



Ministry of Health

REGIONAL DISSEMINATION WORKSHOPS FOR THE KENYA MALARIA STRATEGY (2019-2023)



APRIL 2020



DIVISION OF NATIONAL
MALARIA PROGRAMME





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FOREWORD



Malaria remains a public health and socioeconomic problem in Kenya, with about three-quarters of the population estimated to be at risk of the disease. Moreover, the burden of the disease varies across the 47 counties in the country. The National Malaria Policy, the Kenya Malaria Strategy (KMS), and the Monitoring and Evaluation Plan provide a framework for guiding the response to the malaria burden in Kenya. The Kenya Malaria Strategy 2019–2023 was launched on 25 April 2019 during World Malaria Day. The strategy was developed based on recommendations from the end-term review of the KMS 2009–2018, through the 2018 Malaria Programme Review process.

The goal of KMS 2019–2023 is to reduce malaria incidence and deaths by at least 75% of 2016 levels by 2023. This ambitious goal is set to be achieved through implementation of six strategic objectives. The six objectives focus on interventions ranging from continued scaling-up of preventive measures to attain universal coverage, prompt diagnosis and effective treatment in all sectors, strengthened performance monitoring, and establishment of systems for malaria elimination in selected counties.

Achievement of the KMS goal and objectives is pegged on enhanced coordination and collaboration with all malaria stakeholders in the country, and especially with the counties and the community health strategy. It is against this backdrop that the Division of National Malaria Programme (DNMP) organised five regional workshops for the dissemination of KMS 2019–2023 alongside other supporting policy documents to all the 47 counties in the country. The specific objectives of the workshops were to: Disseminate the Kenya malaria strategy and monitoring and evaluation (M&E) plan (2019–2023); obtain feedback and inputs from the counties on implementation of the strategy; provide highlights on current policy and guidance documents; share latest updates and information from DNMP, counties, and partners; assess the status of key malaria indicators; and define the next steps in implementing the strategy and tracking performance. The workshops deliberated and agreed on innovative ways for the county teams to further cascade dissemination of the strategy to the sub-counties and health facilities.

Following the successful regional dissemination workshops, counties are now able to align malaria control activities to their county integrated development plans and annual work plans to the KMS 2019–2023.

Counties can also use KMS to lobby for increased funding for malaria interventions in their counties, and to guide linkages with community health strategy.

This report is a synthesised analysis of the proceedings in the five regional dissemination workshops, with special emphasis on issues cutting across all the counties. Implementation of the recommendations from the workshops will go a long way in supporting achievement of the KMS 2019–2023 goals and objectives.



ACKNOWLEDGMENTS

The Division of National Malaria Programme (DNMP) recognizes the enthusiastic participation of all the 47 counties in the dissemination of the Kenya Malaria Strategy 2019–2023 and its accompanying monitoring and evaluation plan. We appreciate the commitment of the counties to disseminate the strategy further down to the sub-counties, health facilities, and communities.

Dissemination of the Kenya Malaria Strategy 2019–2023 and its monitoring and evaluation plan was conducted with support from the United States President’s Malaria Initiative (PMI) and the United States Agency for International Development (USAID). We are very grateful for this support.

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Special thanks to the DNMP staff for their diligence in planning and facilitating the regional dissemination workshops for the Kenya Malaria Strategy.

We hope that all the counties, partners, and stakeholders will endeavour to implement the strategies and activities outlined in the Kenya Malaria Strategy 2019–2023. Together, we can achieve the vision of a malaria-free Kenya.



Dr. Grace Ikahu Muchangi

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ABBREVIATIONS

ABER	annual blood examination rate
ANC	antenatal clinic
AWP	annual work plan
CDC	Centers for Disease Control and Prevention
CDH	county director of health
CEC	county executive committee
CHA	community health assistant
CHEW	community health extension worker
CHMT	county health management team
CHV	community health volunteer
CIDP	county integrated development plan
CMCC	county malaria control coordinator
CME	continuous medical education
COE	committee of experts
COG	council of governors
DHIS2	District Health Information Software, version 2
DNMP	Division of the National Malaria Programme
DQA	data quality audit
EPR	epidemic preparedness and response
EQA	external quality assurance
HCW	healthcare worker
HIS	health information system
HRIO	health records and information officer
ICD	International Statistical Classification of Diseases and Related Health Problems
IDSR	integrated disease surveillance and response
IEC	information, education, and communication
IPTP	intermittent preventive treatment in pregnancy
IRS	indoor residual spraying
J2SR	journey to self-reliance

KEMRI	Kenya Medical Research Institute
KEMSA	Kenya Medical Supplies Authority
KHIS	Kenya Health Information System
KMIS	Kenya Malaria Indicator Survey
KMS	Kenya Malaria Strategy
LLIN	long-lasting insecticidal net
LSM	larval source management
M&E	monitoring and evaluation
MDA	mass drug administration
MPR	malaria programme review
mRDT	malaria rapid diagnostic test
NYS	national youth service
OJT	on-the-job training
PMI	United States President's Malaria Initiative
PS Kenya	Population Services Kenya
QOC	quality of care
SBC	social behaviour change
SCHMT	sub-county health management team
SMEOR	surveillance, monitoring, evaluation, and operational research
TWG	technical working group
UHC	universal health coverage
USAID	United States Agency for International Development



EXECUTIVE SUMMARY

Malaria remains a public health and socioeconomic problem in Kenya, with about three-quarters of the population estimated to be at risk of the disease. Moreover, the burden of the disease varies across the 47 counties in the country. The National Malaria Policy, the Kenya Malaria Strategy (KMS), and the Monitoring and Evaluation (M&E) Plan provide a framework for guiding the response to the malaria burden in Kenya. The KMS 2019–2023 was launched in April 2019. The strategy was developed based on recommendations from the end-term review of the KMS 2009–2018, through the 2018 Malaria Programme Review process.

The goal of KMS 2019–2023 is to reduce malaria incidence and deaths by at least 75 percent of 2016 levels by 2023. This ambitious goal is set to be achieved through implementation of six strategic objectives, with interventions ranging from continued scaling-up of preventive measures to attain universal coverage, prompt diagnosis and effective treatment in all sectors, strengthened performance monitoring, and establishment of systems for malaria elimination in selected counties.

The Division of National Malaria Programme (DNMP) organised five regional workshops to disseminate the KMS 2019–2023 from 2 to 11 December 2019. The counties were clustered into five regions based on malaria epidemiological zones. The workshops were held in Kisumu for the lake endemic counties, Mombasa for the coast endemic counties, Nakuru for the counties in the western highlands, Embu for the seasonal transmission counties, and Nyeri for low-risk counties in central Kenya, including Nairobi. Three members of the county health management teams (county health director, county malaria control coordinator, and one other member selected by the county) attended the dissemination workshops.

Workshop Objectives

The objectives of the dissemination workshops were to:

- Disseminate the KMS 2019–2023 and M&E Plan
- Highlight other malaria policy and guidance documents
- Share updates from the DNMP, counties, and partners
- Discuss the status of key malaria indicators at national and county levels
- Set targets and the way forward for the implementation of the KMS

Dissemination of KMS 2019–2023

Workshop participants were informed of the following six objectives of the KMS 2019–2023:

- To protect 100 percent of people living in malaria risk areas through access to appropriate malaria preventive interventions by 2023
- To manage 100 percent of suspected malaria cases according to the Kenya malaria treatment guidelines by 2023
- To establish systems for malaria elimination in targeted counties by 2023
- To increase utilisation of appropriate malaria interventions in Kenya to at least 80 percent by 2023
- To strengthen malaria surveillance and use of information to improve decision making for programme performance
- To provide leadership and management for optimal implementation of malaria interventions at all levels, for the achievement of all objectives by 2023

The strategies and key activities under each of these objectives were presented and discussed. The key outcome indicators and targets for monitoring achievement of the KMS goals and objectives were highlighted. The counties discussed malaria activities in their annual work plans and aligned them to the KMS 2019–2023.

Presentation of Other Malaria Policy and Guidance Documents

The DNMP presented an overview of other malaria policy and guidance documents. The purpose of each document and changes made to align the document to the KMS 2019–2023 were highlighted. A hierarchy pyramid showing the different types of documents and levels of Ministry of Health officers required to approve them was presented. The document hierarchy consisted of the following categories: policies, strategies, component strategies, policy guidelines, guidelines/standards, action/business/workplans, curricula/manuals/reports, job aids/forms/templates/work instructions.

Key Malaria Technical Updates

The DNMP shared key technical updates under each of the KMS objectives. Participants were updated on planned mass distribution of long-lasting insecticidal nets, preparations for a larval source management project supported by the Cuban Government, indoor residual strategy (IRS) in Homabay and Migori, and plans for conducting entomological surveillance in all 47 counties. Under malaria in pregnancy, participants were updated on the World Health Organization antenatal care model adopted in 2016 requiring more contacts of pregnant women with the health system and the opportunities it presented for administering intermittent preventive treatment for malaria in pregnancy using the recommended sulfadoxine-pyrimethamine doses. Participants were also informed about expansion of the intermittent preventive treatment for malaria in pregnancy intervention to fringe areas bordering the malaria endemic zones.

The DNMP provided an update on the malaria vaccine pilot in eight counties and findings from research on implementation of the vaccine in other African countries. Other updates were provided on quality assurance for antimalarials, including joint post-market surveillance activities in 2018 and 2019, a social and behaviour change package to improve uptake of interventions in the counties, revision of the malaria communication strategy to align with the KMS 2019–2023, and plans for the World Malaria Day. The DNMP presented a malaria commodity dashboard hosted on the Kenya Health Information System (KHIS)/District Health Information Software, version 2 (DHIS2) that enables a quick overview of the malaria commodity status. Plans for the Kenya Malaria Indicator Survey 2020 were highlighted, together with the status of quality of care surveys for outpatients and inpatients. Finally, participants were informed about a revised surveillance training curriculum and supportive supervision manual.

Presentation of Key Malaria Indicators

The DNMP presented the status of key outcome indicators for malaria under each of the six KMS objectives at the national level. These included the baseline status for the indicator, indicator targets for 2019, and the targets at end of KMS 2019–2023 implementation. Data sources for the outcome indicators, mainly routine data reported through the KHIS/DHIS2 and household surveys, were also presented. Emphasis was made on the need for the DNMP and the counties to track performance of the indicators, to monitor progress towards achieving the KMS targets. Participants were urged to monitor and track performance and targets of the outcome indicators at their county level because this would impact the national level performance.

Cross-Cutting Issues Identified Across the Counties

A synthesis of the three-day deliberations from the five regional dissemination workshops identified the following key cross-cutting issues from the counties:



Routine Data

All the counties expressed the need for clarity on data sources for routine malaria indicators. The need for uniformity in capturing and reporting malaria data was emphasised. Challenges hindering the capture and reporting of inpatient and mortality data and possible solutions were discussed.

Guidance on Implementation of Interventions

Many counties were conducting small-scale IRS, mainly targeting institutions such as schools and hospitals. Unfortunately, this was not being done in accordance with the national IRS guidelines. Counties were urged to seek technical assistance from the DNMP before conducting any IRS activity. A number of counties had aligned their annual work plans and county integrated development plans to the KMS. However, DNMP needed to review malaria activities outlined by the counties and provide further guidance as required.

Malaria Stratification

Implementation of various malaria interventions in different counties was largely guided by the malaria stratification maps available. Many counties sought better understanding on which stratification approach was used in assigning counties to various malaria zones. Counties expressed the need for more granular classification at the sub-county and ward levels to better target malaria interventions.

Financing and Resource Mobilisation

Both the DNMP and the counties recognised the need to seek more sustainable financing for malaria control from domestic resources. The counties urged the DNMP to engage with the county executive committee members for health and chief officers to secure buy-in and ensure budgetary allocation for malaria activities by the counties.

Partnerships

The DNMP urged the counties to enhance partnerships with universities, research institutions, and the private sector within their counties. The counties were encouraged to map out possible stakeholders and find ways of engaging them to support malaria control activities.

KMS Dissemination

Counties were encouraged to use existing forums to cascade dissemination of the KMS and the M&E Plan to their sub-counties, health facilities, and communities. The county teams present at the workshops were challenged to look for opportunities to disseminate the strategy to the county leadership, the county and sub-county health management teams, and the community health teams. The county teams challenged the DNMP to engage with and disseminate the strategy to the higher-level county leadership, including the council of governors, county executive committees, and chief officers.

BACKGROUND

Malaria remains a public health and socioeconomic problem in Kenya, with about three-quarters of the population estimated to be at risk for the disease. Moreover, the burden of the disease varies across the 47 counties in the country. The National Malaria Policy, the Kenya Malaria Strategy (KMS), and the Monitoring and Evaluation (M&E) Plan provide a framework for guiding response to the malaria burden in Kenya (NMCP 2019).

The KMS 2019–2023 was launched on 25 April 2019 during the World Malaria Day. The strategy was developed based on recommendations from the malaria programme review (MPR) conducted at the end of the KMS 2009–2018 (revised 2014). The 2018 MPR noted that Kenya had achieved significant strides in reducing the malaria burden despite the organisational challenges brought about by devolution.

However, universal coverage with preventive interventions was yet to be achieved. Among other challenges, the MPR noted the inability to track inpatient malaria cases and malaria mortality data. The MPR strongly recommended increasing the investment in malaria control from domestic resources, investing in strengthening the surveillance systems, and ensuring universal coverage of appropriate interventions among the populations at risk. The MPR highlighted the need to enhance collaboration between the national and county governments for improved programme performance.

The goal of KMS 2019–2023 is to reduce malaria incidence and deaths by at least 75 percent of 2016 levels by 2023. The KMS 2019–2023 has the following six objectives:

- To protect 100 percent of people living in malaria risk areas through access to appropriate malaria preventive interventions by 2023
- To manage 100 percent of suspected malaria cases according to the Kenya malaria treatment guidelines by 2023
- To establish systems for malaria elimination in targeted counties by 2023
- To increase utilisation of appropriate malaria interventions in Kenya to at least 80 percent by 2023
- To strengthen malaria surveillance and use of information to improve decision making for programme performance
- To provide leadership and management for optimal implementation of malaria interventions at all levels, for the achievement of all objectives by 2023

The main interventions in the KMS 2019–2023 are vector control (long-lasting insecticidal nets [LLINs], indoor residual spraying [IRS], and larval source management [LSM]); prevention of malaria in pregnancy; diagnosis and treatment of malaria; surveillance, monitoring, evaluation, and operational research (SMEOR) (including epidemic preparedness and response [EPR]); social and behaviour change (SBC); and programme management. A new intervention, corresponding to Objective 3 of the strategy, was introduced to focus the country on establishing systems for malaria elimination in targeted counties. This objective was adopted to align the KMS with the Global Technical Strategy 2016–2030, which aims to eliminate malaria in at least 35 counties by 2030 (World Health Organization, 2015).

Kenya experiences diverse epidemiology of malaria across its different regions, depending on altitude, rainfall patterns, and temperature. Therefore, different malaria interventions are recommended for implementation across the different counties. It is thus critical that both the national and the county governments collaborate to ensure successful implementation of the recommended malaria interventions in each epidemiological zone.

The cost of implementing the KMS 2019–2023 was estimated at Ksh 61.92 billion for the five-year period. Total funding projected to be available was Ksh 37.84 billion, thus resulting in a funding gap of Ksh 24.07 billion. This huge

funding gap calls for all levels of government to put in place resource mobilisation strategies to close the gap and ensure that all planned interventions are implemented and sustained.

The guiding principles for the implementation of the KMS 2019–2023 include adhering to the principles of human rights, gender, and equity; employing a multi-sectoral approach; appropriately targeting interventions; strengthening performance and monitoring systems; and strengthening the linkages between the national malaria control programme and the counties.

Operationalisation of the KMS 2019–2023 is highly dependent on efficient and effective partnerships and coordination, and on adherence to the principle of Three Ones: One country strategy, one coordinating authority, and one M&E framework.

Purpose of the KMS Dissemination Workshops

The objectives of the KMS dissemination workshops were to:

- Disseminate the KMS 2019–2023 and M&E Plan
- Highlight other malaria policy and guidance documents
- Share updates from the DNMP, counties, and partners
- Discuss the status of key malaria indicators at national and county levels
- Set targets and the way forward for the implementation of the KMS

The KMS dissemination workshops had the following four outputs:

- KMS 2019–2023 and M&E Plan disseminated to all 47 counties
- Participants updated on malaria policy guidance documents
- Participants informed on key malaria technical updates
- Next steps documented on improving performance of key malaria indicators

Preparation for the Dissemination Workshops

The DNMP, through the council of governors (COG), sent an invitation letter to all 47 counties asking them to send 3 members of their health management teams (county director of health [CDH], county malaria control coordinator [CMCC], and one other member of their choice) to the KMS regional dissemination workshops. A schedule of the workshops detailing the county clusters by region, dates of the workshops, and venue was attached to the invitation letter. The KMS dissemination workshops were organised in five major regional cities/towns (Kisumu, Mombasa, Nakuru, Embu, and Nyeri). The counties were clustered based on malaria epidemiological zones (Table 1).

Table 1. County clusters, dates and venues of the KMS dissemination workshops

Date	Venue	No. of counties	List of counties
2–4 Dec.	Kisumu	10	Bungoma, Busia, Homabay, Kakamega, Kisii, Kisumu, Migori, Nyamira, Siaya, Vihiga
	Embu	11	Embu, Garissa, Isiolo, Kitui, Machakos, Makueni, Mandera, Marsabit, Meru, Tharaka Nithi, Wajir
	Nyeri	7	Laikipia, Kiambu, Kirinyaga, Murang'a, Nairobi, Nyandarua, Nyeri
9–11 Dec. 2019	Mombasa	6	Lamu, Kilifi, Kwale, Mombasa, Taita Taveta, Tana River
	Nakuru	13	Baringo, Bomet, Elgeyo Marakwet, Kajiado, Kericho, Nakuru, Nandi, Narok, Samburu, Trans Nzoia, Turkana, Uasin Gishu, West Pokot

Follow-up calls were made to confirm attendance by the counties and to provide additional information on logistics and technical preparation required of the county teams. An MS Excel template was sent to all the county team members invited to the workshop to extract data on key malaria parameters from the District Health Information Software, version 2 (DHIS2)/Kenya Health Information System (KHIS) and to calculate some key routine indicators.

The DNMP prepared the KMS dissemination materials during the annual programme retreat from 28 October to 1 November 2019. A one-day workshop was held on 25 November to review, harmonise, and finalise the presentations for the different sessions and prepare guidance and materials for the group work sessions.

A standard programme was developed and used across the five workshops (Annex 1).



ORGANISATION OF THE KMS DISSEMINATION WORKSHOPS

The workshops adopted a combination of methods, such as PowerPoint slide presentations, plenary discussions, and group work sessions. The workshops emphasised maximising discussions and sharing experiences between the county teams and the DNMP, providing feedback, and making recommendations for implementing the KMS 2019–2023. The following sections describe the organisation and delivery of the workshop by output areas.

Output Area 1: Dissemination of the KMS 2019–2023 and M&E Plan

Presentation on the 2018 MPR

The DNMP presented a high-level summary of the 2018 MPR that informed development of the KMS 2019–2023. The following key highlights of the MPR were presented.

The 2018 MPR process reviewed the implementation of the KMS 2009–2018 (revised 2014), with the following four objectives:

- To assess the progress made towards epidemiological and entomological impact targets
- To review the level of programme financing
- To review the capacity of the national malaria control programme to implement planned activities
- To define programming implications and lessons learned and to inform the development of the next KMS

The 2018 MPR presentation highlighted the following eight strategic directions that were pivotal in the development of the KMS 2019–2023.

