



**The Kingdom of Eswatini  
Ministry of Health**

# **ESWATINI MALARIA STRATEGIC PLAN 2024-2028**

December 2022

**National Malaria Programme**



## Table of Contents

Table of Contents	i
List of figures	ii
List of tables	ii
FOREWORD	iii
ACKNOWLEDGEMENTS	iv
ACRONYMS	vi
GLOSSARY OF KEY TERMS	viii
<b>1. CHAPTER ONE: INTRODUCTION</b>	<b>1</b>
1.1 Policy and Programming environment	1
1.2 Purpose of the Malaria Strategic Plan	2
1.3 MSP and the National Planning Cycle	2
<b>2 CHAPTER TWO: COUNTRY PROFILE</b>	<b>4</b>
2.1 Geography and Climate	4
2.2 Demographic Data	5
2.3 Socioeconomic Situation	6
2.4 Health System Analysis	6
2.4.1 National Health Sector Strategic Plan	6
2.4.2 Health System Organisation	7
2.4.3 National Malaria Programme	8
2.4.4 Health Indicators	9
2.4.5 Human Resources for Health	10
<b>3 CHAPTER THREE: MALARIA SITUATIONAL ANALYSIS</b>	<b>12</b>
3.1 Historical Perspective Of Malaria	12
3.2 Malaria epidemiology	13
3.2.1 Parasite And Vector	14
3.2.2 Malaria Transmission and Endemicity	15
3.2.3 Malaria Stratification and Mapping	15
3.3 Progress Made In Achieving Malaria Strategic Plan (2020-2023) Targets	16
3.3.1 Progress towards epidemiological impact of the MSP	16
3.3.2 Progress in MSP morbidity and mortality impact targets	17
3.3.3 Financing of the National Malaria Programme	17
3.3.4 Effectiveness of the Health System in delivering Malaria Services	18
<b>4 CHAPTER FOUR: MALARIA STRATEGIC PLAN 2020-2024</b>	<b>23</b>
4.1 VISION	23
4.2 MISSION	23
4.3 GOAL	23
4.4 STRATEGIC OBJECTIVES:	23
4.5 GUIDING PRINCIPLES	23
4.6 STRATEGIC INTERVENTIONS	23
<b>5 CHAPTER FIVE: IMPLEMENTATION FRAMEWORK</b>	<b>37</b>
5.1 MSP implementation Plan	37
5.2 Coordination mechanisms	37
5.3 Role of key partners	37
5.3.1 The Eswatini Global Fund Country Coordinating Mechanism and NERCHA	37
5.3.2 The END Malaria Fund	38
5.3.3 Political Leaders and Decision Makers	38
5.3.4 Procurement bodies	38
5.3.5 Civil Society	39
5.3.6 Private sector	39
5.3.7 Communities	40
5.4 Costing of the NMSP & Budget	40
5.4.1 Costing approach and budget	40
5.4.2 Funding landscape	41
<b>6 CHAPTER SIX: MONITORING AND EVALUATION FRAMEWORK</b>	<b>42</b>

6.1	Health Surveillance and Information System	42
6.1.1	Immediate Disease Notification System (IDNS)	43
6.1.2	Malaria Surveillance Database System	43
6.1.3	Commodity Tracking System	44
6.1.4	Data Quality	44
6.1.5	Tracking Implementation Progress	45
6.1.6	Performance Framework	45
6.1.7	Data management	45
6.1.8	Tracking and monitoring of implementation.	46
6.1.9	M&E Partnerships	46
6.1.10	M&E Reviews and Meetings	46
6.1.11	Indicator Alignment and Reporting Timelines	46
<b>7</b>	<b>Chapter SEVEN: Annexes:</b>	<b>47</b>
	Annex 1: Implementation Plan	47
	Annex 2: Performance Framework	64
	Annex 3: Indicator Matrix	68
	Annex 4: Organogram	72

## List of figures

Figure 1:	Administrative regions and Tinkhundla in Eswatini	4
Figure 2:	Hierarchy of Health Care in Eswatini	7
Figure 3:	Density of all health workers in region per 1000 population (HRH strategic plan review)	11
Figure 4:	Vacancy vs Established posts by cadres.	11
Figure 5:	Progress towards malaria elimination in Eswatini	12
Figure 6:	Trends of malaria cases and annual parasites incidence from 2014 to 2022	13
Figure 7:	Trends of malaria cases distribution by sex and by age from 2018-19 to 2021-22	13
Figure 8:	Trends in the spatial distribution of malaria cases from 2017 to 2021	14
Figure 9:	Average monthly trends of confirmed malaria cases over the past five years	15
Figure 10:	Eswatini Malaria Stratification Map 2022	16
Figure 11:	NMP funding sources (2018-2022)	18
Figure 12:	proportion of the budget funded by year, 2024-2028	41
Figure 13:	Proportion of the budget funded.	41
Figure 14:	Flow of malaria data across the various systems	43

## List of tables

Table 1:	Demographic data for Eswatini	5
Table 2:	Health system analysis	8
Table 3:	Health Indicators in Eswatini	10
Table 4:	Performance of Impact Indicators	16
Table 5:	Trends in malaria morbidity 2018/19 to 2022/23	17
Table 6:	Summary NMSP 2024-2028 budget by objective and year	40
Table 7:	funding landscape for the NMSP 2024-2028	41

## FOREWORD

Malaria elimination is a top priority in Eswatini national development agenda and national health policy. The country holds the view that investments into malaria elimination must reduce the inherent factors that perpetuate transmission in the country and maintain systems that manage importation from outside the country. This will ensure elimination is sustained and prevent continuous re-introduction into receptive areas. Decades of experience in implementing malaria control interventions have demonstrated the country's capability to eliminate malaria.

Eswatini initial malaria elimination strategic plan (2008-2015) described the key interventions required to eliminate malaria by 2015. Although it fell short of that goal, many successes were achieved that culminated in only 68 local cases observed in the 2015/2016 transmission season. This led to the development of the 2015-2020 strategic plan which was later revised and extended to 2021-2023.

The underpinning activities in the 2021-2023 strategic plan included a robust surveillance system, which promptly identified and enabled response to confirmed cases, an integrated vector management system that monitored vector activity for targeted response. It also included case management that provided quality diagnosis and treatment for all cases. Health education and behaviour change communication was also a pillar that ensured the desired behaviour for malaria elimination was practiced.

Lastly, an enabling programme environment that ensured the necessary partnerships and sustainable financing needed for malaria elimination were timely availed. Diligent implementation of the laid -out activities resulted in the programme realising the following gains: case investigation within 48 hours was 89% with an overall investigation rate of 98%. All malaria cases were treated according to diagnosis and treatment guidelines and Indoor Residual Spraying coverage was 85%.

Upon falling short of the set goal of malaria elimination in the country by 2023, the programme was inclined to devise a new strategic plan with an approach that will clear the remaining transmitting areas and groups to realize malaria elimination.

As the programme moves into a new era, with a new strategic plan, the plan is to roll out high impact malaria interventions, with high intensity to achieve more case reduction, in the shortest time possible to ensure that the communities remain permanently cleared of malaria parasites.

This new 2024-2028 strategic plan aims to build on the gains realised in the previous plan and devise innovative objectives and strategies that will allow the programme to eventually realize its goal for malaria elimination.

Earmarked within this current strategy are the following objectives: By 2028 to:

1. achieve 100% coverage of at-risk populations with appropriate vector control interventions in residual non-active and active foci and areas with high malariogenic potential according to national guidelines.
2. provide prompt quality assured diagnosis to all suspected malaria cases and effective treatment for all confirmed malaria cases that is in line with national guidelines.

3. develop a fully functional malaria elimination surveillance system that is capable of early detection of cases, investigation of all cases and timely response to all detected cases.
4. conduct sub-national verification of malaria elimination to qualifying Tinkhundla timely.
5. engage and empower communities to adopt and own Malaria elimination interventions.
6. provide strengthened capacity, effective leadership and improved coordination for the planning and management of malaria elimination and prevention of re-establishment programme.

The monitoring and evaluation component of the strategic plan will be the responsibility of the National Malaria Programme (NMP). Partners will continue to play an important role in assisting the Programme in its endeavour to fulfil its goals, including but not limited to its monitoring and evaluation plan. Targets have likewise been defined that will be challenging to meet but will provide motivation for all those with roles to play to exceed their performance to-date. This monitoring and evaluation framework will be routinely used to ascertain progress and align any identified misalignment. Through routine report sharing and dissemination meetings the Programme will share progress with all reporting structures nationally and internationally and source feedback that will be used to counter identified challenges.

Together we can now not only dream but make malaria elimination a reality in the Kingdom of Eswatini.

Honourable Minister of Health

Senator Lizzie Nkosi

## ACKNOWLEDGEMENTS

Our partners, stakeholders and colleagues made the successful completion of this strategic plan possible. Much appreciation goes to the Ministry of Health for their leadership, guidance, and support to the programme as it strives to achieve malaria elimination. It is worth noting that the World Health Organization, through its local country office, Inter-country support team and GMP- Geneva team, have collectively played a huge role in coordinating, funding, and providing technical experts to ensure that this new strategic plan comes to light. All this support is appreciated and does not go un-noticed.

Additionally, we would like to appreciate the financial and technical support awarded by the Global Fund in-country Principal Recipient (PR) for this process.

Much appreciation also goes to our partners who provided their time and valuable expertise to see this process to completion. Your support continues to push the fight against malaria to greater heights.

Lastly, this process was a consultative exercise; we would like to thank all the individuals, groups, households, and health facilities that contributed to the rich content from which this strategy was built upon.

Dr Simon Zwane

Principal Secretary

## ACRONYMS

AIDS	Acquired Immune Deficiency Virus
ALMA	African Leaders Malaria Alliance
AU	African Union
BCC	Behaviour Change Communication
CHAI	Clinton Health Access Initiative
CMIS	Client Management Information System
CMM	Community mentor mothers
CMS	Central Medical Stores
CSO	Central Statistics Office
DDT	Dichlorodiphenyltrichloroethane
E8	Elimination 8
EDCU	Epidemiology and Disease Control Unit
EEA	Eswatini Environment Authority
EHCP	Essential Health Care Package
EHLS	Eswatini Health Laboratory Services
ELISA	Enzyme-Linked Immunosorbent Assay
EPR	Epidemic and Preparedness Response
ESWADE	Eswatini Water and Agricultural Development Enterprise
ETA	Eswatini Tourism Authority
GDP	Gross Domestic Product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GFM	Global Fund for Malaria
GIS	Geographic Information System
HDI	Human Development Index
HIV	Human Immuno-Deficient Virus
HMIS	Health Management Information System
IDNS	Immediate Disease Notification System
IEC	Information, Education and Communication
IRS	Indoor Residual Spraying
IT	Information Technology
IVM	Integrated Vector Management
LMIS	Logistics Management Information System
LSDI	Lubombo Spatial Development Initiative
M&E	Monitoring and Evaluation
MOH	Ministry of Health
MOSASWA	Mozambique, South Africa and Eswatini
MPR	Malaria Programme Review
MSP	Malaria Strategic Plan
NaHSAr	National HIV Semi Annual Review
NDMA	National Disaster Management Agency
NERCHA	National Emergency Response Council for HIV/AIDS
NHSSP	National Health Sector Strategic Plan
NMCP	National Malaria Control Programme
NMP	National Malaria Programme
PCR	Polymerase Chain Reaction
PHEMC	Public Health Emergency Management Committee
PT	Proficiency Testing
QA	Quality Assurance

RBM	The Roll Back partnership for Malaria
RDT	Rapid Diagnostic Test
ReHSAR	Regional HIV Semi Annual Review
RHMT	Regional Health Management Teams
RRTs	Regional Response Teams
SACU	Southern African Customs Union
SADC	Southern African Development Community
SID	Strategic Information Department
SMEAG	Eswatini Malaria Elimination Advisory Group
SPPRA	Eswatini Public Procurement Regulatory Agency
UN	United Nations
UNDP	United Nations Development Programme
UNESWA	University of Eswatini
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
USD	United States Dollar
VMC	Vector Management Coordinator
WHO	World Health Organization

## GLOSSARY OF KEY TERMS

**Case imported:** a case, the origin of which can be traced to a known malarious area outside the country in which the case was diagnosed.

**Case, indigenous:** a case, the origin of which from local transmission cannot be disproved. It includes delayed first attacks of *P. vivax* due to locally acquired parasites with a long incubation period.

**Case investigation:** gathering enough information to allow classification of a malaria case by origin of infection. It includes, but is not limited to, administration of a standardized questionnaire to a person diagnosed with a malaria infection.

**Case, malaria (as defined in elimination programmes):** a person in whom, regardless of the presence or absence of clinical symptoms, malaria parasites have been confirmed by quality- controlled laboratory diagnosis.

**Case management:** diagnosis, treatment, clinical care and follow-up of malaria cases.

**Case notification (mandatory):** immediate reporting of confirmed malaria by health facilities through the toll-free line 977.

**Epidemic:** occurrence of cases more than the number expected in a given place and time.

**Evaluation:** a process that attempts to determine as systematically and objectively as possible the relevance, effectiveness, and impact of activities in relation to their objectives.

