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Surveillance Monitoring and Evaluation Plan  
for the Zimbabwe Malaria Control Strategic Plan 2016–2020

**MINISTRY OF HEALTH AND CHILD CARE**

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Surveillance Monitoring and Evaluation Plan

for the Zimbabwe Malaria Control Strategic Plan 2016–2020

FOREWORD

Monitoring and evaluation (M&E) has gained increasing significance in the health sector during the last decade, partly due to increasing demand for measurement and accountability in the use of health sector external resources (Global Fund, the U.S. President’s Malaria Initiative (PMI) and other partners). The Malaria Strategy and attendant frameworks have raised the need for a National Malaria SM&E Plan that puts in place measures that increase transparency, accountability and stakeholder participation in the implementation of malaria control programs.

Both the Zimbabwe Monitoring and Evaluation Policy and the Zimbabwe Health Sector Strategic Plan 2016-2020 have integrated the requirements of a robust M&E system to ensure systematic tracking of investments and progress, while promoting a culture of evidence-based planning and decision-making. The Ministry of Health and Child Care (MoHCC), through the National Malaria Control Program (NMCP), has set out to strengthen M&E systems within the malaria programs, involving a wide range of capacity development initiatives and strategies. The Malaria SM&E Framework 2016-2020 enables all actors to work within convergent efforts to achieve the targets set within the Malaria Strategic Plan (MSP) 2016-2020. Despite positive milestones, several studies and assessments have documented capacity gaps in implementing a fully functional M&E system at sub-national levels.

This SM&E Plan seeks to work as a guideline to bridge the gaps by: providing a comprehensive framework for malaria SM&E; exploring the definition and scope of M&E; defining the 12 components of a well-functioning M&E system; and providing a step-by-step guide on how the program manages a functional M&E system under each of the 12 components. This is done with the underlying expectation that when the 12 components are fully implemented in the malaria program, we anticipate a significant improvement in the quality of data available, better analysis of the same and increased demand for data and information use to inform planning and decision-making. I therefore urge all malaria stakeholders at the national and subnational levels to make reference to and apply these guidelines to build a vibrant and effective malaria M&E system that will contribute to evidence-based planning and improve the effectiveness for the desired impacts.



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SECRETARY FOR HEALTH AND CHILD CARE**

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The development of the National Malaria SM&E Plan is a culmination of the efforts of all malaria stakeholders that were spearheaded by the NMCP in MOHCC. A national taskforce was established to oversee and coordinate the technical and consultative processes in the development of the SM&E Plan through the Malaria SM&E technical committee. The standards and procedures outlined in this document are aimed at measuring performance of the NMSP (2016-2020) and operationalizing the malaria program SM&E framework. This document will also set the minimum threshold for establishing enduring malaria SM&E functions at service delivery points, including health institutions and programs at the national, provincial, and district levels. The NMCP, through the MOHCC, acknowledges the contributions of the President’s Malaria Initiative (PMI)-funded Zimbabwe Assistance Program in Malaria (ZAPIM) project, which provided ongoing technical, financial, and logistical support to this process. The World Health Organization (WHO), Plan International, Population Services International (PSI), provinces, and districts and other key MOHCC departments, National Institute for Health Research (NIHR), Department of Pharmaceutical Services (DPS), M&E Department, National Microbiology Reference Laboratory (NMRL), Environmental Health, and other partners also provided invaluable technical support towards the development of this significant document. Invaluable efforts and commitments went into this endeavour. The NMCP/MOHCC appreciates the constructive input and oversight exercised by members of the malaria SM&E technical working group (SM&E TWG). Closely working together with the ZAPIM commissioned consultant Dr. Ekpenyong Ekanem, his incisive contributions, expertise and direct engagements have shaped this document. Sincere gratitude also goes to the eight Provincial Medical Directors, M&E Directorate, development partners (UNDP) who participated in the writing process, reviewed, and validated this document. Finally, sincere thanks to Dr. Joseph Mberikunashe under whose able stewardship this document has been finalized, as well as the staff of the NMCP.

Abbreviations and Acronyms

**ACT** Artemisinin-based combination therapy

**ADR**  Adverse drug reactions

**ANC**  Antenatal care

**CCM** Country Coordinating Committee

**CD**  Continuous distribution

**DDT**  Dichlorodiphenyltrichloroethane

**DHIO** District Health Information Officer

**DHIS**  District health information system

**DPS** Department of Pharmacy Services

**EUV** End use verification

**EPI** Expanded Program on Immunization

**EQA**  External quality assurance

**GF**  Global Fund

**GoZ** Government of Zimbabwe

**HMIS** Health management information system

**HS3** Hospital workload statistics

**IEMAC** Independent Malaria Elimination Advisory Committee

**IMCI** Integrated management of childhood illnesses

**IMMIS**  Inpatient morbidity and mortality information system

**IPTp** Intermittent presumptive treatment in pregnancy

**IQA** Internal quality assurance

**IRS** Indoor residual spraying

**LLIN** Long-lasting insecticide-treated net

**M&E**  Monitoring and evaluation

**MCAZ**  Medical Control Association of Zimbabwe

**MCH**  Maternal child health

**MICS**  Multiple Indicator Cluster Survey

**MIS** Malaria Indicator Survey

**MOHCC** Ministry of Health and Child Care

**MPR** Malaria program review

**MSP** Malaria strategic plan

**NGO** Non-governmental organization

**NHIS**  National health information strategy

**NHS** National health strategy

**NIHR** National Institute of Health Research

**NMCP** National Malaria Control Program

**NMRL**  National Microbiology Reference Laboratory

**OR** Operations research

**PMD**  Provincial Medical Director

**PMI** United States President’s Malaria Initiative

**PSI**  Population Services International

**PT**  Proficiency testing

**QA** Quality assurance

**QC** Quality control

**RDNS**  Rapid disease notification system

**RDQA** Routine data quality assurance

**RDT** Rapid diagnostic test

**SBCC** Social behaviour change and communication

**SHC** School health coordinator

**SM&E** Surveillance, monitoring & evaluation

**SMEO**  Surveillance, monitoring, evaluation and operational research

**SMS**  Short message service

**SOP** Standard operating procedure

**SWOT**  Strengths, weaknesses, opportunities, threats

**TES**  Therapeutic efficacy testing

**TWG**  Technical working group

**UMC** United Methodist Church

**UNDP**  United Nations Development Program

**USAID** United States Agency for International Development

**VHW** Village health worker

**WDSS**  Weekly disease surveillance system

**WHO** World Health Organization

**WHOPES** World Health Organization Pesticide Evaluation Scheme

**ZAPIM**  Zimbabwe Assistance Program in Malaria

**ZAPS**  Zimbabwe assisted push system

**ZDHS** Zimbabwe Demographic Health Survey

**ZIMSTAT**  Zimbabwe National Statistics Agency

**ZINQAP** Zimbabwe National Quality Assurance Program

**ZIPS** Zimbabwe informed pull system

# Introduction

## Background

The goal of the Zimbabwe National Malaria Control Program (NMCP) is to reduce morbidity and mortality due to malaria by scaling up prevention and control strategies. Effective monitoring and evaluation (M&E) of the NMCP remains an essential function of program management, and enables the NMCP to assess progress made towards achieving the set objectives and targets.

Following the last National Malaria Strategic Plan (NMSP) 2008-2013, the malaria control strategic direction was guided by an addendum up to 2015, tracked by a corresponding M&E performance framework. A new costed NMSP 2016-2020 has been developed and this costed SM&E Plan (2016-2020) is designed to monitor and evaluate performance progress of this plan.

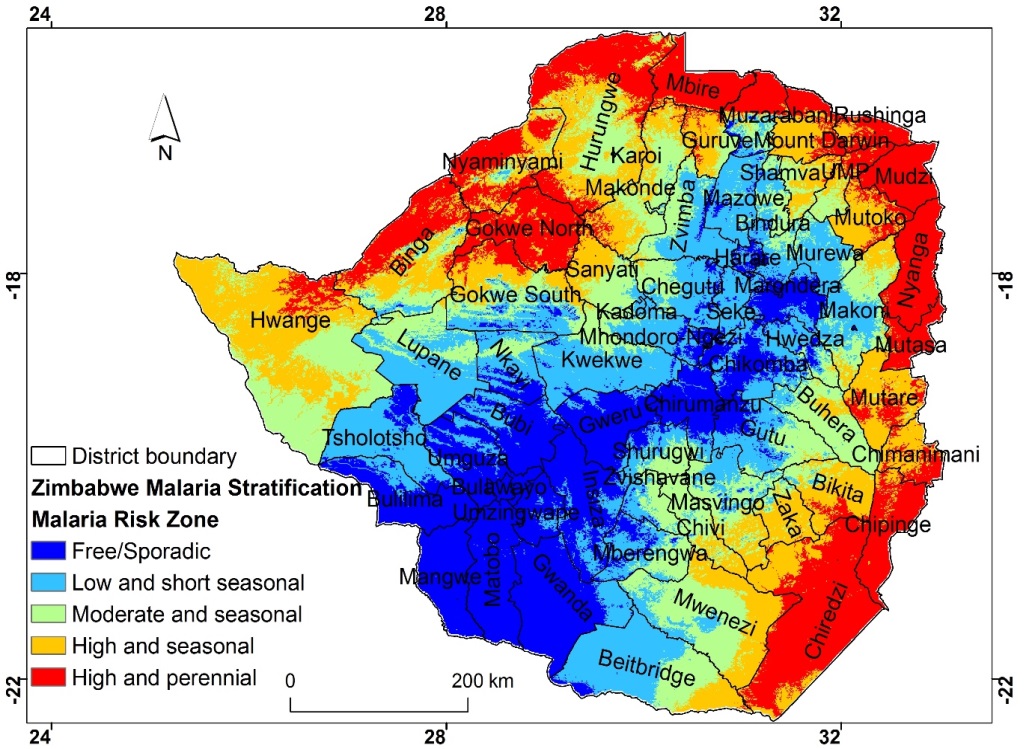
## Epidemiology of Malaria in Zimbabwe

Malaria remains one of the most important public health challenges in Zimbabwe, causing significant morbidity, mortality and poverty, despite concerted prevention, control and elimination efforts. Approximately 98 percent of the cases are caused by *Plasmodium falciparum*, with *Plasmodium ovale* and *Plasmodium malariae* occurring in the remaining 2 percent of cases.

### Spatial and Temporal Distribution of Malaria

Malaria transmission is seasonal and unstable, with the highest transmission occurring along the international border areas in the north (Zambia) and the East (Mozambique). Transmission along the borders to the west (Botswana) and south (South Africa) is limited and epidemic prone. In most parts of the country, epidemics routinely occur during the warm and wet season, particularly in February to April. The central highlands are largely malaria free.

Figure 1: Zimbabwe Malaria Risk Map, 2016



**Source: Rapid Disease Notification System**

Zimbabwe is divided by a central watershed lying 1,200 meters above sea level and is flanked north and south by low-lying areas. Malaria transmission occurs mainly during the rainy season in areas below 1,200 meters above sea level. Re-stratification in 2015 divided the country into five malaria transmission zones: high perennial, high and seasonal, moderate and seasonal, low and short seasonal and malaria free/sporadic to guide implementation of malaria control interventions. This stratification is shown in Figure1. A total of 33 districts are considered to be moderate-high burden malaria transmission districts.

### Malaria Morbidity and Mortality

Beginning in 2009, parasitological confirmation by either rapid diagnostic test (RDT) or microscopy was instituted for all suspected malaria cases. Since 2009, there has been a decline in malaria incidence from 58 cases per 1,000 population to 21 cases per 1,000 population in 2016, with a slight increase to 33 cases per 1,000 in 2017 (Figure 2). Mortality increased from 235 deaths in 2016 to 420 deaths in 2017 (Figure 3). The malaria epidemics that were reported in 2017 also affected the non-immune population in pre-elimination zones, resulting in increased national burden, hospitalization, and mortality due to malaria disease.

Figure 2: Malaria Incidence Rate 2013-2017

Figure 3: Malaria Deaths by Age Group 2013-2017

### Vector Surveillance System

*An. arabiensis* is the primary malaria vector in Zimbabwe, while *An. gambiae s.s* and *An. funestus* are secondary vectors. The primary vector is widely distributed in the eight rural provinces in the country. *An. gambiae s.s.* has limited distribution, and was last detected in Kanyemba area in Mashonaland Central Province along the Zambezi Valley in 2002. *An. funestus,* which was detected only at Buffalo Ranch in Chiredzi District of Masvingo Province in 2002, was detected more than one decade later in Mutare, Mutasa, Karoi, and Goromonzi areas. In the absence of recent, comprehensive, nationwide species distribution data from other parts of Zimbabwe, the resurgence of *An. funestus* in these few localities could be more widespread than previously thought.