- **Strengthen the national malaria programme towards malaria elimination**

This strategic direction recommended introducing case-based investigation in select counties earmarked for malaria elimination and building capacity for malaria elimination at national, county, and sub-county levels.

- **Provide universal coverage of malaria control interventions**

This recommendation focused on increasing access to and delivery of malaria preventive and curative interventions using different channels, including community-based structures.

- **Improve data quality**

This strategic direction focused on strengthening data capture processes and reporting using standardised tools and regular epidemiological and entomological stratification to inform decision making and to better target interventions.

- **Strengthen multisectoral and intersectoral engagement at national and county levels**

The focus of this strategic direction was to improve programme planning, implementation, monitoring, and coordination using the principle of Three Ones (one country strategy, one coordinating authority, one M&E framework).

- **Improve efficiency in use of existing resources**

This strategic direction emphasised increasing sustainable investment for malaria interventions at national and country levels.

- **Increase visibility and prioritisation of the malaria agenda**

This strategy stressed innovative and sustained advocacy for malaria and improved communication at all levels.

- **Strengthen capacity-building initiatives**

This strategic direction emphasised enhancing skills and competencies for quality delivery of interventions at the county level.

- **Improve malaria commodity security**

This strategy recommended an end-to-end supply chain visibility and promotion of data use for supply chain decision making. Participants were referred to the 2018 MPR report for more details of the review and its findings.

Presentation on the KMS 2019–2023 and M&E Plan

The DNMP made a detailed presentation on the KMS 2019–2023 and M&E Plan. The presentation focused on familiarising the participants with the vision, mission, and goal of the KMS. The six objectives of the KMS 2019–2023 and strategies to be implemented under each of them were elaborated. Table 2 summarises the key elements of the KMS presented during the dissemination workshops.

Table 2. KMS vision, mission, goal, objectives, and strategies

Vision: A malaria-free Kenya
Mission: To direct and coordinate efforts towards a malaria-free Kenya through effective partnerships
Goal: To reduce malaria incidence and deaths by at least 75% of 2016 levels by 2023
Objectives and strategies
Objective 1: To protect 100% of people living in malaria risk areas through access to appropriate malaria preventive interventions by 2023
Strategies under Objective 1:
1.1 Distribute LLINs through appropriate channels to achieve and sustain universal coverage in malaria risk areas
1.2 Use IRS in targeted areas
1.3 Use LSM in targeted areas
1.4 Develop, review, and update documents for malaria vector control
1.5 Provide intermittent preventive treatment in pregnancy (IPTp) and sulfadoxine-pyrimethamine at the antenatal clinic (ANC) in targeted areas
1.6 Engage community health volunteers (CHVs) to identify IPTp missed opportunities for referral to ANC in targeted areas
Objective 2: To manage 100% of suspected malaria cases according to the Kenya malaria treatment guidelines by 2023
Strategies under Objective 2:
2.1 Strengthen capacity for integrated malaria case management
2.2 Strengthen capacity for case management of severe malaria
2.3 Provide malaria case management at the community level in all targeted areas
2.4 Ensure quality for malaria parasitological diagnosis
2.5 Procure diagnostic and treatment commodities



Objective 3: To establish systems for malaria elimination in targeted counties by 2023

Strategies under Objective 3:

3.1 Establish structures and capacity at the national and county levels to coordinate and drive the implementation of the elimination agenda

3.2 Develop capacity for malaria elimination

3.3 Establish active case detection, notification, investigation, and response systems for elimination in targeted counties

3.4 Strengthen quality assurance for diagnosis, treatment, and entomology to enhance surveillance

3.5 Strengthen SBC for malaria elimination

Objective 4: To increase utilisation of appropriate malaria interventions in Kenya to at least 80% by 2023

Strategies under Objective 4:

4.1 Scale up malaria advocacy at national and county levels for increased utilisation of malaria interventions

4.2 Strengthen community-based SBC activities for all malaria interventions

4.3 Strengthen structures for the delivery of malaria SBC interventions at all levels

4.4 Strengthen programme communication for increased utilisation of all malaria interventions

Objective 5: To strengthen malaria surveillance and use of information to improve decision making for programme performance

Strategies under Objective 5:

5.1 Strengthen malaria surveillance

5.2 Strengthen malaria EPR

5.3 Increase use of malaria data for decision making

5.4 Conduct and facilitate health facility surveys

5.5 Conduct and support community surveys

5.6 Facilitate operational research for policymaking

5.7 Conduct entomology surveillance

5.8 Monitor efficacy and effectiveness of vector control tools and technologies

Objective 6: To provide leadership and management for optimal implementation of malaria interventions at all levels, for the achievement of all objectives by 2023

Strategies under Objective 6:

6.1 Align malaria governance and legislation to constitutional mandates and core functions

6.2 Strengthen partnerships and coordination for malaria programme management

6.3 Strengthen capacity for malaria programming at national and county levels

6.4 Strengthen resource mobilisation initiatives for malaria

6.5 Enhance malaria commodity security at all levels

6.6 Strengthen the use of supply chain data for decision making

The KMS presentation also informed participants of the key outcome indicators to measure performance towards the set objectives. The national-level baseline values of each objective and targets throughout the five years of the strategy were presented.

Group Work and Plenary on KMS Presentation

- The county teams broke into groups to discuss how best to align malaria control activities in their counties to the KMS 2019–2023 and M&E Plan. Copies of the KMS 2019–2023 and M&E Plan were distributed to the county teams to discuss the following questions and present in plenary:
- What is the malaria burden (current incidence) in your county?
- What specific malaria interventions are you implementing in your county to address this burden?
- What specific malaria activities are included in your annual work plan (AWP)?
- What is your funding landscape (who is supporting, how much, and for which activity) and what are your plans for sustainability?
- What opportunities do you see in the new strategy and what do you plan to do differently?

Output Area 2: Presentation of Malaria Policy and Guidance Documents

The DNMP presented an overview of malaria policy and guidance documents under each of the six KMS objectives. The presentation focused on the purpose and key changes made to align the document with the KMS 2019–2023. Some of the documents presented were under review. The DNMP informed participants that all the documents presented were available on its website. Table 3 highlights the documents presented by intervention area.

Table 3. Malaria policy and guidance documents by intervention area

Intervention area	Documents
Vector control	<ul style="list-style-type: none"> • Insecticide resistance management strategy 2015–2018 • IRS business plan 2015–2018 • Integrated vector management policy guidelines for Kenya 2019–2024 • Standard operating procedures for malaria vector surveillance
Malaria in pregnancy	<ul style="list-style-type: none"> • Malaria in pregnancy orientation package 2012–2014 • CHV orientation package and job aids 2012–2014
Case management	<ul style="list-style-type: none"> • Guidelines for the diagnosis, treatment, and prevention of malaria in Kenya • Case management training manual • Kenya quality assurance guidelines for parasitological diagnosis of malaria • Kenya parasitological diagnosis of malaria refresher training curriculum • Biosafety guidelines for malaria rapid diagnostic testing at the community level
EPR	<ul style="list-style-type: none"> • Guidelines for malaria epidemic preparedness and response • Malaria EPR training guides
SBC	<ul style="list-style-type: none"> • Kenya Malaria Communication Strategy 2016–2021 • Essential Malaria Action Guide for Kenyan Families • Malaria prevention and treatment, a community education training manual 2015
SMEOR	<ul style="list-style-type: none"> • M&E Plan 2019–2023 • Manual for malaria supportive supervision • Malaria surveillance curriculum 2019
Programme management	<ul style="list-style-type: none"> • KMS 2019–2023 • National Malaria Policy • Resource Mobilisation Strategy



The DNMP presented a Ministry of Health document hierarchy developed to show the leadership levels required to approve various documents (Figure 1). Laws and policies appear at the peak of the pyramid, and job aids and other materials used at the service provision level are ranked at the bottom of the pyramid.

Figure 1. Hierarchy of documents in the Ministry of Health



Output Area 3: DNMP Technical Updates

The DNMP shared key malaria programme technical updates. Under the vector control area, participants were informed about the following:

- Mass LLIN distribution campaign planned for 2020
- Preparations for LSM intervention supported by Cuban malaria control experts
- IRS intervention in Homabay and Migori
- Entomological surveillance in all 47 counties

Under the malaria in pregnancy area, county teams were informed about the 2016 World Health Organization ANC model requiring pregnant women to make eight contact visits to the health facilities. The new model provided more opportunities for IPTp in areas targeted for this intervention. The county teams were also informed about additional sub-counties targeted for IPTp in fringe areas bordering the Lake endemic counties. DNMP informed the county teams about the phased implementation of the malaria vaccine in eight counties in the Lake endemic zone. The vaccination schedule, basic facts about the vaccine, and findings from research on the vaccine implementation in other African countries were presented.

Under case management interventions, the DNMP provided updates on quality assurance and post-market surveillance of malaria medicines conducted in 2018 and 2019. The county teams were informed about a newly launched malaria

commodity dashboard available on the DHIS2/KHIS platform. The dashboard enhanced visibility of malaria commodity status at the county level and at Kenya Medical Supplies Authority (KEMSA) stores.

On SBC, the county teams were informed about a communication package to guide SBC at the county level, the revision of the malaria communication strategy, and plans for commemoration of World Malaria Day.

Under SMEOR, participants were informed about plans to conduct a Kenya Malaria Indicator Survey (KMIS) in 2020, the status of the quality of care (QOC) surveys for outpatients and inpatients, the revised malaria surveillance curriculum, and ongoing finalisation of the supportive supervision manual.

County and Partner Updates

Counties provided updates on key malaria activities implemented in the last quarter and those planned for the following six months. Partners at the workshops provided updates on the scope of their support, key activities undertaken in the last quarter, and those planned for the next six months. Both counties and partners gave suggestions for malaria programming and how they planned to support dissemination of the strategy to the sub-counties, health facilities, and communities.

Output Area 4: Performance of Routine Malaria Indicators

The DNMP presented the national-level status on key malaria outcome indicators. This included the baseline status for the indicator, indicator targets for 2019, and the targets at the end of the KMS 2019–2023. Data to inform the indicator values were obtained from the routine health information system, health facilities, and household surveys. The indicators and targets presented were based on the Kenya M&E Plan 2019–2023. Counties were urged to track the performance of key indicators to monitor progress towards the targets set in the KMS. Achievement of the national KMS targets was pegged on achievement of the county-level targets, hence the need for the counties to enhance performance of the key indicators at their levels. The indicators presented were further discussed in plenary, and clarifications were made on indicator definitions and data sources.

The county teams then broke into groups to work out the baseline values and targets for the key outcome indicators in their respective counties. Participants used an MS Excel template that had been shared earlier to work out the county-level baseline and targets for the outcome indicators presented. Guided by the following questions, the county teams deliberated how to enhance the performance of the key outcome indicators:

- What is your county doing to improve the quality of data transmitted through the DHIS2/KHIS?
- Is your county progressing or retreating? (Comparing the performance of 2017/18 to 2018/2019)
- What can your county do to improve the trends/performance?

Each county presented on the status and targets of the key indicators and how they planned to enhance performance. All counties mapped out the way forward and plans for further dissemination of the KMS to the lower levels.



PROCEEDINGS FROM THE DISSEMINATION WORKSHOPS

Kisumu Regional Workshop

The workshop was held from 2 to 4 December 2019 at Acacia Premier Hotel in Kisumu. Ten counties participated in the workshop: Bungoma, Busia, Homabay, Kakamega, Kisii, Kisumu, Migori, Nyamira, Siaya, and Vihiga. This section presents the key highlights and matters arising from the four output areas of the workshop.

Output Area 1: Dissemination of the KMS and M&E Plan in the Kisumu Regional Workshop

The DNMP presented the KMS 2019–2023 and M&E Plan. Key points from the presentation were as follows:

- Tracking performance of KMS goal of reducing incidence and deaths due to malaria by 75 percent was going to be difficult due to challenges in obtaining mortality data.
- The IRS intervention was limited to two counties, Homabay and Migori, because of resource constraints.
- Implementation of the LSM intervention in targeted areas in the Lake endemic zone had not started because legislation of the biological larvicide had taken longer than expected.
- Entomological surveillance in the Lake endemic region was planned, especially in counties receiving IRS, to determine the impact of the intervention in malaria transmission. All counties in the region had individuals trained to conduct entomological surveillance.

Table 4 summarises the key issues from the county teams regarding the KMS and M&E Plan.

Table 4. Key issues raised from the KMS presentation in the Kisumu regional workshop

Key issues raised	Responses
Engagement with county leadership levels (i.e., county executive committee [CEC] members and chief officers who make decisions on county budgets)	<ul style="list-style-type: none"> • Engagement with the CECs and chief officers will be strengthened
High turnover of county-level staff who were already trained on the different malaria interventions	<ul style="list-style-type: none"> • DNMP should maintain an up-to-date database of trained personnel that should be shared with the counties. • Counties should maintain a similar database and ensure that only relevant staff attend trainings.
Case management trainings not offered to private health facilities	<ul style="list-style-type: none"> • DNMP should continue mobilising resources to support trainings for private facilities.
Confusion about the indicator on proportion of population that slept under a LLIN the night before the survey—this indicator appeared under Objective 1 and Objective 4 of the KMS	<ul style="list-style-type: none"> • DNMP was aware of the repeated indicator and intended it to emphasise the aspect of use in relation to coverage (Objective 1) and as an aspect of SBC (Objective 4).

Key issues raised	Responses
What aspects of KMS funding gaps were covered by the Government of Kenya?	<ul style="list-style-type: none"> • DNMP informed that LSM was fully funded by the Government of Kenya. • Through Global Fund counterpart funding, the government had contributed 3 billion Ksh.
	<ul style="list-style-type: none"> • Other Government of Kenya contributions include payment of health workers. • DNMP challenged the counties to also mobilise domestic resources at their level to support malaria control.
High funding levels for Objectives 1 and 2	<ul style="list-style-type: none"> • DNMP explained that Objectives 1 and 2 took up the bulk of the funding due to the procurement of malaria commodities. In addition, a proportion of funding for these two objectives went to KEMSA for warehousing and distribution.
Percentage of budget allocated to M&E in Objective 5 was only 5%	<ul style="list-style-type: none"> • DNMP explained that M&E components were included in all six objectives. When pulled together across all the objectives, the M&E budget averaged 13% of the total budget over the five years of KMS implementation.

Alignment of the Kisumu Region County Malaria Activities with the KMS

Five counties (Bungoma, Busia, Kakamega, Migori, and Nyamira) presented on the alignment of malaria activities to the KMS. The issues presented cut across all the counties represented in the workshop.

- Details of the issues presented are documented in Annex 3. A summary of the key issues presented is as follows:
- Malaria incidence increased in all the counties from 2018 to 2019. Participants questioned the incidence presented, given the low quality of data used to obtain the indicators.
- It was not clear what source documents should be used to aggregate malaria data.
- Other counties (apart from Homabay and Migori where IRS is implemented on a large scale) reported conducting targeted IRS in selected areas and institutions. However, these small-scale IRS activities did not take into account the national guidelines on IRS, which include choice of insecticide, spray equipment, standard operating procedures for spraying, and surveillance activities to determine effectiveness of spraying.
- Funding for SBC activities was very low, especially in view of the community health strategy.

There were decreasing resources for malaria control, with some partners pulling out in line with the guidance on journey to self-reliance (J2SR). The counties felt that they needed adequate time to prepare the transition and lobby for higher allocation of funds for malaria interventions.

Output Area 2: Presentation of Malaria Policy and Guidance Documents in the Kisumu Regional Workshop

The DNMP explained that most of the documents presented were at different stages of review to align them with the KMS 2019–2023. Treatment guidelines were updated more frequently because of new guidance from the World Health Organization to avert drug resistance and other adverse effects. The DNMP clarified that the documents presented were to be used to operationalise the KMS 2019–2023 and M&E Plan. Table 5 presents a summary of issues discussed under this output area.



Table 5. Issues raised on malaria policy documents presented in the Kisumu regional workshop

Issue raised	Response
Purpose of a malaria SBC package when there was a malaria communication strategy in place	<ul style="list-style-type: none"> The DNMP explained that the SBC package focused on specific messages for each intervention area, and the communication strategy was all-inclusive.
Standardised supportive supervision manual	<ul style="list-style-type: none"> The DNMP had revised the supportive supervision manual for use by all stakeholders, including partners. The revised manual was available on the DNMP website.
Effective ways of disseminating policy documents away from media briefings and launch during key events (e.g., World Malaria Day)	<ul style="list-style-type: none"> The DNMP recognised the need for better ways to disseminate policy documents, including launching several documents together through a workshop.
Accountability and commodity security for commodities issued to CHVs	<ul style="list-style-type: none"> Community case management training guidelines were under review supported by Amref Health Africa. The new guidelines will include commodity management by CHVs.
Involvement of counties when updating CHV documents because of heavy costs involved in retraining CHVs	<ul style="list-style-type: none"> The DNMP noted the request and assured the counties that they would be included in the ongoing and future revisions.

In addition to the issues raised in Table 5, the counties asked for an end-term review of an integrated community health approach of providing services that had been piloted in Homa Bay, Kwale, and Vihiga. The counties also raised concerns about the national government's plan to deploy national youth service (NYS) graduates as CHVs. The key issues were as follows:

- The NYS graduates did not have the requisite training given to community health assistants (CHAs) or community health extension workers (CHEWs).
- The NYS graduates were not necessarily local residents in the areas where they were posted.
- Counties have huge backlog of unpaid CHV stipends and would have challenges in paying the NYS graduates.

Output Area 3: Technical Updates in the Kisumu Regional Workshop

The DNMP provided updates on malaria control interventions in the Lake endemic region. Table 6 summarises the matters that arose from these updates.

Table 6. Reactions to the technical updates presented in the Kisumu regional workshop

Issue raised	Response
Counties wanted to know more about Cuba's success story with LSM intervention.	<ul style="list-style-type: none"> The DNMP explained that the intervention was informed by data from research that showed LSM to be an effective intervention. The DNMP further explained that a successful LSM intervention would help mitigate the growing insecticide resistance in Kenya.

Issue raised	Response
Counties asked how insect bites were measured and the frequency of conducting entomological surveys.	<ul style="list-style-type: none"> The DNMP explained that to measure the indicator, mosquitoes were collected in the evening using light traps. Data on the number of people living in the room, number of mosquitoes trapped, number of mosquitoes that had fed on humans, and number of mosquitoes infected with sporozoites were collected. The entomological inoculation rate was calculated as the number of infected persons divided by the total number people in the room. Entomological surveys were normally conducted twice a year, and all the counties represented in the workshop had been trained on entomological surveillance.
<p>KHIS tools were not available in some counties.</p> <p>Counties asked for basic guidelines to ensure that the malaria data were captured and collated from the right source documents.</p>	<ul style="list-style-type: none"> The DNMP explained that health information system (HIS) had revised the data collection and reporting tools and would be rolling them out in 2020. A malaria indicator reference booklet was disseminated, together with the KMS and M&E Plan. The booklet contained detailed information on all malaria indicators. The DNMP informed that basic guidelines for malaria data capture and reporting would be given as part of the rollout of revised HIS tools. The DNMP also informed that a harmonised HIS indicator reference manual was in development as part of the revised HIS tools.

Partner Updates

Partners supporting malaria control activities in the 10 counties provided updates on the scope of their support, activities accomplished in the last three months, and planned activities for the next three months. Table 7 summarises the partner updates.