**Focus:** a defined and circumscribed locality situated in a currently or former malaria at risk area and containing the continuous or intermittent epidemiological factors necessary for malaria transmission.

**Incubation period:** the time between infection (by inoculation or otherwise) and the first appearance of clinical signs.

**Malaria elimination:**

**Malaria-free:** an area where there is no continuing local mosquito-borne malaria transmission and the risk of acquiring malaria is limited to introduced cases only.

**Malaria incidence:** the number of newly diagnosed malaria cases during a specified time in a specified population.

**Malariogenic potential:** the receptivity of an ecosystem to malaria transmission as determined by the vectors, suitable climate, and susceptible population.

**Passive case detection:** detection of malaria cases among patients who on their own initiative went to a health post to get treatment, usually for a febrile disease.

**Population at-risk:** population living in a geographical area where locally acquired malaria cases occurred in the current and/or previous year. The measurement unit for elimination milestones among populations at-risk is a political unit corresponding to

approximately 75 000–150 000 people (e.g., a district).

**Receptivity:** the abundant presence of anopheline vectors and the existence of other ecological and climatic factors favouring malaria transmission.

**Re-establishment of transmission:** renewed presence of a constant measurable incidence of cases and mosquito-borne transmission in an area over a succession of years. An indication of the possible re-establishment of transmission would be the occurrence of three or more introduced and/or indigenous malaria infections in the same geographical focus, for two consecutive years for *P. falciparum* and for three consecutive years for *P. vivax*.

**Surveillance:** that part of the programme aimed at the discovery, investigation, and elimination of continuing transmission, the prevention and cure of infections, and the final substantiation of claimed elimination.

**Transmission season:** period of the year during which mosquito-borne transmission of malaria infection can normally take place. For the country, the transmission season is July-June every year

## 1. CHAPTER ONE: INTRODUCTION

### 1.1 Policy and Programming environment

Eswatini is targeting malaria elimination and is among four front line Southern African countries (Botswana, Eswatini, Namibia and South Africa) identified by the African Union (AU) Conference of Health Ministers (CAHM) and the Southern African Development Community (SADC) to eliminate malaria by 2025. Eswatini is part of the E2025 initiative, a WHO led initiative where 25 countries with the potential to eliminate malaria by 2025 which countries are receiving specialized support and technical guidance as they work towards reaching the target of zero local malaria infections.

The country recognizes the epidemiologically interconnected nature of malaria in the region and hence is part of the Elimination Eight Initiative (E8) and MOSASWA cross border initiative. The Elimination Eight Initiative (E8) is a coalition of eight countries working across national borders to eliminate malaria in southern Africa by 2030. As the malaria response arm of the Southern Africa Development Community (SADC), the E8 is pioneering an ambitious regional approach and driving collective action to eliminate malaria in member states. MOSASWA is a malaria cross-border initiative for Mozambique, South Africa and Eswatini formed to coordinate, harmonize policies, strengthen sub-national capacity, and share expertise and strategic information among the three countries to help the countries accelerate towards malaria elimination.

Malaria elimination has been a strategic priority for the country as shown in the inclusion of malaria elimination in the national development agenda and the national health policy. The goal of malaria elimination was declared in 2008. The 2008 -2015 malaria strategic plan targeted malaria elimination by 2015. The country developed the national elimination policy in 2011 to outline the guiding principles towards elimination. This was approved by cabinet in the same year. The country made a lot of strides towards lowering the malaria incidence and developing a case-based surveillance system but failed to eliminate malaria by the set target of 2015. The NMP in consultation with stakeholders and partners formulated the Malaria Elimination Strategic Plan 2015-2020, which geared up the programme to attain elimination based on lessons learned and gaps identified. The malaria elimination target was moved to 2020.

The end-term program review of the 2015-2020 malaria strategic plan was conducted in 2020 and it was clear that the goal of malaria elimination by 2020 had been missed. A new strategic plan 2020 -2023 with a goal to eliminate malaria by 2023 was developed focussing on strengthening the surveillance system and vector control measures. Although great strides were made amid the resultant covid scourge that ensued during the strategy's term, results however remained elusive and primarily because of that scourge and its devastating effects on the economy and ultimately in health care service delivery in general, including malaria.

The government financial commitment has largely sustained the activities of the National Malaria Programme (NMP) since its inception despite broader economic instabilities emanating from the Covid 19 pandemic, global increase in oil and food

prices and decline in revenue from the Southern African Customs Union (SACU)<sup>1</sup>. Additionally, resources for implementation of the malaria strategic plan have been sourced through grants from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM). The initiative by His Majesty the King to form the End Malaria Fund in May 2019, resulted in an independent, non-profit special fund composed of government, business, and the community which is playing a key role in raising funding and performing advocacy for malaria elimination.

## **1.2 Purpose of the Malaria Strategic Plan**

The primary purpose of the national malaria strategic plan (MSP) is to articulate the programme's vision, mission, goal, objectives, strategies, and targets for the defined period. Additionally, it lays out the plan for how the programme aims to achieve this. The MSP is also used as a resource mobilization document because it lays out what activities need to be implemented and when and the costs associated with the activities. This allows resources to be adequately planned, allocated and disbursed timely for the implementation of activities. The MSP can be used as a tool for accountability as it provides a tracking mechanism through the performance framework. The vision remains "a malaria free Eswatini". Therefore, the programme through this new MSP aims to outline its objectives and strategies that will take the NMP to eliminate malaria in Eswatini and preventing re-establishment of malaria.

## **1.3 MSP and the National Planning Cycle**

The national malaria strategic plan (MSP) includes medium-term targets and high-level activities, a monitoring and evaluation component, that are aligned with the national health sector strategic plan. The process to review the 2020-2023 national malaria strategic plan and development of this new strategic plan was therefore done and completed before the review of the National Health Sector Strategic Plan (NHSSP III) so that it could feed into the review and the development of a new health sector strategic plan (2024-2028). This ensures that the malaria strategic plan fit into the government's national health strategic plan review, planning and budgeting process.

The process to develop this strategic plan commenced with a review of the national malaria strategic plan (2020-2023). The NMP in consultations with partners decided on a less comprehensive and shortened review of the 2020-2023 MSP because Eswatini conducted a Malaria Elimination Audit in April 2021 and annual program review in August 2022 for the 2021/22 malaria season. The elimination audit was done, using the MEAT to evaluate the NMP's capacities with respect to the best practices for malaria elimination and to visually display the level of capacity of the national malaria programme (NMP) across the critical domains for malaria elimination.

The audit followed the WHO stages of a desk review of national and sub-national-level malaria strategies, guidelines, tools, and reports; field observation and review of malaria service delivery at site-level including review of site-level registers, reports, plans and other relevant records and discussions by milestone with key staff from the national malaria program and relevant stakeholders such as central medical stores and EHLS. Field observations were done in several regions and stakeholders from different levels and different institutions were involved. These activities provided a comprehensive evidence-based appraisal of the malaria situation and programme

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<sup>1</sup> World Bank

performance and were, therefore, used to inform the development of this new strategic plan (2024-2028).

The NMP therefore embarked on a 2-day workshop focussed on thematic desk reviews. This included assembling information from reports and documents and scoring the performance framework. This was conducted on the 28 and 29<sup>th</sup> November 2022. This was followed by a 2-week workshop dedicated on crafting objectives, strategies, activities, and indicators to track progress towards attainment of the desired impact of the new MSP (2024-2028). There was no validation phase that was done during the MPR, but data collected during the validation phase of the MEAT was used. The outcome of this engagement is a malaria strategic plan that takes into consideration the progress made, gaps identified and the NMP's strengths, weaknesses, opportunities, and threats. This MSP has a feasible goal and is not only owned by the programme but by the stakeholders and partners as they journeyed through the process of developing it in unison.

## 2 CHAPTER TWO: COUNTRY PROFILE

### 2.1 Geography and Climate

The Kingdom of Eswatini is a landlocked country in Southern Africa, bordered by South Africa in the north, west, and south and by Mozambique in the east. It lies between latitude 25° S and 28° S and longitude 31° E and 32° E, spanning approximately 17,364 Km<sup>2</sup>. It is an absolute monarchy with constitutional provisions and Swazi law and Custom. The country's four administrative regions: Hhohho, Lubombo, Manzini, and Shiselweni, are further sub-divided into 59 constituencies called Tinkhundla, as represented in Figure 1 below. Eswatini practices a Tinkhundla-based electoral system of government whereby the 59 Tinkhundla elect a representative to the 65 seat House of Assembly in Parliament.



**Figure 1: Administrative regions and Tinkhundla in Eswatini**

Eswatini's current constitution was ratified by His Majesty King Mswati III in July 2005 and went into effect in February 2006. The monarch's power is delegated through a dualistic system: modern statutory bodies like the cabinet and less formal traditional government structures. The administrative capital of Eswatini is Mbabane, located in the Hhohho region.

Despite its small size, the land and climate are diverse, the country is divided into four agro-ecological zones: The *Highveld* ranges from 900m to 1400m with annual average temperatures of 17°C, the *Middleveld* ranges from 400m to 800m with annual average temperatures of 20°C, the *Lowveld* ranges from 200m to 400m with annual average temperatures of 22°C, and the Lubombo Plateau ranges from 250m to 600m with annual average

temperatures of 21°C. Eswatini has two main seasons, summer and winter. The summer season span approximately from October-April and is the rainy season, with over 80% of the country's annual precipitation occurring in the form of thunderstorms and frontal rains. The winter season is the dry period and span approximately from May to September. The Highveld sees the most precipitation, with annual totals between 700 and 1500 mm. In the Middleveld, annual rainfall varies between 550 mm and 850 mm. Rainfall is most scarce in the Lowveld region, with an average of 200 mm annually. In the Lubombo Plateau, rainfall is similar to the Middleveld (between 550 and 850 mm/year)<sup>2</sup>. About, 10 % of the land is arable and the country holds several natural resources, including gold, asbestos, coal, iron ore and water.

<sup>2</sup> Eswatini Meteorological services

## 2.2 Demographic Data

The Population of Eswatini in 2022 is estimated at 1,174,014<sup>3</sup> inhabitants comprising of 571,756 males (48.7 %) and 602, 258 females (51.3 %). State data source. It shows a slight increase from 1,018,449 in 2007. Between 1966 and 1997, the population was increasing faster compared to the period between 1997 and 2017. The population of Eswatini is predominately rural; out of the total population figure of 1,093,238 the rural population accounted for 833,472 which is 76.2 %. The 2017 PHC showed that the urban population grew by 1.7 % to 23.8 %. The population of Eswatini is concentrated in the Manzini and Hhohho regions where 62 % of the population lives while 38 % lives in Shiselweni and Lubombo regions. Eswatini's population grew at an average annual rate of 0.7 % during the period 2007 to 2017. The 2017 PHC shows population density of 63 persons per square kilometre of land area showing a slight increase from 58.7 persons per square kilometre in 2007<sup>4</sup>. The population is projected to grow to 1.4 million by 2050 data source. Table 1 below summarizes the demographics.

**Table 1: Demographic data for Eswatini**

	1960	2007	2017	2050
Population Total (thousands)	279	1,018	1,093	1,376 <sup>+</sup>
Average Population Growth Rate for period (%)	3.5	0.9	0.7	0.7 <sup>+</sup>
Male to Female Ratio (number of males for every 100 females)	91.4	89.6	94.5	-
Population Proportions By Age Groups (%)				
Age 0 -14	45.1*	39.5	35.6	27.5*
Age 15 - 34	31.9*	37.7	37.7	35.4*
Age 35 - 64	20.1*	19.1	22.2	32.8*
Age 65+	2.9*	3.7	4.5	4.3*
Total Fertility Rate (number of children per woman)	6.7*	4.0	3.3	2.1*
Dependency Ratios (number of dependents to the number of working age population)	0.92*	0.71	0.67	0.47*
Urban Population (% of total population)	3.9*	22.1	23.8	30.7 <sup>+</sup>
Net Migration Rate (per 1,000 people)	-7.11*	-1.18*	-1.83*	-

Source: CSO 2017 & 2007 Population and Housing Census; \*UNFPA & UN Population Division; + Assumed 2017 period growth rates

Most citizens are ethnically emaSwati; there is a small number of Zulus and other minority groups. Traditionally Swazis have been subsistence farmers and herders, but a significant population now work in the formal economy and government.

<sup>3</sup> Eswatini Population Projections Report\_2017-2038 – based on the 2017 Eswatini Population and Housing Census [available at <https://eswatini.unfpa.org/en/publications/eswatini-population-projections-report2017-2038>, consulted on the 30 Jan. 2023]

<sup>4</sup> 2017 Population and Hosing Census

## 2.3 Socioeconomic Situation

Eswatini is classified as a lower middle-income country with a GDP of US\$4.94 billion, a GDP per capita of US\$4,215 and a GDP growth of 7.4% per annum (2021). Eswatini's close economic ties to South Africa means that about 85% of its imports and about 60% of its exports depend on this much larger neighbour. It is a member of the Common Monetary Area (CMA), with Lesotho, Namibia, and South Africa. As a small and landlocked country, Eswatini is vulnerable to international and regional developments. The war in Ukraine has contributed to rising oil and food prices, hurting the poor most. Poverty, unemployment, inequality, and HIV prevalence levels were already high even before these external shocks. Progress toward reducing poverty has been slow, with data showing 36% of the population living below the \$2.15/day (2017 PPP) international poverty line. At about 27%, Eswatini has the world's highest HIV prevalence rate among adults aged 15 to 49, which is both a driver and a consequence of high poverty and inequality<sup>5</sup>. Eswatini has a life expectancy of 63 years (2022), a Maternal mortality ratio 437 per 100 000 (2017) and Under-five mortality rate of 46 per 1000<sup>6</sup>.

