tool was developed.

The tracked malaria indicators with examples of the generated graphs are shown in Figures 2–8.

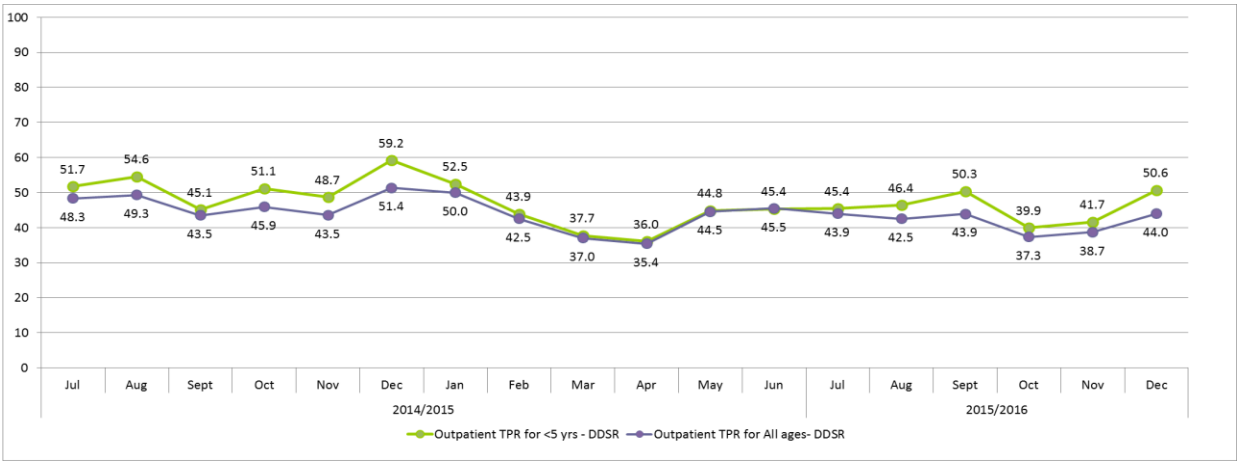
(1) Outpatient malaria cases confirmed per thousand persons. This graph shows the number of outpatient suspected malaria cases confirmed to have the malaria parasite by microscopy or RDT per 1000 people residing in a given catchment area.

**Figure 2. Graph from Kisumu County Bulletin, Issue 2, showing the county outpatient cases confirmed per thousand people**



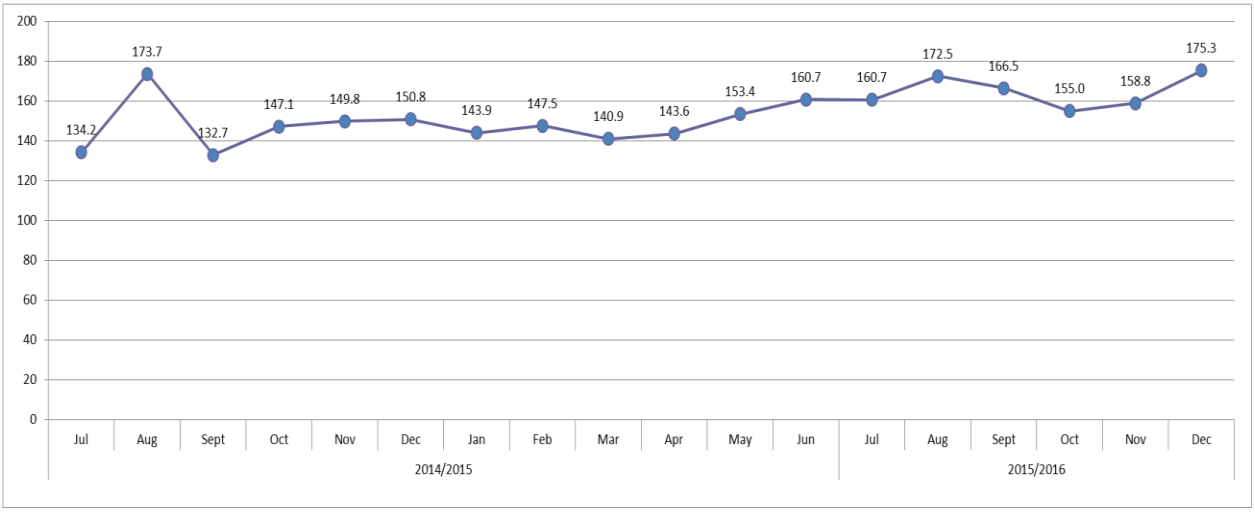

(2) Outpatient test positivity rate. This graph shows the overall outpatient test positivity rates for under-five and all ages in a given population. It shows the trends with regard to the percentage of malaria cases that tested positive against the total number of cases tested for the malaria parasite.