Table 7. Partner updates in the Kisumu regional workshop

Partner	Key intervention areas in the region
Health IT	<ul style="list-style-type: none"> Malaria commodity dashboard that shows stock status at KEMSA and at health facilities on a monthly basis Testing Kenya electronic medical records in Kakamega and Kisumu counties. The electronic medical records are envisioned to report all disease conditions, not just HIV/AIDS. Development of interoperability standards Development of a separate tracker module for inpatient data in DHIS2 and reviewing various hosting platforms to enhance data retrieval performance
United States President's Malaria Initiative (PMI)/ Centers for Disease Control and Prevention (CDC)	<ul style="list-style-type: none"> Supported many programmes in eight Lake endemic counties working with various implementation partners Unable to support IRS in more counties because of limited resources— spraying cost per structure has also increased, leading to unexpected spending of between \$10 to 12 million PMI had not received a waiver for IRS commodities because the tax agreement between Kenya and the U.S. Government had expired and negotiations were ongoing for its renewal.



Partner	Key intervention areas in the region
Tupime Kaunti	<ul style="list-style-type: none"> • Mapped missing data management tools and shared with PMI and DNMP— as a project they were not directly able to print the tools and could only advocate for their supply • Provided two health records and information officers (HRIOs) per county to help with improvement of data collection and reporting
MEASURE Evaluation	<ul style="list-style-type: none"> • Project was in the last phase ending in June 2020 • Supported four areas in Kenya: M&E capacity strengthening, surveillance, coordination, and implementation of routine M&E activities • Ongoing support included EPR rapid assessment; finalising of EPR guidelines and training guides; KMS dissemination; and technical assistance and support for malaria SMEOR meetings
Amref Health Africa	<ul style="list-style-type: none"> • A Global Fund principal recipient supporting 10 counties in community case management of malaria and 14 counties in malaria prevention through school pupils • Funds that were previously used to pay CHVs stipends had been reprogrammed—one of the donor's conditions was that Amref would pull out of paying stipends so that the counties can take up this role as a step towards the J2SR. • An end-term evaluation done in 2017 showed that CHVs were well accepted in the community and were making a positive impact. • Missing tools for community case management were to be availed. However, there were challenges with issuing malaria rapid diagnostic tests (mRDTs) due to a court order that prohibited non-laboratory trained persons to conduct malaria testing.
Afya Ugavi	<ul style="list-style-type: none"> • Was part of Chemonics project being implemented in the Lake endemic counties • Scope was to support supply chain issues for malaria commodities, working together with DNMP, KEMSA, and the counties
PMI Vector Link	<ul style="list-style-type: none"> • Supported IRS in Homabay and Migori but would be scaling down in 2020 • IRS protocols should be followed when conducting the intervention. • There was no scientific evidence on the effect of using both IRS and LLINs, but it was expected to be beneficial in the long run. • Different chemicals were used for IRS, but the process of getting other chemicals registered by Pesticides Control Products Board was lengthy. • Repeated exposure to organophosphates can be harmful, but effective use of personal protective equipment ensures that the spray operators are fully protected from the insecticides.
Population Services Kenya (PS Kenya)	<ul style="list-style-type: none"> • Was in year 4 of the project • Supported malaria SBC using a variety of channels, including local radio • There were 22 sub-tribes in Luhya, so translation of SBC messages to a local dialect was challenging.
Impact Malaria	<ul style="list-style-type: none"> • Supported capture of data on severe malaria, including inpatient and mortality data • Noted that IPTp3 data capture had not been included in DHIS2 and the need to formally inform the HIS of the requirement to collect this indicator in future

Output Area 4: Performance of Routine Malaria Indicators in the Kisumu Regional Workshop

The DNMP presented the current status of some key malaria indicators and the projected targets in the KMS 2019–2023. The DNMP reiterated the challenges it was experiencing in getting inpatient and mortality data. The counties attributed this to coding and indexing at the health facilities. Few clinicians had been trained on International Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), leading to delayed entry of data in the tracker instance. Capacity to access the data in tracker was lacking for most officers at both county and national levels. The DNMP noted an increase in malaria incidences in 2019 compared to 2018, mainly attributed to unusual weather conditions characterised by prolonged and heavy rains. The DNMP noted that recent data quality audits (DQAs) had identified a lot of underreporting and overreporting at the county level, with the same recurring issues raised in every round. The DNMP emphasised the need for counties to take concrete actions after each DQA and review the action points agreed upon in the subsequent rounds of the DQA.

Enhancing Performance of Key Indicators at the County Level

Each county presented the status of their key routine malaria indicators and planned action points to improve data quality and performance trends. Table 8 provides a summary of the county presentations. Annex 3 contains additional details of the county updates.

Table 8. County indicator performance in the Kisumu regional workshop

County indicator performance
<p>Bungoma</p> <ul style="list-style-type: none"> The county reported an average malaria incidence rate of 30 per 1,000 population, with a notable increase in 2019. The county reported having challenges with data capture.
<p>Busia</p> <ul style="list-style-type: none"> Reported high incidence rates (average monthly incidence of 58.3 per 1,000 population). Had challenges with printing data capture and reporting tools, including IDSR weekly summary tools. Expressed the need for more training on KHIS/DHIS2. Asked for clarification on the data sources for malaria case fatalities.
<p>Homabay</p> <ul style="list-style-type: none"> The malaria incidence rate decreased over the 2018/2019 period. The decrease was attributed to the IRS intervention in the county. The county was advised to set more ambitious indicator targets aligned to the national targets.
<p>Kakamega</p> <ul style="list-style-type: none"> The county reported high malaria incidence rates, reaching a peak of more than 400 per 1,000 population in 2018/2019. The county was not able to report any inpatient data. There were challenges with data quality, despite undertaking various data quality activities. Health facility-in-charges meetings were held quarterly. The county had only 27 HRIOs who shared data responsibilities with other cadres (i.e., pharmacists, laboratory personnel, nurses, and clinicians).



County indicator performance

Kisii

- The county showed reduced malaria incidences over the previous two years (2018 and 2019).
- The county reported upsurges in malaria cases but did not have access to the additional resources required for EPR.
- KMS targets presented by the county were not aligned to the national targets (they were lower than the national targets). The county was asked to review the targets to ensure alignment with KMS.

Migori

- The county had an increase in malaria incidence rate in 2018/19, compared to 2017/18.
- The county expressed the need for capacity building for sub-county malaria coordinators.
- The county identified gaps in capacity for data analysis.

Nyamira

- The county reported increases in malaria incidences and test positivity rates.
- The county reported sporadic malaria upsurges in two sub-counties in October and November 2019.
- LLINs distributed in 2017 were worn out, possibly contributing to the observed increases in malaria incidences and upsurges.
- There was a serious lack of reporting tools. The county had no resources to print the tools, and this impacted data quality.
- The county had a good supply of mRDTs in all health facilities.

Siaya

- The county had a notable increase in malaria incidence rate in 2018/2019, compared to 2017/2018.
- To improve performance of routine malaria indicators, the county recommended involvement of health facility quality improvement teams to investigate the quality of data reported from health facilities over a five-year period.
- The county had challenges with reporting of weekly integrated disease surveillance and response (IDSR) data.

Vihiga

- The county reported high annual incidence rate for malaria (200 per 1,000 population).
- Reported challenges with data management tools and requested for DNMP support.

Conclusions, Recommendations, and Next Steps for the Kisumu Regional Workshop

- The counties in the Kisumu region saw the following opportunities in the KMS 2019–2023:
- Implementing LSM as a new intervention in the selected counties
- Lobbying for increased county budget to support the implementation of malaria activities
- Undertaking capacity building in data management and ensuring the quality of KHIS data
- Strengthening the division of vector-borne disease centres in the county to address entomological issues
- Engaging CHVs in IPTp referrals and identifying missed opportunities
- Reporting of IPTp3

Strengthening inpatient and malaria mortality data based on anticipated guidance from the DNMP on how to capture these data

In concluding the workshop, the DNMP appreciated the counties' participation and promised support to implement planned interventions. Dr. Willis Akhwale, Chief of Party for Impact Malaria, encouraged the counties to seek innovative ways to disseminate the KMS, such as integrating it with other planned activities. The head of the DNMP, Dr. Grace Ikahu, challenged the counties to think about strategies, planning, and management of interventions, funding, and more importantly, use of the interventions that will drive down the burden of malaria in the region. Dr. Ikahu stressed the need for a paradigm shift in leadership to play a more supportive role and to adapt quickly to the changing circumstances. She completed her remarks by assuring the counties of more support from and engagement with the DNMP.



Mombasa Regional Workshop

The workshop was held from 9 to 11 December 2019 at the White Sands Resort in Mombasa. Six counties in the coastal region attended the workshop: Lamu, Kilifi, Kwale, Mombasa, Taita Taveta, and Tana River. County teams from the coastal region were keen on what opportunities the KMS 2019–2023 offered in terms of enhancing partnerships and moving towards malaria elimination. Highlights of the Mombasa regional workshop are presented in the following sections.

Output Area 1: Dissemination of the KMS 2019–2023 and M&E Plan in the Mombasa Regional Workshop

Similar to the Kisumu regional workshop, the DNMP made a presentation on the KMS 2019–2023 and M&E Plan. The county teams present sought clarifications on a number of aspects, as summarised in Table 9.

Table 9. Reactions to the KMS and M&E presentation in the Mombasa regional workshop

Key issues raised	Responses
The Mombasa county elimination agenda was questioned, given the high endemic transmission of malaria on the island and likelihood of imported cases from the mainland and other countries because the county attracts many international tourists.	<ul style="list-style-type: none"> Mombasa county was advised to work at further reducing the malaria case burden before moving to the elimination agenda.
Why only four counties had been selected for the sub-national malaria elimination	<ul style="list-style-type: none"> The DNMP explained that the four counties for the sub-national elimination were selected based on evidence of very low malaria cases. The DNMP further clarified that very low malaria cases were a prerequisite for elimination because of the intensive surveillance required to detect, investigate, and follow-up on detected cases, including the possible foci of transmission.
Clarifications for the indicators on universal coverage with LLIN and those who slept under a net the previous night	<ul style="list-style-type: none"> Indicator on universal coverage with LLIN was defined as number of households with one net for every two persons—this indicator was a measure of access to LLINs. Indicator on those who slept under a net referred to the number of individuals in surveyed household who slept under a net the night before the survey—this indicator was a measure of use of LLINs.
Reporting on IPTp3 and malaria case fatality	<ul style="list-style-type: none"> The DNMP informed participants that revised HIS tools that were to be rolled out in 2020 had a provision to collect and report on IPTp3. The DNMP recognised that reporting of malaria case fatalities was challenged due to weaknesses in capturing and reporting inpatient and mortality data through the routine HIS. The DNMP further informed the county that several initiatives had been put in place to resolve the challenges.

Key issues raised	Responses
Clarification on the court order barring the use of mRDTs by CHVs.	<ul style="list-style-type: none"> The DNMP informed that the matter had been raised to the Ministry of Health and that efforts to resolve the matter were ongoing. Counties were advised to leverage the community strategy when implementing community-based interventions.
Sustainable financing for malaria interventions	<ul style="list-style-type: none"> Counties were advised to ensure that malaria activities were included in the AWP and county integrated development plans (CIDPs). Counties were also encouraged to mobilise additional resources for malaria from partners and the private sector in their regions.
Mass drug administration (MDA): Counties sought policy guidance on the situations in which researchers test school children and treat all those who are found positive, irrespective of whether they had any symptoms of malaria.	<ul style="list-style-type: none"> The DNMP clarified that Kenya did not have structures to support the MDA intervention. However, the approach could be done as an operational research study in liaison with research teams such as the Kenya Medical Research Institute (KEMRI)/CDC. The DNMP cautioned that MDA, if done indiscriminately, could introduce elements of drug resistance.
Participants sought clarification on the indicator on the proportion of population sleeping under LLINs, which appeared under Objectives 1 and 4.	<ul style="list-style-type: none"> The DNMP clarified that the indicator definition was the same in the two objectives but with different emphasis (use as an aspect of access—Objective 1, and use as an aspect of SBC—Objective 4).
Challenge with KHIS reporting due to shortage of tools and lack of clarity on the data sources for the different indicators	<ul style="list-style-type: none"> The DNMP informed on the HIS revision of data collection and reporting tools and clarified that the challenges mentioned would be addressed as the new tools were rolled out.
Private sector nonadherence to case management guidelines—attributed to lack of training	<ul style="list-style-type: none"> The DNMP informed that available resources for capacity building targeted the public sector. Counties challenged the DNMP to think of innovative ways of extending the training to the private sector, for example through online courses and professional bodies.

Output Area 2: Presentation of Malaria Policy and Guidance Documents in the Mombasa Regional Workshop

- The DNMP made the following clarifications with reference to the policy documents presented:
- Although malaria control deals with only one vector, the integrated vector management guidelines incorporated information on how to deal with all disease vectors.
- The malaria indicator reference booklet provided during the dissemination contained detailed explanations of the malaria indicators in the KMS 2019–2023.
- A resource mobilisation strategy was under development. The strategy was necessary to guide the counties on J2SR for malaria control interventions.
- The 2010 national malaria policy provided the overall guidance for malaria control activities, including stratification. The policy was made with reference to the malaria prevention bill. The malaria policy was also due for revision, given the many changes since 2010.



County inputs on the policy documents presented were as follows:

- Counties stressed the need for guidelines and interventions that recognise the diversity of malaria transmission in Kenya.
- The counties asked the DNMP to make a plan to disseminate all the documents presented.
- The counties asked to be considered to host the launch of future malaria documents. This would present them with an opportunity to advocate for malaria interventions in the region.

The counties urged the DNMP to seriously consider capacity building for health workers in the private sector.

Output Area 3: Technical Updates in the Mombasa Regional Workshop

The coastal region counties raised the following issues from the technical updates presented by the DNMP.

Table 10. Reactions to the DNMP technical updates from the coastal region

Issue raised	Response
Malaria commodity dashboard—Although the dashboard enhanced visibility, some counties were still convinced that Excel data were more accurate.	<ul style="list-style-type: none"> • The DNMP was to follow up on this matter and find out why the Excel malaria dashboard was considered more accurate and why the commodity dashboard was not able give up to six months' buffer. • The DNMP asked the counties to source malaria drugs from KEMSA to avoid sub-standard medicines and to be more proactive in dealing with stockout challenges.
Malaria vaccine—Counties sought to know why the malaria vaccine was not piloted in the coastal region, yet the region was involved in trial phases of the vaccine.	<ul style="list-style-type: none"> • The DNMP clarified that the initial stage of the phased implementation of the vaccine was targeted at counties with a very high burden of malaria (at least 20% prevalence).
IRS—Lamu participants asked why their county was not targeted for IRS.	<ul style="list-style-type: none"> • DNMP clarified that malaria incidence in Lamu was very low compared to the counties targeted for IRS in the Lake endemic counties
Post-market surveillance—The counties asked DNMP to proactively share post- market surveillance findings and not to leave the task to the Pharmacy and Poisons Board.	<ul style="list-style-type: none"> • The DNMP was to follow up on this action point.
The counties noted that despite having a significant malaria burden, there were very few partners supporting malaria control in the region. Kwale and Kilifi counties felt that they had been left out of many malaria control activities despite having a relatively high burden of the disease.	<ul style="list-style-type: none"> • The DNMP responded that the zoning of malaria intervention areas was informed by the KMIS results. • The DNMP further explained that resource constraints meant that sampling for KMIS was zone-based rather than county-based. • Partners supporting malaria control focused on the Lake endemic zone, where the disease burden was highest. • Counties were urged to strengthen routine data reporting systems to get accurate data to inform future interventions.

Partner Updates in the Mombasa Regional Workshop

The partners present provided updates on their scope, accomplishments, and planned activities. The updates are summarised in Table 11.

Table 11. Partner updates in the Mombasa regional workshops

Partner	Key intervention areas in the region/Other comments
PMI/United States Agency for International Development (USAID)	<ul style="list-style-type: none"> • USAID/PMI visibility in the coastal region was not very high. However, the agency was supporting net distribution, SBC, and supply of medicines in the region. • The agency was interested in understanding the opportunities that exist in the coastal region. • The KMIS planned for 2020 would also inform retargeting of interventions. • USAID/PMI had a keen interest to strengthen collaboration between counties and the national government. • USAID/PMI was thinking of supporting biannual meetings to inform priority interventions for the counties in collaboration with the DNMP. • Counties were challenged to strengthen malaria prevention at the community level.
MEASURE Evaluation	<ul style="list-style-type: none"> • Supported four key areas related to M&E in Kenya: coordination, surveillance, M&E capacity, and evaluation • Using the Monitoring and Evaluation Capacity Evaluation Toolkit, observed improvements in all dimensions of M&E performance • Future priority areas targeted for support include: • Strengthening routine monitoring of malaria activities • Supporting improved availability and quality of inpatient data • Strengthening linkages between national and county levels—biannual review meetings • Providing technical assistance for malaria elimination—constitute the malaria elimination task force
PS Kenya (HCM)	<ul style="list-style-type: none"> • HCM was a five-year programme and was in its fourth year. • The project had distributed more than 5.4 million nets nationally. • It supported supportive supervision in 36 counties, as well as commodity management and LLIN risk mitigation plans. • It focused on Kilifi and Kwale in the coastal region because of the heavier malaria burden, and supported activities such as the Malaria Shujaa Campaign, interpersonal communication through CHVs, and wall branding. • It planned to undertake distribution of 3.1 million piperonyl butoxide nets in some counties, school health activities in the coastal region, and a community challenge.

County Updates

The counties gave updates on key activities undertaken in the last three months and those planned in the next three to six months. They recommended activities for future support by the DNMP and partners and shared their plans for further dissemination of the KMS. In summary, most of the counties undertook routine malaria control activities, including DQAs, routine LLIN distribution, diagnosis and treatment, data reviews, IPTp, surveillance, and commodity management. Kilifi and Mombasa undertook fogging as a malaria control activity, although it was not recommended in the KMS. Some counties requested support for KMS dissemination but were advised to incorporate it in the available forums, such county health management team (CHMT) meetings, facility in-charge meetings, data review meetings, supportive supervision, and stakeholder meetings.



Output Area 4: Performance of Routine Malaria Indicators in the Coastal Region

The DNMP presented the current status of some key malaria indicators and the projected targets in the KMS 2019–2023. Key highlights from the presentation were as follows:

- Confirmed malaria incidence was 62 per 1,000 at the national level. The impact indicators related to inpatient cases and deaths were missing at the national level.
- Results of the last DQA showed both underreporting and overreporting in the counties in the coastal region.
- The national level was using MOH 505 as the source data for the key malaria outcome indicators, and the counties mostly used MOH 706.
- The DNMP clarified that the MOH 706 was a summary form and not a primary tool designed for surveillance purposes. As such, it was not the best source of data because not all health facilities had laboratories.
- The DNMP informed that the revised outpatient department registers that were to be rolled out in 2020 included a malaria-specific column that would make it easier to report on malaria cases.
- The counties expressed concerns about the very low reporting rates of around 50 percent for the weekly surveillance data (MOH 505).
- The counties reported that high-volume facilities recorded only the positive cases in the daily activity register due to heavy workload.
- The DNMP appealed to all the counties to ensure accurate and complete reporting and noted the need to enhance the quality of weekly reporting.

Enhancing Performance of Routine Indicators at the County Level—Mombasa Regional Workshop

Each county presented targets on three malaria impact indicators. Table 12 summarises the county presentations.

Table 12. Indicator performance for counties in the coastal region

County indicator performance
Lamu <ul style="list-style-type: none">• The county reported a reduced incidence rate, test positivity rate, and annual blood examination rate (ABER).• The county conducted data review meetings, DQAs, supportive supervision, and programme-based review of DHIS2 data. In addition, the county had a WhatsApp group for data verification before uploading to DHIS2.• ABER reduction could have been due to high staff turnover.• The county government supported quarterly data review meetings except where there were no funds.• More commitment by the county government to support the data management activities was needed.