Eswatini has a 95% Youth literacy rate, which is the percentage of people aged 15-24 who can both read and write, with understanding, a short simple statement about their everyday life. Eswatini has a net immigration of -41,764 meaning there were more people who left the country than those who came into the country. Undocumented immigrants from Mozambique are known to work in the sugar and forest plantations<sup>7</sup>.

A number of these immigrants come from high burden areas of Mozambique namely Inhambane and Zambezia provinces. Most people who leave Eswatini go to South Africa for schooling and to look for employment and do make regular trips back to Eswatini to visit family and friends especially during major public holidays. Agriculture, forestry, and mining account for about 13 % of Eswatini's GDP whereas manufacturing (textiles and sugar-related processing) represent 37 % of GDP. Services – with government services in the lead – constitute the other 50 % of GDP.

Eswatini is Africa's fourth largest sugar producer and the 25<sup>th</sup> largest producer worldwide. Sugar is its main export commodity and accounts for over half of the country's agricultural output. Sugarcane is grown under irrigation in the lowveld of the country on 57,000 hectares of land. High vulnerability to natural disasters and economic shocks undermines economic growth, poverty, and inequality reduction. Vulnerability to drought, in the context of heavy reliance on smallholder agriculture, is associated with high incidence of food insecurity<sup>8</sup>.

## 2.4 Health System Analysis

### 2.4.1 National Health Sector Strategic Plan

The Ministry of Health's functions are guided by the National Health Sector Strategic Plan (NHSSP III). The current National Health Sector Strategic Plan (2019-2023) is

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<sup>5</sup> World Bank

<sup>6</sup> Eswatini 2017 – 2038 Population Projections: [https://eswatini.unfpa.org/sites/default/files/pub-pdf/eswatini\\_population\\_projections\\_report\\_2017-2038.pdf](https://eswatini.unfpa.org/sites/default/files/pub-pdf/eswatini_population_projections_report_2017-2038.pdf)

<sup>7</sup> International Organization of Migration

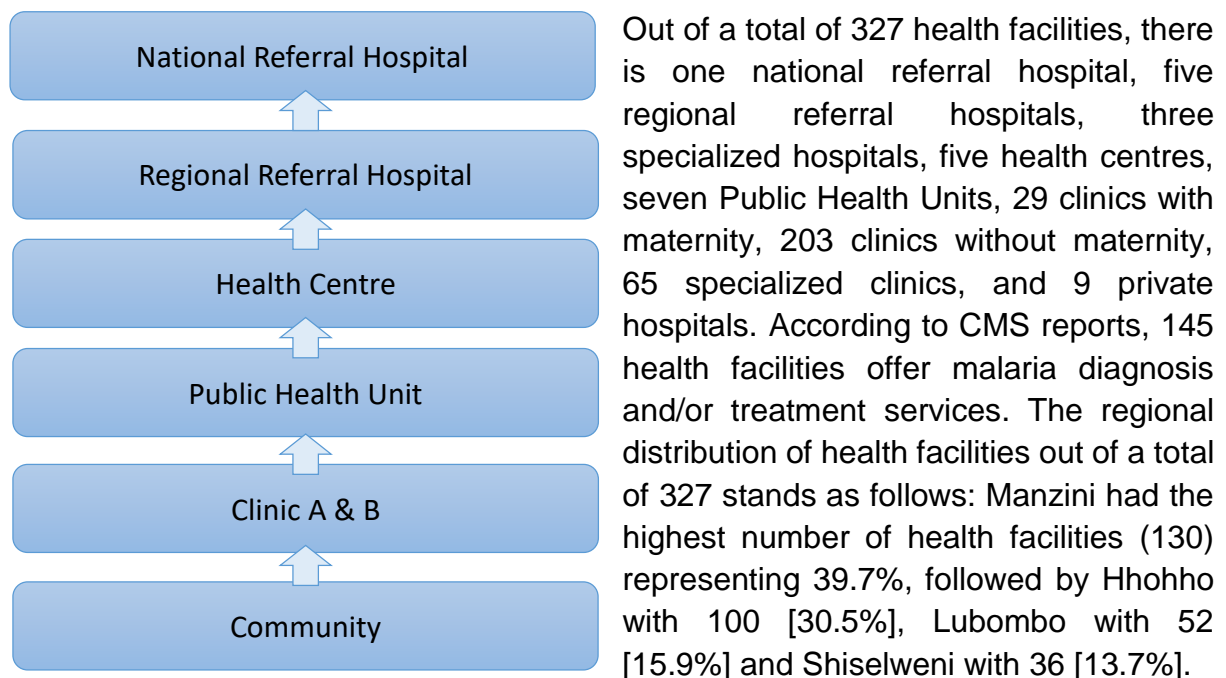
<sup>8</sup> World Bank

due for revision in August 2023. It is the overarching strategy for Eswatini Health Sector with a vision steering towards a healthy and productive emaSwati population that live long, fulfilling, and responsible lives and a goal towards attainment of universal health coverage with defined health services. Within the NHSSP, thematic area 2: Prevention and control of communicable, and non-communicable conditions; identifies malaria as one of the diseases earmarked for elimination. It is worth noting that, the NMP operates within a sphere of a total of fifteen Public Health Programmes that deliver their services.

#### 2.4.2 Health System Organisation

The national health care delivery system in Eswatini is organized hierarchically across three levels namely central level, regional level and at community level. It comprises the community, clinics, public health units, health centres, regional referral hospitals, and a national referral hospital. In addition, there is private for profit, private non-profit and traditional medicine practitioners. Within the public sector, the Ministry of Health (MOH) is responsible for the provision of health services through a decentralized system in the four regions of Hhohho, Manzini, Lubombo and Shiselweni as illustrated in Figure 5 below. Umbutfo Eswatini Defence Force, Royal Eswatini Police Service and Eswatini Correctional services also provide health services mainly to the uniformed forces following the Ministry’s policies and guidelines. The central level performs executive and administrative functions and provides strategic guidance on the delivery of health care services at all levels of care based on the Essential Health Care Package (EHCP). At the regional level, each region is headed by a Regional Health Administrator and supported by the Regional Health Management Teams (RHMTs).

**Figure 2: Hierarchy of Health Care in Eswatini**



The country’s healthcare system is not without challenges. These include the high turnover and shortages of personnel, information systems that rely on paper-based

tools and do not integrate patient history and commodities data and limited or inefficient use of financial resources. The health system is currently rolling out the Client Management information systems (CMIS), which seeks to provide access to critical patient data to clinicians across the country. However, not all facilities have been covered. Over the last 10 years, number of health facilities have doubled in Eswatini from 154 in 2006 to 327 in 2017 (SARA, 2018).

**Table 2: Health system analysis**

	2013	change	2017
National Referral Hospital	0% (1)	0% (0)	0% (1)
Regional Referral Hospital	2% (5)	0% (0)	2% (5)
Specialized Hospital	1% (2)	+1% (+1)	1% (3)
Health Centre	2% (5)	0% (0)	2% (5)
Public Health Unit (PHU)	2% (6)	0% (+1)	2% (7)
Clinic with maternity	8% (23)	+1% (+6)	9% (29)
Clinic without maternity	67% (192)	-5% (+11)	62% (203)
Specialized Clinics	16% (47)	+4% (+18)	20% (65)
Other	6 (2%)	+1% (+3)	3% (9)
	100% (287)	+40	100% (327)

### 2.4.3 National Malaria Programme

The NMP falls under the directorate of public health in the Ministry of Health. The NMP is headed by the Programme Manager who technically reports to the Directorate of Health Services. This arrangement was made in order to avoid red tape and to fast track all decisions relating to malaria at the senior level. The Director of Health Services in turn reports to the Principal Secretary who is the administrative head of the ministry. Administratively, the Program Manager reports to Chief Environmental Health Officer who also reports directly to the Director of Health Services. Deployment of staff and filling of vacancies in the NMP are made from the office of the Chief Environmental Health Officer hence the nature of this relationship since this is where the positions are housed.

The program's mandate is the planning, implementation and monitoring and evaluation of the malaria response in the country. To achieve this, at national level, the NMP collaborates *inter alia* with Eswatini Health Laboratory Services (EHLS), Central Medical Stores (CMS), the national Health Promotion Unit, Emergency Preparedness and Response (EPR) Unit and the Strategic Information Department (SID), which encompasses the Health Management Information System (HMIS), Epidemiology and Disease Control (EDCU), Research Unit and the Monitoring and Evaluation (M&E) unit. Also, at national level, the NMP is supported by the National

Emergency Response Council for HIV/AIDS (NERCHA), which acts as principal recipient for the country's Global Fund grant.

The programme is organised vertically and integrated in the general health delivery system. It is vertical because planning and implementation of some activities is done from national level down to community level. These activities include indoor residual house spraying, active case surveillance, foci investigations, entomological investigations and monitoring of insecticide and drug resistance. Within the NMP, the Program Manager is supported by thematic area heads for vector control, case management, surveillance and EPR, information education and communication, information technology, Geographical Information Systems, grant management and M&E.

At regional level, the NMP collaborates with Regional Health Management Teams (RHMTs) for the planning and implementation of malaria control activities at both health facility and community level. RHMTs are an effective way of disseminating messages or training materials efficiently to all health facilities in the country as they are well-represented by local healthcare leadership. They also assist in the routine monitoring and evaluation of malaria programmes on the ground. At community level, rural health motivators (RHMs) are the most prominent traditional community-based health workers. The national malaria response in the country has not had a lot of non-governmental organisations involved with the delivery of malaria control services at community level though there has been recent interest in some, the extent may not be known for now, but the program remains open for any partner support in this regard. WHO and Clinton Health Access Initiative (CHAI) provide in-country technical assistance.

The NMP also works with stakeholders outside of the health sphere. These include the National Disaster Management Agency (NDMA), Meteorology Department (Ministry of Environmental Affairs), Ministry of Agriculture and Cooperatives, Media Houses, Eswatini Tourism Authority (ETA), Eswatini Water and Agricultural Development Enterprise (ESWADE), University of Eswatini (UNESWA) and Eswatini Environment Authority.

#### **2.4.4 Health Indicators**

The health indices of Eswatini are reflective of its lower middle-income country classification. It has a significant HIV/AIDS burden and like many countries in sub-Saharan Africa struggles to fund the health system resulting in the health system being characterised by human resources shortages, stock outs and equipment breakdowns. Table 3 shows the major health indices of the country.

**Table 3: Health Indicators in Eswatini**

Indicator	Value	Year (Source)
Crude Birth Rate (Per 1000)	24.8	Eswatini 2017 – 2038 Population Projections <sup>9</sup> (data for 2022)
Crude Death Rate (Per 1000)	8.8	Eswatini 2017 – 2038 Population Projections (data for 2022)
Maternal Mortality Ratio (per 100,000 live births)	437	World Bank (data for 2017) <sup>10</sup> , UNICEF (data for 2017) <sup>11</sup>
Fertility Rate (Females 15 -49)	2.9	Eswatini 2017 – 2038 Population Projections (data for 2022), World Bank (data for 2020)
Under 5 Mortality (Per 1000)	46.6	World Bank (data for 2020) <sup>12</sup>
Infant Mortality Rate (Per 1000)	37.4	World Bank (data for 2020), UNICEF (data for 2020)
Life Expectancy at Birth – <i>Male</i>	56.5	World Bank (data for 2020)
Life Expectancy at Birth – <i>Female</i>	65.4	World Bank (data for 2020)
Population Growth Rate (annual %)	1.0	World Bank (data for 2021)
IRS Coverage (%)	91.4%	MSDS, August 2022