To control malaria, Zimbabwe heavily relies on the insecticide-based strategies (i.e., indoor residual spraying [IRS] and long-lasting insecticide-treated nets [LLINs]), which have tendencies to increase the selection pressure for insecticide resistance in malaria vectors. The insecticide resistance studies in malaria vectors at vector sentinel sites in Zimbabwe have shown resistance trends characterized by variations in sensitivity to pyrethroids, organochlorines, and carbamates from one locality to the other. Only organophosphates (pirimiphos-methyl 1%) have been consistently sensitive for all vector species throughout Zimbabwe. Organochlorines (DDT 4%) showed resistance in *An. gambiae* s.l. species collected in Beitbridge (Makakavhule) and Gokwe (Kamhororo). Resistance to carbamates (bendiocarb 0.1%) was also detected in *An. gambiae* s.l. species of Sanyati district. The *An. gambiae* s.l.and *An. funestus* group have developed resistance to pyrethroids (lambdacyhalothrin 0.05% and deltamethrin 0.05%) in several parts of the country.

## NMCP Strategic Plan 2016-2020 Summary

### Vision of NMCP

The vision of the Zimbabwe NMCP is to have a malaria free Zimbabwe.

### Goal

To reduce malaria incidence to 5/1000 and malaria deaths by at least 90 percent of the 2015 figure by 2020.

### Objectives and Control Strategies

To achieve this goal, the 2016-2020 NMSP focuses on the following six strategic objectives (Table 1).

Table 1: Objectives and Control Strategies of the National Malaria Strategic Plan

| Objective | Strategies |
| --- | --- |
| 1. To protect at least 85% of the population at risk of malaria with an appropriate malaria prevention intervention for the period 2016-2020 | 1. IRS 2. Mass LLIN distribution and continuous distribution 3. Larval source management 4. Personal protection: House screening and repellent use 5. Provision of intermittent presumptive treatment in pregnancy (IPTp) to pregnant women through ANC in targeted districts |
| 1. To provide prompt and appropriate treatment to all confirmed malaria cases by 2018 and maintain up to 2020 | 1. Strengthen quality assurance of diagnostics (RDTs and microscopy) and treatment 2. Maintain quality-assured treatment of all uncomplicated malaria cases 3. Ensure quality-assured supply chain management 4. Capacitate health facilities to effectively manage severe malaria 5. Strengthen case management for special groups (mobile migrant population, miners, refugees, agriculture workers, religious groups, gatherings etc.) |
| 1. To strengthen surveillance, monitoring and evaluation for all malaria interventions for the period 2016-2020 | 1. Strengthen the disease surveillance system (passive, active) 2. Strengthen entomological surveillance 3. Strengthen data management 4. Generate and maintain evidence for informed malaria programming 5. Improve malaria epidemic detection 6. Strengthen epidemic response 7. Enhance programme monitoring |
| 1. To eliminate local malaria transmission in at least 9 districts by 2020 | 1. Strengthen elimination surveillance 2. Strengthen capacity for elimination 3. Expand pre-elimination districts 4. Prevent reintroduction of malaria |
| 1. To increase utilization of all malaria interventions to at least 85% by 2020 | 1. Raise the profile of malaria amongst politicians, policy and decision makers at all levels to increase malaria funding and support the utilization of malaria interventions 2. Engage networks of people to increase utilization of malaria interventions 3. Implement formative research to understand the social determinants of behaviours and intervention use to inform social and behavioral change communication (SBCC) approaches and messages 4. Reinforce and improve knowledge, attitudes, and practices for positive malaria behaviours |
| 1. To provide effective leadership and an enabling environment for optimal program management and coordination at all levels by 2020 | 1. Strengthen programme management and coordination 2. Advocate for high level commitment, support and resources for malaria 3. Strengthen cross border and inter-district collaboration for malaria control and elimination 4. Strengthen procurement supply chain management system |

# 2016-2020 Malaria Surveillance Monitoring and Evaluation Plan

## Objectives of the SM&E Plan 2016-2020

The overall objective of this SM&E plan is to provide a comprehensive tracking system that enables transparent and effective management of information on malaria control program activities for effective implementation of the Malaria Program in Zimbabwe for the period 2016 to 2020.

The specific objectives of the SM&E plan are to:

* Ensure collection, collation, processing, analysis, reporting, dissemination, and use of malaria data at all levels
* Harmonize data collection based on standardized reporting tools and indicators
* Facilitate and coordinate linkages of malaria control activities and information with other programs and partners to eliminate duplication
* Provide information for evidence-based decision-making at all levels
* Provide a platform for evaluation of the outcomes and impact of malaria interventions

### Strategies to Achieve Objectives of the SM&E Plan

The following strategies have been planned to help achieve the objectives of the National SM&E Plan:

* Improve routine data collection
* Strengthen surveillance at entomological sentinel sites
* Implement continuous data quality improvement
* Conduct and strengthen review meetings at all levels
* Improve monitoring of malaria medicines and other commodities
* Strengthen the reporting system for malaria elimination
* Strengthen supportive supervision at all levels
* Strengthen surveillance and M&E collaboration at all levels

## Process for Developing the SM&E Plan

The National Malaria SM&E Plan monitors the implementation of the NMSP and the relevant goals of the National Health Strategy. It also builds on the implementation of experiences observed in the previous SM&E Plan. The NMCP coordinated the development process and involved key stakeholders and representatives from the national office and provinces. Some of the partners who were actively involved in the development of this SM&E plan include World Health Organization (WHO), PMI, the ZAPIM project, the Africa Indoor Residual Spraying (AIRS) project, Elimination 8 (E8) and Plan International. Prior to the SM&E Plan development workshop, a consultative meeting was held with members of the Surveillance, M&E Subcommittee of the Malaria Technical Working Group (TWG). This was followed by another planning meeting where partners collaborated on finalizing the program for the SM&E plan development workshop. Thus, an overarching theme in the development of the SM&E plan was ensuring stakeholder ownership of the development process and the final product.

A four-day SME TWG meeting was held at Marondera on January 3-5, 2018 and another five-day workshop was held in Kadoma on January 29-February 2, 2018 to develop and agree on the final revised SM&E Plan. The final SM&E plan included indicators to be tracked, targets, and an action plan.

National and international documents and guidelines on malaria informed the development process. Some of the key documents included the NMSP (2016-2020), the 2016 Malaria Program Review, WHO malaria guidelines, the National Health Strategy, the National Health M&E Strategy, the SM&E Plan for the Revised Malaria Strategic Plan 2013, which includes findings from the 2012 situation analysis of the National Malaria M&E System, and the National Health Information System (NHIS) Strategy. In addition to reviewing documents and guidelines, a strengths, weaknesses, opportunities and threat (SWOT) analysis of the current M&E system was undertaken using a participatory approach with the view of identifying a) the strengths of the M&E systems, b) gaps and challenges, and c) actions needed to address system gaps and challenges.

## Framework for Monitoring and Evaluating the NMSP

Four levels of indicators (inputs, outputs, outcomes, and impact) will be used to monitor the corresponding levels of results as detailed below.

* **Inputs**: Inputs are the resources that are needed to implement the project and its activities. Inputs can be expressed in the form of the people, equipment, supplies, infrastructure, means of transport, and other resources needed for a specific project or activity.
* **Outputs**: Outputs are the immediate results of the activities conducted. They are usually expressed in quantities, either in absolute numbers or as proportions. Outputs are generally expressed separately for each activity.
* **Outcomes**: Outcomes are the medium-term results of one or several activities. Outcomes are what the immediate outputs of the activities are expected to lead to. Outcomes are therefore primarily expressed for a set of activities and a given objective. They sometimes require separate surveys for their values to be determined.
* **Impact**: Impact refers to the highest level of results, to the long-term results expected of the project. Impact generally refers to the overall goal or goals of a project.

### Measuring Performance - Core Indicators Mapping and Performance Framework for the NMSP 2016-2020

The NMCP has adopted the basic M&E Framework for monitoring and evaluating the NMCP. The indicator mapping and framework below (Fig 4 and Table 2, respectively) identifies the core indicators for impact, outcome, and output measurements towards malaria control efforts in Zimbabwe for 2016-2020. Baseline, targets and sources and frequency of reporting on the indicators have been captured in the framework to guide reporting.

Figure 4: Core Indicators for Monitoring the NMSP 2016-2020

Goal: Reduce malaria incidence to 5/1000 and deaths by 90%

(Confirmed malaria cases, malaria mortality rate, inpatient malaria deaths, parasite prevalence)

Objective 1: To protect at least 85% of the population at risk of malaria with an appropriatemalariaprevention intervention for the period 2016-2020

% of targeted population at risk protected by IRS; % households with at least 1 ITN per sleeping space/1 net for two people or rooms sprayed; % using an insecticide treated net; % identified active breeding sites treated; % special population protected by repellents; % pregnant women who received at least 3 doses of SP

Number of LLINs distributed; Number of sites conducting bioassay test; Number of sites conducting resistance tests for at least one or all 4 insecticide classes; Number of districts implementing IPTP

Objective 2: To provide prompt and appropriate treatment to all confirmed malaria cases by 2018 and maintain up to 2020

% suspected malaria cases who received a parasitological test at facility or community; % RDT positive suspected malaria cases who received a microscopy test in pre elimination districts; % confirmed malaria cases who received first line antimalarials; % severe malaria cases who received appropriated anti malaria treatment;

Number of health workers trained in malaria cases management and IPT; Number of CHWs trained in malaria cases management

% expected reports received on time at the national level; % health facilities reporting complete data; % cases notified within 24 hours (elimination); % outbreaks detected within one week of onset

Number of facilities with malaria EPR kits; Number of facilities reporting on ADR

Objective 3: To strengthen surveillance, monitoring and evaluation for all malaria interventions for the period 2016-2020

Objective 4: To eliminate local malaria transmission in at least 9 district by 2020

Annual blood examination rate per 100 population per year; % identified cases fully investigated;

% identified active foci investigated classified; Number of active foci malaria

Number of districts with no local malaria transmission; Number of districts moved to pre elimination; Number of health workers trained in enhanced surveillance

Objective 5: To increase utilization of malaria prevention interventions to at least 85% by 2020

% population sleeping under LLINs; % population that seek treatment within 48hrs; % women who have knowledge about the importance of IPTp in pregnancy; % population with access to malaria information

Number of health facilities with functional communication system; Number of IEC materials distributed by type

Objective 6: To provide effective leadership and enabling environment for optimal program management and coordination at all levels by 2020

% border districts implementing harmonized strategies; % facilities with minimum and maximum stock levels for key commodities (RDT&ACTs); % districts with malaria work plans aligned to the NMCP; % of GOZ budget allocation to health

Number of HCCs in high transmission and pre elimination districts that meet to review malaria; Number of partners implementing malaria activities

# 

# Programme Monitoring

Under the broader auspices of the NHIS, the NMCP uses multiple channels to monitor the implementation of the malaria prevention and control activities and to evaluate program outcomes and impact. These include: 1) routine morbidity and mortality surveillance through the HMIS, Weekly Disease Surveillance System (WDSS), and death investigations; 2) the routine monitoring of commodity distribution, stock status, and consumption through the Logistics Management System; and 3) the regular collection of programmatic data through the various additional systems described below. In addition, the NMCP implements or participates in non-routine surveillance activities such as case-based reporting in pre-elimination areas, population-based surveys, audits, and operational research activities. Taken together, these information channels provide NMCP and partners the data for programmatic decision-making.

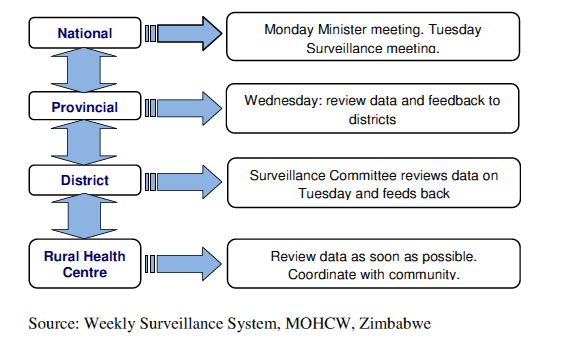
According to the National M&E Framework, the District Health Information System 2 (DHIS2) is designated as the central repository for health data. Currently, substantial portions of the malaria data collected are housed and available within this system for analysis, dissemination, and use. Where possible and appropriate, the NMCP is working to integrate the remaining outside data streams into DHIS2.