County indicator performance

Kilifi

- Malaria cases, incidences rates, and ABER increased, and the test positivity rate remained the same.
- The data source for malaria indicators was MOH 706.
- Reporting rates for the county had improved.
- Data improvement strategies implemented at the county level included quarterly data review, monthly facility in-charge meetings, capacity building, DQAs, supportive supervision, provision of guidelines and standard operating procedures around the use of data tools, and data validation and verification exercises at the facility level.
- The county had standardised charts for all the routine data.
- The county requested training for the revised HIS tools. The DNMP responded that the training would be done just before the rollout of the tools.

Tana River

- Malaria incidence and test positivity rate were on the decline. However, annual blood examination rate (ABER) was decreasing, indicating less testing, which could have affected the test positivity rate.
- Some health facilities with capacity for microscopy had been closed. This could have been a factor in the reduction of ABER. There was a stockout of mRDTs, which also contributed to the reduced capacity to diagnose malaria.
- New staff in the county had not been trained on malaria case management.
- Tana River is a county of mixed endemicity; hence the need to have targeted interventions to bring down the number of cases.

Kwale

- The county reported a decline in the malaria incidence rate.
- Mapping of malaria burden distribution in the county had been conducted.
- There was reported burning of nets in some areas because of the false belief that the nets brought bed bugs.
- The community had a practise of taking very sick patients to witch doctors. The county team had engaged with the witch doctors to refer sick people brought to them to the health facilities.
- Malaria testing had been affected by the court ruling that barred CHVs and non-laboratory personnel from using mRDTs. This meant that all level 2 facilities could not do any testing for malaria because most of them did not have trained laboratory technicians. This led to increased consumption of antimalarials due to presumptive treatment.

Mombasa

- Malaria incidences were on the decline, and ABER decreased slightly, possibly due to a stockout of mRDTs. There were concerns over the decrease in ABER, especially with the elimination agenda adopted by the county. The county was advised to source for more mRDTs to avoid stockouts.
- The ABER in Mombasa should be very high because of the many types of fevers in the county, including dengue fever.
- The county emphasised the need to target private health facilities on malaria case management and policy guidelines. Most of the service providers in Mombasa were private practitioners, but the training only targeted public health facilities.
- The county had generated sub-county-specific malaria maps that highlighted elimination-specific activities.



County indicator performance

Taita Taveta

- The county reported a slight increase in malaria incidence, test positivity rate, and ABER.
- The county had made efforts to ensure availability of reporting tools.
- However, the MOH 706 tool was inadequate for facilities offering laboratory services. The county photocopied the tool with support the county government and a partner called Afya Kwale.
- Sub-county health records and information officers verified data before uploading them into KHIS/ DHIS2.
- The county was planning to initiate an external quality assurance (EQA) programme for the private facilities to reduce their erroneous reporting of high positivity rates.

Conclusions and Recommendations in the Mombasa Regional Workshop

In concluding the workshop, the DNMP recognised that more guidance on malaria interventions recommended in the coastal region counties was needed. The DNMP challenged the counties in the region to seek guidance and technical assistance from the DNMP before embarking on interventions that were not in the KMS. The counties were urged to use the appropriate data sources for malaria indicators to ensure that the indicators reported from the region were comparable to the rest of the country. The counties were asked to liaise with the DNMP to get predesigned SBC messages and adapt them to local context before using them in malaria advertisements. The DNMP challenged the counties considering elimination to consider strengthening malaria surveillance to track detected cases right up to their households and communities, including investigating the possible foci of transmission.

Counties urged the DNMP to liaise with the HIS to ensure the availability of reporting tools and to mobilise resources to build capacity for the private sector in malaria case management and other trainings.

Nakuru Regional Workshop

This regional dissemination workshop was held from 9 to 11 December 2019 at the Merica Hotel, Nakuru. Thirteen counties from the greater rift valley region attended the workshop: Baringo, Bomet, Elgeyo, Kajiado, Kericho, Marakwet, Nandi, Narok, Samburu, Trans Nzoia, Turkana, Uasin Gishu, and West Pokot. A summary of the deliberations from the workshop is presented in the following sections.

Output Area 1: Dissemination of the KMS 2019–2023 and M&E Plan in the Nakuru Regional Workshop

Table 13 presents a summary of the key issues that arose from the KMS and M&E Plan presentation.

Table 13. Issues arising from the KMS presentation in the Nakuru regional workshop

Key issues raised	Responses
Why indicators in Objective 2 of the KMS targeting only public health facilities yet case management cuts across public and private facilities?	<ul style="list-style-type: none"> The DNMP explained that available resources could only support the public sector. The DNMP recognised the need to include the private sector in case management training.
How were the KMS targets for some indicators determined without baseline values?	<ul style="list-style-type: none"> In absence of the baseline, targets were set with the foreseen desired situation in mind.
What proportion of the county budget is supposed to be set aside for malaria activities?	<ul style="list-style-type: none"> Budget allocation for malaria varied across the counties, depending on the malaria interventions carried out in the county.
Lack of data on malaria deaths	<ul style="list-style-type: none"> The DNMP clarified that the lack of data on deaths due to malaria was attributed to health system challenges, including a shortage of trained coders and capacity gaps on how to access the data in the tracker instance.
Existence of programmes to monitor efficacy of artemether lumefantrine	<ul style="list-style-type: none"> The DNMP informed that there were centres that monitored efficacy of artemether lumefantrine.
Funds available and funding gap in KMS 2019–2023	<ul style="list-style-type: none"> The DNMP explained that the resource gap was generated based on promises and projections from donors.
Stockouts of malaria commodities	<ul style="list-style-type: none"> The DNMP informed that there had been an unresolved issue between the Kenya Government and the donors regarding payment of taxes for donor-funded commodities. This led to delays in procurement of donor-funded commodities and, consequently, central-level stockouts of some malaria commodities.

Aligning County Malaria Activities with the KMS in the Nakuru Regional Workshop

All the 13 counties presented on how malaria activities were aligned to the KMS 2019–2023. Key highlights from the county presentations were as follows:



Community Health Strategy

- Counties were urged to leverage the community health strategy and consult with the DNMP before implementing community case management for malaria.
- Some counties had challenges obtaining the correct malaria incidence rates. The DNMP guided them in calculating the incidence rates using data from the KHIS and the malaria indicator reference sheet for the correct data variables.
- Some of the counties were experiencing declines in malaria incidence rates. Efforts to sustain these gains were needed to intensify malaria control activities and ensure commodity security.
- All counties noted the need for mobilising domestic resources and ensuring that funds allocated for malaria were accessible and used as planned.
- A number of counties were conducting small-scale IRS but were not following the national guidelines and standard operating procedures for this intervention. The counties were advised to seek technical guidance from the DNMP before undertaking any IRS activity.
- Some counties were experiencing expansion in economic activities, such as the establishment of irrigation schemes and construction of dams. Those counties were advised to establish partnerships with the companies involved to support malaria activities as part of addressing some of the environmental impacts that may lead to increased transmission of malaria, such as increased breeding sites.

Output Area 2: Presentation of Malaria Policy and Guidance Documents in the Nakuru Regional Workshop

In presenting the policy documents, the DNMP emphasised that policies have a legal implication and are passed through the attorney general and national assembly. It further clarified that policy and other documents whose duration had expired still remained valid until a new version was available for use.

Counties were informed that the documents presented were available on the DNMP website. Table 14 summarises other aspects raised from the presentation.

Table 14. Discussion points from the Nakuru regional workshop

Issue raised	Responses
The DNMP was asked to expound on IRS monitoring.	<ul style="list-style-type: none"> • The DNMP explained that trained entomologists in the counties monitored the efficacy of IRS. All counties, except three in northern Kenya, had trained entomologists
A number of documents were not available on the DNMP website.	<ul style="list-style-type: none"> • The DNMP assured counties that malaria policy documents already endorsed were to be uploaded in the DNMP website.
Safety of larvicides used in LSM intervention	<ul style="list-style-type: none"> • The DNMP assured counties that LSM was anchored in integrated vector management and that most larvicides used were safe for human use.
<p>The CDHs present expressed concerns that county decision makers (CECs, chief officers, etc) were not sensitised on malaria issues.</p> <p>The turnover for CDHs was also very high, hence the DNMP required frequent engagement with them.</p>	<ul style="list-style-type: none"> • The DNMP noted the concern about involving county leadership in malaria activities. • The county teams developed draft plans for immediate cascading of KMS dissemination across all levels.

Output Area 3: Technical Update in the Nakuru Regional Workshop

Deliberations arising from DNMP updates are summarised in Table 15.

Table 15. Reactions to the DNMP updates in the Nakuru regional workshop

Issue raised	DNMP response
Elgeyo Marakwet was not included in the mass LLIN distribution conducted in 2017. The county had been experiencing very high incidences of malaria.	The DNMP clarified that the choice of counties for mass net distribution was guided by the available evidence-based burden of malaria.
Counties asked about the low efficacy of the malaria vaccine (RTS,S).	<ul style="list-style-type: none"> The DNMP informed counties that the malaria vaccine in its phase 3 trial was proven to reduce morbidity, severe life-threatening malaria, and severe malaria. Evidence from the large-scale phased implementation that was ongoing at the time would inform future implementation.
Participants asked about attribution of success to the malaria vaccine, given the many malaria interventions implemented in the Lake endemic region.	<ul style="list-style-type: none"> The DNMP clarified that the phased implementation of the vaccine had a control group and that randomisation had been done. Because the intervention and control group were drawn from similar populations, it was possible to attribute effects of the vaccine in the intervention. The DNMP, however, recognised possible contamination between the control and intervention groups that would make attribution difficult.
Counties asked about the composition of the committee of experts (COE).	<ul style="list-style-type: none"> The DNMP clarified that the COEs consisted of sister departments in the Ministry of Health, research institutions, and partners.
<p>The counties present raised concerns that the current malaria stratification worked against them because they have a lower disease burden.</p> <p>Partners and other resources were concentrated in the Lake endemic counties that have a higher burden.</p>	<ul style="list-style-type: none"> The DNMP informed counties that there were plans to conduct regular re-stratification to ensure proper targeting of interventions.

Only one partner, MEASURE Evaluation, was present at the workshop in Nakuru. The partner updates given were the same as the ones presented in the Kisumu and Mombasa workshops.

Suggestions for Programmatic Support in the Nakuru Regional Workshop

Counties present at the workshop recommended the following programmatic support from DNMP:

- Ensuring adequate provision of the health workforce at all levels
- Mapping of malaria-prone areas as per epidemiological data and mass distribution of LLINs in malaria hotspot areas
- Implementing focalised IRS in identified transmission pockets
- Providing regular updates on new interventions and guidelines
- Ensuring quarterly supportive supervision
- Providing continuous capacity building of staff at the facility level



- Lobbying county governments to take full charge of malaria control activities by engaging the COG and advocating for increased domestic resources
- Building capacity on data management
- Strengthening surveillance and supporting operational research
- Supporting counties to undertake malaria laboratory diagnosis and EQA in malaria diagnosis, entomological surveillance, LSM, DQA, and redistribution of malaria commodities
- Train healthcare workers (HCWs) in malaria case management
- DNMP to continue providing quarterly bulletin for updates in malaria control
- Ensuring consistent malaria commodity supplies
- Supporting county biannual review meetings to review progress and exchange best practices
- Carrying out surveys on malaria inpatient deaths, training health workers on ICD-10/11
- Mainstreaming the community strategy with malaria programme activities

Output Area 4: Review of Performance of Malaria Routine Indicators in Counties at the Nakuru Regional Workshop

Results of a DQA conducted between January and March 2018 were presented. Baringo, Kericho, Nandi, and Narok underreported. while Samburu overreported. Bomet, Elgeyo Marakwet, Kajiado, West Pokot, Kakamega, Trans Nzoia, and Turkana were within the +/- 5 percent acceptable margin for most indicators. Table 17 presents a summary of the counties' presentation on enhancing performance of routine indicators.

Table 17. Performance of routine malaria indicators in the counties at the Nakuru regional workshop

County indicator performance
<p>Baringo</p> <ul style="list-style-type: none"> • Malaria incidence rate dropped from 68.3 per 1,000 population in 2018 to 51.2 per 1,000 population in 2019. • Malaria test positivity rate was 36%, and ABER was 14%. • To improve routine data quality, the county did the following: <ul style="list-style-type: none"> ▪ Conducted DQAs and quarterly data review meetings ▪ Undertook supportive supervision and capacity building of staff on data management ▪ Ensured continuous availability of data reporting tools and timeliness and completeness of reporting
<p>Bomet</p> <ul style="list-style-type: none"> • Malaria incidence rate was 1.7 per 1,000 population; malaria test positivity rate was 2%; and ABER was 9%. • Malaria incidence rate was progressively decreasing over the years. • The county was undertaking the following activities to improve the quality of routine data: <ul style="list-style-type: none"> ▪ Quarterly DQAs to ensure harmonisation of summary reports with base registers ▪ Supportive supervision, mentorship, and OJT on data management ▪ Stressed timely reporting by all health facilities

County indicator performance

Elgeyo Marakwet

- Malaria incidence rate was 19 per 1,000 population, malaria test positivity rate was 19%, and ABER was 10%.
- Malaria test positivity rate and incidence rates had increased markedly over the last year.
- To improve the routine data quality, the county implemented the following:
 - OJT for staff at the health facility level
 - The use of correct tools to collect data and data cleaning by sub-county health management teams before entry to KHIS

Kajiado

- The county recorded a 9.3% reduction in malaria incidence in 2019, compared to 2018.
- Malaria incidence rate was 5 per 1,000 population, malaria test positivity rate was 4%, and ABER was 13%.
- To improve the quality of routine data, the county implemented the following:
 - Validation of monthly reports during report submission at the sub-county level
 - Quarterly data review meetings, annual DQAs, and routine supervision and mentorship

Kericho

- Compared to 2018, the county was progressing well with a noted drop in malaria incidence.
- Malaria incidence rate was 24 per 1,000 population, malaria test positivity rate was 14%, and ABER was 17%.
- To improve performance trends, the county's interventions included the following:
 - Conducting health education to increase ANC and child welfare clinic (CWC) attendance
 - Implementing routine LLIN distribution
 - Training clinicians on malaria case management
 - Training laboratory technicians to improve diagnostic capacity
 - Educating the community on malaria prevention, early health-seeking behaviour, and adherence to treatment

Nakuru

- Malaria incidence rate declined, compared to the previous year.
- Malaria incidence rate was 7.4%, malaria test positivity rate was 7%, and ABER was 10%.
- The county's interventions to improve routine data quality included the following:
 - Verifying before uploading to KHIS
 - Availing data collection and reporting tools to all reporting health facilities
 - Enhancing timely reporting; regular support supervision and DQA



County indicator performance

Nandi

- Malaria incidence increased in 2018/19, compared to the same period in 2017/2018.
- Malaria incidence rate was 71 per 1,000 population, malaria positivity rate was 32%, and ABER was 19%.
- To improve routine data quality, the county undertook the following measures:
 - Conducted support supervision at all levels, OJT, and mentorship
 - Conducted data reviews at sub-county and facility levels, malaria DQAs, and staff sensitisation through continuous medical education (CME)
 - Supported training on data processes and the use of EMR
 - Undertook data cleaning before uploading to KHIS

Narok

- Malaria incidence rate had increased since May 2019.
- Malaria incidence rate was 2.8 per 1,000 population, malaria test positivity rate was 21%, and ABER was 6%.
- To improve the quality of routine data, the county was doing the following:
 - Ensuring constant availability of data collection tools
 - Conducting regular OJT, mentorship of health workers, DQAs, supportive supervision, and data review meetings at the health facility, sub-county health management team (SCHMT), and CHMT levels

Samburu

- Malaria incidence rate was 11.2 per 1,000 population, malaria test positivity rate was 9%, ABER was 12%.
- Overall, the malaria incidence and test positivity rates were decreasing.
- To improve quality of routine data, the county implemented the following:
 - Established a malaria commodity technical working group that analyses reporting rates, timeliness of reports, and data quality
 - Checked the data before uploading to the KHIS
 - Undertook quarterly DQAs, OJT to HCWs, and monthly in-charge meetings

Trans Nzoia

- Malaria incidence rate was 39.2 per 1,000 population, malaria test positivity rate was 18%, and ABER was 22%.
- Malaria cases had doubled since April 2019.
- To improve the quality of routine data, the county was training health workers on quality reporting, strengthening timely reporting, ensuring data completeness, and conducting quarterly DQAs.
- The county also intended to minimise the erratic supply of commodities through forecasting and quantification and strengthening of the commodity security technical working group (TWG).

County indicator performance

Turkana

- The county had recorded a 35.2% decrease in malaria incidence rate.
- Malaria incidence rate was 151 per 1,000 population, malaria test positivity rate was 30%, and ABER was 30%.
- To improve the quality of routine data, the county undertook the following:
 - Monthly data review meetings
 - Capacity building of HCWs on data management
 - Regular mentorship and OJT on reporting tools
 - Malaria DQA and provision of registers and other reporting tools

Uasin Gishu

- Malaria incidence rate was 25 per 1,000 population, malaria test positivity rate was 50%, and ABER was 5%.
- To improve the routine data quality, the county conducted the following:
 - Quarterly DQAs, support supervision, and mentorship
 - Training on reporting tools and installing electronic medical records
- Overall, good performance had been noted, with a 50% reduction in malaria incidence rate and malaria test positivity rate.
- To sustain the gains, the county planned to enhance the quality of data reporting, ensure timely quantification and ordering of malaria commodities, train health workers on malaria case management, strengthen malaria surveillance, and strengthen SBC through the community health units.

West Pokot

- Malaria incidence rate was 35 per 1,000 population. Malaria test positivity rate was 71%, and ABER was only 2%.
- The county supported data quality improvement through:
 - Ensuring constant availability of data reporting tools and timeliness of the reporting
 - Undertaking mentorship/on-the-job training (OJT) at the health facility level to improve completeness of reporting and accuracy of data reported
 - Following up on missing data in the various data sets
 - Conducting desk reviews of data at the county level and quarterly supportive supervision
- The county was putting in place measures to use early warning systems to predict and detect malaria outbreaks.
- The county was planning to enhance forecasting and quantification of malaria commodities to ensure continuous availability of malaria commodities and avoid expiries.
- The county lobbied for support from the DNMP and partners to improve malaria indicators.



Recommendations

- The Nakuru regional workshop made the following recommendations:
- Counties planning any IRS activity should seek technical assistance from DNMP's vector control team on which insecticide to use and spray procedures to avoid harmful effects and insecticide resistance.
- Prolonged and heavy rains at the time of the dissemination were likely to increase mosquito breeding sites and possible malaria outbreaks. The affected counties were urged to map out malaria hotspots, strengthen surveillance, establish and activate rapid response teams, and initiate early response to avert excess morbidity and mortality.
- Counties should enhance SBC to improve the uptake of malaria interventions.
- The national government should work with donors and other stakeholders to ensure commodity security and avoid stockouts.
- The DNMP and counties should work together to establish a network of health facilities that will provide high quality inpatient and mortality data to enable the country track indicators on inpatient malaria cases and deaths due to malaria.

The DNMP and counties should establish mechanisms for monitoring and using meteorological data to forecast and predict malaria epidemics.

Nyeri Regional Workshop

The workshop was held from 2 to 4 December 2019, at the White Rhino Hotel in Nyeri. Seven counties in the central Kenya region and Nairobi participated in the workshop: Laikipia, Kiambu, Kirinyaga, Murang'a, Nairobi, Nyandarua, and Nyeri.