**N.B - WB Data Bank – World Bank Data Bank; NMP – National Malaria Programme; MIS – Malaria Indicator Survey**

#### 2.4.5 Human Resources for Health

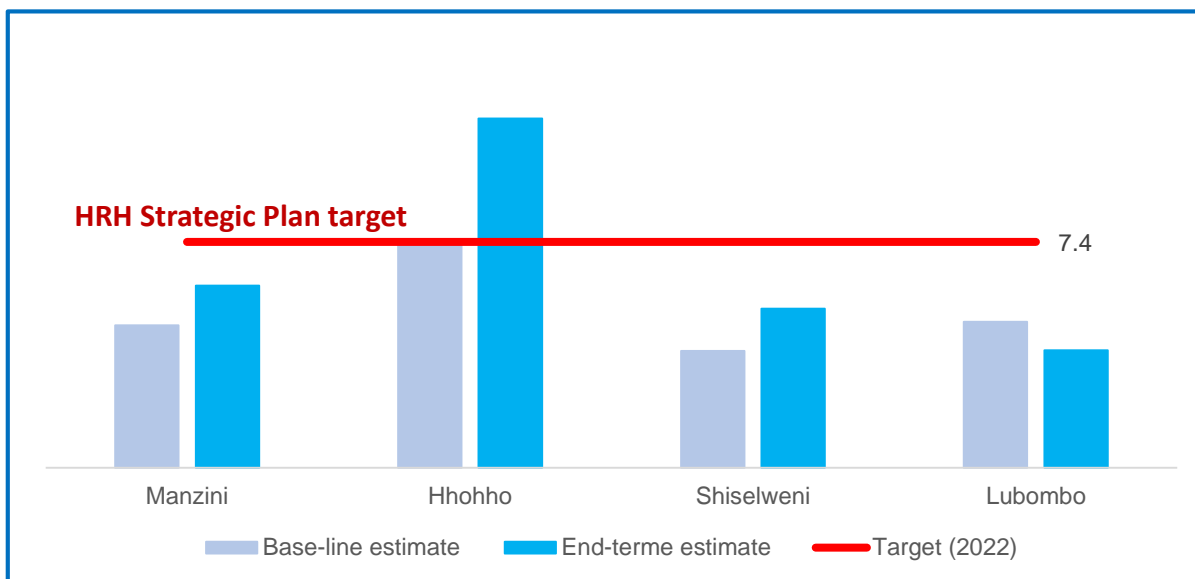
MOHW is responsible for ensuring all public health facilities have adequate levels of staffing. The goal of the Human Resources for Health (HRH) strategic plan (2018-2022) was to ensure an adequate, competent, and motivated health workforce providing quality healthcare to meet national and international health standards by 2022. The preliminary results show an increase in density of HWs by 0.79 doctors, nurses, and midwives per 1,000 population compared to the 2018 levels. It also showed a general increase in the density of HWs per 1000 population in all regions except in Lubombo. However, only Hhohho met and surpassed the target of 7.4 HWs per 1000 population. The number of filled positions versus established posts show that several positions are still not filled as shown in figure 4. This was partly due to government circular number 03 of 2018 that brought about a “net freeze” in employment of new government employees.

<sup>9</sup> Eswatini 2017 – 2038 Population Projections: [https://eswatini.unfpa.org/sites/default/files/pub-pdf/eswatini\\_population\\_projections\\_report\\_2017-2038.pdf](https://eswatini.unfpa.org/sites/default/files/pub-pdf/eswatini_population_projections_report_2017-2038.pdf)

<sup>10</sup> [World Development Indicators | DataBank \(worldbank.org\)](https://data.worldbank.org/indicators)

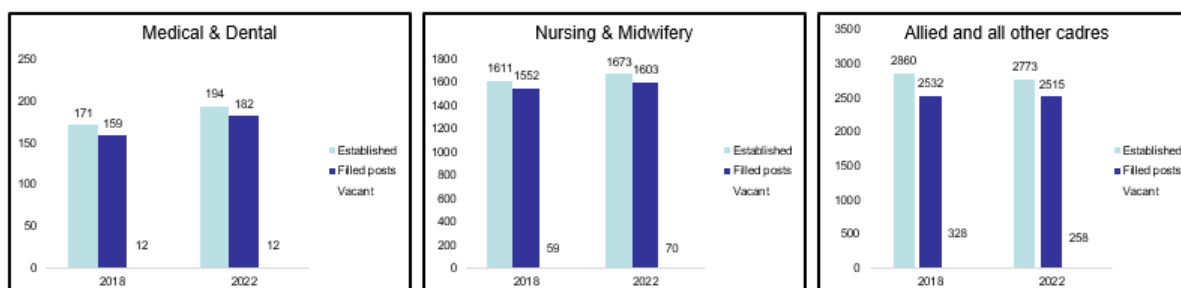
<sup>11</sup> <https://data.unicef.org/country/swz/>

<sup>12</sup> [World Development Indicators | DataBank \(worldbank.org\)](https://data.worldbank.org/indicators)



**Figure 3: Density of all health workers in region per 1000 population (HRH strategic plan review)**

The distribution of these health personnel is heavily skewed in favour of the urban centres. There have been many investments made in improving coverage and ensuring that the everyone lives within a radius of 5 Km from a health facility. Currently, 80 % of the population live within a radius of 8 Km from a health facility.



**Figure 4: Vacancy vs Established posts by cadres.**

### 3 CHAPTER THREE: MALARIA SITUATIONAL ANALYSIS

#### 3.1 Historical Perspective Of Malaria

Malaria has historically been a major public health problem in Eswatini despite its low endemicity in recent years. The transmission of malaria in Eswatini is seasonal, unstable, and occurs mostly during the rainy season. There is a heterogeneous distribution of transmission intensity across the country with the lowveld experiencing high levels of transmission. Figure 6 below depicts the journey of malaria control in the country since establishment of the malaria control programme in the 1940's. The NMP has managed to reduce the incidence of malaria to less than 1 in recent years, but incidence was once as high as 28 in the 1940s.

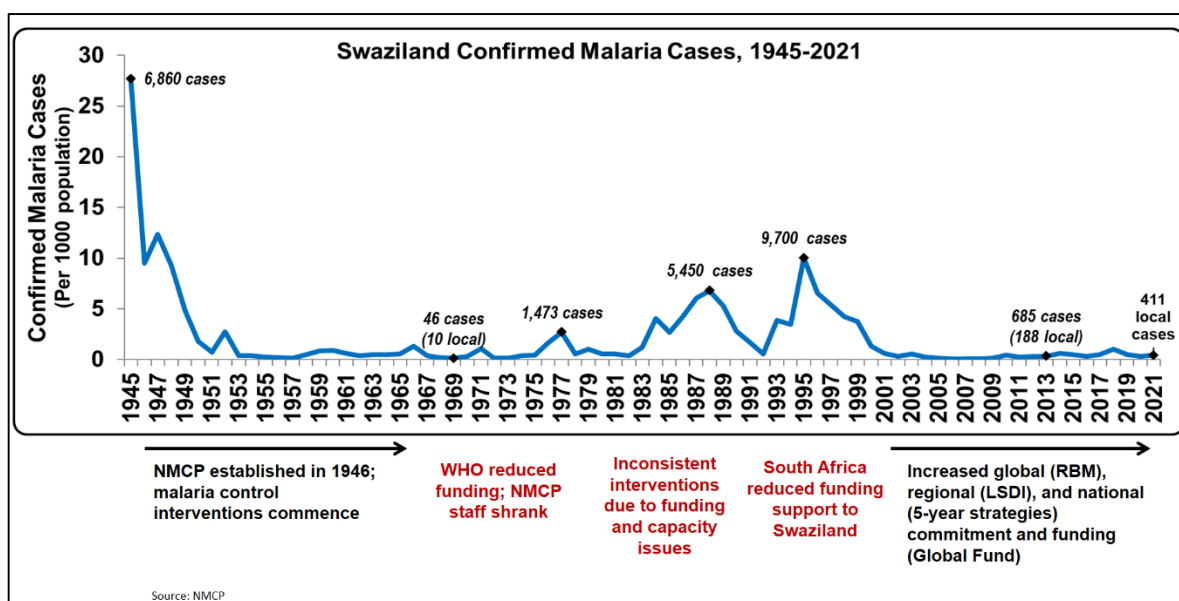


Figure 5: Progress towards malaria elimination in Eswatini

While the country has made steady progress in reducing the malaria burden, the country experienced a terrible outbreak that lasted from 1983 to 1991 with a peak in 1988 and another terrible outbreak lasting from 1992 to 2000 with a peak in 1996. Indoor residual spraying (IRS) with DDT has always been the main vector control intervention. In recent years, surveillance has been made into a core intervention and primaquine has been added to the treatment regimen to interrupt transmission. Interventions have been implemented religiously but interruptions due to funding and late delivery of insecticides have occasionally resulted in marked increase in cases. Extreme weather conditions like warmer temperatures and flooding have also been linked to some outbreaks. For example, large-scale flooding caused by Cyclone Domoina – led to the disease peaking at 5,450 confirmed cases in 1988.

### 3.2 Malaria epidemiology

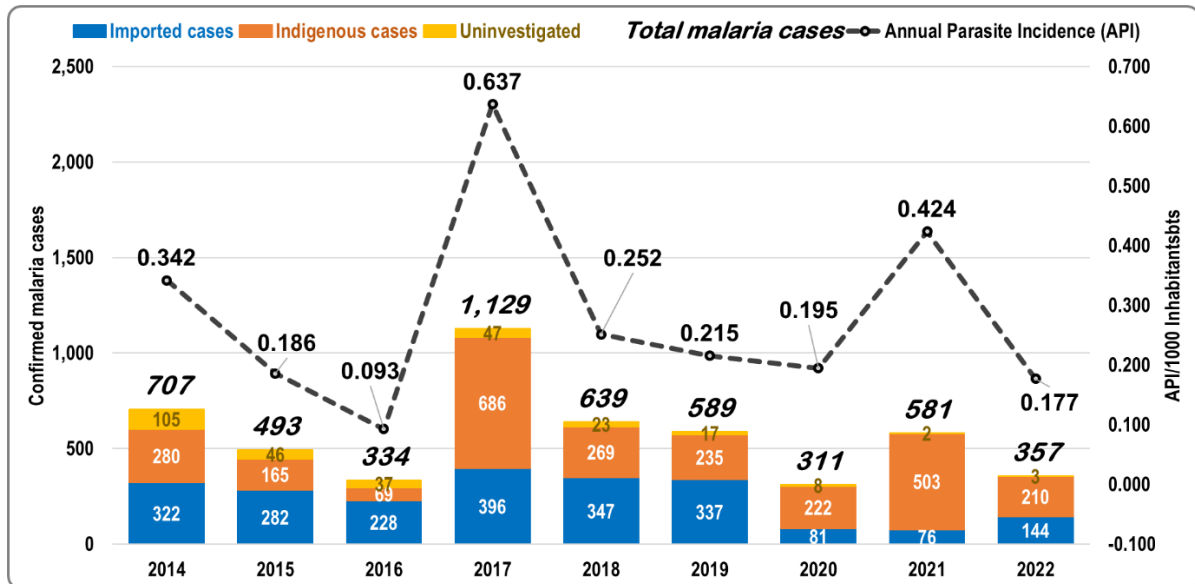


Figure 6: Trends of malaria cases and annual parasites incidence from 2014 to 2022

Eswatini has managed to maintain indigenous cases below 400 since 2014. Sharp decline in indigenous cases was observed in 2021 despite COVID-19 disruptions that affected funding and implementation of interventions. The programme also experienced challenges with false positive RDT results in 2020 and 2021 that resulted in increased positive results by RDTs. While a significant number of these cases were re-tested with microscopy and classified as false positives, some were unfortunately classified as true positive cases. In general, 60%-70% of malaria cases are males and 60%-70% are of the active age-group (10-39 years) and children under five years represent 5%-8% of malaria cases [Figure 7].

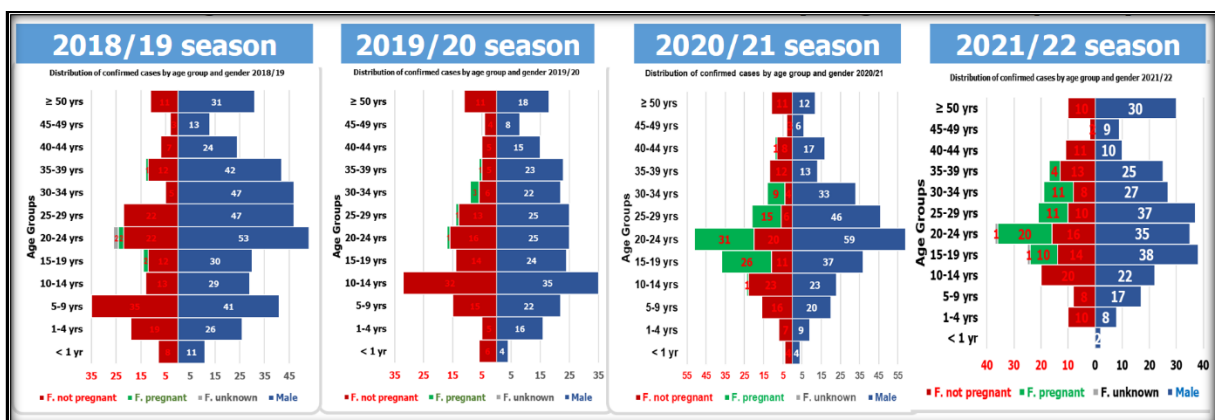


Figure 7: Trends of malaria cases distribution by sex and by age from 2018-19 to 2021-22

Trends in spatial distribution of confirmed malaria cases over the past 5 years (figure 8) show that most local cases came from the Lubombo region and the northern part of the Hhohho region, with the most affected Tinkhundla being: Lomahasha, Mandlangempisi, Sithobela, Mhlangatane, Mhlume, Siphofaneni, Ndzingeni, Dvokodvweni, Lugongolweni. Over the past 5 years, most imported cases were detected in the following Tinkhundla with relatively high economic activity: Manzini North, Kwaluseni, Mbabane East, Manzini South, Lobamba, Lugongolweni, Mbabane West