## Routine Data Collection and Reporting

### The Weekly Disease Surveillance

The WDSS is a rapid disease notification system (RDNS) for monitoring disease activity, including the detection and response to epidemics. As Figure 5 illustrates, the reporting week begins on Monday and ends on Sunday. All rural health facilities/clinics submit data to the district level by Monday, districts submit to provinces by Tuesday, and provinces and major city hospitals submit to national level by Wednesday. Completeness and timeliness of data are measured for each health facility at district, provincial, and national levels. A frontline short message service (SMS) system is used to transmit WDSS data onto DHIS2 servers. Weekly surveillance meetings are held at district, provincial, central, and national levels to review and discuss submitted weekly information. Epidemic alert and action thresholds are set at all health facilities in high to moderate transmission areas to facilitate early detection and response to malaria and other disease epidemics. Whenever threshold limit values are reached at a health facility, response measures are triggered through the rapid response teams. This allows for early detection and response to epidemics. In the malaria elimination settings the constant case count is used.

Figure 5: Analysis and Feedback of Weekly Surveillance Data



### Monthly T5 summary (T12, T3, T6)

The HMIS collects routine information through the T-series (T-3, T-5, T-6, T-12 and VHW Reports) forms for monitoring health and disease indicators. Information is reported monthly from health facilities to district through to the national level as per the national reporting system defined in the Health Information System (HIS) User Guide. Health facility compiles data at facility level from the 1st to the last day of the month and sends hardcopy to the district for consolidation. The district then enters the data into DHIS2. Once entered, data are immediately available online when the servers sync every day at midnight. At each level the data are analyzed, acted upon and feedback provided to the lower level.

### Hospital Workload Statistics

The Hospital Workload Statistics 5 (HWS/5) Monthly report is a hospital workload statistics report. It is generated at hospitals only. It summarizes data on outpatients, inpatients (admissions, number of beds, occupied bed days, discharges, transfers-in transfers-out and deaths), and departmental services- maternity deliveries, theatre ops, dental services, rehab, laboratory, catering services, transport, mortuary, personnel and finance (budget and expenditure). Important information generated from HS3/5s are: 1) Hospital facility utilization rates; 2) Average length of stay; 3) Patient/staff ratios; 4) Health expenditure per capita ratio; 5) Overall mortality rates; and 6) Laboratory and other services utilization rates.

### Inpatient Morbidity and Mortality (T9)

The inpatient morbidity and mortality information system (IMMIS) is an International Statistical Classification of Diseases (ICD-10) based system that reports data on inpatients at admitting health facilities, including in-patient diseases, conditions and deaths (morbidity and mortality). Information derived from patients’ diagnoses on front sheets is captured and classified using ICD-10 codes. Diagnoses are entered into a computer system (IMMIS) that generates T9 reports. This report includes incidence, prevalence rates (morbidity), and mortality rates. This system has faced serious hardware and software challenges and is in the process of being reviewed.

### Village Health Worker Monthly Report

This is a form used by village health workers (VHWs) to consolidate all activities carried out over the reporting month, including malaria data among others. Data is extracted from VHW activity registers and transferred into the monthly reporting template, which is submitted to the local health facility. Information on this form is sent to the district for consolidation and entry into the DHIS2, and open to the public. Of concern at present is the fact that the VHW data consolidated in DHIS2 is not disaggregated by pregnancy status and age.

### VHW Weekly Report

This is a form used by VHWs to consolidate all weekly activities. This includes malaria data among other activity data. The coverage of use of this form in weekly malaria surveillance is still low (not all health facilities fully utilize the form). Where the form is consistently used, data is extracted from the VHW registers and transferred into the weekly reporting template which is then compiled with the local health facility weekly data. Information on this form is then sent to the district and integrated with others directly entered via the electronic frontline SMS system where it is then ready for review and use at district, province, and national levels.

### Rapid Reporting for Indoor Residual Spraying

Zimbabwe implements IRS as a primary vector control strategy with support from the Government of Zimbabwe (GoZ), Global Fund (GF), and PMI. Standard data collection forms have been developed and are used by spray operators to collect daily, weekly, and monthly IRS data. Data collected include spray coverage, population protected by IRS and resource utilization. This data is then submitted to the district by data managers for consolidation and onward transmission to the province and finally national levels. The program is currently running a parallel reporting system of paper-based and electronic monitoring with the intention of graduating from the paper-based version once reliable data from the electronic version is established. Generated data is transmitted on a weekly basis to the national database server where it is analyzed with morbidity and mortality data. Dissemination of information is done during weekly, quarterly and annually at malaria review meetings. Dissemination is also done through partners’ information sharing platforms.

### Zimbabwe Assistance Pull System Quarterly Report

The Zimbabwe Assisted Pull System (ZAPS) was successfully piloted in Manicaland in 2014 and has since been rolled out to all provinces. It is a successor to the Zimbabwe Informed Push System (ZIPS), which combined ordering and collection of logistics data with distribution of commodities (including malaria commodities) to all facilities every quarter. The ZAPS is a gradual step towards the full “pull” system. District Pharmacy Managers assist the facility staff in completing order forms using stock cards, issue and receipt vouchers, and summary information from VHWs. The collected data is recorded in an electronic system and shared with National Pharmaceutical Company (NatPharm) for order processing and delivery. The logistics data, which includes stocks available, consumption, losses and adjustments are disseminated to all provinces for decision-making. At national level the data is used for quantification and supply planning.

The End-Use Verification (EUV) surveys have been implemented since 2012. EUV surveys assess the availability of malaria commodities at facility level, identify areas of strength and weakness in the supply chain and malaria case management, and provide data and insight for analysis, advocacy, and decision-making on a bi-annual basis. They have served as a point of comparison for the quality of LMIS data. Immediate stock reallocation actions have often been taken based on EUV survey findings, providing stock availability and mitigating expiries by moving products from overstocked facilities to understocked facilities. To improve the utility of the EUV surveys in Zimbabwe for 2016 and onward, the survey tool, as well as the timing and facilities visited during the survey, was adjusted to better accommodate the seasonality and epidemiology of malaria in the country.

### Pharmacovigilance - Voluntary System of Reporting Adverse Drug Reactions and Cohort Event Monitoring at Sentinel Sites

To complement the voluntary system of reporting adverse drug reactions (ADRs) and to effectively monitor the new antimalarial treatment, MOHCC together with MCAZ, introduced cohort event monitoring (CEM) of artemisinin-based combination therapy (ACTs) in 2008. CEM is a prospective, observational study of adverse events associated with the use of ACTs in the early post-marketing phase. It records all clinical events and not just suspected events. This system is effective in detecting early warnings of problems associated with relatively new medicines. This system is fairly new and for it to work efficiently, it requires extensive training of pharmacovigilance staff at the national centre, pharmacovigilance focal persons at provincial and district levels and health professionals. Development and production of data collection forms is also necessary.

### Quality Control of Diagnostic Methods

Zimbabwe has developed Quality Assurance/Quality Control (QA/QC) guidelines which take into consideration WHO recommendations for malaria diagnostic methods. A malaria diagnostics TWG monitors the implementation of the guidelines at national level with support of the NMCP. The guidelines specify all processes required to continuously and systematically assure that quality results are given out which are accurate and reliable. Malaria diagnostic methods currently used in routine practice are microscopy and RDTs. Human resources will be trained and their competence assessed regularly in malaria diagnosis through External Quality Assurance (EQA) by Proficiency Testing (PT); Onsite Training, Supportive Supervision (OTSS) visits and Blinded Rechecking (where slides from testing facilities will be re-examined by expert microscopists). Quality assurance/control of supplies and equipment, self-monitoring and corrective action mechanisms are the major components of the diagnostic guidelines. QA of supplies and equipment includes storage and transportation of these items, pre and post shipment lot testing of RDTs, and in-country evaluations of diagnostic commodities. This will be done through supporting structures comprising of the national reference laboratories. Self-monitoring involves internal quality control systems such as development, use and regular review of standard operating procedures (SOPs). This ensures proper collection of specimens, standardized methods and standard reporting of results in a timely manner. Where non-conformance is identified, corrective action will be taken immediately.

Under the EQA for malaria microscopy, facility-based microscopists and laboratory scientists are sent a panel of malaria slides to examine and report on from Zimbabwe National Quality Assurance Program (ZINQAP). Their performance is rated according to the slides they correctly read from the panel. The current system needs further strengthening and resources to ensure that it is potentially conducted once each quarter and covers all the public health facilities.

### Quality Control of Medicines Report

The Medicines Control Authority of Zimbabwe (MCAZ) is a statutory body established in 1997 as a successor to the Drugs Control Council. It is responsible for monitoring the quality of pharmaceutical products circulating in Zimbabwe, including ACTs. There is routine supervision conducted in both public and private health facilities through the post marketing surveillance system to control the import and export of medicines and registration of medicines intended to be used in Zimbabwe. Pre-distribution sampling of all received shipments based on an annual sampling plan is done, and only products that pass the quality tests are allowed into the supply chain. Facility staff can also report any product defect using tools and guidance in the *Essential Medicines List for Zimbabwe*.

### LLIN Routine Distribution Form

Zimbabwe has adopted and scaled up the use of LLINs through mass campaigns and continuous routine distribution as one of the country’s effective vector control strategies. Mass campaigns are conducted in areas with an annual parasite incidence of 4/1000 and below as indicated in the 2016-2020 Malaria Strategic Plan. This strategy is being coordinated by NMCP and implemented by specialized partners allocated to designated operational areas. The data on LLINs distribution is captured through the LLIN inventory register kept at rural health facilities and other identified distribution centres. Over and above the mass campaign LLIN data, the country is collecting LLIN data for continuous distribution (CD) channels. This data will be routinely collected on a monthly basis as part of the DHIS2 captured data. Once the CD data is incorporated into the DHIS2, it is analyzed with morbidity and mortality data. DHIS2 viewers will be able to view real time CD data.

### Malaria Death Investigation Form

To understand malaria related deaths, the NMCP introduced the malaria death investigation form. The form is filled in triplicate for all malaria deaths by the health facility staff and transmitted to the district, provincial, and national level. Efforts are underway to introduce an electronic platform for the form. Death audit meetings are held regularly at district and provincial level to review all the malaria death cases and institute measures to address identified potentially preventable causes of malaria deaths.

### Financial Monitoring

The NMCP is guided by the costed NMSP and the SM&E plan for 2016-2020. The NMCP is financed by various entities, mainly the GoZ, the GF, PMI, and other partners. The country also has a financial SOP which requires that all expenditures, especially for GF-funded activities be tracked and managed through a public funds management system and reported at specified intervals.

## Non-Routine Data Collection

### Case-based Surveillance

#### Enhanced surveillance reports

Enhanced surveillance reports malaria as a notifiable disease in districts targeted for elimination. An enhanced surveillance system is utilized, and it follows a 1-3-7 approach. Malaria cases are reported and notified within a day (24 hours). Case investigation and classification are completed within three days. Foci investigation and classification are completed within seven days. Notification and reporting are web-based, via DHIS2 Tracker.

#### Foci investigation form

A foci investigation form is a tool that puts together the parasitological, entomological, social, geographic, ecological, and human drivers of local malaria transmission in elimination settings. This form allows an investigator to classify a focus of transmission as either active, residual active, or cleared foci.

#### Foci register

This is a register of all foci and their types and is maintained at ward, facility, district, province, and national levels. This is a detailed register that shows the year and classification of the various foci types. The functional status of a focus is fluid and the final status is updated at the end of the year.

#### Foci summary

This is a numeric summary of foci classes by ward, facility, district, province, and at national level.

### Sentinel Surveillance Systems

#### Entomological surveillance

The NMCP and its partners established 20 sentinel sites in all the rural provinces and one city to monitor vector density, species composition and their spatial distribution, bionomics and susceptibility/resistance to insecticides used for malaria control in the country. The NIHR, Government Analyst Laboratory, and partners regularly monitor the quality of insecticides and mosquito nets for public health use. The monitoring function of chemical efficacy on sprayed surfaces and chemical use is done at sub national levels. The selection of LLINs and other insecticide treated materials for use by the public is guided by WHO Pesticide Evaluation Scheme (WHOPES) recommendations. The Government Analyst Laboratory regularly monitors and analyzes soil and water pH from areas under IRS to ensure the longevity of the insecticides used in routine IRS. The information is used to guide vector control activities.

#### Antimalarial drug efficacy monitoring

MOHCC has established eight sentinel sites to monitor emergence of resistance of *Plasmodium falciparum* to various antimalarial medicines in the country. Currently, six sentinel sites are operational. These sites are used to collect information on efficacy of first-line medicines to treat *Plasmodium falciparum* infections. The sentinel sites use modified guidelines based on WHO protocol for antimalarial therapeutic efficacy testing in low transmission areas (WHO, 2009). The data generated from the sentinel sites are used to inform policy decisions and guidelines on the treatment of uncomplicated *P.falciparum* malaria. A therapeutic efficacy testing (TES) data repository exists and it is periodically updated.