Output Area 1: Dissemination of the KMS 2019–2023 and M&E Plan

Table 18 summarises the reactions of the central region counties to the KMS.

Table 18. Issues arising from the KMS Presentation in the Nyeri regional workshop

Key issues raised	Responses
Inpatient and mortality data	<ul style="list-style-type: none"> The DNMP informed counties that HIS data collection tools had been revised to enable the collection of inpatient data.
Malaria chemoprophylaxis for travellers within the country, given that most of the cases in these counties were "imported" from other malaria risk areas within the country	<ul style="list-style-type: none"> The DNMP explained that the national guidelines for diagnosis and treatment of malaria recommend mefloquine and proguanil for chemoprophylaxis. The DNMP recognised that these medicines were not available locally. The case management team present at the workshop agreed to raise the issue with the COE.
Court order barring nonlaboratory personnel from testing for malaria	<ul style="list-style-type: none"> The DNMP informed counties that the Ministry of Health had engaged its legal office concerning the April 2019 court ruling and that counties would be informed on way forward.
How to track indicators that did not have baseline data in the KMS 2019–2023	<ul style="list-style-type: none"> The DNMP explained that the M&E Plan had clear indicator definitions, data sources, and information on how to calculate them.
Regulation of mosquito nets used in hotels	<ul style="list-style-type: none"> The DNMP informed counties that there was no legislation on mosquito nets used in hotels.
Definition of entomological inoculation rate	<ul style="list-style-type: none"> Entomological inoculation rate is the number of infective bites a person gets in a given time—it is tracked through entomological surveys.
Status of the malaria vaccine rollout	<ul style="list-style-type: none"> The DNMP explained that the malaria vaccine was in pilot stage and results will inform future implementation.

Most of the malaria interventions undertaken in these counties were in the domains of surveillance and data management (including DQA), malaria case management, supportive supervision, and routine LLIN distribution supported by PS Kenya. The counties made the following recommendations for DNMP programmatic support:

- Ensure budgetary allocations during the programme-based budgeting process
- Increase the number of laboratories participating in EQA
- Intensify malaria surveillance and adherence to national malaria treatment guidelines
- Ensure adequate stock of malaria commodities, especially mRDTs
- Improve data management and use for decision making
- Leverage the universal health coverage (UHC) targets for preventive and promotive health rather than curative
- Strengthen malaria supervision activities
- Leverage on the community health strategy for SBC activities
- Operationalize a county malaria elimination unit
- Strengthen public–private partnership in malaria control



Output Area 2: Presentation of Malaria Policy and Guidance Documents

The following issues were raised during the plenary session on the policy documents.

Table 19. Issues discussed on policy documents at the Nyeri regional workshop

Issue raised	Response by DNMP
Cost of IRS viz a viz MDA	<ul style="list-style-type: none"> In elimination settings, both MDA and IRS can be used. However, Kenya had not yet adopted MDA as an intervention.
Guidelines on choice of insecticides for IRS in the hospitals in the low malaria zone setting	<ul style="list-style-type: none"> Prior to any IRS activity, evidence of existence of local mosquitoes that transmit malaria parasites is needed. The biting and resting behaviours of the mosquito need to be established. Focalised IRS targeting foci of transmission saves costs and can be more effective in low transmission areas than blanket IRS.
Use of combination nets with piperonyl butoxide	<ul style="list-style-type: none"> Use of piperonyl butoxide nets was to be introduced in 2020 on a small scale (where resistance had been noted) because of cost-effectiveness considerations.
Training of laboratory technicians—was low with only five persons trained from each county	<ul style="list-style-type: none"> Counties were advised to organise their own laboratory refresher trainings and invite the national team for technical assistance.
Surveillance training in 2020 left out some of the counties targeted for elimination	<ul style="list-style-type: none"> Surveillance training was done in 15 of 47 counties due to inadequate resources. Plans were underway to train the remaining counties. The training manuals were available both in hard and electronic copies.

Output Area 3: Technical Updates in the Central Region

The following issues were raised from the updates:

- Introduction of sterilised anopheles mosquitoes in the control of malaria. DNMP explained that studies on the use of sterilised anopheles mosquitoes for malaria control were insufficient to make any evidence-based decision
- Including counties in elimination COE. DNMP responded that the process of forming a taskforce for malaria elimination was on-going. Once the task force was in place, inclusion of counties targeted for elimination will be considered to deliberate establishment of the elimination structures and other related issues. DNMP cautioned that all this was dependent on availability of funds.

The DNMP encouraged counties to strengthen monitoring of malaria activities and engage with the HIS teams to improve reporting on malaria inpatient and mortality data. Counties were also informed of planned biannual reviews to foster engagement and collaboration between the DNMP and counties.

County Updates

All counties presented updates on planned and accomplished activities. Key points noted across the counties were as follows:

- Planned and completed activities were similar across the counties. They included supportive supervision, DQAs, routine LLIN distribution, diagnosis and treatment, data review meetings, surveillance, and commodity management.
- Counties asked the DNMP to organise feedback meetings after conducting the national malaria DQA and supportive supervision/mentorship.
- County teams asked the DNMP to train them on malaria surveillance.
- Counties planned to disseminate the KMS 2019–2023 further through feedback sessions with the county health executive committees and sensitisation of the CHMT, SCHMT, and HCWs.

Output Area 4: Performance of Routine Malaria Indicators

The DNMP presented on the status of some key malaria indicators and projected targets. The following points were noted:

- In the last DQA conducted by the DNMP, data verification of the indicator on total number tested for malaria in January through March 2018 showed that Nairobi, Nyandarua, and Murang'a had underreported, and Laikipia overreported. Kiambu, Nyeri, and Kirinyaga were within the +/- 5 percent margin of error.
- Each cycle of DQA is done in different facilities, and on some occasions, private facilities were included. No review meetings were done after DQAs, so recommendations were not acted upon. The DQA and supportive supervision findings needed to be followed up on to ensure that the action points proposed were implemented.
- Counties should use routine and nonroutine data, including DQAs, to make informed decisions.
- Most of the counties requested that the packaging of malaria medicines be reviewed and the least pack size of ALs to be less than 30 doses to avoid expiries in health facilities that experienced very few or no malaria cases at all in a year.

Enhancing Performance of the Key Indicators in the Central Region

Table 20 presents a summary of county presentations on how they planned to enhance the performance of routine malaria indicators.

Table 20. Performance of routine indicators in the central region

County indicator performance
<p>Laikipia</p> <ul style="list-style-type: none"> • The malaria incidence decreased from 1.2 per 1,000 population in 2018 to 0.9 per 1,000 population in 2019. • To further improve the routine malaria data quality, the county: <ul style="list-style-type: none"> ▪ Conducted data verification and validation at the sub-county level before entry into DHIS2 ▪ Undertook regular DQA, review meetings, supportive supervision, and mentorship on data management. ▪ Ensured follow-up on recommendations after DQA
<p>Kiambu</p> <ul style="list-style-type: none"> • Malaria incidence rate had been fluctuating, decreasing from October 2018 to March 2019 but showing an upward trend from April to October 2019. • To improve the quality of routine malaria data, the county undertook: <ul style="list-style-type: none"> ▪ Training of HCWs on timeliness, accuracy, and completeness of the data reported ▪ Supportive supervision and mentorship to follow up on the action plans developed following previous DQAs



County indicator performance

Kirinyaga

- The number of malaria cases increase over the period 2017/2018 to 2018/2019. This was attributed to the high staff turnover following an industrial action in 2019 that reduced performance and reporting.
- Private clinics reported inaccurate data.
- To improve the quality of routine malaria data, the county:
 - Provided ongoing capacity building of healthcare providers
 - Undertook regular supportive supervision, periodic M&E, and OJT on data quality
 - Conducted quarterly DQAs and data review
 - Acted on the recommendations from the QOC surveys

Murang'a

- Malaria incidences increased in the year 2018/2019, compared to 2017/2018. This was attributed to increased diagnosis following reopening of previously closed laboratories and deployment of more laboratory personnel.
- To improve the quality of routine malaria data, the county:
 - Enhanced data reviews, especially during submission of monthly reports
 - Encouraged verification of reports by the facility in-charges before uploading them to DHIS2
 - Undertook capacity building on data management
 - Organised refresher trainings on malaria diagnosis
 - Extended case management trainings to the private sector to address the challenge of prescription without laboratory results in that sector

Nairobi

- Malaria incidence rate had remained constant over the last two years.
- To improve the quality of routine malaria data, the county:
 - Conducted supportive supervision, capacity building of HCWs through OJT and CME, and monthly data quality review meetings at county and sub-county levels
 - Encouraged early diagnosis and prompt treatment to lower malaria morbidity
 - Scaled up surveillance targeting the transit families from malaria endemic areas

County indicator performance

Nyandarua

- Improved performance had been noted, with the malaria incidence rate decreasing from 6.3% to 0.4%.
- The commodity reporting rate had improved, and there had been consistent availability of commodities in the past year and a reduction in expiries through proper forecasting, quantification, and redistribution.
- To further improve the routine data performance trends, the county:
 - Started trainings on documentation and entry of primary data in appropriate registers, as well as timely data analysis and interpretation
 - Integrated malaria indicators in the quarterly supervision
 - Was undertaking mentorship of facility in-charges in data management
 - Ensured consistent availability of updated reporting tools
 - Undertook reconciliation of services versus commodity data in DHIS2 to correct discrepancies

Nyeri

- An incidence peak was noted in August 2019.
- At the time of the workshop, more than 90% of all malaria cases in the county were reportedly “imported” from other parts of the country.
- To further improve routine malaria data quality, the county:
 - Ensured follow-up of action points and recommendations from the DQA with facility in-charges and other responsible persons
 - Carried out monthly data review meetings in all the sub-counties
- The county also planned to:
 - Incorporate private healthcare providers in the monthly data review meetings at the sub-county level
 - Conduct data-focused supportive supervision for both public and private facilities
 - Employ laboratory staff to operationalise all the closed laboratories

Recommendations and Next Steps

- The following recommendations were made from the workshop:
- Dissemination of KMS to lower levels to start right away because the first year of implementation was almost over
- The DNMP to ensure inclusion of the elimination counties in the formation of the elimination COE from the start
- The DNMP to support the establishment of elimination structures in the elimination counties
- Equitable distribution of resources to implement malaria activities, especially in low-risk malaria zones

All counties undertaking IRS to seek technical assistance from the DNMP to minimise risk of poisoning and resistance to insecticides

The workshop ended with a call for counties to include the community in the fight against malaria and emphasis on including malaria activities in the AWP. The DNMP encouraged the counties to start advocating for the malaria elimination agenda with their top leadership to get their political buy-in.



Embu Regional Workshop

The Embu workshop was held from 2 to 4 December 2019 at the Mountain Breeze Hotel in Embu. Eleven counties from northern and eastern Kenya attended the workshop: Embu, Garissa, Isiolo, Kitui, Machakos, Makueni, Mandera, Marsabit, Meru, Tharaka Nithi, and Wajir.

Output Area 1: Dissemination of the KMS 2019–2023 and M&E Plan in the Embu Regional Workshop

Counties in the Embu region sought clarification of the following issues regarding the KMS and M&E Plan.

Table 21. Issues arising from KMS presentation in the Embu regional workshop

Key issues raised	Responses
Why 2016 was used as the baseline year for KMS 2019–2023	<ul style="list-style-type: none"> The DNMP explained that health worker industrial action in 2017 affected provision of health services and reporting, hence using 2017 as a baseline would have been misleading.
Why Kirinyaga County was earmarked for elimination and the neighbouring Embu County was not yet; most malaria cases reported in Embu were from Kirinyaga.	<ul style="list-style-type: none"> Counties earmarked for elimination were selected based on available surveillance data. Malaria surveillance in neighbouring counties needed to be strengthened
Decision to start elimination in the central region, yet people in high-risk areas were dying of the disease	<ul style="list-style-type: none"> The DNMP explained that elimination strategies were implemented in areas of low to very low malaria risk. In high transmission areas, the focus was to control the disease and substantially reduce the number of cases.
Role of CHVs with the UHC agenda in the counties	<ul style="list-style-type: none"> The CHVs' role in testing and treating at the community level had been put on hold awaiting Ministry of Health direction following a court ruling restricting the role of testing to trained laboratory personnel.
Why some strategies in the KMS had no budget allocated	<ul style="list-style-type: none"> The DNMP clarified that the KMS was a resource mobilisation tool, and the counties should use it to determine what to fund from their county budgets.
Recommended chemicals for LSM	<ul style="list-style-type: none"> The DNMP informed the counties that there was a list of appropriate chemicals to use for LSM approved by the Pest Control Products Board. The DNMP also explained that in addition to larviciding, LSM had two other components: environmental modification and manipulation
Plan for distribution of nets to ensure universal coverage of one net for every two people	<ul style="list-style-type: none"> The DNMP clarified that universal coverage of LLINs (one net for two people) has been proven to offer effective protection from malaria. However, local norms and customs had shown that this may not always apply (e.g., in nomadic populations and cultural practices dictating sleeping patterns in households). These contextual factors may need to be considered in future mass LLIN distribution campaigns.
SBC packages from the DNMP	<ul style="list-style-type: none"> The DNMP had several predesigned SBC packages, but most of them had not been disseminated.
Reporting of clinical malaria was still being done in some areas	<ul style="list-style-type: none"> The DNMP stressed the need to continuously build capacity on malaria case management and surveillance, especially in private and faith-based facilities in which adherence to treatment guidelines is low.

Concluding the reactions to the KMS, the DNMP urged the counties to conduct DQAs to ensure better quality of malaria data. The CMCCs were tasked to ensure that data entered into DHIS2 matched the data in the summary tools and source documents at the health facilities. The DNMP challenged the counties to invest in translating the available SBC packages into local languages and disseminating them to their communities. Finally, counties were urged to strengthen malaria surveillance and ensure adherence to treatment guidelines.

Aligning County Malaria Activities with the KMS

The following points summarise how the counties aligned their malaria control activities with the KMS:

- All the counties present reported undertaking the following activities in line with the KMS: case management, routine supportive supervision, DQAs, and weekly malaria surveillance data reporting through the IDSR system.
- All counties committed to integrate malaria control activities into their AWP, CIDP, and other existing county and partner-supported programmes.
- Some counties wanted to make their own malaria strategy. However, the DNMP discouraged this, because it runs counter to the principle of Three Ones; that is, one country strategy, one coordinating authority, one M&E framework. The DNMP advised those counties to direct resources towards implementing activities in the KMS. The DNMP further explained that the KMS was developed through an extensive multi- and inter-sectoral collaborative effort that ensured that all 47 counties had been involved.
- Counties were advised to practice caution in undertaking IRS as a malaria intervention and seek guidance from the DNMP. The DNMP further advised the counties to focus more on other interventions because KMS 2019–2023 did not recommend IRS in malaria low-risk areas.

The counties sought guidance from the DNMP on the use of LLINs in health facilities. The DNMP informed them that the vector control COE was going to take up the matter and provide the guidance needed.

Output Area 2: Presentation of Malaria Policy Documents in the Embu Regional Workshop

- The counties gave the following feedback on the documents presented:
- The counties challenged the DNMP to focus on integrated vector control (targeting mosquitoes and other vectors). The DNMP explained its mandate was limited to malaria, and control of other vectors fell under the Division of Vector Borne Diseases.
- The counties expressed fears that mosquitoes introduced to feed on female anopheles mosquitoes in the north eastern and coast region may have been the cause of dengue fever and chikungunya in those areas. The DNMP explained that the predator mosquitoes introduced in those areas were not aedes mosquitoes that transmit the diseases mentioned.
- The counties asked why all the documents presented could not be combined into one big document. The DNMP explained that each document had its own specific purpose according to the strategic objective and intervention areas.
- Participants were encouraged to download the documents presented from the DNMP website, share them with their CHMTs, and cascade them down to the sub-county and health facility levels.
- The DNMP informed counties that the surveillance curriculum and training materials had been finalised and would be disseminated in subsequent trainings.

The DNMP also informed counties that the supportive supervision manual had been revised and would be rolled out in 2020.



Output Area 3: Technical Updates in the Embu Regional Workshop

The DNMP informed counties that a malaria commodity dashboard had been developed and was available on the DHIS2 platform. The DNMP provided an update on the status of the malaria vaccine and a link for more information. The counties sought to understand why the malaria vaccine was being implemented even though it showed low efficacy in phase three trials. The DNMP explained the ongoing implementation was a pilot to investigate further and gather evidence of effectiveness of the vaccine when implemented on a large scale. The counties also asked why IRS was implemented in only two counties. The DNMP explained that IRS was primarily implemented to lower disease burden. In addition, IRS was a resource-intensive intervention, which limited the ability to scale it to other high-burden counties.

Output Area 4: Performance of Routine malaria Indicators in the Embu Region

The DNMP presented the status of key malaria indicators and projected targets to the end of the strategy. Counties were urged to endeavour to meet the targets as a way of preparing for malaria elimination. The DNMP promised support for DQAs in Wajir and Marsabit, where they had not been done during the year. The DNMP further challenged the counties to take ownership of their data. Lack of data on deaths due to malaria was recognised to have been a challenge across all counties. Emphasis was put on DNMP to liaise with HIS department to ensure that all counties had a sufficient number of clinicians trained on ICD-10/11. The DNMP challenged CMCCs to be aware of all malaria control activities in their counties and the implementers, and to follow up to ensure that relevant data from such activities are uploaded in the routine HIS systems. The CMCCs were also tasked to monitor malaria data reported in their counties and follow up on any inconsistencies and abrupt changes in reporting.

Enhancing Performance of the Key Routine Malaria Indicators in the Counties in the Northern and Eastern Regions

Table 22 summarises what the counties were doing with regard to enhancing performance of their key indicators.

Table 22. Performance of county indicators—Embu

County indicator performance
Embu
<ul style="list-style-type: none">• Key routine malaria indicators in the county were progressing well but could be improved. This would be achieved through the following:<ul style="list-style-type: none">▪ Increasing net ownership and use—through subsidised sale of nets to the communities, and sustaining the routine net distribution at ANC/CWC▪ Riding on the UHC initiative to have nets provided to the elderly members of the community▪ Training more HCWs on case management, emphasising proper management of severe cases▪ Training HCWs on commodity management▪ Undertaking DQAs and using information generated for decision making▪ Lobbying for improved operational research and entomological surveillance• There was a big gap in the county in terms of capture of malaria deaths due to limited capacity of the HRIOs on the use of ICD-10 codes. The county was advised to plan appropriate training for HRIOs.