**Figure 3. Migori County outpatient test positivity rate from Health Sector-Wide Profile, Issue 1**



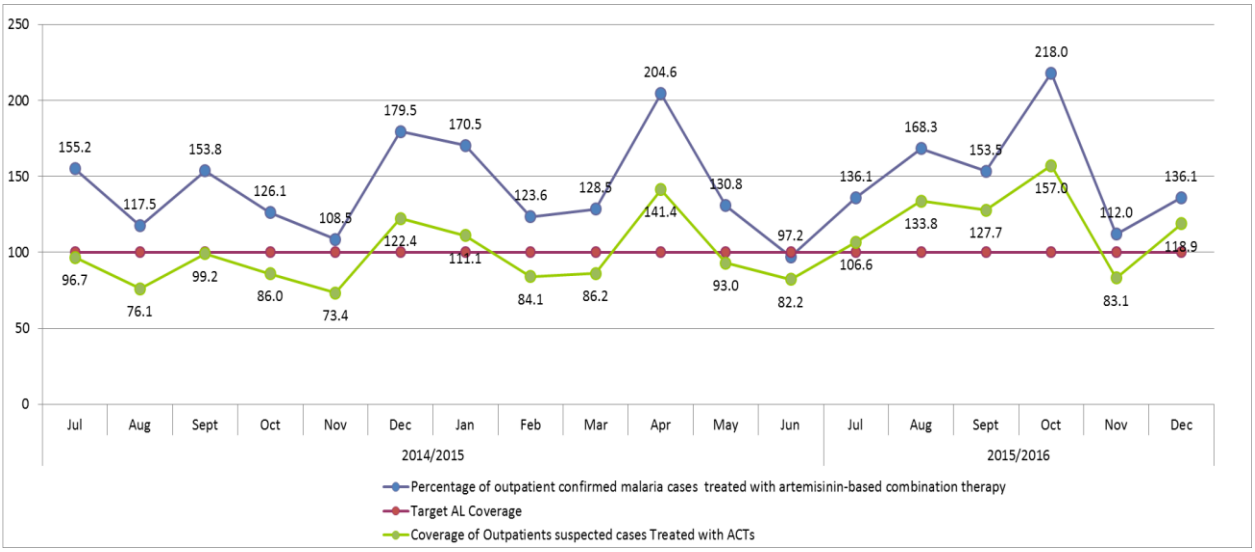

(3) Percentage of suspected malaria cases tested with a parasite-based test. This graph illustrates the percentage of suspected malaria cases among outpatients who underwent a laboratory diagnosis (RDT or microscopy).

**Figure 4. Graph from Homa Bay County Health Sector-Wide Profile, Issue 1, showing the percentage of malaria-suspected cases tested with a parasite-based test.**



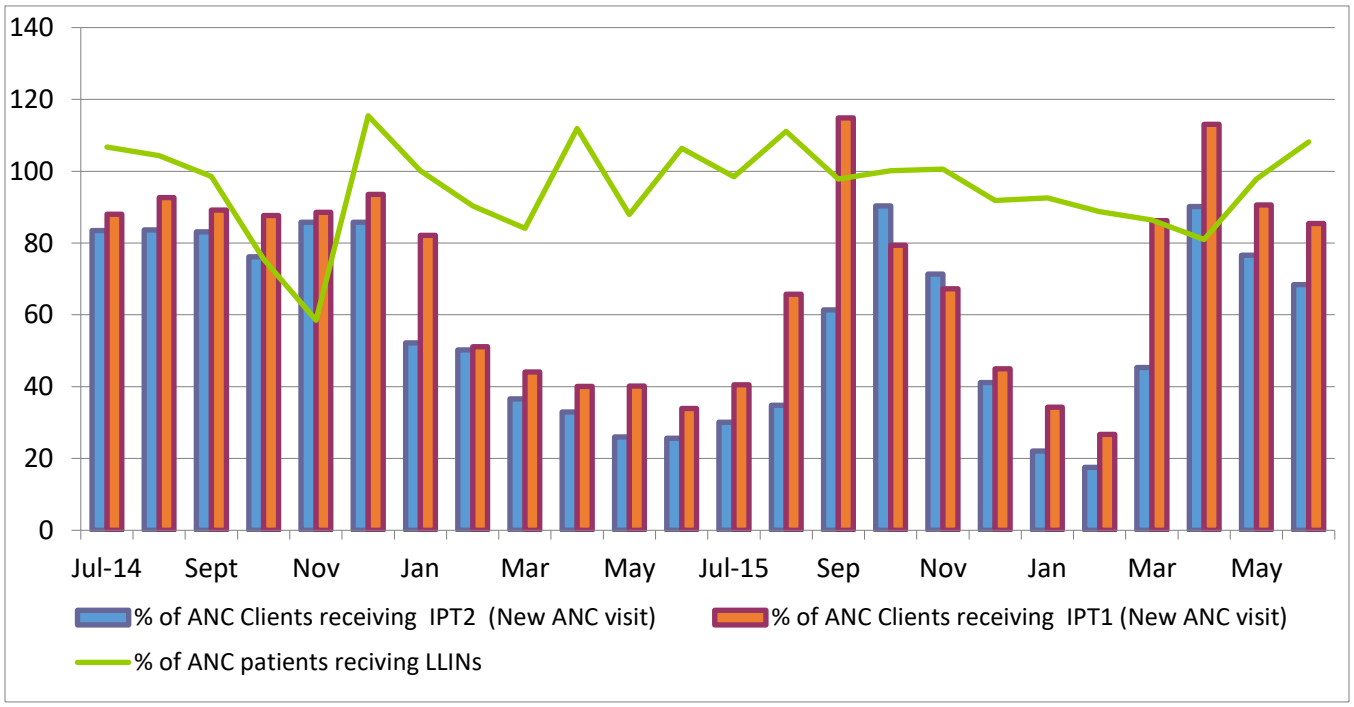

(4) Outpatient malaria cases treated with artemether/lumefantrine (AL) as a proportion of confirmed malaria cases. This indicator shows the percentage of outpatient cases that were treated using artemisinin-based combination therapy over the number of confirmed malaria cases (positive parasitological results) expected to be treated with appropriate antimalarial medicines during the reporting period.