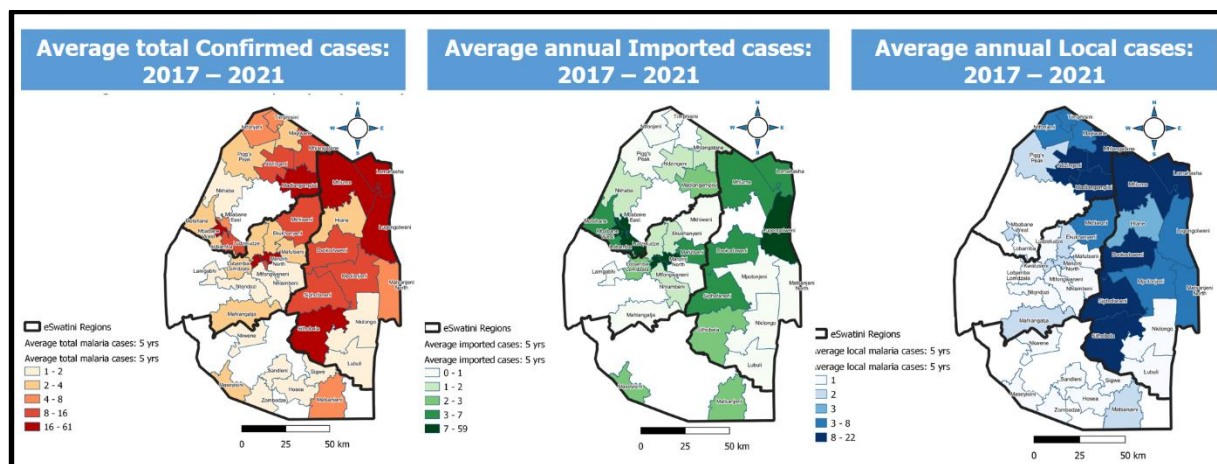


Figure 8: Trends in the spatial distribution of malaria cases from 2017 to 2021

### 3.2.1 Parasite And Vector

*Plasmodium falciparum* remains the predominant parasite in Eswatini, accounting for over 99% of malaria cases. This was confirmed by LAMP<sup>1314</sup> results from 2012-2018 and microscopy results from 2018 to date. Entomological data collected by the NMP over a period from 1991 to 2017 from sentinel sites situated in Lubombo, the North-West of Hhohho, and areas with local transmission, recorded the occurrence of *An. arabiensis*, *An. merus* and *An. quadriannulatus*. The country's main vector remains *Anopheles arabiensis*. According to the biochemical analysis data in the year 2020, this accounted for 65.4% of the 923 samples analysed while 1.8% turned out to be *Anopheles merus*.

What appeared to be a notable observation was the co-habitation of the latter with the former much against the known behaviour of being a brackish and marshy breeding species of the east coastal regions of Africa. This observation has been noted since the year 2000 when the first sample results reflected this relationship. The rest of the sample results were shared between *An. quadriannulatus* 25.5% while 7.3% lacked proper identities. In 2022, insecticide resistance data from 2 sites (Nyakatfo and Ekutismleni) showed full sensitivity of the malaria vectors to Malathion 5%, Bendiocarb 0.1%, DDT 4% and Deltametrin 0.05%.

<sup>13</sup> Michelle E Roh *et al.* High Genetic Diversity of *Plasmodium falciparum* in the Low-Transmission Setting of the Kingdom of Eswatini. *J Infect Dis.* 2019 Oct 15; 220(8): 1346–1354 [Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6743842/> ]

<sup>14</sup> LAMP: loop-mediated isothermal amplification

### 3.2.2 Malaria Transmission and Endemicity

Pockets of malaria transmission are found in all the ecological zones of the country. Approximately 30% of the population (327,971 people) are classified as at-risk for malaria and these are mainly residents of Lubombo and Hhohho regions. Malaria is stratified according to foci, which are classified as cleared, residual non active and active. Comprehensive case and foci investigation is conducted to understand transmission dynamics and factors that contribute to continued transmission to tailor make interventions that interrupt transmission.

Local transmission occurs primarily in the rainy season between September and May. However, majority of the cases are reported between January and May. Imported cases rise in January-February due to high travel volume associated with the Christmas and New year holidays. Imported malaria cases further rise during the period March-May due to labour-related influx of people associated with the harvesting of sugarcane and marijuana. The imported cases are normally followed by local transmission upsurges in some receptive areas. However, it is important to note that malaria cases are being detected throughout the year. This can be attributed to imported cases in migrants with partial immunity coming from high endemic countries.

Transmission is generally lowest during the winter period: June-August. Figure 9 below illustrates the average distribution of cases by month over the previous 5 years. The highly seasonal and unstable nature of malaria transmission suggests that acquired immunity by the local at-risk populations is negligible, and all age groups are thus at risk of developing clinical malaria disease. Despite these trends from the past few years, malaria transmission remains unstable, correlating with variable annual rainfall levels and human movement and activities.

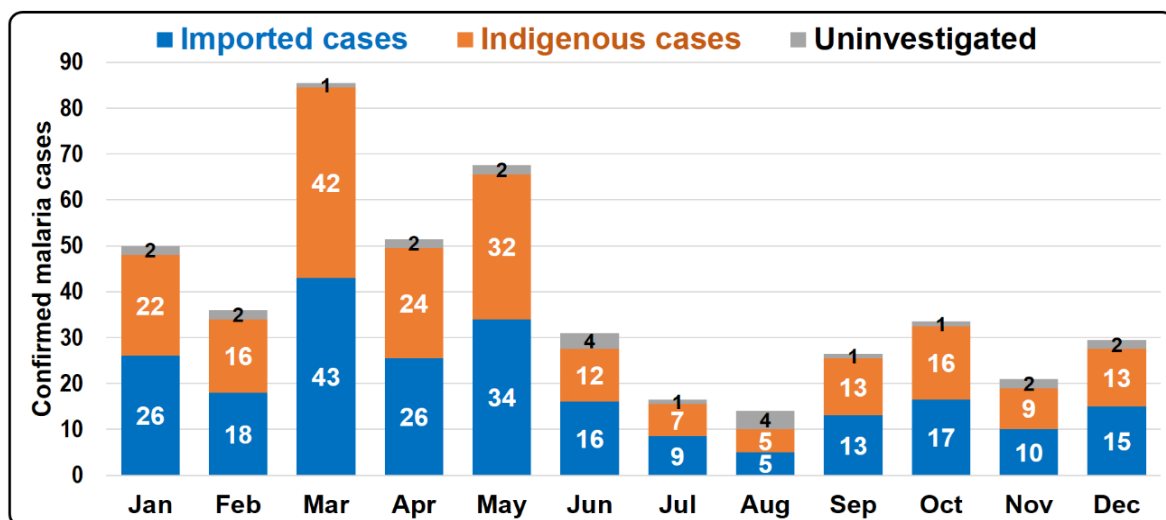


Figure 9: Average monthly trends of confirmed malaria cases over the past five years

### 3.2.3 Malaria Stratification and Mapping

The 2022 malaria stratification map of Eswatini is largely based on the World Health Organization classification of foci into active foci, residual non-active foci and cleared foci. Other parameters such as, status of the surveillance system, risk of importation, receptivity and other entomological data elements were also considered during the

stratification. For the malaria season 2019/2020, atleast 97 foci(localities) were classified as active, 45 as residual non-reactive and 14 as cleared foci. Drivers of transmission in the active foci included the presence of breeding sites, people spending significant time outdoors during peak biting hours, agricultural activities, informal irrigation related to illicit agricultural activities, and low acceptance of IRS.

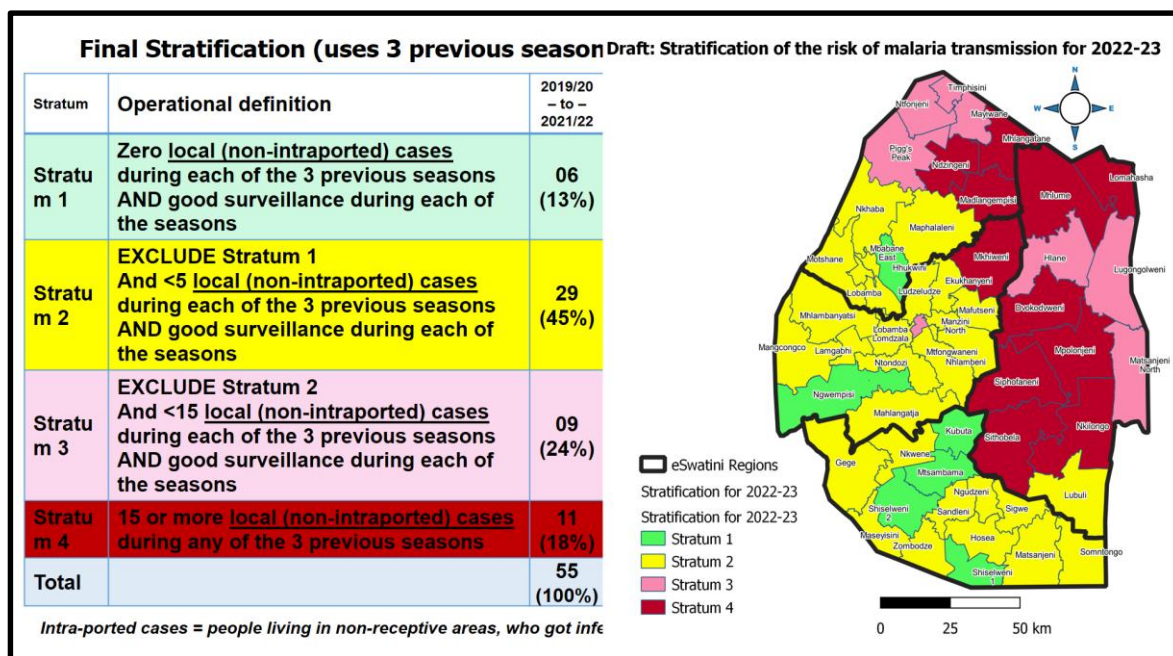


Figure 10: Eswatini Malaria Stratification Map 2022

### 3.3 Progress Made In Achieving Malaria Strategic Plan (2020-2023) Targets

#### 3.3.1 Progress towards epidemiological impact of the MSP

The NMP developed several impact indicators to measure programme progress. The overall goal of the MSP was to interrupt local transmission to zero indigenous cases by 2023 and unfortunately indigenous cases rose from 239 at baseline in 2018/19 to 302 in 2021/22. Malaria incidence increased from 0.252 at baseline to 0.424 in 2021/22. While the NMP targeted zero malaria deaths, 5 deaths were reported in 2020/21 and 4 deaths in 2021/22. Test positivity was maintained at less than 1%. Number of foci by classification was unfortunately not measured during the duration of this MSP. The MSP, therefore, did not achieve all its impact targets.

Table 4: Performance of Impact Indicators

Indicator	Baseline		2020-2021		2021-2022		2022-2023**	
	Value	Year	Target	Actual	Target	Actual	Target	Actual
Number of lab-confirmed local malaria cases	239	2018-19	100	411	36	302	0	54
Malaria incidence rate (per 1000 population)	0.252	2018	0.085	0.195	0.030	0.424	0.000	

Indicator	Baseline		2020-2021		2021-2022		2022-2023**	
	Value	Year	Target	Actual	Target	Actual	Target	Actual
Number of malaria deaths	2	2018-19	0	5	0	4	0	2
Number of foci by classification (disaggregated by type)								
Test positivity rate (%)	2.8 %	2018				0.9%		0.8%

\*\*2022-23 is ongoing

### 3.3.2 Progress in MSP morbidity and mortality impact targets

The NMP managed to slightly reduce the total number of confirmed cases from 577 at baseline to 440 in 2021/22. Indigenous cases increased from 239 (41%) at baseline to 302 (62%) in 2021/22. Case investigation rose from 97% at baseline to 99% in 2021/22 and cases investigated within 48 hours increased slightly from 91% at baseline to 94% in 2021/22. It should be noted that implementation of activities during the MSP (2020-2023) was greatly impacted by the covid 19 pandemic. The NMP also experienced challenges of false positive RDT results during this period. While a significant number of these cases were retested by microscopy and classified as false positives some unfortunately could not be re-tested by microscopy and hence were classified as true cases. The False positive RDT results also gave rise to unnecessary case investigations that wasted resources and time of surveillance officers. Trends in morbidity, therefore, shows very insignificant changes during the implementation of the 2020-2023 MSP.