County indicator performance

Garissa

- The county noted that all their indicators needed improvement.
- To improve the quality of routine malaria data, the county proposed to:
 - Sensitise the health facility staff on proper history taking, clear recording of all cases of severe malaria and proper documentation in the death notification form (D1) to enhance capturing of malaria deaths
 - Initiate malaria mortality audits for both adults and children under five years of age
 - Enhance capacity for malaria case management to ensure that all cases were managed in accordance to the national malaria guidelines

Isiolo

- The county team recognised the need to improve the performance of the county's malaria indicators to meet the targets they had set for themselves.
- To achieve this, the county planned to:
 - Undertake IRS in the most-at-risk areas of the county
 - Distribute LLINs and revise SBC strategies on the proper use of nets
 - Prompt testing and treatment of suspected malaria cases
 - Increase diagnostic capacity by ensuring that more health facilities had RDTs or microscopy services available
 - Engage CHVs in testing for malaria using mRDTs after the ban was lifted
 - Train all HCWs on proper data capture and reporting, and the need for timely ordering and monitoring of commodity stock levels by health facilities
 - Conduct monthly and quarterly malaria data reviews, DQAs, and continuous mentorship of HCWs

Kitui

- The county noted improvements in a number of malaria indicators.
- To sustain this progress, the county proposed to:
 - Build capacity of surveillance officers to report and conduct DQAs
 - Train HRIOs on data entry for malaria indicators
 - Sensitise clinicians on the importance of filling in causes of death to improve capturing of malaria deaths
 - Build capacity for case management and documentation of suspected, tested, and positive cases
 - Strengthen commodity quantification, and use the malaria dashboard to enhance redistribution to avoid stockouts and expiries



County indicator performance

Machakos

- All the key routine malaria indicators in the county needed improvement.
- To achieve this, the county planned to:
 - Enhance distribution of LLINs through available and appropriate channels, with emphasis on mosquito-prone areas
 - Further engage CHVs to refer malaria cases and provide the requisite malaria diagnostic and treatment commodities after the ban is lifted
 - Enhance community-based SBC activities for all malaria interventions: malaria surveillance, EPR, quality assurance, and entomological surveillance
 - Monitor the efficacy of existing vector control tools in the county, and the use of supply chain data for decision making

Makueni

- Most of the key routine malaria indicators in the county were performing well, but improvement was required on some of them.
- To improve on routine data quality, the county planned to:
 - Ensure that its HRIOs and data clerks were sensitised on malaria surveillance and accurate data records
 - Ensure that appropriate data collection and reporting tools were available in all health facilities
 - Sensitise HCWs on timely and complete reporting of the weekly IDSR and monthly facility reports
 - Undertake integrated DQAs, data review meetings, and supportive supervision
 - Ensure sound stock management, timely ordering of commodities, and integration of commodity supervision in routine supervision
 - Sensitise nursing officers, data clerks, and HRIOs on inpatient data capture and reporting
 - Retrain clinicians and medical officers on filling in the inpatient registers/files with the appropriate ICD-10 codes, to capture all the malaria deaths
 - Undertake mortality audits for all reported deaths

Mandera

- Improvement in routine malaria indicators in this county would be achieved through the following:
 - Sensitising the HRIOs on accurate data capture and reporting
 - Procuring and distributing adequate LLINs to the most-at-risk groups in the community
 - Conducting targeted IRS in high-risk areas
 - Conducting training on malaria case management for all cadres; and on malaria microscopy for laboratory technicians
 - Disseminating malaria guidelines to all levels to enhance early diagnosis and treatment
 - Conducting regular entomological surveys, supportive supervision, data review meetings, and DQAs
 - Training sub-county pharmacists on quantification of malaria commodities
- The county team would set county targets for all indicators and ensure they were in line with the KMS goal.

County indicator performance

Marsabit

- The county recognised the need to strengthen all malaria indicators. This would be accomplished through the following:
 - Effectively distributing LLINs; treating of all confirmed malaria cases; and strengthening entomological surveillance, SBC, and community mobilisation
 - Training healthcare workers on malaria case management
 - Establishing a county reference laboratory
 - Retraining laboratory staff on malaria microscopy and quality assurance
 - Ensuring the regular and adequate supply of malaria commodities in health facilities
 - Undertaking quarterly data review meetings at the county and sub-county levels

Meru

- As of 2018/19, the malaria test positivity rate in Meru stood at 2.65%, but there were no data available for inpatient malaria deaths and suspected malaria cases.
- The county noted progress in performance, with the incidence rate dropping from 4.3% to 3.4% over the previous year.
- To improve routine data quality, the county proposed to:
 - Sensitise HCWs on capturing suspected malaria cases correctly and reporting all severe cases
 - Sensitise clinicians on proper documentation of specific causes of death
 - Undertake supportive supervision and DQAs
 - Sensitise county HRIOs on accurate data entry, especially for malaria mortality
 - Strengthen quality assurance for microscopy
 - Build capacity of healthcare workers on malaria case management



County indicator performance

Wajir

- Performance on the key routine malaria indicators in Wajir was below the set targets. This was attributed to the following:
 - Inadequate physical infrastructure equipment and healthcare personnel in the county
 - Inadequate capacity for staff to report on routine indicators
 - Staff attitude and practices in clinical management, especially regarding testing all suspected malaria cases
 - Poor distribution and quantification of commodities, especially slides and mRDTs
 - Limited capacity for microscopy testing, with only 28 out of the 115 health facilities having both the infrastructure and personnel required to test for malaria
 - High workloads in most facilities, poor attitude towards reporting, and inadequate supportive supervision
- To improve the quality of routine malaria data, the county planned to undertake the following:
 - Staff capacity building through OJTs during supportive supervision visits
 - Scheduled refresher trainings focusing more on testing, treatment, surveillance, and reporting
 - Establishment of proper systems for quantification, distribution, and redistribution of commodities
 - Improved laboratory services and continuous EQA of malaria slides
 - Facility-based periodic data review meetings
 - Availing malaria guidelines to all health facilities

Overall, all 11 counties had challenges on performance of two key indicators, namely total confirmed malaria cases and proportion of households with universal coverage of LLINs in malaria risk areas. The counties were challenged to devise practical ways to improve these indicators.

Recommendations and Next Steps from the Embu Regional Workshop

- All the counties were challenged to own the KMS and M&E Plan and to ensure that the two were disseminated as soon as possible.
- County teams were urged to mobilise resources to implement the KMS and not focus on developing their own strategies. The counties were urged to view the KMS as a complete document and seek better ways of engaging their county leadership to allocate funds to implement the strategy based on their need and malaria epidemiology.
- County teams were challenged to ensure documentation of any malaria intervention or activity done in their counties, even with support from other partners. This would enhance service delivery.
- The CMCCs were urged to be more involved in DQAs and be responsible for ensuring proper data capture and reporting by working hand-in-hand with the county HRIOs.

All counties were asked to consult the DNMP before implementing any IRS activity.

Closure of the Meeting

The head of DNMP, Dr. Grace Ikahu, challenged the counties to think of how the interventions captured in KMS will be used and what they needed to do differently. She urged them to engage with the users of the interventions because this was critical for achieving the targets set in the KMS.

OVERALL CONCLUSIONS AND RECOMMENDATIONS FROM THE FIVE REGIONAL WORKSHOPS

On 17 January 2020, at Norkrass Hotel, Murang'a, the DNMP held a meeting to consolidate and identify cross-cutting issues from the five regional dissemination workshops. This section summarises the issues identified.

Routine Data Issues

The following routine data issues were found to affect all the counties across the country:

- There was a lack of clarity on the summary forms from which to report routine malaria indicators.
- There was a lack of data on inpatient malaria cases and deaths due to malaria.
- It was not clear which level of government was responsible for printing the HIS tools.
- The weekly IDSR and the monthly HIS produced discrepant data, yet the source documents for the two systems were meant to be the same.
- Definitions of malaria indicators were not well understood.
- Data use for decision making at the county level was suboptimal.

Measures to address these issues were already ongoing at the time of the dissemination. The HIS registers and summary forms were revised in 2019 and were awaiting rollout in 2020. The DNMP introduced a malaria column in the revised outpatient registers that would collect the basic parameters used to calculate the key indicators. A malaria indicator reference sheet had been developed and was disseminated with the KMS. The Ministry of Health had mobilised resources to print the revised registers for all health facilities.

Guidance on Implementation of Interventions

Many counties reported conducting small-scale IRS, mainly targeting institutions (hospitals and schools) and other areas considered to be malaria hotspots. However, small-scale IRS was not conducted as per the IRS guidelines and standard operating procedures. Most of the counties used insecticides that had not been recommended, incorrect spray pumps, and lacked the required personal protective equipment. The counties were strongly urged to seek guidance from the DNMP before implementing any IRS activity.

Some counties were distributing LLINs acquired through their own initiatives. However, data on these LLINs were not reported through the national DHIS2 platform. The quality of the LLINs distributed through county initiatives could not be ascertained. Overall, counties had limited understanding of the elimination agenda and what it entailed. Mombasa County, for example, had embarked on the elimination agenda despite its high malaria risk. Most of the counties were already aligning malaria control activities in the AWP and CIDPs, but it was not clear how this alignment was translated to actual implementation.

Overall, counties also required support in commodities quantification to avoid expiries and stockouts.

Malaria Stratification

Malaria risk maps informed decisions on what interventions to apply in the different areas. Many counties sought a better understanding on which stratification approach was currently used in assigning counties to various malaria zones. Many counties expressed the need for stratification to be conducted at the sub-county or ward level rather than a blanket stratification at the county level that ignored the micro-ecological factors that influenced high transmission in small pockets within the same county. Counties outside the Lake endemic region felt neglected and wanted more visibility of the malaria programme. Very few partners supported malaria control in the counties outside the Lake endemic zone.

Financing and Resource Mobilisation

- Throughout the workshops, the need for counties to seek sustainability of malaria activities in their areas with less dependence on partner funding was emphasised. The following issues were identified as requiring further deliberations:
- DNMP needed to engage more with the county leadership (for example the CECs and chief officers) because they were responsible for making decisions on financing.
- Reduced partner support was feared to reverse the gains made in malaria control. The J2SR was not smooth and needed to be phased in, rather than abruptly discontinuing support.

Counties needed capacity building on resource mobilisation and budgeting approaches to guide them in making reliable estimates for malaria control interventions.

Partnerships and Collaborations

Counties needed to map malaria stakeholders within their administrative areas and establish their scope and activities supported. Universities were singled out as one of the key institutions for the counties to seek partnership and collaborate with. Similarly, counties were challenged to collaborate with the private sector to support malaria control within their areas of jurisdiction.

KMS Dissemination

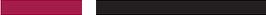
Counties were encouraged to use existing forums to cascade dissemination of the KMS and M&E Plan. The counties challenged the DNMP to engage the COG on how to disseminate the KMS to the county leadership. The counties challenged the DNMP to engage with the intergovernmental department on partnerships, because all 47 counties were organised in regional blocks, each with a chairperson. The DNMP was tasked to invite the Ministry of Health partnership team to its meetings.

Way Forward

- The technical team that reviewed and consolidated feedback from the five regional workshops on 17 January 2020 comprised the DNMP and some partner organisations. Having noted the many diverse issues that resulted from the dissemination workshops and needed to be addressed conclusively, the team made the following conclusions on the way forward:
- Many of the issues raised required the involvement of different stakeholders to address them conclusively—it would not be possible for the DNMP address them on its own.
- Data quality, inpatient and mortality data, and reporting tools were a top issue and required to be addressed immediately. A data management sub-committee had already been formed to look into the data issues.

All the cross-cutting issues identified in the dissemination workshops were summarised for presentation and discussion in the respective COE meetings, held in February 2020.

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ANNEX 1. KMS REGIONAL DISSEMINATION WORKSHOP AGENDA

Venues: Kisumu, Embu, and Nyeri **Dates:** 2–4 December 2019

Venues: Mombasa and Embu

Dates: 9–11 December 2019

Day 1: 2 December 2019		
Time	Activity	Facilitator/ Presenter
08:00–08:30	Registration	Secretariat
08:30–09:00	Welcome and introductions	
08:45–09:00	Opening of the meeting	CEC host county
09:00–09:15	Objectives and expected outputs	
Output 1: Present the findings and recommendations of the Malaria Programme Review 2018 and Kenya Malaria Strategy (KMS) 2019–2023		
09:15–09:45	Background to KMS development	DNMP
09:45–10:15	Kenya Malaria Strategy and M&E Plan 2019–2023	DNMP
10:15–10:30	Plenary discussions	DNMP
10:30–11:00	BREAK	
11:00–11:10	Guidelines for group work	DNMP
11:10–13:00	Group work; alignment of county malaria activities with the KMS	All
13:00–14:00	LUNCH	
14:00–16:30	Plenary presentations and discussions on alignment of the county malaria activities with the KMS	All
16:30–17:00	BREAK	
17:00–18:00	Secretariat meeting.	DNMP
Day 2: 3 December 2019		
08:30–09:00	Recap of Day 1	Rapporteur
Output 2: Presentation of malaria policy documents		
09:00–09:30	Overview of malaria policy documents	DNMP
09:30–10:00	Updates on recently revised malaria documents	DNMP
10:00–10:30	Plenary and discussions	All
10:30–11:00	BREAK	
Output 3: Share key programme, county, and partner updates		
11:00–11:30	DNMP programme updates	DNMP
11:30–12:15	County updates	Counties
12:15–13:00	Partner updates	Partners
13:00–14:00	LUNCH	

Output 4: Review performance of malaria routine indicators		
14:00–14:45	Status of key routine indicators	DNMP
14:45–15:30	Plenary presentations and discussions	All
15:30–17:00	Group work on enhancing performance of the key indicators	All
17:00–17:30	BREAK	
17:30–18:00	Secretariat meeting	DNMP
Day 3: 4 December 2019		
08:30–09:00	Recap of Day 2	Rappporteur
09:00–10:30	Group work on enhancing performance of the key indicators	All
10:30–11:00	BREAK	
11:00–13:00	Plenary presentations and discussions on enhancing performance of key indicators	All
13:00–14:00	LUNCH	
14:00–15:00	Conclusions, recommendations, and next steps	All
15:00–16:00	Official closure of the meeting	DNMP and Counties
16:00–16:30	BREAK	
16:30–17:30	Secretariat meeting	DNMP



ANNEX 2. LIST OF PARTICIPANTS AT THE KMS DISSEMINATION WORKSHOPS

NAME	COUNTY
Francis Chelobei	Baringo
Gideon Yano	Baringo
Dr. Patrick Boruett	Baringo
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Micah Koech	Bomet
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Hashimy N. H	Garissa
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NAME	COUNTY
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Agnes Makandi M'mukindia	Meru
Dr. Muthure G. Koome	Meru
Dr. Lilian Karoki	Meru
Florence Ngere	Migori
Michael Nyachae	Migori
Peter Okello	Migori
Salma Swaleh	Mombasa
Mwaka Chiti	Mombasa
Thani Suleiman	Mombasa
Pauline Wairimu Ngigi	Murang'a
Romano Kang'ethe	Murang'a
Winnie Kanyi	Murang'a
Anthony Kimani Ng'ang'a	Nairobi
Anthony K. Mwangi	Nairobi
Susan Kithinji	Nairobi
Gerald W. Maina	Nakuru
Jackson Cheruyot	Nakuru
Wainaina D. N	Nakuru
Dr. David Bungei	Nandi
Jane Samoei	Nandi
Japhet K. Rutto	Nandi
Edward Ole Tankoi	Narok
Dr. Francis K. Kiio	Narok
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ANNEX 3. KEY POINTS FROM PRESENTATIONS AND DISCUSSIONS BY COUNTY

Baringo

Interventions undertaken included distribution of routine LLINs at the ANC/CWC clinics, health education in health facilities, malaria diagnosis and treatment, supportive supervision, and surveillance through threshold monitoring in sentinel sites. These were captured in the AWP.

Funding sources include the Global Fund, Baringo County Government, PS Kenya, Afya Uzazi, CDC, and KEMRI. Opportunities noted from the KMS are resource mobilisation through developing a tool for advocacy, CHV engagement through a community strategy bill, and commodity security.

Bomet

Interventions in Bomet County included case management as per the national guidelines, routine LLIN distribution, entomological surveillance, and EPR through weekly monitoring of malaria cases.

Interventions included in the AWP were DQAs, supportive supervision, QOC, and commemoration of World Malaria Day. The activities were funded by the Global Fund through the DNMP and by the Bomet County Government. Opportunities noted from the KMS were to mobilise partner support, integrate malaria activities in CHS, intensify SBC, and improve data quality and the supply chain for malaria commodities to avoid stockouts.

Bungoma

Malaria incidences were also reported to have increased in the fiscal year 2018/2019 compared to the previous fiscal year.

- The county reported that the key malaria activities they were undertaking included the following:
- EPR threshold setting and reporting in two epidemic prone sub-counties ; BCC activities supported by SWAP; and school health programme supported by KANCO; the malaria budget of 126 million was mostly funded by partners.

The county also reported a spike in malaria incidence and suggested that it could be because of the heavy rains or data quality improvements.

KMS opportunities included using CHVs for mass net distribution and LSM, as well as using the KMS as a tool for lobbying for malaria funding. In addition, the trained public health workers could train those from the private sector.

Busia

- As in Kakamega, malaria incidences in Busia in 2019 were much higher than for 2018, especially in June/July 2019, and the same question arose on the cause and whether the data were indeed credible. Participants across the board made suggestions that this might be due to the following:
- Improved data quality of the MOH 706 data
- Availability of commodities, encouraging more patients to come to public health facilities
- Perhaps weather factors (continuous rains) might be the culprit

Availability of mRDTs, resulting in more testing

The wisdom of updating the malaria risk maps every three to four months as the county had reported to do was within short timeframes.

The county also reported to be doing “mini-IRS.” DNMP informed the county and all participants that IRS requires enough resources to cover an acceptable geographic area of at least one sub-county.

Elgeyo Marakwet

The malaria interventions in the county included routine distribution of LLINs at health facilities, case management in all facilities, weekly monitoring of malaria thresholds in the community, supportive supervision, DQAs, and quarterly review meetings. Most of these were included in their malaria AWP. Funding was from the Global Fund through the DNMP and also from the Elgeyo Marakwet County Government. Opportunities noted from the KMS are stakeholder involvement for stronger partnerships and national and county government collaboration.

Embu

The county’s incidence rate was at 0.86%, and it was noted that the malaria burden was mainly in the Mbeere North sub-county. Key malaria interventions in place included SBC, distribution of routine LLINs, diagnosis through mRDT and microscopy, case management according to the malaria guidelines, weekly malaria surveillance through the IDSR, and LSM using biological predators. The county also procured insecticides that were used for IRS in hospitals and for households that can afford to pay for the spraying.

Activities in their AWP included training of HCWs on malaria case management and malaria surveillance; fogging and IRS in hospitals and residential areas; DQAs; supportive supervision; net distribution; and procurement of reagents, drugs, and equipment. Funding for malaria activities was mainly supported by the Global Fund (through the Ministry of Health), the Embu County Government, Amref Health Africa, and PS Kenya. The county planned to incorporate CHVs in malaria prevention, intensify malaria surveillance, and implement other activities in the KMS, with the ultimate goal of achieving malaria elimination. The team also planned to lobby for funds from the county government using the KMS through sensitisation of the members of the county assembly.

The county planned to involve the one health approach committee in malaria interventions, perform weekly data analysis for evidence-based decision making, share analysed data to all the facilities and supervisors through the data demand and use Forum, and improve data quality through mentorship. The county planned to leverage on the UHC programme to push the malaria agenda, focus more on advocacy for prevention strategies at all levels, and scale up capacity building of CHVs and private facilities in the county.

To disseminate the KMS, the SCHMTs would be sensitised by mid-December 2019. The lead CHVs would be sensitised by 16 January 2020 and then tasked to sensitise the CHVs in their community units during their weekly meetings. Members of the Embu County assembly would be sensitised by 30 January 2020. The county team planned to hire DNMP officers as consultants for the customisation of the KMS to develop an Embu County malaria strategy by June 2020; however, they were discouraged from doing this customisation.

Garissa

The malaria burden stood at a 0.2% incidence and 1% prevalence. Most of the malaria cases reported were from patients living along the Tana River. Malaria interventions in this county included malaria testing using microscopy and mRDTs, treatment of all confirmed cases, and distribution of LLINs at the ANCs. Pregnant women were encouraged to have their deliveries at health facilities, where they were given LLINs. The county was building the capacity of health workers in EPR, microscopy, and case management. Malaria activities included in AWP were supportive supervision, DQAs, and malaria surveillance activities. The county was also enhancing implementation of the case management strategy by testing all clients presenting with fever, taking proper client history, clearly recording all the severe malaria cases in the inpatient file/register, and ensuring proper documentation in the death notification form (D1) to clearly capture malaria deaths.