#### Antimalarial cohort event monitoring

MOHCC and Medicines Control Authority of Zimbabwe introduced CEM of ACTs in 2008 to complement the voluntary system of reporting ADRs and to effectively monitor the new antimalarial treatment. This system is effective in detecting early warning signs of problems associated with relatively new medicines. For the system to work efficiently, it requires extensive training of pharmacovigilance staff at the national center, pharmacovigilance focal persons, and health professionals at all levels.

### Censuses and Surveys

#### National census

In Zimbabwe a census is conducted once every 10 years by the Zimbabwe National Statistical Agency (ZIMSTAT) to obtain population-based data. The NMCP will continue to be informed by the national census for critical information such as socio-economic and demographic data, vector control wards, literacy, radio and TV coverage, which all guide programming. In addition, quantification of some commodities such as pharmaceuticals is based on census information such as age structure of the population.

#### Zimbabwe demographic and health surveys

The Zimbabwe Demographic and Health Survey (ZDHS) is a national representative household population-based survey conducted every five years. The most recent was conducted in 2015. Results published provide primary information of all causes of under-five mortality rates, fever treatment among children under-five with anti-malaria drugs, ownership and use of LLINs and other malaria interventions. However, the sampling method does not correspond well to malarious areas and the data collection is not conducted during the peak malaria season. Consequently, the results are not valid enough to be useful for the malaria control program unless these factors are taken into consideration.

#### Malaria indicator surveys

The Malaria Indicator Survey (MIS) is a nationally representative population-based survey developed by the Roll Back Malaria initiative with the aim of capturing coverage of malaria control interventions and population prevalence of parasitaemia and anaemia. It is a stand-alone household survey, collecting national and regional or provincial data from a package of tools that contains a series of guidelines, questionnaires, recommended tabulations, and relevant manuals. The survey only includes areas at risk of malaria and is conducted during the peak of malaria transmission in the country. The MIS is carried out at an interval of every two to three years. The first MIS was conducted in 2008, followed by one in 2012 and the latest in 2016. With the expanded efforts to eliminate malaria, the program plans to conduct the next MIS in 2020 as a measurement of the malaria indicators during the life span of the MSP 2016-2020 and to assess progress towards the achievement of the National Health Strategy goals and objectives.

#### Multiple indicator cluster survey

The Zimbabwe National Statistics Agency implemented the first Multiple Indicator Cluster Survey (MICS) in 2014, following the customized 2009 Multiple Indicator Monitoring Survey. The 2014 MICS was designed to collect internationally comparable information on a variety of socioeconomic and health indicators, including outcome and impact measures related to malaria programming. These included estimation of early childhood mortality, coverage and use of vector control interventions, care-seeking behavior among children with fever, diagnostic and treatment coverage, and uptake of IPTp. A follow-up MICS is planned for 2019.

#### Health facility assessments

Health facility assessments are used to determine the quality of care delivered by health workers to patients (outpatients and inpatients), and stock management of medicines and other malaria-related commodities. They also check the quality of malaria data collected by health facilities. Weaknesses identified during the health facility assessments are reported to the responsible authorities for possible corrective actions.

#### Malaria case management audits

The Malaria Case Management Audit is a health facility-based survey that is conducted every other year. The survey evaluates the management of malaria cases at health facilities from rural, district, provincial, and central levels. The Malaria Case Management Audit is used to track key indicators related to malaria case management, provision of IPTp, training of health care workers in these areas and the availability of commodities aligned to the correct management of malaria. A detailed list of the indicators is shown in the table of indicators. The first Malaria Case Management Audit was conducted in 2009 and has been repeated every other year, with the last one done in 2015. The findings inform interventions to improve case management and supply of requisite commodities.

#### Other special surveys

The NMCP implements other surveys and assessments on an as-needed basis to provide information for programmatic decision-making related to specific challenges and opportunities identified during program implementation. Recent examples include an assessment of the drivers and barriers to increased IPTp coverage in Manicaland Province and an assessment of the factors contributing to a nation-wide discrepancy between reported malaria cases and consumption of first-line antimalarial medications. Other special surveys include standard protocol population-based ones like the LLIN durability studies and Tracking Results Continuously surveys.

### Operations Research

There are multiple research topics that are of interest to the NMCP and would provide critical information for programmatic decision-making and longer-term planning, for example:

1. Mosquito repellents in the form of coils or creams are very expensive and most of the time are not available for those living in rural moderate to high burden malaria areas. Consequently, many people in these areas use selected traditional plants for protection against mosquito bites. Therefore, a study on the evaluation of selected traditional plants as mosquito repellents in rural Zimbabwe is proposed. This study will evaluate the effectiveness of these selected traditional plants against mosquito bites.
2. High altitude areas (above 1200 meters) are traditionally considered malaria free zones. These include the major cities of Bulawayo and Harare and parts of the plateau. However, cases of malaria have recently been reported in the traditionally malaria-free zones. A study to investigate malaria transmission in traditional malaria-free zones in Zimbabwe is proposed.
3. Prevention and treatment interventions are provided in Zimbabwe through various channels. However, little is currently known about the knowledge, attitudes, and preferences of Zimbabwean communities on malaria prevention and treatment channels. A study on behavior change communication preferred channels is proposed.
4. According to the WHO guidelines, pre-referral rectal artesunate is to be given to children aged six years and below. In Zimbabwe, there are remote malaria transmission areas with poor transport systems for referral of sick patients that largely rely on VHWs for malaria treatment. A study to assess feasibility, acceptability, effectiveness, and safety of rectal artesunate administration to adult patients in these remote areas is proposed.
5. Despite the intensive vector control interventions and treatment facilities deployed in Beitbridge District, malaria transmission persists and, in some instances, is increasing. A study to determine the factors contributing to this residual transmission is needed.
6. The NMCP relies heavily on vector control interventions, particularly IRS and LLIN distribution and use; however, there is limited information available in-country on the impact of these interventions in the setting of increasing implementation costs. A study to assess the impact of IRS and LLINs on malaria morbidity and mortality in Zimbabwe is required.
7. In districts implementing elimination activities, primaquine is given to all uncomplicated malaria cases together with first line treatment. Beitbridge District has experienced malaria outbreaks in the recent 2016-2017 season. According to treatment policy, VHWs are not allowed to give primaquine with ACTs for uncomplicated malaria. As a result, they are limited to testing and administering ACTs only. A study to assess the feasibility and acceptability of VHW delivery of primaquine is proposed.

Currently, there is no formalized operational research agenda for the Zimbabwe Malaria Programme and limited designated funding for research activities. The NMCP is in the process of developing a malaria research agenda through a stakeholder driven process.

# Data Flow, Analysis, Information Products and Dissemination

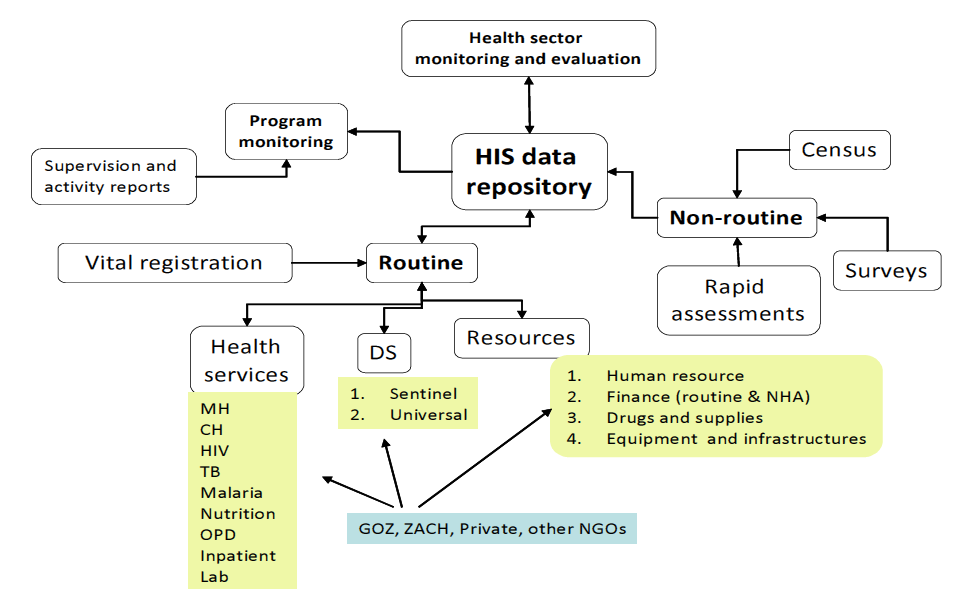
## Data Flow

As described above, most malaria data flows routinely into the NHIS. Data collected from the community-based health workers and health facilities is collated and transmitted to district level and then to the national level through the provincial offices (Figure 6 below). Routine data from health facilities is collected using the RDNS (weekly) and T5 (covers one full calendar month). The T5 data is entered in DHIS2 at the district office by the District Health Information Officers (DHIOs). Data should be verified and validated before entry into DHIS2. The following are the reporting timelines from one level to another:

* Health facility to district: by the seventh day of the following month
* District to province: by the 21st day of the following month
* Province/city health/central hospitals to MOHCC: by the 28th day of the following month

The MOHCC is piloting the Electronic Health Record system (eHR) in Uzumba-Maramba-Pfungwe (UMP) District of Mashonaland East Province. The system has proven to be user-friendly, interactive, and is a comprehensive electronic data collection system as it addresses all needs in one package. The package includes: patient registration, patient management and evaluation, patient tracking, stock usage and tracking, and data aggregation, validation, and analysis. The system is expected to enhance the malaria data flow as it will minimize challenges of uncoordinated systems and embrace advantages of using latest technological advances.

Figure 6: Health Information System, Data Flow and Data Sources



Source: Zimbabwe Health information System Strategy

## Data Analysis

A standard data analysis and use plan is critical for effective planning, coordination, and implementation of programme activities. The results of data analysis should inform all implementers in a timely manner so they can make appropriate changes in program management and resource allocation. Mechanisms to improve analysis and use of data will include:

* Development of an analysis plan for all levels of the M&E system that will serve as a guide on how to use data. The plan will also act as a template for the selection of key indicators for systematic monitoring at all levels (health facility, district, province and national)
* Development of standard training curricula for data managers, district, province, national, M&E staff and HIOs at all levels on data analysis and use
* Presentation of information and data on selected indicators as a regular agenda item for weekly, monthly and quarterly meetings at all levels

## Information Products and Dissemination

### Information Products

A major component of an M&E system is to package information generated through the systems and disseminated to decision makers, key stakeholders, and implementers in a timely manner to inform planning, management, supervision, coordination and implementation. To satisfy its own needs and those of key stakeholders, the NMCP M&E system produces timely reports of the status and progress in malaria control activities in the country. The reports that are produced include:

* Weekly, quarterly, and annual reports
* Special reports on pre-elimination of malaria (e.g., case investigation, breeding sites, foci classification, etc.)
* GF required quarterly and annual reports
* Survey reports
* Other donor required reports

In addition to the malaria specific reports, information of malaria in the country will reflect in the MOHCC monthly/quarterly reports and the annual Health Profile.

### Dissemination

Getting information back to decision makers, key stakeholders and implementers in a timely manner is critical so that it can be used for planning, management, supervision, coordination, and implementation. Information generated from the M&E activities are communicated through multiple channels to appropriate audiences: print media, electronic media (television, radio, and website of the MOHCC and other stakeholder agencies), national, sub-regional and international conferences, stakeholder planning and review meetings, technical thematic working group meetings, PMI partners’ meetings, TWG meetings, Provincial Health Team, Provincial Health Executive and District Health Executive meetings.

#### Dissemination strategy

To facilitate the dissemination of all products generated out of the M&E system, the NMCP will ensure the following:

* Development of a data and report dissemination plan to include type of reports and audience and channels of dissemination
* Strengthened mechanisms for stakeholders to receive and provide feedback on reports/data at all levels
* Sufficient resources are budgeted annually for dissemination

# National and Sub-National Databases

## National DHIS2 Database

The MOHCC adopted a DHIS2 database in 2010 to manage all health information, including malaria. The DHIS2 is a robust database that allows the integration of all program databases. However, currently, not all malaria intervention and programmatic data (e.g., entomological surveillance, larval source) are integrated into the DHIS. While weekly IRS data is reported through the SMS frontline system there are plans to have continuous LLIN distribution through the expanded program of immunization (EPI), antenatal care (ANC) and community through DHIS2 platform.

In addition, a DHIS2 Tracker for malaria elimination case-based surveillance reporting was developed and operational since 2015 in the 20 elimination districts which will be expanded during the life span of this plan.

The DHIS2 database is open-source and accessible to anyone with the login credentials at all levels. Data entry into DHIS2 is done by DHIOs at district level. This database is critical in warehousing, retrieving, and querying captured malaria-related information from a single source.