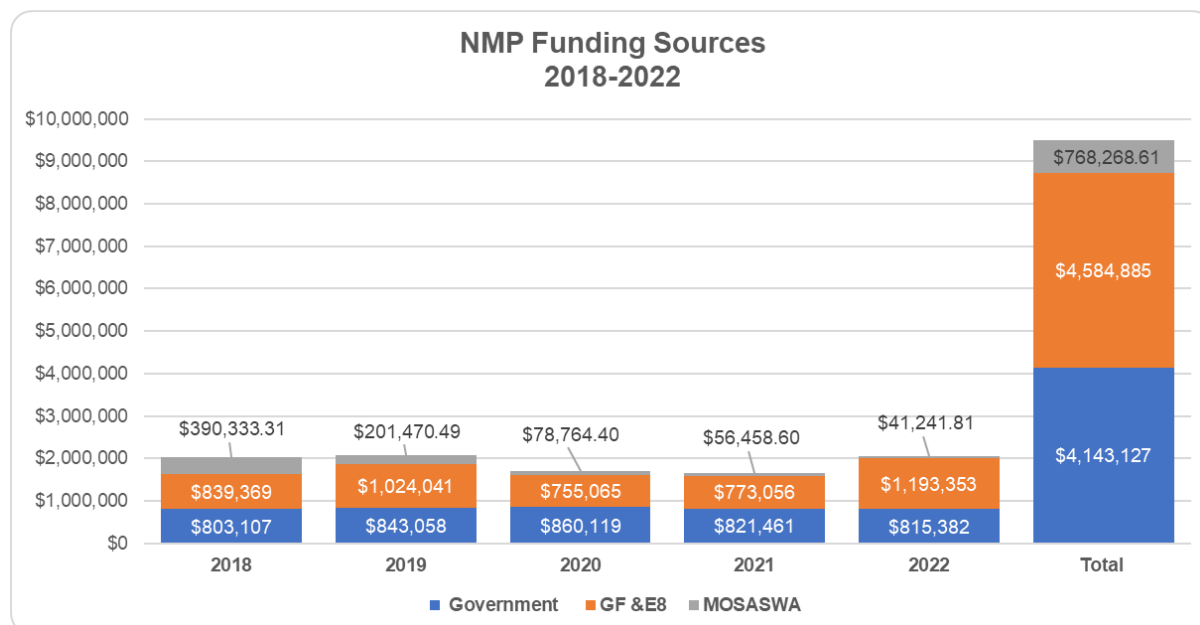
**Table 5: Trends in malaria morbidity 2018/19 to 2022/23**

Season	Total number of confirmed cases	Total number of local cases	Total number of cases investigated	Total number of cases investigated within 48 hours
2018-19	577	239 41%	561 97%	525 91%
2019-20	376	216 57%	367 98%	316 84%
2020-21	487	411 84%	484 99%	460 94%
2021-22	440	302 69%	437 99%	413 94%
2022-23 (ongoing)	87	54 62%	83 95%	67 77%

### 3.3.3 Financing of the National Malaria Programme

An estimated US\$ 9 496 280.61 was allocated to the malaria programme for the period 2018- 2022 (MOSASWA, Global Fund & Government). There is a slight margin between Domestic and Donor Funding with donor funding higher than that of government by about US\$ 441,758.00.00 between 2018 and 2022. MOSASWA grant focussed mainly on health promotion, entomological surveillance, Indoor Residual Spraying, and IT Support. Government funding covered mainly human resources (except salaries of grants coordinator and 9 surveillance officers), Indoor Residual

Spraying human resources, insecticides, PPE, office rentals, diagnostics, and treatment, fuelling and vehicle maintenance. From 2018-2020 the E8 grant was managed at the secretariat and was allocated mainly to malaria active surveillance. In 2021-2023 period E8 funding was incorporated into GF country grant and is managed by NERCHA. GF country support is expected to end in 2026 as the country is due for a transitional grant for the period 2024-2026. GF support cuts across thematic areas and covers surveillance, health promotion and IT and Data Management support, and Programme Management.



**Figure 11: NMP funding sources (2018-2022)**

The years 2020-2021 saw slight decreases in both total funding and individual contributions by government, GF and MOSASWA. Total funding was down to around US\$1,700,000 from around US\$2,000,000 in 2018 and 2019. The year 2022 saw total funding increasing back to 2018/19 level of around US\$2,000,000.

### 3.3.4 Effectiveness of the Health System in delivering Malaria Services

#### 3.3.4.1 Programme management

The NMP is, in terms of human capital well-resourced even though some established positions are not filled. In addition, the NMP is supported by the Eswatini Health Laboratory Services (EHLS), Central Medical Stores (CMS), the Health Promotion Unit, Emergency Preparedness and Response (EPR) Unit and the Strategic Information Department (SID), which encompasses the Health Management Information System (HMIS), Epidemiology and Disease Control (EDCU), Research Unit and the Monitoring and Evaluation (M&E) unit. While the funding provided by both the government and donors was not adequate to fully fund the implementation of the strategic plan (2020-2023), financial resources availed to the NMP are fair. The SMEAG wherein the NMP thematic area heads form the play the role of secretariat, offers a platform where both NMP and external experts come together to discuss progress and receive technical guidance to the different thematic areas of the NMP.

The End Malaria Fund, a legally gazetted body offers a high-level platform for financial resources. However, the NMP lacks an external professional body to perform

oversight role in tracking, progress towards malaria elimination and for performance by the NMP. Advocacy for political commitment at all levels is still low and hampering implementation of activities at all levels. While there are functional structures on the ground, there is however a need for improvement and strengthening the same for greater coordination in order to achieve the desired goals.

### **Recommendations**

- a) Establish or identify a body or institution to act as an Independent Malaria Elimination Oversight Committee.
- b) Strengthen political commitment at all levels for increased funding, malaria awareness and participation of political leaders in malaria elimination activities.
- c) Strengthen the SMEAG by reviewing the current ToRs and streamlining the thematic sub committees.
- d) Strengthen the human resources capacity of NMP by advocating for the filling of vacant positions.
- e) Improve team coordination in order to advance towards elimination.

#### ***3.3.4.2 Surveillance and Information Systems***

The NMP uses data from several integrated sources to monitor and evaluate malaria activities in the country. The NMP has a malaria surveillance database system (MSDS) which is the central repository for all malaria intervention data. As the country moves to strengthen its surveillance system, DHIS2 will be as a reporting platform to provide data visuals and analytics. The NMP sources some of its data from the client Management information systems (CMIS) which is an electronic system with patient-level-data linked to the Laboratory Information System (LIS) as well as the HMIS. Others include the Immediate Disease Notification System (IDNS) for case notification and the Logistics Management Information System (LMIS) for commodities. The NMP has trained surveillance officers supported by up-to-date surveillance guidelines, SOPs, and data collection tools. There is, however, need for the NMP to strengthen its surveillance approach by putting in place an equally but strong community-based surveillance system to timely detect malaria cases especially among the asymptomatic undocumented immigrants from high burden countries. The current surveillance system though well functional, it is somehow deficient in providing information on transmission dynamics to tailor intervention to interrupt transmission. Foci investigation, classification also needs some improvement and this warrants for the updating of the surveillance guidelines in order to accommodate such, and thereafter train the surveillance officers on the same. Inconsistent fuel supply and unavailability of it at the government depots and adequate repairs and servicing of the NMP fleet thereat hamper timely case investigations. This affects the program in performing optimally in preventing the re-establishment of malaria in areas where malaria has been eliminated. There is also needed to improve data collection and its quality coming from various health centres and hospitals and this can only be done by strengthening mentor visits to facilities.

### **Recommendations**

- a) Update surveillance guidelines and train surveillance officers and other stakeholders on foci investigation, classification, and response
- b) Establish a strong community-based surveillance system to timely detect cases especially in asymptomatic immigrants and those engaged in illegal activities.

- c) Develop strategies to prevent re-establishment of malaria in areas that have successfully interrupted transmission.
- d) The NMP should establish a mechanism for support and continuous mentoring of all staff at regional and HF level on completeness, timeliness and accuracy of case notification, case investigation, contact tracing, follow up and case reporting forms.
- e) Transform data warehouse into a malaria surveillance system using DHIS2.
- f) Piloting of DHIS 2 for case investigation and foci investigation and response and later to the remaining health facilities and train all relevant staff at HF and regional level.

#### 3.3.4.3 *Vector control and entomology*

The NMP uses indoor residual spraying (IRS) as its main vector control intervention. Long lasting impregnated nets (LLINs) are used for specialized population groups which are at risk of contracting malaria and reside in hard-to-reach areas. the standard IRS coverage. Larval source management (LSM) is also used as a supplementary intervention where and when applicable. The NMP has capacity that include an entomology laboratory, insectary, data collection tools and some equipment to carry out basic entomological work. The vector control and entomology unit have guidelines, SOPs, trained and dedicated staff supported by malaria camps and trained spraying teams. The NMP operates an entomological surveillance system which unfortunately is hampered by the non availability of a colony at the laboratory hence the reason it is it is not operating at full capacity in carrying out routine entomological surveillance eg, Insecticide Resistance Monitoring, morphological identification and basic taxonomic classification are routinely carried out. The NMP operates four sentinel sites in Lubombo, Hhohho and Manzini region which are routinely used for insecticide resistance monitoring and vector bionomics.

The does have draft guidelines on integrated vector management which are still awaiting finalization and alignment with WHO updated guidelines and there is need to finalize, update and ensure alignment. The same holds true with the entomological surveillance guidelines. There is need to install the outstanding equipment in the insectary so as to ensure a sustainable and viable colony for contact bioassays at least bi-annually in the selected sentinel sites. While bureaucracy can at times not be avoided in government systems, there is need to ensure that all efforts are made in order to avoid such as this has in the past resulted in challenges in the procurement and delivery of IRS chemicals which often affects the timing of the spraying campaigns thus impacting negatively on transmission. Such delays have also been noted in the engagement of seasonal spray operators. The program also had a challenge in securing WHO insecticide impregnated papers, but this has also been resolved and needs vigilance moving forward in placing orders on time considering the lead time in delivery of the same. The NMP is capable of carrying out basic entomological work to the required standard and has limited staffing. There is also more need for refresher training and formal capacitation of the personnel into specialization into the field so as to enable them to carry out advanced entomological work and keeping with the times

in this scientific field including but not limited to carrying out biochemical analysis of the vector species in existence.

### **Recommendations**

- a) Finalize, disseminate, and train personnel on IVM guidelines.
- b) Strengthen capacity of entomological surveillance by fully equipping the entomology laboratory with equipment, human resources and required mosquito colonies.
- c) Engage stakeholders to facilitate early release of funding for IRS chemicals and timely procurement of IRS chemicals.
- d) Strengthen human resources capacity at all levels including capacitation into the required technical expertise for advanced entomological and biochemical analysis.

#### **3.3.4.4 Case management**

The program has up to date diagnosis and treatment guidelines, job aids and SOPs and has conducted regular trainings on both diagnosis and treatment and achieved high adherence to Diagnosis and Treatment guidelines by HWs. It is supported by a network of laboratories and treatment centres manned by trained personnel. All suspected malaria cases are being tested by either microscopy or RDTs in both public and private sector. The NMP has implemented a robust malaria diagnosis QA program with several laboratories enrolled in an external microscopy PT scheme.

The program enjoys the availability of e-LMIS at CMS for proper management of malaria commodities at all levels nationwide. However, the program has not performed optimally in carrying out supporting supervisions in facilities in order to monitor the quality of testing and treatment through and this has been primarily due to inadequate fleet management at the central government garage including a constant supply of fuel. The NMP faced an unprecedented increase in the number of false positive RDT results, which due to lack of post market surveillance system, was not timely and effectively dealt with. The NMP has not yet started and intends to do so under the new strategy hence the ask for the basic equipment and amenities thereof to enable full implementation of this noble exercise which is recommended in low transmission settings. This will enable the program to carry out the patient follow up and integrated drug efficacy in accordance with the updated surveillance guidelines.

### **Recommendations**

- a) Strengthen mentoring and quality of care monitoring activities for both diagnosis and treatment at all levels and in both public and private sector facilities.
- b) Collaborate with CMS and other key stakeholders and establish/strengthen the post market surveillance of IVDs and drugs for timely and effective interventions when nonconformities are detected.
- c) Develop and establish mechanisms for the follow up of malaria patients to ensure complete cure and for Integrated Drug Efficacy Surveillance.

#### *3.3.4.5 Social Behavioural Change and Communication*

The Ministry of Health has a centralized department that deals with all health promotion matters in the country with a fully-fledged office which is run and managed in the same manner and fashion as the National Malaria Program. However, in a bid to show commitment and seriousness of the country's commitment in the malaria elimination agenda and for greater transparency in the utilization of the allocated budget, and as well as for reasons of curtailing red tape, the Ministry established a post within the National Malaria Program to work hand in hand with the national office to play that critical role. It is for that reason that the health promotion budget is incorporated into the national malaria strategy and managed within the Program.

It is however a considered view that for this strategy to receive greater impact, there is a need to put more emphasis not only on mobilization of resources but improvement of coordination and awareness creation in all sectors starting at the grassroots level to the level of policy makers. This would be made possible due to the fact that currently, the program is seized with updated guidelines and a communication strategy which have both received regular reviews over the years. Further to that, there is an established website within the Program but due to unavailability of funds, it is currently not in full usage. There is also needed to assess the usage of social media space in advancing the malaria elimination agenda as part of the mitigation measures as well as conducting mass media campaigns.

#### **Recommendations**

- a) Strengthen coordination of health promotion activities at all levels.
- b) Explore and expand the use of social media.
- c) Review and assess the impact of social media in conveying malaria messaging.
- d) Resuscitate and use the malaria website.
- e) Strengthen and carry out mass mobilisation campaigns.