**Figure 5. Graph from Kisumu County Bulletin, Issue 3, showing outpatient malaria cases treated with artemether/lumefantrine (AL) as a proportion of confirmed malaria cases**



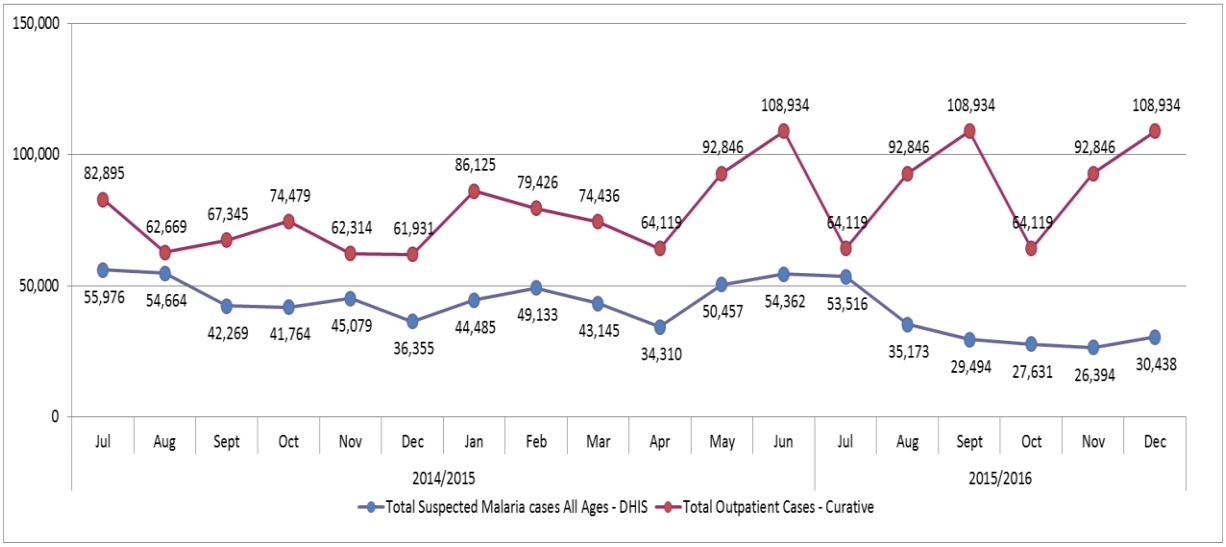

(5) Coverage of eligible pregnant mothers receiving long-lasting insecticide-treated nets (LLINs) and intermittent preventive therapy in pregnancy (IPTp) during antenatal care (ANC) visits. This graph shows the trend in uptake of malaria interventions for pregnant women in a malaria endemic zone.

**Figure 6. Graph from Vihiga Malaria Profile showing coverage of IPTp during ANC visits**



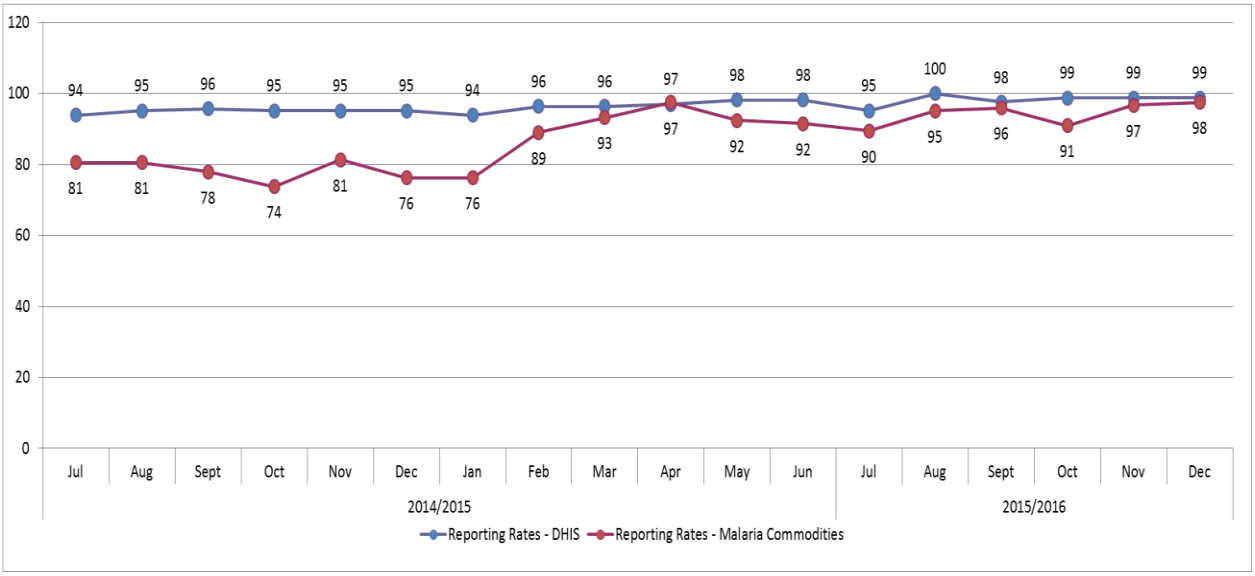
(6) Outpatient all-cause and suspected malaria cases, all ages. The outpatient all-cause case curve is a "control" curve that indicates trends in health service attendance. For example, where malaria cases are declining, examination of the all-cause case curve would show whether there was also a decline in all-cause cases, or whether these had remained stable or increased. If malaria cases are declining markedly in the absence of a marked decline in all-cause cases, this indicates a true decline in malaria cases, probably due to malaria control interventions.