## Malaria Database

Mindful of the fact that not all essential malaria-related data and information are captured and stored in the DHIS2, the NMCP maintains an Excel database for pooling other malaria-related data including IRS, LLIN, entomological surveillance, larval source management, studies and survey data, and training data collected through other systems outside DHIS2. This database is useful for monitoring trends, performing gap analyses, informing resource allocation and deployment, decision-making, and the production of periodic reports. This database should be available in all provinces and districts and is critical in capturing, warehousing, retrieving, and querying data for other malaria activities.

# Data Quality Assurance Mechanisms and Related Supportive Supervision

## Data Quality Assurance

Data quality assurance is important for verification and validation of data. In Zimbabwe, the National Health Information Unit, M&E Unit, and program staff are responsible for collection, analysis and management of all data from health facilities. Health workers use the T-series system for collection of health information. Health information officers at district, provincial, and national level are responsible for data management at those levels. Data cleaning starts at health facility levels and is done at every level of care up to national level by health information officers. Back-up systems for the database exist at all levels. Some of the systems that have been put in place to ensure data quality includes:

* Development, review, and revision of new and existing data collection tools
* Alignment of reporting timeframes to the HIS
* Development of a data dictionary for all malaria indicators
* Revision of the M&E training curricula for initial and refresher trainings for all staff involved in data collection
* Training of health workers on data collection tools, data collation, analysis, reporting, dissemination, and use.
* Development and revision of mentoring tools and checklists for continuous supportive supervision of staff responsible for data collection.
* Strengthening supportive supervision visits at all levels.
* All the surveys are done in collaboration with the department of ZIMSTAT and other partners to ensure that they are properly designed and statistically sound.

## Data Quality Audit

Routine Data Quality Audits (RDQA), data verification, and data validation are important mechanisms to improve or sustain data quality. RDQA has now been instituted into M&E system of the MOHCC to be conducted annually in an integrated manner. The RDQA will be carried out at all levels to ensure data accuracy and validity. Feedback on findings of RDQA will be provided to the lower levels through reports and/or review meetings. Data verification and validation exercises will be carried out quarterly. Data auditing will be done according to set standard protocols. Specific protocols will be adopted for the malaria program indicators from the integrated MOHCC tools.

## Supportive Supervision

The program implements a four-tier supportive supervision process (national to province to district to health facility to community (community based health workers). The frequency of visits varies by level, with quarterly supportive supervision visits mostly for national, province and district level and monthly visits for the community level. Supportive supervision will be strengthened by making more resources available for the activity to be implemented at all levels. However, specific supportive supervision plans are put in place for particular interventions like IRS and LLIN mass campaigns, when they happen at particular periods of the year. Guidelines for all supportive supervision are useful to communicate expectations and standardize procedures and will be updated. Supportive supervision should be conducted with a sample of sites every quarter to all levels (i.e., not all providers can be reached at once), and will be used as a mechanism to strengthen local M&E capacity. To facilitate and make supportive supervision more effective, SOPs for supportive supervision, checklist and data auditing will be reviewed and updated.

## Reflection and Learning

It is critical to conduct periodic reflection and learning exercises throughout the implementation of the program. Such exercises provide opportunities for improving programme implementation and reprogramming as necessary. In emergency response contexts (e.g., malaria epidemics), this may take a quick exercise, while in general programming situations it may be possible to allocate more time to this process. M&E indicators provide a useful framework for some of these reflection sessions. For example, organizations may use the program benchmarks to monitor and/or evaluate their own performance towards the program goal as well as identifying appropriate supplementary indicators to do so. These could be used in a self-assessment exercise. Or participatory approaches could be used and key informants identified to evaluate the organization’s performance. In each case, it is expected that the reflection process would lead to an action plan. Opportunities for reflection and learning would be built into programme design. Time spent in self-assessment and reflection is rarely wasted!

While external evaluations are one example of reflective practices, in most cases they take place after the activities are finished and mainly seek to influence future responses. The program ought to make an active effort to learn, develop, and improve practices even at the height of program activity implementation and operation. Included in this are participatory impact assessments, listening exercises, use of quality assurance tools, audits and internal learning and reflection exercises, participation in joint, inter-agency and other program collaborative learning initiatives, sharing key monitoring findings, and implementing actions in a coordinated manner.

# M&E Management and Implementation Arrangements

This SM&E plan has been compiled in accordance with the Malaria Strategic Plan 2016-2020 to monitor and evaluate its implementation. To coordinate this plan, the NMCP M&E Unit has a coordinating role of SM&E of the strategic plan. This unit comprises the following functions; data management, surveillance, activity monitoring, operational research, documentation, and dissemination.

## Coordination of Malaria Surveillance Monitoring and Evaluation in Zimbabwe

The malaria SM&E is anchored on the “three ones” Ones principle. NMCP will work with all partners and different units within and outside the MOHCC. The NMCP through the M&E Focal Person will strengthen the existing linkages from within the malaria programme (case management, vector control management, SBCC, laboratories, and other relevant programmes). The M&E Unit will also have close links with the Health Information Unit where it obtains relevant malaria data on a regular and timely basis. The M&E Unit will also have functional linkages between the NMCP and MOHCC units including the Family and Child Health, Maternal and Child Health, Integrated Management of Childhood Illnesses, EPI, NatPharm, Planning Units, and National Institute of Research. The M&E Unit will also establish and maintain linkages with other government departments, such as; Central Statistics Office, local authorities, the private sector and partners that include WHO, UNICEF, PMI, ZAPIM, VectorLink, United Methodist Church, Plan International, and many others working in malaria control.

## M&E within the NMCP

The NMCP falls under the Department for Disease Prevention and Control in the MOHCC, and is led by a National Malaria Program Director. There are five thematic areas/units in the NMCP namely, Vector Control, Surveillance M&E, SBCC, Finance and Administration, and Case Management. Figure 7 illustrates this organizational structure of the M&E team within the NMCP and relationships to the wider M&E Department and Health Information Unit.

Figure 7: M&E Unit within the NMCP

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Currently the M&E at the national level NMCP is led by an M&E officer who is assisted by the M&E assistant and the Data Manager. The Unit gets technical support from the M&E technical subcommittee which comprises members from the public and private sector. The unit also gets support from the Country Coordinating Mechanism Malaria Sub Committee. The M&E unit will have strong linkages with MOHCC M&E department, HMIS, NIHR, and NMRL from which it will obtain the relevant malaria data on a regular and timely basis. Linkages with these important departments will ensure that appropriate discussions are engaged as the data needs for malaria become more demanding and require more innovative approaches to achieve active surveillance in malaria. In addition, at the provincial and district levels, the Provincial M&E officer and Health Information Officer supported by other departmental officers provide support to the collection and reporting of malaria data.

The roles and responsibilities of the Malaria M&E unit include collecting, compiling and disseminating relevant M&E information on malaria control interventions, establishing and maintaining a malaria database, establishing and maintaining functional linkages with other relevant partners involved in malaria M&E such as non-governmental organizations (NGOs) other relevant M&E units and government departments, both within and outside the MOHCC.

The functions of the M&E Unit include:

* Collecting, collating, analyzing and disseminating malaria information
* Preparing and regularly updating the malaria profile
* Preparation of quarterly monitoring reports and annual malaria reports and reviews
* Developing capacity at the sub-national level in M&E, and at sentinel sites
* Serve as the Secretariat of the M&E Subcommittee

## Monitoring the Implementation of the SM&E Plan

In the course of implementation, the plan will be monitored through the existing structures and systems. The malaria control program is provided with technical guidance by four technical sub-committees, namely Case management, Vector Control, SBCC and Surveillance, Monitoring, Evaluation and Operational Research. The NHIS routinely collects and reports on malaria morbidity and mortality data. The system has now been reviewed to include ACT consumption data. Programmatic data (IRS, LLIN) not collected through this system is gathered through parallel reporting systems. Quarterly and annual review meetings are conducted at national, provincial, and district levels. Periodic integrated supportive supervision is carried out quarterly at all levels. Documentation of activities and events is done through annual and quarterly reports. A malaria database that acts as a repository of information is updated and maintained up to district level for easy retrieval.

# Action Plan and Budget for the Implementation of the SM&E Plan

This SM&E plan lays out details for developing M&E capacity in terms of human, logistical, and financial resources. It includes a detailed, costed plan covering the duration of the strategic plan from the year 2016. It is of vital importance that a systematic investigation is conducted to assess the effectiveness and impact of the M&E strategy in order to determine the extent to which the invested resources have yielded the expected results. As such, this plan will be reviewed to assess the progress the program is making towards achieving the goals and objectives. A mid-term review is expected to be held mid-2019. The end-line review is pegged at the end of the year 2020. Support for the review exercises will be sought from external evaluators, led by WHO.

A review of the M&E systems at all levels has identified areas for improvement in the various levels that will be addressed by this plan. The identified factors include:

* The use of improvised data collection tools
* Missing data elements on the improvised data collection tools
* Limited resources for full entomological surveillance
* Inconsistent use of the T-series forms, in particular the T3 form
* Lack of routine clear mechanisms for collecting and reporting data on severe malaria cases outside of the malaria case management audits
* Lack of disaggregation of VHW malaria data by age in the DHIS2 database,
* Lack of tracking of medicine consumption at community level in LMIS leading to over estimation of consumption
* Lack of identification of pregnancy status in malaria cases data at all levels
* Reliance on paper-based data collection systems and
* Poor network connectivity in some areas leading to delays in transmission of data from some rural health centres

A detailed costed SM&E action plan describing activities that will be implemented during the life cycle of the plan has been developed. The action plan has been categorized under broad activity areas for efficient and effective implementation. These broad thematic areas and their respective activities and indicators are detailed in Table 3 below, and the detailed and costed plan is presented in Appendix 1.