## 4 CHAPTER FOUR: MALARIA STRATEGIC PLAN 2020-2024

### 4.1 VISION

Malaria Free Eswatini

### 4.2 MISSION

To provide quality assured services for malaria prevention, treatment, and surveillance for the benefit of all people in Eswatini.

### 4.3 GOAL

Eliminate Malaria from Eswatini by 2025 and prevent re-establishment of malaria.

### 4.4 STRATEGIC OBJECTIVES:

1. To achieve 100% coverage of at-risk populations with appropriate vector control interventions in residual non-active and active foci and areas with high malariogenic potential according to national guidelines by 2028.
2. To provide prompt quality assured diagnosis to all suspected malaria cases and effective treatment for all confirmed malaria cases that is in line with national guidelines by 2028.
3. To develop a fully functional malaria elimination surveillance system that is capable of early detection of cases, investigation of all cases and timely response to all cases detected by 2028.
4. To timely conduct sub-national verification of malaria to qualifying Tinkhundla by 2028
5. To engage and empower communities to adopt and own Malaria elimination interventions by 2028.
6. To provide strengthened capacity, effective leadership and improved coordination for the planning and management of malaria elimination and prevention of re-establishment programme by 2028.

### 4.5 GUIDING PRINCIPLES

The MSP and its subsequent implementation will be guided by the following principles:

- (i) Alignment and harmonisation with the National Development Plan, Health Sector Strategic Plans (HSSP) and other national and development plans
- (ii) Country ownership and leadership
- (iii) Socioeconomically inclusive, equitable and coordinated partnership cognizant of gender
- (iv) Mutual accountability (management and financial) and Value for money
- (v) Evidence-based and results-oriented management
- (vi) Integration and sustainability

### 4.6 STRATEGIC INTERVENTIONS

The NMP will implement a programme that is geared towards accelerating the country towards malaria elimination through *inter alia*; sub national verification and prevention

of re-establishment. This will be supported by objectives that are in line with the MEAT findings and the MPR recommendations. The objectives, the strategies and interventions are outlined below:

**Objective 1: To achieve 100% coverage of at-risk populations with appropriate vector control interventions in residual non-active and active foci and areas with high malariogenic potential according to national guidelines by 2028.**

The NMP shall implement Integrated Vector Management to ensure populations at risk of malaria are fully protected by appropriate vector control interventions in residual non active foci, active foci, and areas with high malariogenic potential. The NMP shall employ WHO recommended two main interventions (IRS and LLINs), for large-scale deployment and other supplementary interventions (winter larviciding and larval source management) where and when necessary.

**Strategy 1: Implement the Integrated Vector Management (IVM) guidelines.**

Under this strategy, the NMP shall

- (i) Disseminate IVM guidelines to all stakeholders and
- (ii) Conduct appropriate trainings tailor made for the different cadres in the country.
- (iii) Develop data collections tools to capture appropriate indicators and the Vector control sub-committee shall meet regularly to evaluate the implementation of IVM guidelines and impact being achieved.
- (iv) Conduct annual microplanning and needs assessments including estimation and preparation of IRS commodities, LLINs, equipment and human resources shall be conducted.

The implementation of these guidelines shall ensure the cost-effectiveness, ecological soundness, and sustainability of malaria vector control interventions.

**Strategy 2: Strengthen national capacity for Vector Control**

The Program shall under this strategy,

- (i) Review and update vector control guidelines, IRS guidelines, entomology guidelines, associated SOPs and data collection tools.
- (ii) Print and disseminate guidelines to stakeholders for use and as part of policy.
- (iii) Train responsible officers on the appropriate guidelines.
- (iv) Routinely conduct supportive supervision and mentor Environmental Health Officers (EHO's) to ensure the guidelines appropriately implemented.
- (v) Procure IT equipment including cellular phones, tablets, laptops, and power banks for key personnel involved in vector management within the program for routine data reporting.

**Strategy 3: Implement quality IRS in active foci, residual non active foci, areas with high malariogenic potential and reactive IRS to interrupt malaria transmission and prevent re-establishment.**

The NMP shall aim to.

- (i) Provide high quality IRS of acceptable coverage in active foci, residual non active foci, areas with high malariogenic potential and during reactive IRS.

- (ii) Provide appropriate equipment and regular trainings to all spray operators, supervisors, and other key personnel to ensure high coverage (target 95%) quality IRS campaigns. One round of blanket spraying per year before the start of the malaria transmission season shall be conducted in qualifying geographical areas.
- (iii) Conduct field reconnaissance studies at the beginning of each malaria season to generate data for mapping of areas to be targeted for blanket spraying.
- (iv) Conduct Reactive IRS in response to index cases of malaria as per national guidelines.
- (v) Ensure timely quantification and procurement of required IRS supplies by participating in the national quantification process spearheaded by Central Medical Stores.

**Strategy 4: Implement Long Lasting Insecticide Treated bed nets (LLINs) and supplementary vector control interventions targeting special population groups and areas.**

The NMP acknowledges that LLINs and other supplementary vector control interventions have played an important role in reducing malaria in special population groups and areas that may not necessarily be covered by routine IRS and reactive IRS hence the decline in transmission in the areas where distribution was made in the previous season. However, and for reasons of expiration, there is need to replenish the stock that has already been distributed in the subsequent years. In this regard,

- (i) LLINs will be distributed to the localities that were previously supplied and still involved in this risky activity and at the same time harbouring these high-risk populations.
- (ii) The country shall implement *larval source management* to supplement IRS with involvement of the community. Potential breeding sites shall be determined and a bio-larvicide (*Bacillus thuringiensis* var *Israelensis*: Bti) used for treatment of these breeding sites.
- (iii) The community shall be empowered for effective implementation of larval source management in peri-domestic settings.
- (iv) The programme shall promote housing improvements to avert mosquito entry into houses. Personal protection using mosquito repellents will also be promoted targeting travellers, people working at night, and other identified groups.

**Strategy 5: Strengthen the capacity for regular entomological surveillance to support decision making.**

Under this strategy, the NMP shall

Strengthen capacity for entomological surveillance to collect and analyse data on key entomological parameters.

- (i) Maintain insecticide resistance monitoring in the currently selected sentinel sites and also conduct,
- (ii) Conduct routine surveillance of malaria vectors including vector bionomics studies, assess species distribution as well feeding and resting behaviours.
- (iii) Conduct bioassays to measure quality of IRS, efficacy of LLINs among other.
- (iv) Vector bionomics shall be monitored to assess species distribution, as well as feeding and resting behaviours.
- (v) Equip the entomology laboratory and insectary to ensure the above entomological

surveillance activities can be carried in accordance with national guidelines.

**Strategy 6: Strengthen quality control of vector control interventions and products.**

The NMP shall

- (i) Rotate insecticide annually as a strategy to prevent insecticide resistance.
- (ii) Set-up a susceptible colony of mosquitoes at its insectary to support the needs for contact bioassays and other related tests.
- (iii) Conduct Quality control in communities where IRS or LLINs interventions are implemented.
- (iv) Carry out quality control of vector control products such as insecticides in collaboration with WHO accredited laboratories.
- (v) Analyse Insecticide Resistance Monitoring data annually and generate reports to support decision making and to inform vector control interventions.
- (vi) Develop and implement a sound system for the management of solid IRS waste.

**Objective 2: To provide prompt quality assured diagnosis to all suspected malaria cases and effective treatment for all confirmed malaria cases that is in line with national guidelines by 2028.**

The NMP plans to put in place measures to ensure the provision of quality assured diagnosis and effective treatment in all health facilities and at community level. This include updating diagnosis and treatment guidelines, disseminating the guidelines, training relevant personnel on the guidelines, and carrying out quality assurance activities for all personnel and in all facilities. In addition, specialised trainings shall be conducted on microscopy, treatment of severe malaria and on patient follow up. The NMP also plans to monitor the efficacy of its anti-malarial drugs.

**Strategy 1: Strengthen quality assurance of malaria diagnosis at all levels.**

The programme shall ensure that all suspected malaria cases are tested with quality assured diagnostics (RDTs and/or microscopy) that is performed by competent testing personnel to provide reliable and accurate malaria diagnostic services in both public and private health facilities at all levels. Under this strategy, the programme shall.

- (i) Maintain the competency of key personnel involved in training and supportive supervision through enrolling them for External Competency Assessment of Malaria Microscopists (ECAMM).
- (ii) Conduct annual competency-based trainings on malaria microscopy that will include trainings on performing malaria RDTs tests.
- (iii) Maintain a slide bank to support the national malaria microscopy Proficiency Testing programme in collaboration the EHLS. This shall be targeted at all personnel in the laboratory be it technologists/technicians conducting malaria microscopy testing in both private and public health facilities.
- (iv) Enrol regional hospital laboratories and referral hospital laboratories in international malaria parasite Proficiency Testing.
- (v) Conduct on-site support supervision visits to both RDT testing facilities and laboratories performing microscopy.
- (vi) Review, print, and disseminate SOPs, Job Aids, QA guidelines for malaria

diagnosis to all testing health facilities.

**Strategy 2: Ensure universal access to quality treatment for confirmed malaria cases.**

The programme shall:

- (i) Review and update the Eswatini Malaria diagnosis and Treatment guidelines and align them with recent WHO guidelines.
- (ii) Design, print and distribute the newly published guidelines, simplified job aids to all health facilities.
- (iii) Conduct training of health care workers at all levels on malaria case management in line with the guidelines.
- (iv) A system will be put in place to mentor health workers through regional peer trainers in each region to assist with cadre-specific annual training for nurses, doctors, laboratory technologists/technicians, phlebotomists, paramedics, and pharmacists.
- (v) Conduct refresher trainings on severe malaria cases to ensure clinicians are equipped with up-to-date information to detect, treat, and audit management of severe malaria cases.
- (vi) Implement patient follow up, with support from other thematic areas within the NMP and the different cadres working at community level. Malaria cases will be assessed for persisting symptoms and the blood slides will be examined to check for parasite clearance on day 3, 14 and 28. This will ensure complete patient cure and pause no risk of onward transmission in the community.
- (vii) Roll out and intergrate drug efficacy monitoring into routine surveillance.
- (viii) Advocate and promote the use of chemoprophylaxis and ensure that chemoprophylaxis is available at all health facility levels to travellers visiting known endemic countries.

**Strategy 3: Strengthen Quality of care monitoring.**

The NMP shall use a standard checklist to identify problems that compromise the quality of malaria diagnostic and treatment services, and supervisors/coordinators provide mentorship by on-site training and individual communication. The NMP shall:

- (i) Monitor the quality of care at all levels to ensure adherence to Eswatini diagnosis and treatment guidelines through regular supportive and mentorship supervision visits at least twice a year (during the beginning and mid peak transmission period).
- (ii) Build capacity for NMP staff on coaching, mentorship, and facilitation to improve skills in conducting effective and impactful onsite-supportive visits.
- (iii) Analyse the findings from these visits and give feedback to the facility managers on the findings and expected corrective actions, will be reviewed at subsequent visits.
- (iv) Conduct clinical audits to review the management all severe malaria cases and malaria deaths in all health facilities.
- (v) Establish malaria case audit teams that are composed of clinical experts in the field.

**Strategy 4: Ensure the availability of quality malaria consumables and commodities at all levels.**

The NMP shall provide universal access to all malaria commodities to ensure prompt diagnosis and effective treatment of all malaria cases. Therefore, the program will,

- (i) Collaborate with CMS to Undertake annual quantification and forecasting of

malaria commodities.

- (ii) Conduct pre and post shipment lot testing monitor the quality of batches being received in the country.
- (iii) Conduct bi-annual inventory management reviews to assess the consumption of procured commodities to prevent stock outs.
- (iv) Conduct supportive supervision to ensure drugs, RDTs and consumables are stored properly in all testing health facilities.
- (v) Develop post-market surveillance system for all drugs and IVDs and this shall be carried out collaboratively with CMS and EHLS.
- (vi) Train and equip end users with skills to document and report drug adverse reactions and complaints on IVDs using standardised forms and reporting structures.
- (vii) Analyse data generated from the follow up of malaria cases to monitor the therapeutic efficacy of anti-malaria drugs used in Eswatini.

### **Strategy 5: Chemoprevention to accelerate malaria elimination.**

The program shall conduct chemoprevention in selected and qualifying localities to rapidly reduce transmission and accelerate these areas towards sub national elimination and verification.

The NMP shall:

- (i) Identify community to administer the Mass Drug Administration (MDA) and/ or targeted drug administration (TDA)
- (ii) Develop SOPs for the implementation of the activity.
- (iii) Administer MDA to people at increased risk of infection compared to the general population.
- (iv) Update its treatment guidelines to include appropriate drugs for chemoprevention,
- (v) Conduct training of health care workers on the intended chemoprevention intervention.
- (vi) Review the implementation of the activity for impact.

### **Objective 3. To develop a fully functional malaria elimination surveillance system that is capable of early detection of cases, investigation of all cases and timely response to all cases detected by 2028.**

The NMP has to date been able to establish a central repository for malaria data with digitalized reporting from health facilities, surveillance, and vector teams. Under this objective, the NMP intends to put in place in place a much stronger robust and fully functional surveillance system at all levels including at community level using the DHIS2 platform, taking advantage of the systems analytical and mapping capabilities.