**Figure 7. Graph from Kakamega Health Sector-Wide Profile showing total outpatient cases against malaria cases**




(7) Reporting rates of malaria commodities by data sources. The Malaria Control Program derives surveillance monitoring and evaluation data from various routine data reporting systems that include the DHIS, the electronic IDSR, and the Logistics Management Information System (LMIS). The reporting rates are for DHIS and LMIS and are derived from the number of health facilities that submit monthly reports against the number of health facilities expected to report each month.

**Figure 8. Graph from Homa Bay County showing reporting rates of malaria commodities by data sources**




## Conducting the Malaria Data Review Meeting

### Step 1. Present graphs and interpret findings

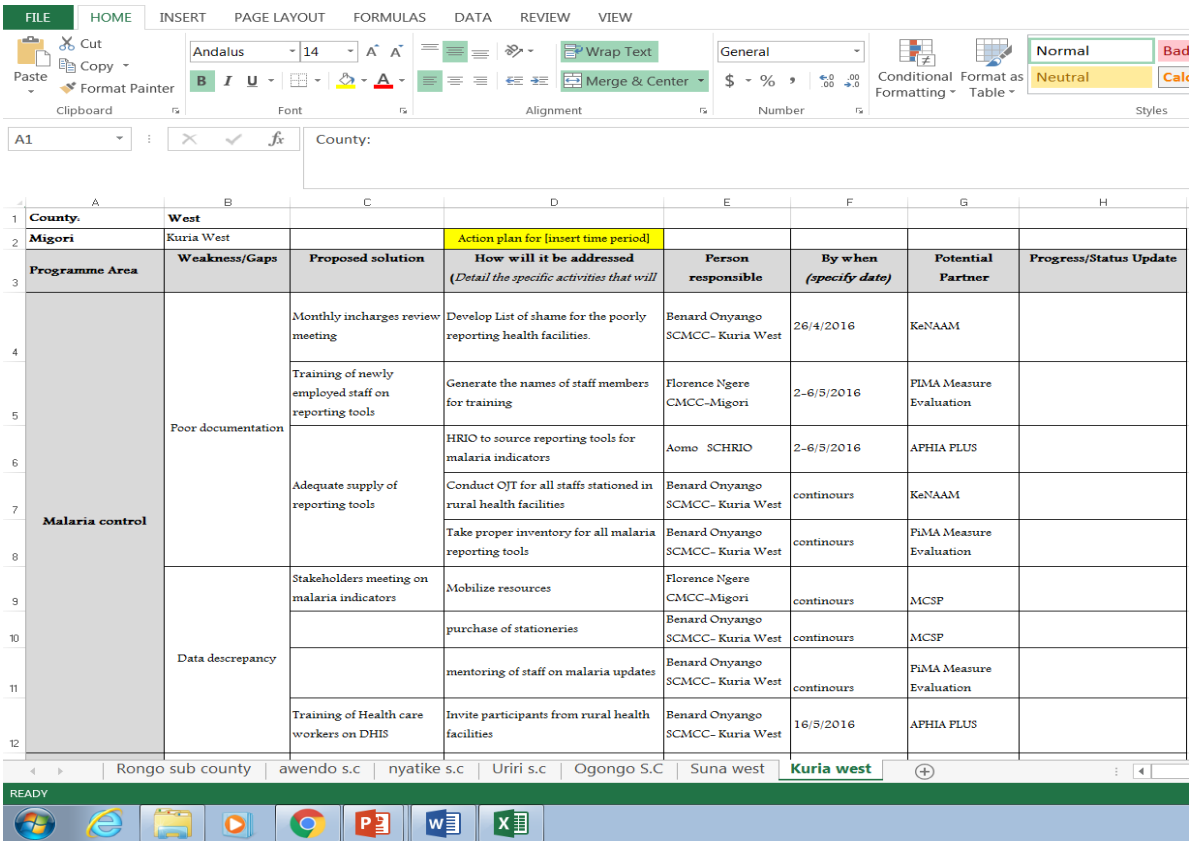
The malaria data review meeting entailed answering programmatic questions identified in previous forums. The prioritized indicators were analyzed before the meeting and presented in formats that could be understood by the audience. The analysis of the data at the county level was done by the county health records officer and the county malaria control coordinator, with technical support from PIMA. This was then disseminated to the participants at the review meeting. Emphasis was placed on the graphs addressing the key questions of interest identified earlier.

Analysis of the facility data for the review meeting at the targeted facilities was done by the malaria M&E champions. These M&E champions benefitted from PIMA capacity building to mine malaria data from different data sources, analyze the data using a tool developed by PIMA, and interpret the analyzed data. The analyzed data, in the form of graphs and tables generated by the tool, were then packaged as PowerPoint presentations that formed the basis of discussion during the facility data review meeting.

### Step 2. Track action plans developed during the meeting

To monitor progress over time during the meetings, a performance improvement plan (PIP) was used (Figure 9). This tool was used to document the actionable points during the data review meeting and assign each action to a specific office/officer. In the subsequent meeting, the previous PIP was usually discussed to track the progress made. This tool clearly outlines what has been achieved or implemented, or not, since the previous meeting.