Table 2: Thematic Implementation Areas and Indicators of SM&E Action Plan

| Item no. | SM&E Thematic Area | Activities | Activity Indicator | Comments |
| --- | --- | --- | --- | --- |
| **1** | **Capacity building in SME (strengthen human resources and equipping the program for M&E)** | Allocate adequate personnel and material and financial resources for program M&E activities | Proportion of total budget allocated to M&E, staff recruited to support M&E | Availing more resources will increase the robustness of M&E for programmatic and policy decision-making |
| Conduct training gap analysis | Level of discrepancy in M&E training gap | Essential to identify training needs |
| Training of health workers in malaria SM&E with emphasis on completeness of reporting, data quality, analysis, use for decision-making to increase capabilities towards the demands of the strategic goal (at national, provincial, district and facility levels) | Number of HWs trained in SM&E | Continuous training is vital to cover for new staff/attrition |
| Training of health workers in GIS to map and analyze various malaria interventions | Number of health workers trained in GIS to map and analyze various malaria interventions | Targeting health workers at subnational level |
| Conduct TOT for electronic death investigation database training | Number of health workers trained as trainers | Focus on admitting institutions |
| Roll out of an electronic death investigation database | Number of admitting institutions using database | Focus on admitting institutions |
| Train personnel in IRS data collection application | Number of IRS data managers trained | Targeting IRS data managers |
| **2** | **Improve data quality and routine implementation monitoring and reporting at all levels** | Standardize /harmonize routine data collection tools | Number of routine data collection tools standardized/ harmonized | Will need to look beyond malaria tools and include a diverse set of M/E stakeholders |
| Design and implement activity implememtation monitring system across interventgions | Number of activities done per week, month, quarter, year  Updated activity indicator data set  Weekly, monthly , quarterly and annual activity workplans in place | Done in consultation with NMCP propgram officers and partners |
| Print standard data collection tools across interventions (routine HMIS, IRS, elimination, LLINs, entomology surveillance) | Standard data collection tools printed | NMCP and partners to continue contributing to HMIS strengthening |
| Develop SOPs for data management and reporting across interventions | SOPs for data management and reporting developed | Different data collection systems  Are used for IRS, LLINs, LSM, EPR, case management, |
| Procure essential M&E equipment to support data and workflow within NMCP | Essential M&E equipment procured by type | The digital age works perfectly with appropriate equipment |
| Conduct peer reviews for M&E at subnational levels | Peer review forums/ meetings held | Sustainable approach to improve M&E |
| Conduct quarterly data validation meetings | Number data validation meetings conducted | These will be conducted quarterly by National Malaria Program |
| Operationalize an electronic reporting system for CD of nets (LLIN) | % of HF using electronic system to report CD nets | Systems expected to reduce paper work + workload and improve data quality and timeliness of reporting |
| Operationalize a DHIS2-based electronic reporting system for malaria death investigation | % of admitting institutions using electronic system to report death investigation | Systems expected to reduce paper work + workload and improve data quality and timeliness of reporting |
| Conduct field visits for onsite data verification | Data verification visits and spot checks done | Need for regular verification of data submitted from the lowest level up to the national office |
| Develop log for activities for support visits, spot checks and action on findings /observations and risks | Activity log developed | To be consolidated for all interventions at all levels (national, province, distict) |
| Develop spectrum for malaria | Malaria spectrum developed | External support to be sourced.  Involves internal and external people to do detailed analysis of malaria data overtime to generate information for decision making |
| Biannual end use verificationexercises | End use verification conducted | Assess stock status at health facilities and identifies challenges |
| Maintain malaria databases at national, provincial, and district levels | % of districts/provinces with up to date data bases | Focus on HMIS data, IRS, LLIN, entomology data bases. Templates aligned to that of World Malaria Report |
| Develop periodic reports at national and sub-national levels to relevant stakeholders | Number of reports produced by type (weekly, monthly, quarterly, annual) | Specific formats used |
| Promote the integration of electronic reporting system across interventions | Number of indicators reported through electronic systems | Efforts aligned to wider Information and Communication Technology policies for MOHCC |
| Train districts/provinces in bulletin and score card development | Number of districts trained and able to produce bulletins and scorecards | Data analysis, report writing enhanced |
| Support rollout of the Scorecard | Scorecard rolled out |  |
| Produce and disseminate M&E products/ reports for information sharing at national, sub -national levels and to relevant stakeholders | Number of bulletins produced  Number of scorecards produced  Number of malaria profiles produced | Promoting information sharing, use and accountability at all levels. |
| **3** | **Strengthen supportive supervision at all levels** | Review of checklists for malaria supportive supervision (specific intervention & for integrated supportive supervision | Availability of updated checklist | Integration applied where it is applicable |
| Update the supportive supervision plan and standards | Support supervision plan updated | Guiding implementation at all levels |
| Supportive supervision from health facilities to VHW | Number of VHWs reached for supervision | This will be conducted by national, province, district and health facility level utilizing standardized tools |
| Scale up integrated supportive supervision: national, province, district and health facility level utilizing standardized tools | Number of visits accomplished by level  Number of reports produced | Four tier support supervision implemented |
| Maintain register of key issues/findings identified and actions taken | Action plan and register of issues | Consolidated by M&E and actions followed up by respective program officers and partners |
| Conduct routine supportive visits to check data quality, compliance to guidelines and solicit operational feedback | Number of supervision reports submitted | 4 tier system used (national, province, district and health facility level) |
| **4** | **Strengthening malaria OR and learning** | Convene operations research (OR) stakeholder meeting comprising the implementers from various working groups | OR stakeholders’ meetings conducted |  |
| Identify and set research priority needs for malaria | Number of research priority needs for malaria identified and set up / Research agenda in place | Requires stakeholder consultations |
| Launch of malaria research agenda | Malaria research agenda launched |  |
| Conduct of approved OR protocols: | Number of approved OR protocols implemented | Selected OR questions will have robust protocols developed and conducted |
| Document and disseminate OR findings to inform program implementation | OR findings documented and disseminated |  |
| Conduct drug efficacy studies in 8 sentinel sites | Drug efficacy studies conducted 8 sentinel sites | Conducted biannually |
| Conduct pharmacovigilance  studies on ACTs in sentinel sites | Number of pharmacovigilance  studies on ACTs conducted in sentinel sites |  |
|  |  |  |
| Conduct monthly bioassy studies for at least 6 months annualy | Number of bioassys doen against planned  Mortality rates | Carried out in provinces doing indoor residual spraying |
| Conduct annual insecticide susceptibility studies | Number of insecticide susceptibility studies conducted |  |
| Conduct yearly malaria case management audit | Number of malaria case management audits conducted |  |
|  |  | Conduct quality assurance for incesticides and LLINs | Level of complaince to standars and specifications | Laboratory work done at Tsanga Tobacco Lab and NIHR |
| Conduct net durability study | Net durabilityreportat respective intervals |  |
| **5** | **Conduct program evaluation** | Program evaluations/reviews will be conducted to measure outcomes/impact of this strategic plan | Number of program evaluations or reviews conducted to measure the performance of NMSP |  |
| Conduct malaria program reviews (MPR): There will be two MPRs planned for 2016 and 2020. | MPR reports |  |
| Conduct mid-term review of the NMSP 2016-2020 | NMSP mid term review report |  |
| Conduct MIS or other appropriate malaria survey | MIS conducted / survey report generated |  |
| Conduct Health Facility Survey Assessment | Health Facility Survey Assessment conductedDHS conducted |  |
|  |  |  |
| Contribute to MICS | number of malaria indicators tracked in MICS | Timeline 2019-2020 |
| Geocoding of CBHW catchments to determine spatial distribution | VHW spatial distribution map produced |  |
| **6** | **Strengthen M&E Coordination** | Conduct quarterly SM&E Sub-Committee meetings | Number of SM&E Sub-Committee meetings conducted | Quarterly meetings with M&E recommendations to influence program improvement |
| Organize program quarterly review and planning meetings | Number of meetings held |  |
| Hold weekly surveillance meetings | Number of weekly surveillance meetings held |  |
| Reinforce the existing linkages between the NMCP and the larger networks of the M&E directorate for MOHCC | Aligned indicators and strategies and reports |  |
| Advance linkages across all malaria stakeholders for resource leveraging & support | Partners map | Linkages will be strengthened between the NMCP: METEO, ZIMSTAT and other health divisions (e.g., RMNCH, HIV, TB, Env Health.), relevant ministries, local authorities, the private sector and partners (e.g. WHO, PMI, ZAPIM, GFATM, ALMA, E8, UNICEF, RBM, CHAI, etc.) |
| Update and review training plans | Training plan updated and produced | Taking into consideration and coordinating partner support to minimize training gaps |
| Support and contribute to wider MOHCC status / performance reports | Reports produced | Special and adhoc reports will be included |
| Produce M&E implementation work plans (monthly, quarterly annual) | Work plans produced and tracked | Guiding tools for M&E, cuttting across interventions |
| **7** | **Strengthen entomological surveillance** | Consolidate and maintain an entomological database | Entomological database consolidated and maintained | Supported by vector control subcommitte and partners ding ento work |
| Ensure data collection and analysis from entomological sentinel sites | Number of sites operational  Number of samples send from provinces and analysed | Subnational levels to be suported to ensure quality of samples and use of data |
| Conduct national vector mapping | Vector specises identified by geographical area | Should lead to capcity building and lower levels |
| Conduct resistance monitoring | Resistance patterns by insecticide, resistance map produced |  |
| Train of staff in entomological surveillance and evidence generation | Number of staff trained in entomological surveillance and evidence generation by type by province/district | Activity to be supported by wide distribution of entomology guidelines |
| Procure and distribute entomological surveillance equipment to districts and provinces | Inventory record/report of eqipement ditributed by type by province/district  Adequacy levels and status of the equipement | Supported through GF, CHAI, Vector Link |
| Conduct annual insecticide susceptibility studies | Resistance patterns and maps |  |
| Develop vector special distribution map | Spatial distribution map |  |
| **8** | **Strengthen reporting system for malaria elimination** | Develop and maintain elimination database for malaria at all levels | Elimination database developed and maintained | Data repository effective for data access and use |
| Train health workers, including community based health workers, on enhanced surveillance and DHIS2 Tracker | Number of health workers and CBHWs trained by type of training |  |
| Train private sector on malaria reporting systems | Number of private sector personnel trained on malaria reporting systems |  |
| Updating elimination guidelines as per WHO framework | Elimination guidelines as per WHO framework updated |  |
| Integrate elimination indicators in the DHIS2 Tracker | Data for tracked indicators synchronized in DHIS2 server | Web-based system enhances use of mobile technology |
| Maintain a paper-based backup system -print surveillance reporting forms | Number of forms printed by type | Risks for data loss mitigated |
| Conduct district-to-district learning tours to enhance elimination M&E | Learning tour reports | Use of checklists standardizes the process |
| Conduct case, entomological and foci investigation and classify appropriately | % cases investigated, vector species identified, Number of foci investigated and classified |  |
| Establish an Independent Malaria Elimination Advisory Committee (IEMAC) | Functional IEMAC | TORs adopted from WHO guidelines |
| Maintain a toll-free line for trouble shooting and follow up of technical issues from the field | Number of issues reported and resolved | Supporting smooth running of case based reporting systems |
| Archiving of real time surveillance data | Real time reports on tests and investigations done | Real time reporting leads to rapid evidence based decision-making |
| Validate case classification outputs through monthly meetings | Number of case classification reports, Number of meetings held |  |
| Conduct meetings to interactively review tools | Number of meetings conducted to review tools  Tools reviewed |  |
| Update digital systems to improve electronic reporting systems | Functional systems for electronic reporting |  |
| Updating foci guidelines and disseminate | Updated guidelines disseminated | Due 2017 – 2018 |
| Training of health workers on foci classification and investigation | Number of health workers trained |  |
| Support bi-monthly, district-level review of available data (intervention, meteorological, epidemiological, entomological etc) using available surveillance tools | Number of data review meetings held |  |
| Foci review meeting in order to assess and analyze the data collected to determine drivers of transmission and select responses | Foci review meeting reports produced |  |
| **9** | **Strengthen epidemic preparedness and response** | Assess  district preparedness  to detect epidemics (conduct epidemic preparedness assessment) | Number of districts prepared to detect epidemics assessed  Pre-season assessment report | Need to detetrminje pre-season activities carried by intervention area |
| Train health workers in revised EPR guidelines | Number of health workers trained in revised EPR guidelines |  |
| Develop costed EPR plans at all levels | Updated EPR plans |  |
| Train health workers on IDSR | Number of health workers trained on IDSR |  |
| Pre-position commodities for epidemic response & management | Stock status reports | Commodities includes medicines, insecticides, equipment and supplies |