To ensure accurate data capture, the county had initiated monthly malaria mortality audits for both adults and

children five years of age or under. The county further planned to map vector hotspots for identification and control and larviciding. The county monitored sentinel facilities' thresholds and other malaria data for evidence-based decision making, and was linking up with research institutions in the county to guide students on malaria research. Dissemination of the KMS and M&E Plan would be done at the county level by 13 December 2019 during the CHMT meeting.

Malaria funding was largely from Amref Health Africa through the Rural AIDS Prevention and Development Organization, which supports the county in annual supportive supervision and DQAs. The county government did not have a specific budget for malaria activities. In addition to using the KMS to lobby for funding, other opportunities noted included the 87 active CUs in Garissa that can identify missed IPTp opportunities for referral to the ANCs, availability of updated guidelines and policies, and chance to get the county's health workers trained in malaria case management. The county planned to develop a county malaria strategic plan in line with the KMS and strengthen malaria EPR and SBC activities for all malaria interventions.

The county team suggested that the DNMP should declare Garissa, Balambala, Fafi, and Ijara sub-counties as malaria endemic zones, like Tana River County, as most of positive cases are reported along the Tana River. They also asked the DNMP to look for a resident partner to support malaria activities in the county because the Rural AIDS Prevention and Development Organization is only seen once in a year.

Isiolo

The malaria burden in Isiolo had steadily been decreasing and stood at an incidence rate of 1%. Key interventions undertaken in the county were diagnosis and treatment of all cases, routine distribution of LLINs, and vector control through IRS in certain areas. The county also had an active malaria surveillance system with set thresholds and weekly reporting. Malaria activities included in AWP were distribution of LLINs, training of HCWs on malaria microscopy and case management, reporting and quality assurance, quarterly malaria meetings and supportive supervision, and the procurement of malaria commodities and equipment for rural health facilities.

The county received funding and support from the Isiolo County Government, the DNMP, and other partners. As one of the pilot counties for the UHC initiative in Kenya, the CHVs were supported through Living Goods and the county government. Opportunities noted from the KMS included establishing malaria elimination structures at the county and sub-county levels, scaling up SBC activities, strengthening malaria surveillance and vector control strategies, and developing an Isiolo County malaria action plan. All the malaria control activities in the AWP were aligned to the KMS.

The CMCC planned to provide feedback on the KMS dissemination workshop to the county chief officer of health by 11 December 2019, followed closely by sensitisation of the CHMTs and SCHMTs.

Sensitisation of health workers and the CHWs would be done by the sub-county medical officer by January 2020. Development of the Isiolo County malaria strategy action plan would be done by June 2020, and the rollout/launch of the county malaria strategy would be done in July 2020. There were concerns that the development of the malaria strategic action plan seemed to be very far off and that the dissemination objectives may not be achieved. It was clarified that this timeline was to accommodate the time it would take to get buy-in from the members of the county assembly.

Kajiado

Malaria interventions in the county included capacity building of HCWs in case management through OJTs, SBC through CHVs, routine net distribution, DQA, supportive supervision, and procurement of larvicides. These activities were included in their AWP. Opportunities noted from the KMS are strengthening malaria TWGs and sharing of experiences with other counties and partners to provide strategic input for future activities.



Kakamega

The malaria incidences presented graphically by the county were much higher in 2019 than in 2018. A question on what might have caused this large difference was asked.

Given that there were some epidemic-prone sub-counties within the county, it was agreed that there was a need to analyse the malaria incidences both by county and sub-county levels, because this would guide the decisions on where to put what resources in accordance with the different malaria zones; for example, Likuyani (low malaria) compared to Mumias (high malaria).

- Kakamega CDH clarified that:
- All the epidemic-prone sub-counties were supported to set weekly EPR thresholds.
- They were supported by Afya Ugavi to set commodity dashboards for monitoring expiries.
- Monitoring of indicators on the score card was ongoing.
- Maps had been developed per ward with testing, treatment, IPTp, and LLIN data.
- They planned to do a map in the current quarter for monitoring data quality.

The county is also piloting entomological vector surveillance with support from Vector Link.

Only the sub-county with highest malaria incidence was being supported by PS Kenya for SBC activities. Other health promoters were carrying out small-scale SBC activities.

The county reported that they were generally struggling with funding for activities. They hoped that no epidemics would happen in the two prone counties because they have no funds to support IRS there. The county allocated approximately 3.5 billion to health this year, with 1.8 billion going to payment of salaries. Other priority development activities take up the rest of the funds, so none remain for the programmes. Malaria activities at the county level require 108 million, but the county itself has only invested 2 million. Malaria activity funding is mostly done by partners, which is a big risk if partner funding is cut.

Kericho

Malaria interventions undertaken in Kericho County included routine distribution of LLINs through CWC/ANC clinics, surveillance through weekly monitoring of malaria thresholds, malaria case management in accordance with policy guidelines, and SBC through health education in health facilities and during public forums and chief's barazas. These activities were included in their AWP, and implementation funding is from PS Kenya, Amref Health Africa, DNMP, JICA Occadep, and the Kericho County Government. Opportunities noted from KMS in the county include UHC leveraging on the community strategy, improving of reporting and use of data for decision making, strengthening of partnerships with the political leadership, and collaboration between the national and county governments.

Kiambu

The malaria incidence in the county was quite low at 0.3 per 1,000 population, with peaks seen during the holiday seasons. Key interventions included routine LLIN distribution at the health facilities, case management and related trainings for health workers, and internal and external quality assurance in two facilities in the county. Malaria activities included in their AWP were refresher trainings on malaria case management and microscopy; facility-based CME on malaria updates; regular integrated supportive supervision; quarterly DQAs to enhance data quality; procurement of essential laboratory commodities; and dissemination of information, education, and communication (IEC) materials to health facilities and the community.

In terms of the funding landscape, five sub-counties were supported with routine LLINs through PS Kenya. Support of laboratory commodities and equipment was from the Global Fund. The county government supplemented the purchase of laboratory commodities. The county aspired to increase LLIN coverage through distribution of routine

LLINs to the rest of the seven sub-counties, and increase the number of laboratories participating in EQA, and strengthen the public–private partnership in malaria control.

Activities planned for in the next three to six months were to increase LLIN coverage through distribution to the rest of the seven sub-counties, build further capacity of HCWs in integrated malaria case management through OJTs, increase the number of laboratories participating in EQA, and train more quality assurance officers. In addition, they would lobby for resources from the county to conduct the malaria activities and scale up malaria advocacy by leveraging on existing activities.

Kilifi

The county suggested that the increase in malaria incidence could be explained by the health worker strike the previous year. They were also doing a fogging intervention in Vipingo Ridge, supported by the Mombasa governor. Other interventions done in the county included issuing of LLINs even to internally displaced persons (mostly from Tana River); mass screening and treatment; tracking of all positive cases, especially to confirm availability of LLINs in the homes; DQAs; and commodity data reviews.

The county was asked why it reported resource mobilisation among the members of county assembly, yet this did not result in an increase in malaria resources. Also doubted were the data used to map hotspots because these hotspots seemed to correspond to areas with the most health facilities.

The county had formed a malaria COE. They expressed concern that review meetings for tuberculosis and HIV are held quarterly, but there is no support to hold the same for the malaria programme. They requested the DNMP to engage COGs and encourage them to commit to the war against malaria. They committed to use all planned meetings and other possible forums to widely disseminate the KMS at county and sub-county levels.

Kirinyaga

Malaria incidence in the county was reported at 0.05 per 1,000 population. The malaria interventions undertaken included malaria case management, vector control through routine LLINs, clearing of bushes, fogging and unblocking of drains, and SBC through the CHVs. Interventions in their AWP included passive and active malaria surveillance, capacity building of CHVs and healthcare providers, vector control activities through environmental control, distribution of routine LLINs in all sub-counties, mass net distribution in two sub-counties, quarterly supportive supervision, and DQAs. They planned to continue with those activities in the next three to six months.

In terms of funding, routine net distribution was supported by PS Kenya; mass net distribution, capacity building in case management, and malaria microscopy were supported by the DNMP. Opportunities in the new KMS noted by the county included: strengthening the county towards malaria elimination through investigating and reporting every malaria case, and to improve data quality, which would inform timely and appropriate decision making.

The county suggested that the DNMP and partners could train all the newly employed staff and health workers from the private sector on malaria case management and CHVs on malaria interventions. They could also provide guidelines on elimination activities and support the county in commemoration of World Malaria Day 2020. The dissemination of the KMS and M&E Plan at county and sub-county levels would commence with the sensitisation of CHMT members and partners in December 2019, followed by sensitisation of SCHMT members, community units, and health workers.



Kitui

The malaria prevalence stood at 1%, the incidence rate was 0.1%, and the test positivity rate was 4.2%. The key interventions practiced in the county were malaria testing and treatment test of confirmed cases, malaria case management training for all cadres of health workers, supportive supervision, and weekly malaria surveillance. They also conducted site visits to ensure data quality and validity in cases of malaria outbreaks, mapped malaria cases, and carried out LSM when needed. Malaria activities included in the county's AWP are aligned to the KMS and include supportive supervision, commodity quantification, malaria surveillance, DQAs, and annual commemoration of World Malaria Day.

Funding for malaria activities was supported by the Ministry of Health, DNMP, and partners such as Afya Ugavi, the Transforming Health Systems programme, and PS Kenya. Opportunities noted from KMS include availability of the malaria dashboard and support from the national government on LSM. Generally, the county had political goodwill, which created an opportunity for an increase in malaria funding; and the Kitui County Health Insurance Cover was useful in malaria case management.

The dissemination of the KMS and M&E Plan would be done at county and sub-county levels and would be incorporated in the weekly Monday meetings. At the sub-county level, dissemination would be done during the managers meeting and during the OJT sessions conducted by the sub-county malaria coordinators. The county team would ensure that every sub-county had the current malaria diagnosis and treatment guidelines and that they adhered to them.

Kwale

Incidence trends in Kwale showed reduced burden, but it was noted that the data reports were not up to date.

They had included a comprehensive list of malaria activities in their AWP, and activities undertaken include in the county include DQA, household ETL for SBC, training of trainers, CHV training on ETL, malaria champions through schools, surveillance, and information use.

They also reported that they did resource mobilisation of in-kind support (e.g., provision of chairs/equipment and education through listening). They had an AWP covering all objectives except the elimination objective, but the source of funding for implementation was not certain. The county expressed a wish to see malaria regional data review meetings supported.

Their current funding/implementation partners included PS Kenya, Amref Health Africa (PR – DQA), Nagasaki University (research), and Base Titanium (t-shirts/promotion materials).

Laikipia

Malaria incidence in the county stood at 0.2 per 1,000 population. Malaria interventions undertaken included malaria diagnosis and treatment at the health facilities, surveillance, SBC activities through CHS, DQAs, and supportive supervision. Interventions included in the AWP were training on malaria diagnosis and case management, distribution of RDTs, provision of malaria management guidelines and IEC materials to facilities, training on malaria data and commodities management, distribution of reporting tools, and quarterly supportive supervision. These activities were funded by the Global Fund through the DNMP and also by the county government. The county planned to continue with these activities in the next months and also include targeted trainings and mentorships for the facilities in the military and flower farms.

Opportunities noted from KMS included improving on reporting rates; intensifying malaria surveillance and adherence to national malaria treatment guidelines; ensuring adequate stock of malaria commodities, especially mRDTs; improving data management and use for decision making; advocating for the elimination strategy; leveraging the UHC targets for preventive and promotive health rather than curative; strengthening malaria supervision activities; riding on the CHS

for SBC activities; and creating and operationalising a county malaria elimination unit.

The DNMP and partners could support training of more personnel on case management, quality assurance, elimination strategies, commodity management, DQA review meetings, broadened reach of the malaria bulletin, and lobbying for malaria elimination resources at the county assembly. In addition, the supply of mRDTs should be consistent.

Dissemination of the KMS and M&E Plan at county and sub-county levels was to begin in January 2020, starting with the CEC members and CHMTs, then SCHMTs and facility in-charges. Sensitisation to the health committee in the county assembly and a briefing meeting with the governor were to be done in February 2020.

Lamu

Malaria incidence decreased over last two fiscal years, but ABER also decreased, so there was a question on whether this could have contributed to the noted drop in incidence rates. The county reported that most malaria cases were imported because of frequent population movement. Malaria activities were included in the county AWP and CIDP—these included LLIN routine distribution, mass net distribution, malaria school health, World Malaria Day, health talks at facilities, community dialogues, IRS to schools, LSM using fish as a predator, IPTp at ANC, DQAs, supportive supervision, and case management.

Doubt was expressed on the sustainability of interventions in the county because most support was from PS Kenya.

The county planned to use various forums to disseminate the KMS to sub-counties, such as during CHMT meetings, facility in-charge meetings, data review meetings, supportive supervision; and other stakeholder meetings. Despite the few malaria cases in Lamu, there were cases in some communities (e.g., those living in Boni Forest) that have no health facilities; hence, they need to be empowered in community case management of malaria.

Machakos

The malaria burden in Machakos County was characterised by a 2.7% positivity rate and a 1% incidence rate; however, most of the cases were imported. Interventions undertaken included routine distribution of LLINs at health facilities, testing of suspected cases and treatment of confirmed cases, entomological surveillance, and IRS in hospitals. Malaria activities in the AWP were procurement cases and treatment of malaria commodities, training of health workers on case management, supportive supervision, and preparation of commodity reports. The county also held monthly malaria meetings, did EQA of malaria slides quarterly, commemorated World Malaria Day, and conducted facility-based OJT on data quality whenever needed.

PS Kenya supported the county in LLIN distribution, capacity building, and commodity management; Amref Health Africa and CDC supported malaria indicator supervision. The DNMP supported the procurement of lab reagents, consumables, and equipment through KEMSA. The malaria programme and vector control were included in the 2019/2020 county budget. The county planned to lobby for an all-inclusive planning approach to the budgeting, monitoring, and evaluation cycle to ensure that the malaria funding is sustained within the county.

Based on the new KMS, Machakos County saw the need to strengthen SBC advocacy through CHVs, improve the quality of their malaria data, and develop structures and capacity for malaria elimination. They planned to include key stakeholders in the malaria TWG, increase resource mobilisation for malaria activities, initiate operational research to advise policy, and conduct county malaria mapping for better resource allocation and use. All the current interventions were aligned to the six objectives of the KMS.

The Machakos team planned to give feedback on the KMS dissemination workshop to the county management by 10 December 2019. They would then mobilise funds for a county stakeholders' meeting targeting the sub-county malaria coordinators, malaria laboratory technologists, pharmacists, and hospital managers as participants, enabling them to further disseminate the KMS and M&E Plan. They planned to issue hardcopies of the abridged version of the KMS



to the officers in charge of health facilities during the sub-county monthly managers' meetings, and then task them to sensitise and issue hardcopies of the KMS to the HCWs and service providers during the weekly CME hospital meetings. In addition, the team planned to sensitise all the clinical officers, nurses, and medical officers on thorough and proper patient history capture, to ensure that they have proper malaria-specific patient data.

Makueni

The county reported a prevalence rate of 1.2% and an incidence rate of 0.1%. The key malaria interventions in the county were case management, routine distribution of LLINs at ANC/CWC, procurement and distribution of malaria commodities, targeted supportive supervision, OJT for new staff, and weekly malaria surveillance and reporting through the IDSR system.

Malaria activities included in the AWP were integrated supportive supervision and procurement of malaria commodities such as laboratory reagents. Funding for these activities was mainly by the Makueni County Government. PS Kenya and the DNMP also supported implementation of some activities, such as training. The county was working towards elimination of malaria and planned to put more effort into SBC and advocacy for inclusion of more malaria intervention strategies in the AWP. In line with the KMS, the county team planned to embrace the community strategy to influence SBC in Makueni through the CHVs.

To disseminate the KMS and M&E Plan, a written report would be sent to the county chief officer of health by 13 December 2019. The county team would conduct a half-day KMS sensitisation meeting by 20 December for the CHMTs and SCHMTs. The county team would ensure that the sub-county teams had received hardcopies of the KMS 2019–2023 and other malaria documents by the end of December. The HCWs would be sensitised during the weekly hospital CMEs and monthly rural HCW meetings. It was estimated that all the HCWs would have been sensitised by January 2020.

The key activities planned in Makueni County in the next six months included distribution of LLINs, treatment of all confirmed cases, supportive supervision, OJT for all cadres, DQAs, data review meetings, and commodity management training.

Mandera

The malaria incidence rate in Mandera was reported at 0.8%. To control malaria transmission, the county undertook IRS in some sub-counties, treated all malaria positive cases, and obtained weekly malaria reports from the health facilities. SBC was done through local FM radio stations, and continuous health education and promotion was ongoing at the facility level. The county planned to engage the members of the county assembly and other local leadership on the appropriate malaria interventions and to lobby for the allocation of more resources. Capacity building of HCWs on malaria diagnosis and treatment was done through CMEs at all levels. Malaria activities in their AWP included surveillance, quarterly data review, and commemoration of World Malaria Day. The county planned to conduct rapid assessment on the preparedness of the sub-counties to combat malaria outbreaks, procure malaria commodities, and conduct integrated supportive supervision.

Malaria funding was largely from the DNMP and the Mandera County Government. The team thought that they were on track to malaria elimination, and they planned to engage CHVs to assist in community referrals for prompt treatment of all cases. Other proposed interventions were entomological surveys and malaria operational research to inform advocacy for more resources, continued distribution of routine LLINs through ANCs, the Expanded Programme on Immunization and the community at large, enhancement of the SBC intervention, regular DQAs, and training of HCWs on malaria surveillance.

To disseminate the KMS and M&E plan, the county team planned to convene a meeting with the county chief officers of public health and medical services in December 2019. The CHMT would also attend that meeting. Dissemination

to the SCHMTs would be done during the quarterly review meetings to be held in 2020. The team planned to develop policy briefs from the KMS by mid-December 2019, which would be used to advocate for resources for the malaria programme. These would be shared with the local leadership, such as members of the county assembly committee on health, by January 2020. The strategy would be disseminated to the HCWs during the weekly CMEs in the sub-county hospitals.

Marsabit

Marsabit County had a malaria incidence rate of 2%, mainly due to areas that experience malaria upsurges throughout the year like Sololo in Moyale sub-county and Illeret in North Horr sub-county. Malaria interventions in this county include IRS in Sololo and Illeret, distribution of LLINs, malaria surveillance, quarterly DQAs, supportive supervision, community mobilisation for vector control, training of HCWs on malaria case management, EPR, and ensuring availability of commodities. In accordance with the community strategy, the county employed 192 CHAs and had a total of 83 community units. Malaria activities included in the AWP included IRS in targeted areas, case management, malaria surveillance, EPR, training of HCWs, and capacity building of the CHAs and CHVS. The county also conducted malaria prevention and control awareness through radio talk shows.

The DNMP supported the county in capacity building of the HCWs, and Amref Health Africa supported DQAs. The county government supported vector control and other integrated activities through outreaches. The county planned to strengthen advocacy and SBC activities at the community level, and operationalise TWGs on malaria activities. Alignment to KMS would be achieved through integration of malaria activities in the AWP, the annual development plans, and CIDPs. Malaria activities would be integrated into the existing county and partner supported programs for sustainability.

The CMCC would sensitise the Marsabit CHMT on the KMS in December 2019, and the SCHMTs would have their dissemination meeting by January 2020. Sensitisation and lobbying for funds from the Marsabit County assembly would be done in January 2020. A malaria stakeholders' meeting was set to be held on 2 February 2020, during which the KMS would be further disseminated.