**Figure 9. Snapshot of Migori County Kuria West Subcounty PIP**



| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | **County.** | **West** | | | | | | |
| 2 | **Migori** | Kuria West | | Action plan for [insert time period] | | | | |
| 3 | **Programme Area** | **Weakness/Gaps** | **Proposed solution** | **How will it be addressed** (*Detail the specific activities that will* | **Person responsible** | **By when** (*specify date*) | **Potential Partner** | **Progress/Status Update** |
| 4 | **Malaria control** | Poor documentation | Monthly incharges review meeting | Develop List of shame for the poorly reporting health facilities. | Benard Onyango SCMCC- Kuria West | 26/4/2016 | KeNAAM | |
| 5 | | | Training of newly employed staff on reporting tools | Generate the names of staff members for training | Florence Ngere CMCC-Migori | 2-6/5/2016 | PIMA Measure Evaluation | |
| 6 | | | Adequate supply of reporting tools | HRIO to source reporting tools for malaria indicators | Aomo SCHRIO | 2-6/5/2016 | APHIA PLUS | |
| 7 | | | | Conduct OJT for all staffs stationed in rural health facilities | Benard Onyango SCMCC- Kuria West | continours | KeNAAM | |
| 8 | | | | Take proper inventory for all malaria reporting tools | Benard Onyango SCMCC- Kuria West | continours | PiMA Measure Evaluation | |
| 9 | | Data descrepancy | Stakeholders meeting on malaria indicators | Mobilize resources | Florence Ngere CMCC-Migori | continours | MCSP | |
| 10 | | | | purchase of stationeries | Benard Onyango SCMCC- Kuria West | continours | MCSP | |
| 11 | | | | mentoring of staff on malaria updates | Benard Onyango SCMCC- Kuria West | continours | PiMA Measure Evaluation | |
| 12 | | | Training of Health care workers on DHIS | Invite participants from rural health facilities | Benard Onyango SCMCC- Kuria West | 16/5/2016 | APHIA PLUS | |

During the meeting, PIMA led the technical discussions during plenary sessions. PIMA also helped with articulation of issues during breakout sessions and the action planning session.

The targeted counties and facilities where PIMA offered support both technically and financially to conduct the data review meetings are shown in Table 2.

**Table 2. Review meetings conducted with PIMA support**

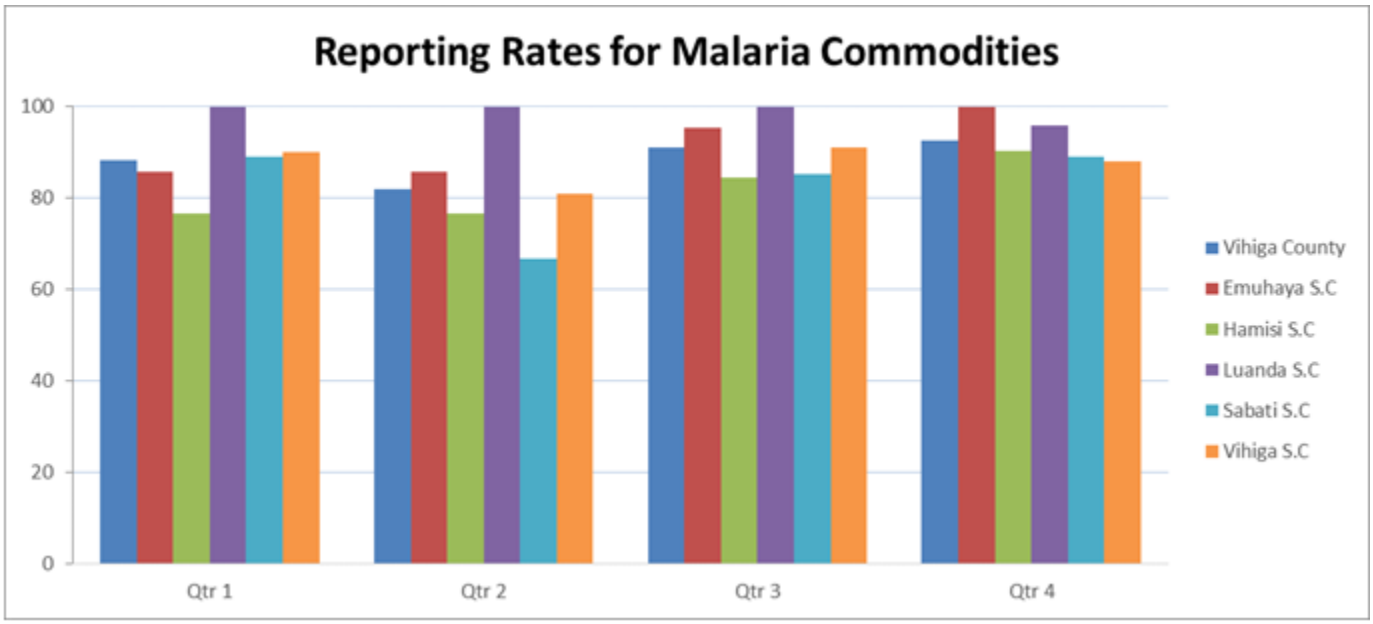
| No. | County | Number of data review meetings conducted at county | Health facility | Number of data review meetings conducted at the facility |
|---|---|---|---|---|
| 1 | Migori | 3 | Rongo Subcounty Hospital | 1 |
| | | | Awendo Subcounty Hospital | 1 |
| | | | Uriri Subcounty Hospital | 1 |
| | | | Migori County Referral Hospital | 1 |