Appendix 1: Malaria Performance Indicator Matrix

| Item | Indicators | Sources | Baseline  (2015) | Targets | | | | | Frequency | Comments (explanation/assumptions) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2016 | 2017 | 2018 | 2019 | 2020 |
| **Goal: To reduce malaria incidence to 5/1000 population and at least deaths by 90%** | **Malaria Incidence: Confirmed malaria cases (microscopy or RDT) per 1,000 persons per year** | DHIS2 | 29 | 20 | 17 | 14 | 10 | 5 | Annually | Numerator= Total number of confirmed cases seen at health facility plus cases seen by village health workers x 1,000  Denominator= Total Zimbabwe population |
| **Confirmed malaria cases** | DHIS2 | 300 904 | 280 845 | 272 420 | 194 107 | 140 034 | 70 717 | Annually | Health facility cases plus CHW cases make up the total cases seen for the year. The basis of the projections of the stratecgic targets is in inline with the goal forecast for MSP. The trend of cases in 2016 informed the 2017 figure. From 2018, a steady decline is anticipated. |
| **Malaria mortality rate: number of  malaria deaths per 100,000 persons per year** | DHIS2 | 4 | 3 | 2 | 1 | 1 | <1 | Annually | Indicator measures progress towards reducing malaria related deaths in the country.  Numerator= Number of malaria deaths x 100,000. Denominator= Total annual population of the country  The baseline is 338 deaths in 2016. Source is weekly reporting system linked to DHIS2 |
| **Parasite Prevalence: Proportion of population with evidence of infection with malaria parasites** | MIS | 0.4% (6- 59mnths)  0.2 % (all age)  groups  MIS (2012) | 0.2% (6- 59mnths)  0.2 % (all age)  groups  MIS (2016) |  |  |  | 0.1 | Every 3-4 years | The next MIS is planned for in 2020  Numerator= People with confirmed malaria parasites X 100  Denominator= Population surveyed |
| **Objective 1: To protect at least 85% of the population at risk of malaria with an appropriate malaria prevention intervention for the period 2016-2020** | **% of targeted population at risk protected by IRS** | Activity reports- IRS Spray Operator note book | 97% | 95% | 95% | 95% | 95% | 95% | Annually | The targeted population is the population residing in the areas within the districts targeted for IRS.  Numerator= Number of people protected by IRS who reside in areas X 100  Denominator= Actual population expected to be protected/intended to be protected by IRS |
| **Number of LLINs distributed through mass campaign** | Net registration and distribution register | 0 | 2 148 458 | 503 680 | 389 397 | 730 746 | 507 996 | Annually | The target is for every sleeping place in targeted areas to have an LLIN. |
| **Number of LLINs distributed through continuous distribution (CD)** | Monthly CD return forms | 260,279 | 229 961 | 505 019 | 662 886 | 397 617 | 669 083 | Annually | This indicator is demand driven through the designated distribution channels. The CD channels include ANC, EPI and community. A coupon sysytem is used for the community channel. A denominator is not applicable for this indicator |
| **Proportion of households with at least one LLIN** | MIS/DHS | 46.4% (MIS 2012) | 58% |  |  |  | 85% | Every 3-4 years | Numerator= Number of households with at least one LLIN X 100  Denominator= Number of households surveyed/in targeted areas |
| **Proportion of the population with access to an LLIN** | MIS/DHS | No data | 42% |  |  |  | 85% | Every 3-4 years | This is based on the households with at least a LLIN and the assumption that each LLIN in the household is used by two people.  Numerator= Number of people in households with an LLIN who have access to an LLIN X 100  Denominator= Total number of people in households with LLINs that have been surveyed . |
| **Objective 1: To protect at least 85% of the population at risk of malaria with an appropriate malaria prevention intervention for the period 2016-2020 (continued)** | **Proportion of households with at least an insecticide treated net (LLINs)for every sleeping space** | MIS | No data | 51% |  |  |  | 85% | Survey cycle | Numerator= Number of sleeping places with LLINs X 100  Denominator= Number of sleeping places surveyed |
| **Proportion of population who used an LLIN the night before the survey** | MIS | No data | 54% |  |  |  | 80% | Every 3-4 years | Numerator= Number of people with LLINs who used them the night before the survey X 100  Denominator= Number of people in surveyed households with LLINs |
| **Proportion of population with access to treated nets(LLINs)** | MIS |  | 54% |  |  |  | 85% | Every 3-4 years | This indicator is calculated from those with LLINs  Numerator= Number of people who have an LLIN to sleep under X 100  Denominator = Number of people living in households with LLINs |
| **Proportion of identified active breeding sites treated** | LSM form | No dtata | 0 | 50% | 80% | 95% | 95% | Annually | Numerator= Number of identified active breeding sites treated X 100  Denominator= Number of breeding sites identified.  This is for elimination areas only. Ideally, this should be done seasonally, preferably every 2 weeks in winter |
| **Number of sites conducting bioassay tests** | Standard Bioassay forms | 16 | 16 | 20 | 20 | 20 | 20 | Monthly | Data to be collected from sentinel sites. Baseline data= 16 sites (2 per province) . All provinces were capacitated to do bioassy tests and are urged to conduct at least one bioassay per IRS program every year, followed by 6 months post IRS bioassy tests |
| **Number of sites conducting insecticide resistance testing for at least 1 class of insecticides** | Insecticide resistance forms /Vector control Reports | 10 | 20 | 20 | 20 | 20 | 20 | Annually | Data to be collected from sampled sites (Mash East- 4, Mash Central-4, Mash West-2, Mat North-2, Midlands-2, Manicaland-3, Masvingo-2, Mat South-1) |
| **Number of sites conducting insecticide resistance tests for all 4 classes of insecticides** | Insecticide resistance forms /Vector control Reports | 10 | 20 | 20 | 20 | 20 | 20 | Annually | Data to be collected from sampled sites (Mash East- 4, Mash Central-4, Mash West- 2, Mat North- 2, Midlands- 2, Manicaland- 3, Masvingo- 2, Mat South- 1) |
| **Objective 2: To provide prompt and appropriate treatment to all confirmed malaria cases by 2018 and maintain up to 2020** | **Proportion of suspected malaria cases that receive a parasitological test at public health sector facilities** | DHIS2 | 99.5% | 100% | 100% | 100% | 100% | 100% | Monthly | Numerator= Suspected malaria cases that received a parasitological test (microscopy or RDT) at public health sector facilities X 100  Denominator= All suspected malaria cases presenting at public health sector facilities |
| **Proportion of suspected malaria cases that received a parasitological (RDT) test at community level** | DHIS2 | 92.7% | 95% | 95% | 100% | 100% | 100% | Monthly | Numerator= Suspected malaria cases that received a parasitological test ((RDT) at community level (VHWs and SHCs) X 100 Denominator= Number of suspected malaria cases who present at community level (VHWs and SHC trained to test and treat) |
| **Proportion of RDT positive malaria cases who received a microscopy test in pre-elimination districts** | DHIS2 | 54% | 60% | 70% | 80% | 90% | 100% | Monthly | Numerator= Number of malaria cases who received a microscopy test X 100  Denominator= Number of (all) RDT positive malaria cases |
| **Proportion of confirmed malaria cases who received first line anti-malarial treatment according to national guidelines at health facility** | Case management audits | 99.8% |  |  | 98% |  | 98% | Every two years | Numerator= Number of confirmed malaria cases who received first line anti-malarial treatment X 100  Denominator= Total number of confirmed malaria cases |
| **Objective 2: To provide prompt and appropriate treatment to all confirmed malaria cases by 2018 and maintain up to 2020 (continued)** | **Proportion of confirmed malaria cases who received first line anti-malarial treatment according to national guidelines at community level** | VHW Registers | No Data | No Data | No Data | 95% | 95% | 95% | Monthly | Numerator= Number of confirmed malaria cases who received first line anti-malarial treatment X 100  Denominator= Total number of confirmed malaria cases  Indicator tracked for the first time from 2018 |
| **Proportion of facilities reporting no stock-outs of malaria commodities for three days within the past three months** | Facility stock cards and distribution reports  (LMIS) | 96% | 95% | 95% | 95% | 100% | 100% | Quarterly | Numerator= Number of facilities reporting no stock-outs of malaria commodities for three days within the past three months X 100  Denominator= Number of facilities |
| **Proportion of severe malaria cases who received appropriate anti malaria treatment according to the national guidelines** | Case management audits | 94.6% |  |  | 95% |  | 95% | Every 2 years | Numerator= Number of severe malaria cases who received appropriate anti malaria treatment according to the national guidelines X 100 Denominator= Number of severe malaria cases reviewed |
| **Proportion of pregnant women who received at least 3 doses of SP** | Case management audit | 52.8% (≥3doses CMA 2015) |  |  | 80% |  | 80% | Every 2 years | Numerator= Number of pregnant women who received at least 3 doses of SP (SP and cotrimoxazole) X 100  Denominator= Number of pregnant women who booked for ANC |
| **Proportion of expected malaria reports received on time at the national level** | DHIS2 | 98% | 98% | 100% | 100% | 100% | 100% | Monthly | Numerator= Total number of reports submitted X 100  Denominator= Total number of expected reports |
| **Objective 3: To strengthen surveillance, monitoring and evaluation for all malaria interventions for the period 2016- 2020** | **Proportion of health facilities reporting complete data** | DHIS2 | 98% | 98% | 100% | 100% | 100% | 100% | Routine Monthly | Numerator= Number of health facilities reporting complete data (all fields completed on the T5 form) X 100  Denominator= Number of health facilities |
| **Proportion of malaria cases notified within 24 hours (elimination)** | DHIS2 Tracker | No data | 20% | 50% | 70% | 90% | 95% | Monthly | Numerator= Number of cases notified within 24 hours X100  Denominator= Number of reported cases |
| **Proportion of malaria outbreaks detected within one week of onset** | TLVs /weekly reporting system | 61% | 70% | 100% | 100% | 100% | 100% | Monthly | Numerator= Number of outbreaks detected within one week of onset X 100  Denominator= Number of reported outbreaks |
| **Proportion of malaria outbreaks controlled within two weeks** | Outbreak reports | No data | 100% | 100% | 100% | 100% | 100% | Monthly | Numerator= Number of outbreaks controlled within two weeks X 100  Denominator= Number of outbreaks reported |
| **Proportion of malaria operational research studies in research agenda carried out** | Research  database | N/A | N/A | N/A | N/A | 40% | 60% | Annually | Numerator= Number of operational research studies carried out X 100  Denominator= Number of operational research studies in research agenda  Note: Operational research agenda being developed in 2018 |
| **Proportion of districts with functional RRT teams** | NMCP  Annual  Report/EPR Plans | No data | 100% | 100% | 100% | 100% | 100% | Annually | Numerator= Number of districts with functional RRT teams X 100  Denominator= Number of districts |
| **Objective 4: To eliminate malaria transmission in at least 9 districts by 2020** | **Number of districts with no local malaria transmission** | DHIS2 Tracker | 0 | 0 | 0 | 5 | 8 | 9 | Annually | No malaria cases reported from the districts for a number of years |
| **Annual blood examination rate per 100 population per year** | DHIS2  Tracker | 2 | 2.2 | 2.5 | 2.5 | 3 | 4.5 | Annually | Numerator=Total number of tests done X100  Denominator= Total population at risk |
| **Proportion of identified cases fully investigated** | DHIS2 Tracker | 61% | 80% | 80% | 100% | 100% | 100% | Monthly | Numerator= Total number of cases fully investigated X 100  Denominator= Total number of cases reported in DHIS2 system |
| **Proportion of health workers trained in enhanced surveillance for malaria** | Enhanced Surveillance Training Reports | 20 | 30 | 40% | 60% | 80% | 85% | Annually | Numerator= Number of health workers trained in enhanced surveillance X 100  Denominator= Number of health workers practising in targeted malaria elimination areas |
| **Proportion of identified active malaria foci investigated and classified** | Foci investigation summary | No data | 60% | 80% | 90% | 100% | 100% | Monthly | Numerator: Number of identified active foci investigated and classified X 100  Denominator= Number of identified active foci |
|  | **Number of districts moved to pre-elimination** | Elimination committee report; DHIS2/ Tracker | 20 | 20 | 24 | 26 | 29 | 29 | Yearly | Pre‐elimination= <1 case/1000 population at risk. It consists of the period of reorientation of malaria control programs between the sustained control and elimination stages, when coverage with good‐quality laboratory and clinical services, reporting and surveillance are reinforced, followed by other program adjustments to halt transmission nationwide. This transition inludes cities as well. |
| **Objective 5: To increase utilization of malaria prevention interventions to at least 85% by 2020** | **Proportion of population sleeping under LLINs** | DHS/MIS/  MICS | 9% (DHS) | No data |  |  | 85% | 85% | Every 3-4 years | Numerator= Number of people sleeping under LLINs X 100  Denominator= Number of people in households with LLINs |
| **Proportion of children under 5 sleeping under LLINs** | DHS/MIS/  MICS | 9% (DHS) | 33% |  |  | 85% | 85% | Every 3-4 years | Numerator= Number of children under 5 sleeping under LLINs the night before the survey X 100  Denominator= Number of children under 5 in surveyed households with LLINs |
| **Proportion of pregnant women sleeping under LLINs** | DHS/MIS/  MICS | 6% (DHS) | 24% |  |  | 85% | 85% | Every 3-4 years | Numerator= Number of pregnant women sleeping under LLINs the night before the survey X 100  Denominator= Number of pregnant women in surveyed households with LLINs |
| **Proportion of the population who seek treatment within 48hrs** | DHIS2  DHS/MIS/ MICS | No data | 35% |  |  | 75% | 85% | Every 3-4 years | Numerator= Number of people who seek treatment within 48 hours X 100  Denominator= Number of suspected cases |
| **Proportion of women who have knowledge about the importance of IPTp in pregnancy** | MIS/MICS | No data | No data |  |  | 80% | 85% | Every 3-4 years | Numerator= Number of women who have knowledge about the importance of IPTp in pregnancy X 100  Denominator= Number of women surveyed |
|  | **Proportion of population with access to malaria information** | DHS/MIS/  MICS | 32% |  |  |  | 80% |  | Every 3-4 years | Numerator= Number of people with access to malaria information X 100  Denominator= Number of people surveyed |
| **Objective 6: To provide effective leadership and an enabling environment for optimal program management and coordination at all levels throughout 2016-2020** | **Proportion of districts along borders implementing harmonized malaria intervention strategies (NB: 11 cross border districts targeted)** | Activity  reports | 22% | 44% | 66% | 88% | 100% | 100% | Bi-annual | Numerator=Number of border districts implementing harmonized strategies X 100  Denominator= Total number of targeted border districts |
| **Proportion of malaria strategic needs funded** | MPR, financial reports | 80% | 85% | 90% | 95% | 100% | 100% | Annual | Numerator= Number of malaria strategic needs funded X 100  Denominator= Total malaria strategic needs budgeted |
| **% of health center committees in high transmission and pre-elimination districts (HCC) meeting to review malaria** | Reports,  Minutes | No data | 50% | 75% | 100% | 100% | 100% | Monthly | Numerator= Number of health center committees (HCC) in high transmission and pre-elimination districts meeting to review malaria X 100  Denominator= Number of health center committees in high transmission and pre-elimination districts |
| **Proportion of facilities within minimum and maximum stock levels for key malaria commodities (RDT and ACTs)** | Pharmacy directorate  (DPS) | No data | 95% | 100% | 100% | 100% | 100% | Quarterly | Numerator= Number of facilities within minimum and maximum stock levels for key malaria commodities (RDT and ACTs) X 100  Denominator= Number of health facilities |
| **Proportion of districts with malaria work plans aligned to the Zimbabwe Malaria Strategy** | District  annual  plans | No data | 100% | 100% | 100% | 100% | 100% | Annually | Numerator: Number of districts with malaria work plans aligned to the Zimbabwe Malaria Strategy X 100  Denominator= Number of malaria districts |