Meru

The malaria incidence rate in Meru decreased, from 4.3% to 3.4 % over a period of one year. This was attributed to the malaria interventions in place, which included prompt and effective case management, testing of all fevers and provision of malaria diagnostic and treatment commodities, health education through the local media and within the health facilities, training of health workers on malaria case management, distribution of routine LLINs, weekly malaria threshold monitoring in epidemic-prone sub-counties, and quality assurance for microscopy. All these malaria activities were included in the county AWP. The county also procured larvicides for use in Imenti North, Igembe South, and Igembe Central sub-counties, which are epidemic prone.

Other activities included quarterly redistribution of commodities within the county, data review meetings and DQAs, supportive supervision, training on LSM, malaria case management, mRDT use and microscopy, and commodity management. Malaria activity funders were PS Kenya, the Meru County Government, the DNMP, and the Global Fund. Opportunities noted in the new KMS included strengthening malaria surveillance, EPR, partnerships and coordination, and the use of supply chain data for decision making. Alignment to KMS would be achieved in the subsequent development of the AWP.

To disseminate the KMS and M&E Plan at the county level, the county DMS would give feedback to the CEC and chief officer of health by 6 December 2019. The CMCC would sensitise the members of the CHMT by the same date. Subsequently, the SCHMTs would be sensitised and thus empowered to further disseminate the KMS to health facility staff, CHEWs, and CHVS. A stakeholders' meeting to be held on 30 March 2020 would be used as an additional platform for KMS dissemination to stakeholders.



Migori

This county noted a sharp increase in malaria incidence in July 2019. They suggested that mass net distribution may have reduced incidence rates in 2018. The county clarified that they have a consolidated county AWP for the different programme activities, including malaria.

They reported that IRS was done in six out of eight sub-counties —case reduction was noted, and there was demand for more IRS. They also clarified that entomological surveillance in the county is done twice a year, before and after IRS. SBC was done via school pupils and community (SWAP), contracted by PS Kenya; however, a community-level hitch was reported because there were no RDTs so CHVs could not test and treat.

The county reported that IRS is very expensive and the journey to self-reliance was the donor expectation but was not going to be easy. A question of IRS impact on the county was asked, and the county responded that prevalence has reduced after IRS, but impact assessment has not been done.

Mombasa

It was noted that malaria incidence rates were still quite high, so the county's elimination vision was questioned. At the same time, this agenda was not included in county budgets. They were advised to focus on more achievable interventions. The county reported that they had identified malaria hotspots and suggested that cases on the island were actually imported from the Likoni area. They also said that many false positives were reported from private clinics, with many patients seeking services from the private clinics because of the very few government facilities. They also noted another challenge caused by the lack of a national policy requiring private facilities to use mRDTs.

The key interventions undertaken at the county included mass and routine net distribution, IPTp, fogging, LSM, mosquito surveillance, malaria advocacy through CHVs, radio spots, school health programs, and World Malaria Day activities. Other activities were supportive supervision and mentorship, EQA, monthly data reviews, community case management of malaria in rural Mombasa, and malaria COE meetings.

On financing, the county allocates funds for all the programmes and nothing specific for malaria. Accessing these funds was usually quite difficult. The county was partnering with KEMRI Kilifi and DVBD in entomological surveillance.

Murang'a

Malaria incidence in the county stood at 0.1 per 1,000 population. Malaria interventions undertaken included malaria case management in all public and private facilities, passive surveillance, and SBC in the community units through the CHVs. Malaria activities included in their AWP were DQAs, QOC survey, SBC, and monthly data review meetings. Routine LLIN distribution was funded by PS Kenya, and the Global Fund, and the DNMP, supported the provision of malaria commodities and capacity building.

Opportunities noted from the KMS were to extend training on case management to the private sector to enhance adherence to the national malaria guidelines, and EQA for the labs. The county also aimed to establish an active case detection, notification, investigation, treatment and response system and to strengthen quality assurance for diagnosis and treatment.

Key malaria activities planned for in the next three to six months were active surveillance by enhancing use of the MOH 505, supportive supervision, quality assurance by rechecking slides from laboratories, especially those with positive cases, and the formation of a commodity TWG for malaria, HIV, and tuberculosis. The dissemination of the KMS and M&E Plan in the county would start with sensitisation of the CHMT, followed by sensitisation of the SCHMT, facility managers, and finally the HCWs.

Nairobi

Malaria incidence stood at 3.2 per 1,000 population, with a majority of the cases due to transit population. Higher incidence was noted in periods following school holidays. The main malaria interventions in the county were malaria case management in all facilities, training in diagnosis and treatment, forecasting and quantification, and distribution of malaria commodities. Malaria activities in the AWP included World Malaria Day commemoration, malaria DQAs and data reviews, quarterly supportive supervision, mentorship, OJT, and CME on malaria case management. The county also intended to train 500 CHVs and 65 CHAs on malaria prevention and control methods, and to undertake entomological surveillance.

All the activities in the AWP were funded by the county government and its partners. Opportunities noted from the KMS were to increase capacity building of HCWs, given the mushrooming of private health facilities, increase advocacy for local resource mobilisation, and integrate supportive supervision.

The county planned to form malaria TWG, conduct quarterly supportive supervision, enhance surveillance, determine inpatient mortality data, and conduct refresher trainings for laboratory diagnosis in the following three to six months. The DNMP and partners could support by availing SBC materials and reporting tools and supporting training of HCWs on malaria case management in line with the new KMS 2019–2023.

The KMS and M&E Plan would be disseminated first to the CHMT members and then to the 50 SCHMT members (5 members per sub-county). Facility CME would also focus on sensitising HCWs on the KMS 2019–2023.

Nakuru

Malaria interventions carried out included case management in all the facilities, surveillance through weekly reporting of malaria cases, SBC using CHVs, commodity management, supportive supervision, printing of reporting tools, and EQA. The county included malaria activities in the AWP. The source of funding for the activities is the county government and the Global Fund through the DNMP and Amref Health Africa. Opportunities noted from the KMS include larval source management, entomological surveillance, and EPR.

Nandi

Malaria interventions included malaria case management, LLIN distribution in health facilities supported by PS Kenya, weekly threshold monitoring, SBC through CMEs and community engagement, entomological surveillance, supportive supervision, DQAs, and commemoration of World Malaria Day. These activities are included in their AWP.

The county's main source of funding is the Global Fund through Amref Health Africa and the DNMP. The county government of Nandi supports the payment of HCWs and procurement of malaria commodities. Opportunities noted from the KMS include giving IPTp to pregnant mothers in Aldai and Tinderet sub-counties, which border an endemic zone. The county would also strengthen EPR through threshold monitoring and enhance domestic resource mobilisation.

Narok

The malaria interventions in the county included LLIN distribution, both routine and mass net; SBC through health education in chief barazas; surveillance through weekly threshold monitoring and reporting; IRS; and commodities procurement and distribution. Many of these are included in the AWP. The source of funding is DNMP, Amref Health Africa, PS Kenya, and the Narok County Government. Opportunities noted from the KMS include strengthening vector control through LLIN distribution and IRS, more use of community health services structures in demand creation through SBC, health education and community case management, improvement in commodity management, and strengthening of multi-sectoral engagement.



Nyamira

The incidence graph presented showed an upward trend. The county was advised to monitor the rising incidences closely and do something to reverse this before it turned into an epidemic. In their response, they said that some sub-counties recorded a surge in malaria cases and suggested that the heavy rains experienced since April may have led to an increase in incidence rates.

Nyamira presented their malaria activities but not the actual budget requirements; they were advised that they needed to plug in the actual budget and gap figures because that is the only way they could attract partner support. They reported that most of the financial support received for malaria was for procurement of commodities. The amounts allocated by the county for malaria were quite low compared to their estimated malaria budget.

A partner advised that all the counties needed to seriously consider their journey to self-reliance, given the diminishing donor funding. They were advised that they could start off with activities such as quantification and forecasting for malaria and seeking county allocations for procurement of malaria commodities. They also needed to focus more on health system strengthening activities, such as TWGs, DQAs, and supportive supervision.

Nyandarua

Malaria incidence in the county stood at 0.4 per 1,000 population. The key malaria interventions undertaken were malaria case management in health facilities, quality assurance in parasitological diagnosis, quarterly supportive supervision, DQAs, and malaria surveillance leading to prompt case detection and reporting. Malaria activities included in their AWP were health promotion at the community level to take up vector control activities, such as the use of nets and clearing of bushes; procurement and distribution of test kits and reagents; forecasting and quantification of commodities; and trainings on malaria microscopy and malaria case management. The funding source for the laboratory supplies and human resources was from the county government, and the DNMP supported capacity building of HCWs, M&E through QOC surveys and DQAs, and laboratory quality assurance.

Opportunities noted from the KMS included redefining malaria as a sub-programme in the county to ensure budgetary allocations during the programme-based budgeting process, and incorporation of elimination strategies in the work plan. In the next three to six months, the county planned to continue with ongoing interventions, disseminate the KMS to the health workers and county executives, sensitise key leaders on the elimination strategy and obtain their inputs towards achieving the KMS objectives, and implement the DQA recommendations and action points.

The county requested that the DNMP and partners include county teams in the national COE that is working on elimination, organise feedback meetings after the DQA, support supportive supervision activities, and train the county teams on the malaria surveillance package. Dissemination of the KMS and M&E Plan was to start with a feedback session with the CEC and COH in December 2019. In 2020, they would be disseminated further to the CHMT and the sub-counties .

Nyeri

Malaria incidence in the county was reported at 1.15 per 1,000 population. The malaria interventions undertaken included case management using the 3Ts (Test, Treat and Track) approach in all health facilities; vector control through environmental modification, like bush clearing and drainage of stagnant water pools; SMEOR through integrated supportive supervision; biannual DQAs; weekly malaria surveillance; and SBC through health facility micro-teachings. Activities included in AWP were integrated supportive supervision, malaria commodities supply and distribution, training of HCWs on surveillance, employment and deployment of medical laboratory technologists and technicians, and internal and external laboratory quality assurance.

The DNMP funded most of the malaria activities in the county, and the county government did not prioritise malaria in light of the very high NCDs burden. Funding by the county was primarily on the purchase of laboratory diagnostics and equipment. Opportunities noted from the KMS included to investigate, report, and classify any malaria cases in the

county; enhance efforts towards improving data quality; improve inter-sectoral engagement for more impactful SBC interventions at the community level; and sensitise the health workforce on malaria surveillance activities.

Key malaria activities planned for in the next three to six months were the dissemination of the KMS 2019–2023 to CHMTs, SCHMTs, and frontline HCWs; epidemiological and entomological surveillance; and data review meetings at the sub county level with a focus on fostering data verification and cleaning before report transmission. In addition, supportive supervision of health facility staff by SCHMT and CHMT teams and planning for World Malaria Day 2020 would be done. CHEWs and CHVs were to be sensitised on community malaria elimination SBC messaging as well as malaria case-based active surveillance.

The DNMP and partners could support MDA with a view to decreasing the risk of malaria transmission in Nyeri, advocate to the partners (donors/funders) to support Nyeri County, employ and deploy medical laboratory officers and purchase equipment such as microscopes, and fund the KMS 2019–2023 dissemination and sensitisation meetings to sub-county levels. The KMS and M&E Plan would be disseminated to the CHMTs, health executive, and SCHMTs in January 2020, and the frontline health workforce would be sensitised in February 2020.

Samburu

The malaria interventions being undertaken included surveillance through weekly threshold monitoring and reporting, quarterly malaria data audits, routine distribution of LLINS along epidemic-prone areas (e.g., Waso River and Barsaloi), and IRS in hospital wards and boarding schools using Actellic insecticide. Additional activities were commemoration of World Malaria Day, quarterly supportive supervision, DQAs, entomological surveillance, capacity building of HCWs on malaria updates, and OJT to the new staff on malaria diagnosis and treatment.

Funding was from the DNMP, IMPACT research, and the county government. Opportunities noted from the KMS included resource mobilisation from the county government, partners, and other well-wishers; and interdepartmental collaboration in malaria elimination (e.g., Ministry of Education, Ministry of Gender and Social Services, Ministry of Water). The county would also leverage UHC to address malaria issues, community empowerment through community strategy CHVs, and integration of malaria activities with other programs, especially reproductive, maternal, newborn, child, and adolescent health.

Taita Taveta

The county reported a higher incidence rate in the current year than in previous year. They attributed this to five health worker strikes that may have led to poor performance, plus a lot of personnel restructuring, which interfered with service delivery.

Some of the interventions in the county included targeted IRS, larviciding, environmental manipulation (disturbing the waters), malaria DQAs, and EQA for all laboratories. They also did advocacy for testing of malaria cases via microscopy and mRDTs prior to treatment, malaria screening during outreaches/medical camps, and EQA.

They also did larviciding, although there was a challenge with which chemicals to use. They reported good coverage with CUs, although the actual number not given. The county reported that they had leftover nets and were advised to immediately distribute them to schools, churches, and other institutions.

Tana River

The county was represented by sub-county teams at the workshop. They reported that the activities undertaken at the county level include case management, EPR surveillance in 15 sentinel sites, issuing of LLINs, supportive supervision, SBC, targeted IRS, and community dialogue days. The targeted IRS spots were in Majengo and NYS camp and boarding schools, and this initiative was supported by the Mentor Initiative.

The county had included malaria commodities in their CIDP and AWP, which they said was the first step towards sustainability. However, there is a need for advocacy and resource mobilisation to ensure implementation of the



interventions. Only two community units had been trained on CCM, with support from the Red Cross. The county targeted hiring of 80 new CHAs in the current financial year but would need finances to build their capacity. They attributed the reduced malaria incidence to high net use and favourable weather. They also confirmed that previously they used ICON for IRS because they were not informed of a recommended alternative.

They requested the DNMP to improve the commodity dashboard, support quarterly regional malaria meetings, and set up reference laboratories, including for entomological surveillance. They also requested dissemination support but were advised to use existing forums to achieve the same (e.g., CHMT and SCHMT meetings).

Tharaka Nithi

Tharaka Nithi County had a malaria incidence of 1.9% as of December 2019. Key malaria interventions in this county were case management, distribution of LLINs, vector control through IRS, awareness creation, supportive supervision, data quality assessments, and weekly malaria surveillance. Malaria activities included in their AWP were training of health workers on malaria case treatment, routine distribution of LLINs at ANC/CWC, celebration of World Malaria Day, vector control, and supportive supervision.

PS Kenya supported the county in net distribution and supportive supervision, the county government and the DNMP supported malaria case management, and the Global Fund and the Ministry of Health supported commodity procurement and distribution. Opportunities noted from the KMS included providing malaria case management at the community level, strengthening malaria surveillance and EPR, using malaria data in decision making, facilitating and conducting health facility and community surveys, and conducting entomological surveillance. The county team proposed domesticating the KMS to a county malaria strategy and incorporating it in the AWP to ensure alignment of their malaria interventions.

To disseminate the KMS, the CDH would provide feedback to the CHMT, chief officers of health, and the members of the CEC for health by 20 December 2019. The county assembly health committee members would also be sensitised on the same day. Six separate dissemination meetings would be held for each sub-county, with participants including SCHMTs and the officers in charge of health facilities. CHVs would then be sensitised on the strategy by the end of February 2020. The county was advised to conduct a joint dissemination meeting for the sub-counties to save on costs.

Trans Nzoia

Malaria interventions in the county included case management in all facilities (diagnosis using microscopy and mRDT, and treatment); routine LLIN distribution; entomological surveillance; weekly monitoring of thresholds; supportive supervision; DQAs; SBC in community units; dialogue and action days, and radio shows. These are included in their AWP. Opportunities noted from the KMS for the county are strengthening of M&E structures and LMIS to minimise stockouts, mainstreaming of CHVs in malaria control activities at the community level, and strengthening partners' involvement in malaria activities.

Turkana

Malaria interventions in Turkana county included malaria case management in all the facilities, quality assurance in two laboratories, supportive supervision, SBCC through CHVs, and surveillance through weekly reporting and monitoring of thresholds. The county has included malaria activities in their AWP. In addition to the Turkana County Government and DNMP, partners that support implementation through technical assistance and funding are UNICEF and Management Sciences for Health.

Opportunities the county noted from the KMS include strengthening SBCC on malaria prevention interventions through local radio stations and strengthening community health structures for malaria interventions backed with stipends for CHVs after enactment of the Turkana community health services act 2018. Turkana will also undertake domestic resource mobilisation and expand malaria sentinel sites across the county.

Uasin Gishu

Malaria interventions being carried out included routine LLIN distribution, malaria case management in both private and public facilities, EPR through weekly threshold monitoring and reporting, SBC in the community units, IRS, DQAs, and supportive supervision. The malaria activities are included in the AWP. Their funding sources are PS Kenya, the DNMP, and the Uasin Gishu County Government.

Opportunities noted from the KMS are community involvement for follow-up and referral, strengthened linkages between national and county governments, research and innovation, and laboratory EQA.

Wajir

The malaria incidence rate in Wajir was 0.2% based on data from January to September 2019. Malaria interventions practiced in the county included case management, distribution of LLINs, malaria surveillance, SBC activities, DQAs, and supportive supervision. IRS was provided for those who can afford to buy the insecticides. These activities were included in the county AWP. The county also received monthly situational reports from the SCMCC and commemorated the annual World Malaria Day.

In terms of funding, Wajir County Government provided Ksh 600,000 for World Malaria Day celebrations; The United Nations Population Fund supported maternal health and provision of LLINs; Amref Health Africa, through the Rural AIDS Prevention and Development Organization, supported DQAs and supportive supervision; and the Global Fund, through the Ministry of Health, supported training of the health workers and procurement of commodities and test kits. The Wajir County Government and Mentor Initiative supported vector research and provided family vector control response kits against *Anopheles* and *Aedes* mosquitoes.

To achieve sustainability of malaria interventions, the team planned to undertake advocacy through the county assembly's health committee and other stakeholders for increased county funding for malaria activities, and to integrate malaria activities with other programs such as neglected tropical diseases.

Opportunities noted in the KMS included engaging partners in malaria activities, leveraging on other programme activities to spread the malaria control agenda, and strengthening of public-private partnership for health. They also planned to develop a county-based EPR plan and map potential malaria endemic areas.

In the following six months, the county planned to: hold EQAs for malaria slides, conduct continuous mentorship of health workers to strengthen malaria surveillance, incorporate messages on indoor and outdoor residual spraying in the community SBC, improve on commodity security management, and develop a sub-county based EPR plan for malaria. They would also include customisation of the malaria documents into the county AWP. The county was, however, advised against customisation of the KMS.

The team planned to disseminate KMS to the Wajir County assembly members, CEC members, senior health managers, such as the members of the CHMTs, SCHMTs, and the officers in charge of health facilities. Others were the Ministry of Health staff and the community at large. They planned to lobby for resources from the DNMP and MEASURE Evaluation for customisation of the KMS and M&E documents, and the subsequent disseminations to be done at different forums until April 2020.

Continuous sensitisation of the community would be done using public barazas, IEC materials, facility-based education, and local media throughout 2020. The county planned to advocate for more funds allocation to the malaria budget from the county assembly members.



West Pokot

The malaria interventions in the county included routine distribution of LLINs at health facilities and to the population displaced during the recent landslides, SBC through the local FM radio station, capacity building of health workers on malaria cases management, mass net distribution, procurement of malaria commodities, and monitoring of malaria thresholds and response activities in 14 sentinel sites across the county. Other activities were sensitisation of CHVs on malaria prevention and SBC through the local media (live radio talks).

Funding was from the DNMP, PS Kenya, and Amref Health Africa. There was no funding of malaria activities from the West Pokot County Government. Opportunities noted from the KMS include use of CHVs to implement malaria interventions at the community level and collaboration with other partners (e.g., Red Cross) under the one health approach.

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