| | | | | |
|---|---|---|---|---|
| | | | St. Joseph Mission Hospital | 1 |
| 2 | Homa Bay | 3 | Homa Bay County Referral Hospital | 1 |
| | | | Kendu Adventist Hospital | 1 |
| | | | Mbita District Hospital | 1 |
| | | | Suba District Hospital | 1 |
| | | | Rachuonyo District Hospital | 1 |
| 3 | Kisumu | 4 | Chulaimbo County Hospital | 1 |
| | | | Kisumu County Hospital | 1 |
| | | | Kombewa County Hospital | 1 |
| | | | Ahero County Hospital | 1 |
| | | | Lumumba County Hospital | 1 |
| 4 | Siaya | 1 | Bondo Subcounty Hospital | 2 |
| | | | Ambira Subcounty Hospital | 2 |
| | | | Siaya County Hospital | 2 |
| | | | Akala Subcounty Hospital | 2 |
| | | | Yala Subcounty Hospital | 2 |
| 5 | Kakamega | 5 | Kakamega County Referral Hospital | 2 |
| | | | St. Mary's Hospital | 1 |
| | | | Kheweshiro Subcounty Hospital | 1 |
| | | | Lukuyani Subcounty Hospital | 1 |
| | | | Butere Subcounty Hospital | 1 |
| **Counties supported by PIMA with technical assistance only** | | | | |
| 1 | Vihiga | 2 | | 0 |
| 2 | Bungoma | 1 | | 0 |

A total of 19 county and 31 facility malaria data review meetings were conducted within the seven targeted malaria lake endemic counties. The facilities within the counties of Vihiga and Bungoma were not targeted.

# OUTCOMES OF THE COUNTIES SUPPORTED BY MALARIA DATA REVIEW MEETINGS

**Figure 10. Reporting rates for malaria commodities**




Through the malaria data review meetings, several success stories and good practices have been achieved. This has had a positive impact in terms of malaria control at the county level. Some examples of how the review meeting has benefitted the county are given below.

## Demand and Use of Data to Inform Decision Making

Following the various malaria data review meetings that PIMA supported in the targeted counties, there was an observed trend in the demand for data by health managers for use in decision making. This has been attributed to the fact that the county health department leadership has developed a performance management plan for which progress can only be tracked through various data review processes. The malaria data review meetings have been one process the county health management teams use to measure their progress toward reducing the malaria burden in the county. The county malaria control coordinators, as managers of malaria programs at the county level, have consistently been reviewing their malaria data on a regular basis with their respective subcounty malaria control coordinators and other stakeholders.

A reduction in malaria prevalence can only be achieved when the right intervention is put in place and implemented effectively. Intervention data are generated at the various service delivery points and entered in the DHIS 2, allowing for measurement of their effectiveness, their use in planning, and to inform policy.

In Kakamega County, for example, the county director of health had to demote some subcounty malaria control coordinators who were found to be insufficiently proactive in ensuring that quality malaria data were being produced in their respective subcounties. New officers had to be identified to take up this role. The

county director of health tasked all subcounty malaria control coordinators with equipping themselves with the relevant skills and knowledge, including in malaria surveillance, to be able to offer technical expertise to other health workers in the area of malaria control.

## As an Avenue for Advocacy

The data review meetings have been used by the different stakeholders in the county to advocate for support. During the county malaria data review meetings, identified gaps from various subcounties are discussed, and ways of addressing these gaps are proposed and integrated into the action plan. On several occasions, the subcounties have expressed their fears of not being able to achieve some of their targets due to lack of support by the CHMT. It is through such forums that the subcounty malaria control coordinators, together with their teams from the subcounties, are able to advocate for support from the CHMT and stakeholders to address some of their challenges.

For example, during the Kisumu malaria data review meeting held on November 11, 2015, the analyzed data from all six subcounties in Kisumu indicated a worrying negative trend in the uptake of IPTp among eligible pregnant mothers. The subcounty malaria control coordinators, with their respective subcounty pharmacist, who were present during the meeting, attributed this to the fact that there was a stockout of sulfadoxine-pyrimethamine (SP) in most of the facilities. As this was a matter of concern, the county malaria control coordinator and pharmacist brought it to the attention of the county director of health, who directed the pharmacist to quantify the county's needs for SPs so that they could be procured.

## Improved Adherence to the Malaria Treatment Guidelines

Data review meetings have helped improve malaria interventions at service delivery points. The facility data review meetings brought on board different players involved in the fight against malaria at the facility. This included the pharmacist, lab in-charge, health records and information officer, nurses, and clinicians. Some of the team members were not aware of the current malaria treatment guidelines. This meant that some practices not conforming to the current malaria guidelines were still in use. This was mainly observed in the private and faith-based facilities. These data review meeting participants were informed of the current malaria treatment guidelines, with emphasis placed on the three Ts (test, treat, and track). They were also sensitized on the different means of malaria control and their role in each of the methods discussed. These identified gaps were discussed and possible solutions included in the action plans.

For example, the malaria champions from Homa Bay, along with the subcounty malaria control coordinator, visited Kendu Bay Adventist Hospital to help them review their malaria data. During the data presentation, it became clear that most participants were not aware of the current treatment guidelines. The clinicians who were present were unable to explain how to manage complicated malaria using Artesunate, and some admitted to treating malaria presumptively, without testing. The subcounty malaria control coordinator assured the meeting participants that he would prioritize a continuing medical education (CME) session on the topic and invite some clinicians for the upcoming malaria case management meeting.