Appendix 2: SM&E Action Plan with Indicative Source of Funds

|  |  |
| --- | --- |
| Fully Funded |  |
| Partially funded |  |
| Not funded |  |

| No | Activity | Quantity | 2018 | | | | 2019 | | | | 2020 | | | | Source of Funds |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| 1 | Allocate adequate personnel, and material and financial resources for program monitoring and evaluation activities |  |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM and other partners |
| 2 | Conduct training gap analysis for the program | 1 |  |  |  |  |  |  |  |  |  |  |  |  | ZAPIM |
| 3 | Train health workers and community health workers in M&E and to align with WHO Revised SM&E Guidelines | 836 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM, WHO |
| 4 | Conduct post training support visits |  |  |  |  |  |  |  |  |  |  |  |  |  | ZAPIM |
| 5 | Capacitate key health workers at subnational levels in Geographical Information Systems to map and analyze various malaria interventions | 20 |  |  |  |  |  |  |  |  |  |  |  |  | GF, CHAI |
| 6 | Conduct TOT for electronic death investigation database training | 40 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 7 | Roll out of an electronic death investigation database to all admitting institutions | 198 Hospitals |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 8 | Train IRS Data Managers in Frontline SMS Rapid IRS Reporting system | 40 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 9 | Conduct meeting to revise/update and standardize /harmonize routine M&E tools across malaria interventions | 2 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 10 | Print malaria standard data collection tools across interventions (surveillance, case management, IRS, elimination. LLINs, entomology) |  |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 11 | Develop SOPs for data management and reporting across interventions | 4 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 12 | Procure essential M&E equipment to support data collection and storage and workflow within NMCP | 22 computers, software, 170 tablets, 22 cellphones etc.) |  |  |  |  |  |  |  |  |  |  |  |  | GF, CHAI , ZAPIM |
| 13 | Conduct peer reviews for M&E at subnational levels | 8 exchange trips + 2 external |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 14 | Conduct quarterly data validation meetings | 12 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 15 | Pilot test and evaluate tools for continuous distribution of LLIN and customize into DHIS2 electronic reporting system | 1 exercise |  |  |  |  |  |  |  |  |  |  |  |  | ZAPIM |
| 16 | Roll out nationally the electronic LLIN continuous distribution reporting system. | 33 districts |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 17 | Adopt and operationalize a DHIS2-based electronic reporting system for malaria death investigation | 198 hospitals |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 18 | Conduct onsite data verification exercises | 12 visits |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 19 | Conduct spot checks to confirm compliance on program guidelines and requirements | 12 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 20 | Conduct end use verification exercises | 12 |  |  |  |  |  |  |  |  |  |  |  |  | Chemonics |
| 21 | Develop and maintain malaria databases at national, provincial and district levels | 9 |  |  |  |  |  |  |  |  |  |  |  |  | WHO |
| 22 | Hold data verifiaction at SRs to inform semester reports | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | Train districts/provinces in malaria bulletin and score card development | 172 |  |  |  |  |  |  |  |  |  |  |  |  | WHO |
| 24 | Support rollout for the Malaria Scorecard |  |  |  |  |  |  |  |  |  |  |  |  |  | ALMA |
| 25 | Produce and print quarterly malaria profiles and disseminate nationally, sub -nationally and to relevant stakeholders |  |  |  |  |  |  |  |  |  |  |  |  |  | WHO, GF |
| 26 | Review of checklists for malaria support supervision (specific intervention checklist and integrated checklists | 5 checklists |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 27 | Conduct supportive supervision from health facilities to VHW level (quarterly) | 550 pple/ quarter for 4 days |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 28 | Conduct 4-tier, integrated support supervision visits (National, Province, district and HF level utilizing standardized tools) quarterly | 12 national, 12 province, 12 district  550 HF visits |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 29 | Conduct Epidemic Preparedness assessment prior to 2018/2019 malaria season |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | Convene 4 Malaria Technical Subcommittee meetings | 12 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 31 | Develop malaria research agenda (priority needs for research in malaria) | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 32 | Launch of malaria research agenda | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 33 | Conduct drug efficacy studies in 8 sentinel sites | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 34 | Conduct Pharmacovigilance  studies on ACTs in sentinel sites | 80 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 35 | Conduct monthly bioassay studies for at least 6 months annually | 192 |  |  |  |  |  |  |  |  |  |  |  |  | GF, VectorLink |
| 36 | Conduct annual insecticide susceptibility studies | 3 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 37 | Conduct malaria case management audit |  |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 38 | Conduct program evaluations/reviews – Malaria Program Review (MPR) | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 39 | Conduct Malaria Program reviews (MPR) | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 40 | Conduct mid-term review of the NMSP 2016-2020 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 41 | Conduct Malaria Indicator Survey (MIS) |  |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 42 | Conduct elimination capacity assessment | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 43 | Participate in the Multiple Indicator Cluster Survey (MICS) | 1 |  |  |  |  |  |  |  |  |  |  |  |  | UNICEF/DFID |
| 44 | Geocoding of CBHW to determine spatial distribution | 1600 HFs |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 45 | Organize program quarterly review and planning meetings | 4 |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 46 | Hold weekly program review and surveillance meetings | 144 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 47 | Conduct situation analysis by Elimination Committee | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 48 | Hold stakeholder meetings to advance linkages across all malaria stakeholders for resource leveraging and support | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 49 | Produce annual training plans | 3 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 50 | Prepare and participate in MODO meetings | 3 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 51 | Produce M&E performance plans work plans (annually) | 3 |  |  |  |  |  |  |  |  |  |  |  |  | NMCP |
| 52 | Consolidate and maintain an entomological database | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 53 | Expand surveillance sentinel sites | 16 |  |  |  |  |  |  |  |  |  |  |  |  | VectorLink |
| 54 | Produce national vector distribution map | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 55 | Conduct resistance monitoring |  |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM, VectorLink |
| 56 | Train staff in entomological surveillance and evidence generation | 70 |  |  |  |  |  |  |  |  |  |  |  |  | WHO |
| 57 | Procure and distribute entomological surveillance equipment to districts and provinces |  |  |  |  |  |  |  |  |  |  |  |  |  | GF, VectorLink |
| 58 | Develop vector special distribution map | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 59 | Maintain a backup system to support DHIS2 Tracker system |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 60 | Develop and maintain elimination database for malaria at all levels | 1 |  |  |  |  |  |  |  |  |  |  |  |  | WHO |
| 61 | Train health workers including community based health workers on enhanced surveillance |  |  |  |  |  |  |  |  |  |  |  |  |  | GF, ZAPIM |
| 62 | Train private sector on malaria reporting systems | 100 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 63 | Updating elimination guidelines as per WHO framework | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 64 | Hire consultant to integrate elimination indicators in the DHIS2 Tracker | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 65 | Print elimination /surveillance reporting forms Maintain a backup system to support DHIS2 Tracker system |  |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 66 | Conduct district-to-district learning tours to enhance elimination and M&E | 8 |  |  |  |  |  |  |  |  |  |  |  |  | E8 |
| 67 | Conduct case, entomological and foci investigation and classification | 29 districts |  |  |  |  |  |  |  |  |  |  |  |  | CHAI, GF |
| 68 | Establish an Independent Malaria Elimination Advisory Committee (IMEAC) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 69 | Maintain a toll free line for trouble shooting and follow up of technical issues from the field – Elimination districts |  |  |  |  |  |  |  |  |  |  |  |  |  | CHAI |
| 70 | Validate case classification outputs through monthly meetings |  |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 71 | Develop of Basic GIS training module |  |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 72 | Train health workers on foci classification and investigation |  |  |  |  |  |  |  |  |  |  |  |  |  | CHAI, GF |
| 73 | Support bi-monthly district level review of available data (intervention, meteorological, epidemiological, entomological etc) using available surveillance tools |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 74 | Conduct foci review meeting in order to assess and analyze the data collected to determine drivers of transmission and select responses | 1 |  |  |  |  |  |  |  |  |  |  |  |  | GF |
| 75 | Develop costed EPR plans at all levels | 1 |  |  |  |  |  |  |  |  |  |  |  |  | ZAPIM |
| 76 | Train of health workers in revised EPR guidelines | 150 |  |  |  |  |  |  |  |  |  |  |  |  | ZAPIM |
| 77 | Train health workers on IDSR | 1200 |  |  |  |  |  |  |  |  |  |  |  |  | E8, GF |

Appendix 3: Consultative Participant List

| No. | Name | Designation | Organization |
| --- | --- | --- | --- |
| 1 | Patrick Chinyamuchiko | M&E/OR Manager | ZAPIM |
| 2 | Elizabeth Juma | Medical Officer | WHO |
| 3 | Anderson Chimusoro | Malaria-National Professional Officer | WHO |
| 4 | Jasper Pasipamire | Malaria-National Professional Officer | WHO |
| 5 | Joseph Kwangwari | Provincial M&E Officer | MOHCC PMD Mashonaland West |
| 6 | Shadreck Sande | Operations Manager | Abt-AIRS |
| 7 | Wonder Sithole | Data Manager | MOHCC- NMCP |
| 8 | Anthony Chisada | Senior Case Management Specialist | ZAPIM |
| 9 | Rameck Makokove | National Malaria Coordinator | Plan International |
| 10 | Joseph Chipinduro | Acting Chief Laboratory Scientist | NIHR |
| 11 | Hieronymo Masendu | Entomologist | Abt-AIRS |
| 12 | Rusare Abigail Kangwende | M&E Director | MOHCC |
| 13 | Munekayi Padingani | Provincial Epidemiology and Disease Control Officer | MOHCC PMD Matabeleland North |
| 14 | Notho Dube | Provincial Environmental Health Officer | MOHCC PMD Matabeleland South |
| 15 | Fortunete Manjoro | SBCC Officer | MOHCC- NMCP |
| 16 | Manes Munyanyi | Deputy Director- Health Information and Surveillance | MOHCC |
| 17 | Clever Matiringe | Provincial Environmental Health Officer | MOHCC PMD Mashonaland East |
| 18 | Everisto Bundukutu | Provincial Health Information Officer | MOHCC PMD Mashonaland West |
| 19 | Chikono Gibson | Provincial Health Information Officer | MOHCC PMD Manicaland |
| 20 | Victor Nyamande | Deputy Director- Environmental Health | MOHCC |
| 21 | Lilian Kwambana | Provincial M&E Officer | MOHCC PMD Mashonaland West |
| 22 | Christe Billingsley | Malaria Advisor | PMI |
| 23 | Dr Mary Muchekeza | Provincial Epidemiology and Disease Control Officer | MOHCC PMD Midlands |
| 24 | Constance R Gumbo | Principal Environmental Health Officer | MOHCC PMD Midlands |
| 25 | Munyaradzi Mukuzunga | Provincial Epidemiology and Disease Control Officer | MOHCC PMD Manicaland |
| 26 | John Bosco Rwakimari | Technical Director | ZAPIM |
| 27 | Joel Mouatcho | Entomologist | NMCP/Abt |
| 28 | Vimbayi Machiwana | Country Focal Person | NMCP/E8 |
| 29 | Noe Rakotondrajaona | Chief of Party | ZAPIM |
| 30 | Chamunorwa Ndudzo | Provincial M&E Officer | MOHCC PMD Masvingo |
| 31 | Jolif Pedzisai | Acting Provincial Environmental Health Officer | MOHCC PMD Mashonaland Central |
| 32 | Munashe Madinga | Malaria Elimination Manager | CHAI |
| 33 | Busisani Dube | Assitant M&E Officer | MOHCC- NMCP |
| 34 | Muchena Gladwin | Provincial Epidemiology and Disease Control Officer | MOHCC PMD Matabeleland South |
| 35 | Robert Gwitima | Provincial Environmental Health Officer | MOHCC PMD Masvingo |
| 36 | Peter Troell | Malaria Advisor | PMI/CDC |
| 37 | Ekpenyong Ekanem | M&E Advisor and Technical Specialist | ZAPIM/Abt Associates |
| 38 | Rodney Taruvinga | Quality Officer | ZINQAP |
| 39 | Patience Dhliwayo | Deputy Director | MOHCC- NMCP |
| 40 | Wilson Chauke | Vector Control Officer | MOHCC- NMCP |
| 41 | Andrew Tangwena | M&E Officer | MOHCC- NMCP |
| 42 | Joseph Mberikunashe | NMCP Director | MOHCC- NMCP |
| 43 | Edinah Tembo | Technical & Training Assistant | ZINQAP |
| 44 | Arthur Sanyanga | Pharmacist | MOHCC |