## Promotion of Appropriate Antimalarial Medicine Use

The data review meetings have helped with promotion of appropriate use of medicines. Per the current malaria treatment guidelines, only the suspected malaria cases that have been tested and confirmed using a malaria-based test should be treated. Previously, most counties reported very high treatment rates of malaria,

as high as 250 percent. This treatment rate was calculated by dividing the number of patients treated at the pharmacy by the number of patients who had a positive malaria result from the lab (treatment rate = number treated with AL/confirmed positive malaria cases). Some counties also recorded very low malaria treatment rates of below 80 percent. These gaps were addressed during the data review meetings, with various reasons as to why there was very high or low reporting rates discussed. It was agreed that only those suspected cases whose malaria test result is positive should be treated using AL.

For example, Kakamega County referral hospital was reporting very high rates of overtreating for malaria. During the malaria data review meeting, participants realized that some patients being treated for malaria did not have positive lab test results. This created a discrepancy between the number of patients reported to have been treated at the pharmacy and the number reported as having a positive malaria test result from the laboratory. Sighting this high treatment rate, the pharmacist pointed out that only patients with a positive result from the lab and accompanied by an antimalarial prescription from the clinician will be eligible for issuance of an antimalarial drug. Since institutionalization of this directive, the facility has been recording a decline in treatment of confirmed malaria cases towards the target of 100 percent.

## Improved Malaria Commodity Management

The national malaria control program through the Kenya Medical Supplies Agency currently uses the DHIS 2 to forecast and quantify malaria commodities for use at the country's service delivery points. Three malaria commodities quantified using this software are AL, Artesunate, and the malaria rapid diagnostic test kits. The county pharmacist and lab coordinator are responsible for regularly updating the DHIS 2 with current and accurate data by the twentieth of every month. Failure to do so will result in an undersupply of commodities, leading either to stockouts or an oversupply of commodities that could end up expiring and being wasted.

Siaya County had been grappling with periodic stockouts of antimalarial commodities, primarily AL, Artesunate, and malaria rapid diagnostic tests. During the data review meeting, subcounty pharmacists and lab coordinators helped to identify possible solutions to address some of the gaps. One of the main gaps was that most facilities had run out of the malaria daily activity register, which the pharmacist uses to track the consumption of malaria commodities on a daily basis and in turn to summarize monthly consumption and balances. This resulted in low rates of reporting malaria commodities into the DHIS by most facilities. The county pharmacist and her team were able to map out the facilities without registers and order additional registers from KEMSA. As a stopgap measure while they awaited the resupply, the county pharmacist redistributed excess registers from other areas, and in some cases asked the relevant parties to print some. After this intervention, there was a marked increase in reporting rates for malaria commodities in Siaya County, resulting in fewer stockouts.

## Increased Knowledge of Malaria Surveillance

To achieve the objective of malaria surveillance in the counties, there must be a sufficient number of trained or sensitized health workers. The malaria surveillance training in 2015 saw fewer than 1,500 health workers trained, from a pool of approximately 30,000 health workers across the five targeted counties. The data review meeting gave an opportunity to meet as many health workers as possible and give highlights on what malaria surveillance is, the roles and responsibilities of every health worker in malaria surveillance, and how to conduct malaria surveillance. During the targeted facility data review meetings conducted in 2016, approximately 1000 new health workers were sensitized on malaria surveillance, adding to the pool of health workers with knowledge on the topic.

## Demand for Quality Data

The data review meetings created a demand for quality data by both data producers and users. This was because health workers began to have a culture of using verifiable data for decision making. During the review meetings, it was noticed that most of the counties, including the facilities that generate these data, were reporting unrealistic figures. Some of their indicators, when interpreted, suggested a data quality issue and the need for a data quality assessment in targeted health facilities. This was to be done to determine whether what was being posted in the DHIS 2 was what was being documented in the primary source document and monthly summary reporting tools. PIMA supported the NMCP to develop a DQA tool to analyze data being collected during the DQA exercise. Following are some of the highlights of the DQA exercise.

## Identified Gaps During Data Review Meetings

1. Most of healthcare workers (whether data producers or data users) lacked the skills to analyze raw data and convert them into information that could be easily interpreted and consumed.

2. Most healthcare workers had limited knowledge on the definitions of malaria indicators, and how to analyze, interpret, and present the data.

3. The use of data for decision making was still a challenge among the data users, but the review meetings had started to stimulate a spread of the use of data to make informed decisions.

4. Facilities were not analyzing their data. There were no wall charts on malaria surveillance indicators in almost all departments, except in Butere County Hospital, where staff had attempted to plot the number of malaria tests among the suspected cases.

5. Some health workers were not able to access DHIS 2 or DDSR.

## Challenges

1. Competing tasks among the CHMT and SCHMT.

2. Lack of resources to conduct data review meetings. Most of these meetings are usually donor-funded, thus sustainability is usually an issue.

3. Lack of standardized data collecting and reporting tools at the service delivery points.

4. Insufficient time to critically analyze the data from each subcounty and the data from the several facilities per subcounty.

5. Insufficient time to develop comprehensive action plans per county, subcounty of facility.

6. Capacity gap in data analysis and interpretation skills among the health managers. The three malaria surveillance champions trained per county might not be sufficient.

# RECOMMENDATIONS

1. Encourage the culture of the use of data for decision making, especially at the leadership level.

2. Hold regular data review meetings, with extensive time for a comprehensive and detailed review. Any parallel review meetings could be merged and the identified gaps could be addressed per the key thematic areas.

3. Encourage learning forums for sharing good data-use practices across different counties and across different subcounties and facilities.

4. Encourage subcounty data review meetings at service delivery points, as well as at the subcounty level. The facility data review meetings should be conducted more regularly, preferably once a month, because this is the data source, and the earlier a data quality issue can be addressed the better.

5. Hold continuous trainings on data analysis, interpretation, and presentation through CME and mentorship to the healthcare workers. Health workers should also be trained on the use of DHIS 2 and how they can use this software to analyze data for interpretation. A basic online course could be developed for them, and they can be asked to take the course as part of their capacity development.

6. Ensure proper documentation. Facilities should follow standard operating procedures as provided on the first page of every register by the division of health information systems.

7. Make standardized data collection and reporting tools available to ensure all data elements are captured.

8. Provide for electronic medical records at the service delivery point that are interoperable with DHIS 2, and ensure that these systems are routinely updated, serviced, and maintained.

9. Train health managers on data demand and use.

# CONCLUSION

All the targeted malaria endemic counties that PIMA supported to conduct regular malaria data review meetings have seen an improvement in data use skills and positive attitudes towards data, as well as an increased expectation that all decisions should be made based on data. Many of these positive advancements have been made possible through PIMA and other partner-supported data review meetings and technical assistance. Respondents in all counties cited lack of funding and other resources as a key impediment to sustaining a culture of data use. Counties are not yet at a point where they can implement data use interventions without partner support, and, thus, progress could be stalled as financial support wanes and projects come to a close.

These improvements in data use skills are still taking shape and will still require some investments and support by the CHMT. Data quality is still poor; thus, much of the data review meetings still focuses on rectifying data quality issues, and little time is left to discuss the programmatic implications of the data that are reviewed and how these data can be used to make decisions.

Building and sustaining a culture of data use is a gradual process that takes time and patience. Data use skills must be built at all levels of the health system, while data quality must also improve. People from the facility level, all the way up to the county leadership level, must feel confident in data use and analysis skills and that the data they are collecting and entering into the health information system are of good quality. This can only be achieved by having regular data review forums at the different levels of the health sector. All health stakeholders must understand the value of data use and believe in the importance of using data in the decision-making process. Simultaneously, county leadership must continuously advocate for the use of data in decision making and develop organizational policies and procedures that not only encourage data use, but require it.

# APPENDIX: DDU CHECKLIST TEMPLATE

**Data Demand and Use (DDU) Activity Checklist**

The purpose of this checklist is to ensure that data use is documented and tracked during project implementation. It should be completed by the staff member attending a PIMA activity. Once completed, the checklist should be submitted to the activity lead, M&E Advisor, & DDU team.

Output area: Date:
County name: Venue:
Name of activity:
Name of PIMA staff present:

***Please tick one option below:***

(i) Data Review meeting:[2] ☐

(ii) Planning meeting[3] (strategic planning, annual work plan, program/performance review, technical working group): ☐

(iii) Pre-identified activity:[4] ☐

| # | Activity Details | (Tick Where Applicable) | | Description |
|---|---|---|---|---|
| | | Yes | No | |
| 1 | Decision maker(s)/Data user(s) present | | | |
| 2 | Data producer(s) present | | | |
| 3 | Information needs were identified. | | | |
| 4 | Data that meets the information needs were available and accessible for all participants. | | | |
| 5 | Data were analyzed. | | | |
| 6 | Data were presented. | | | |
| 7 | Data were reviewed. | | | |
| 8 | Decision(s) were made. | | | |
| 9 | Action plans developed based on data? | | | |
| 10 | Other opportunities to use data identified? | | | |

[2] A data review meeting can be a routinely scheduled meeting or any unstructured, ad hoc meeting outside of the routine meetings that are part of an organization's standard operations. Examples of when these may occur include when a question about a particular service arises, a team receives new published data that involve their health sector, or a team prepares to influence decision makers at a key upcoming meeting.

[3] A planning meeting is a structured, routine meeting that is part of an organization's standard operations. Examples include strategic planning, annual work plans, performance reviews, or M&E technical working group meetings.

[4] A pre-identified meeting is any preplanned, PIMA-supported activity that may lead to the use of data. Examples include surveillance data analysis training or dissemination of a new information product.

| | | | | |
|---|---|---|---|---|
| 11 | Has a success story been identified? | | | |
| 12 | Information product(s) disseminated at this meeting, e.g., policy/guidelines/report/toolkit/MOH tool,* county profile | | | |
| 13 | Evidence attached to checklist | | | |
| 14 | PIMA project contributed to this meeting | | | |

* Examples of MOH tools are DHIS 2, RMNCH scorecard, ImpactNOW model, MOH Bulletin, standard operating procedures

**Checklist completed by (Name):**

WORKING PAPER

This presentation has been supported by the United States President's Emergency Plan for AIDS Relief (PEPFAR) through the United States Agency for International Development (USAID) under the terms of MEASURE Evaluation PIMA associate award AID-623-LA-12-000001. MEASURE Evaluation PIMA is implemented by the Carolina Population Center at the University of North Carolina at Chapel Hill, in partnership with ICF International; Management Sciences for Health; Palladium; and Tulane University. Views expressed in this presentation are not necessarily those of USAID or the United States government. WP-17-197