- (i) Rapidly detect, investigate, and respond to every case of malaria in order to interrupt local transmission of malaria using enhanced data analytical and mapping capabilities.
- (ii) Prevent the re-establishment of malaria in areas where malaria has been eliminated through continuous tracking of foci as well as community engagement and sensitization of malaria as transmission is being lowered Areas that have reported zero indigenous cases for 3 consecutive years shall be certified to have

eliminated malaria through a sub-national malaria elimination and verification exercise.

**Strategy 1: Strengthen malaria systems to allow for prompt notification and investigation of malaria cases.**

All cases should with 24 hours and investigated with 48 hours, therefore the programme will strengthen the integration between the systems to allow for real-time data transmission. The programme shall;

- (i) Fast-track the integration of MSDS with the data sources and roll-out of DHIS2 to a robust malaria surveillance system that can produce real-time reports on notification and investigation, passively and actively detected cases and foci investigation and classification,
- (ii) Conduct a pilot by implementing the system at the NMP as for case and foci investigation response.
- (iii) Fast track the process of the linking the IDNS notifications into CMIS through collaboration with key stakeholders in order to capture key data elements essential for malaria notification.
- (iv) Maintain inter-operability mechanism between CMIS and MSDS systems.
- (v) Advocate for the prioritization of facilities in malaria risk zones for CMIS roll-out including in private sector facilities.
- (vi) Provide training and frequent mentorship from regional and surveillance.
- (vii) Strengthening of the immediate notification of cases at facility level shall be done through continuous sensitization of HCWs on IDSR and regular facility visits.
- (viii) Conduct regular trainings at different levels targeting different cadres and supportive supervisions shall be conducted to all facilities.
- (ix) Update Notification booklets (HMIS, EPR and HCWs sensitized on the changes.
- (x) Strengthening and reporting of the immediate notification of cases at facility level shall be done through continuous sensitization of HCWs on IDSR, regular facility visits and annual refresher surveillance training.
- (xi) Conduct routine data quality assessments to verify and improve the data quality will also be conducted in addition to the routine surveillance assessments to assess the performance of the surveillance system.

**Strategy 2: Capacitating programme officers on data systems**

The programme plans to capacitate its officers on the integrated systems as well as the new DHIS 2 system.

The NMP shall

- (i) Train the technical officers on the upgraded systems and integration to ensure full utilization of all the available features.
- (ii) Collaborate with cadres already operating at community level in case investigations.
- (iii) Pilot the DHIS2 Android application.
- (iv) Pilot the DHIS2 Android application.

**Strategy 3: Strengthen case investigation of all malaria cases within 48 hours in all tinkhundla.**

The NMP shall

- (i) Review and finalise the revision of the surveillance guidelines as well as updating malaria data collection tools.
- (ii) Conduct trainings of HCWs, CHWs on case notification and investigation.
- (iii) Conduct routine data quality audits and supportive supervision to identify and resolve bottlenecks.
- (iv) Strengthen feedback mechanisms to ensure health facilities are enlightened on the challenges being encountered by the NMP.
- (v) Collaborate with cadres already operating at community level in case investigations.

#### **Strategy 4: Strengthen implementation of focus investigation, classification response and reporting.**

The NMP shall

- (i) Review focus investigation and response SOPs and data collection tools.
- (ii) Establish a geo-referenced database to map all foci of transmission to inform elimination progress.
- (iii) Develop and implement foci response plans.
- (iv) Train all staff involved in foci investigation and response on the revised SOPs.
- (v) Conduct refresher trainings.
- (vi) Strengthen collaboration between the different stakeholders involved in focus investigation and response and the different thematic areas within NMP.
- (vii) Engage with local political and traditional leaders and RHMTs to ensure the involvement of the community in helping to identify breeding sites and sensitizing them on transmission dynamics in the individual foci.

#### **Strategy 5: Strengthen epidemic preparedness and response (EPR)**

The NMP shall

- (i) Update the EPR plan to facilitate early detection of potential outbreak.
- (ii) Engage and involve regional RRTs during development and implementation of response plans.
- (iii) Develop plans for rapid re-distribution, procurement or borrowing of commodities to prevent stock outs of commodities.
- (iv) Conduct trainings for RRTs and other stakeholders to identify notify and respond to outbreaks.

#### **Strategy 5: Strengthen Operational Research**

The NMP shall

- (i) Carry out operational research to identify and resolve bottlenecks in the implementation of interventions,
- (ii) Conduct annual meetings with stakeholders including research institutions to develop the national malaria research agenda, identify priority areas for operational research and to timely disseminate research findings.
- (iii) Share epidemiological, parasitological, and entomological reports with stakeholders.

#### **Objective 4: To timely conduct sub-national verification of malaria to qualifying Tinkhundla by 2028**

The NMP plans to implement subnational initiatives to interrupt malaria transmission followed by validations of elimination as the country approaches WHO certification. Working toward and attaining elimination in certain subnational areas could generate substantial enthusiasm and motivation for national reductions in the malaria burden.

The NMP shall

- (i) Evaluate elimination in tinkhundla that have interrupted local transmission for 3 consecutive years.
- (ii) Conduct rigorous verification of documentation through an independent advisory committee.
- (iii) Prevent re-establishment activities in tinkhundlas that have eliminated.
- (iv) Shall implement aggressive foci clearance programme driven by a strong community surveillance system.

#### **Strategy 1: Implement sub national elimination at tinkhundla level.**

The NMP shall

- (i) Establish an independent elimination advisory committee.
- (ii) Conduct trainings in tinkhundlas on malaria elimination and certification.
- (iii) Keep data on tinkhundla reporting zero indigenous cases and identify tinkhundla qualifying for sub national verification.

#### **Strategy 2: Introduce and implement aggressive foci clearance programme.**

The NMP shall

- (i) Develop guidelines, SOPs, and data collection tools on foci clearance programme.
- (ii) Conduct trainings of surveillance officers on guidelines, SOPs, and data collection tools.
- (iii) identify tinkhundla reporting less than the required number of indigenous malaria cases annually.
- (iv) Introduce an aggressive foci clearance program in selected tinkhundlas.

#### **Strategy 3: Strengthen community surveillance of malaria in all qualifying tinkhundla.**

The NMP shall

- (i) Develop community appropriate case investigation guidelines.
- (ii) Identify cadres working at community level and community groups that can play a role in malaria surveillance.
- (iii) Train community-based cadres and community members on malaria elimination and malaria surveillance.

#### **Strategy 4: Strengthen prevention of re-establishment of malaria in tinkhundla that have eliminated.**

The NMP shall

- (i) Monitor the malariogenic potential of areas that have interrupted transmission and put measures in place to reduce risk with area specific interventions.

- (ii) Strengthen measures that ensure the health of travellers including provision of chemoprophylaxis and necessary travel advisory.
- (iii) Put measures in place to quickly detect cases in travellers arriving in an area and implement appropriate interventions to interrupt transmission.
- (iv) Strengthen malaria surveillance at points of entry.
- (v) Identify high risk population groups and appropriate interventions developed and implemented.

**Objective 5: To engage and empower communities to adopt and own Malaria elimination interventions by 2028.**

Community engagement aims to reach all at risk groups to help support them as they endeavour to realise their key roles in the elimination of malaria. It seeks to assess and identify current knowledge, practices, and behaviour among community members on prevention and elimination of malaria in Eswatini. Community participation encourages community members to accept, adopt and own all interventions developed and implemented, evoking change of attitude and behaviour. Ownership of malaria elimination interventions by community members shall ensure sustainability during and post elimination. The engagement shall further encourage multi-sectoral collaboration among Government, NMP and other stakeholders.

**Strategy 1- Create malaria awareness amongst special risk groups and the population at large.**

Under this strategy the Programme shall:

- (i) Identify Community volunteers and peer educators.
- (ii) Engage and train community volunteers and special risk groups in the targeted communities (Community Mobile Mentors Mothers, Rural Health Motivators, NGO volunteers, peer educators)
- (iii) Identify special population groups for LLINs and supplementary vector control interventions in collaborations with other NMP thematic area.
- (iv) Review and revise the current Advocacy and Social Behavioural Change Communication (ASBCC) Strategy and procure IEC material in line with the malaria elimination continuum.
- (v) Conduct Malaria awareness campaigns inclusive of the commemoration of Internationally acclaimed malaria days.

**Strategy 2- Establish and strengthen collaborations with relevant stakeholders in malaria elimination.**

Collaboration between NMP and relevant stakeholders is key in driving the malaria elimination agenda at community level. The program holds the notion that stakeholders are an extended arm of the department and assist in facilitating information dissemination or providing forums for the NMP to disseminate malaria information. It is for that reason that it is envisioned that such relations should continue perpetually and be maintained.

Through this strategy the programme shall:

- (i) Conduct stakeholder mapping.
- (ii) Engage all identified stakeholders and establish malaria elimination committees in

communities.

- (iii) Cascade malaria awareness to community stakeholders (Tour operators, School Health, Tinkhundla, health institution students etc)
- (iv) Conduct technical working group meetings.
- (v) The NMP will also participate in development of community health workers strategy as part of wider GoKE effort around community engagement

### **Strategy 3 - Robust use of mass and social media to strengthen malaria awareness in communities.**

Mass media can reach different audiences that can access it and is a useful mode of spreading information, however, little is known on its impact on malaria messaging hence the program's desire to venture into such fora and later review the impact of such an adventure. The Programme will also develop IEC material and flight these in different media outlets available in the country. Further, the programme shall also conduct surveys, community dialogues and interpersonal communication to engage communities.

Through this strategy the programme will engage in the following activities

- (i) Host malaria website
- (ii) Conduct Surveys, community dialogues, and interpersonal communication.
- (iii) Conduct surveys, community dialogues, and interpersonal communication.
- (iv) Expand social media coverage.
- (v) Conduct mass media campaigns.
- (vi) Assess the impact of the programme's investment in social media campaigns and seek for opportune approach.

### **Strategy 4 – Integrate malaria elimination BCC at the central level for maximum reach.**

The NMP will increase its collaboration with the national health promotion unit to scale up and hype the malaria elimination agenda. Various stake holders and social movements shall be identified in regions and trained on communication for behavioural techniques (COMBI) approach considering the seasonality and transmission levels of the disease in the different areas in the country. Training on hyping the social media platform for malaria information dissemination shall be undertaken. The NMP shall also dedicate a suitably qualified officer who shall run and manage the department's website and social media pages.

Through this strategy the programme will:

- (i) Scale up integration with the central health promotion unit in supporting BCC for malaria elimination.
- (ii) Train CBOs on malaria elimination BCC techniques

### **Objective 6: To provide strengthened capacity, effective leadership and improved coordination for the planning and management of malaria elimination and prevention of re-establishment programme by 2028.**

The NMP shall aim to strengthen programme capacity and create a conducive environment for a coordinated team effort to take the country towards the goal of

malaria elimination by 2025. Measures shall be put in place to ensure appropriate planning, review and reporting mechanisms. Systems shall be strengthened for cross border and multi sectoral collaboration. NMP personnel shall be regularly trained on the needed skills and offered opportunities to develop themselves in order to guarantee fruition of the desired goals as clearly set out in this objective.

### **Strategy 1: Strengthen the programme's technical capacity at all levels.**

The programme will continue to advocate for increased and sustainable funding for malaria elimination and prevention of re-establishment activities. Available funding shall be prioritised and optimised for greater impact. Under this strategy the NMP shall.

- l) Advocate for filling of vacant positions
- i) Conduct an annual pre-planning meeting to forecast training needs, procurement and workplans for the programme.
- ii) Conduct an annual training needs assessment for programme staff.
- iii) Provide appropriate skills training to programme staff.
- iv) Advocate for increased funding for the Malaria Programme
- v) Mobilise support for infrastructure development and functionalisation for Malaria Elimination.
- vi) Conduct a programme staff orientation on the current malaria strategic plan.

### **Strategy 2: Improve team coordination to achieve malaria elimination.**

The NMP shall where necessary review the NMP organogram and further revise all job descriptions within the confines of the legal framework to clearly outline roles and responsibilities and reporting structures in order to ensure the NMP is effective, responsive and result oriented in carrying out its mandate. The NMP shall strengthen the national malaria elimination committees through reviewing terms of reference and appointing personnel and experts into these committees. These committees shall play active roles in monitoring and reporting on the country progress towards malaria elimination, advocate for political buy in, resources and general malaria awareness and provide technical support and advice to the NMP. The programme shall also establish or identify an already functional committee to play an oversight role and routinely track the programme's performance towards elimination. The NMP shall endeavour to regularly conduct team building exercises for all personnel.

#### **Under this strategy the NMP shall.**

- (i) Ensure regular reviews for the staff performance.
- (ii) Review the organogram and improve the reporting structure.
- (iii) Create TORs functionalize SMEAG Thematic TWGs and Malaria Elimination Committees
- (iv) Conduct routine SMEAG and Malaria Elimination Committee Meetings to monitor progress towards malaria elimination.
- (v) Conduct Team Building programmes for the staff.

### **Strategy 3. Strengthen programme planning, review and reporting.**

The NMP shall conduct planning meetings, programme and technical reviews and create reporting mechanisms to ensure both internal and external stakeholders are involved and updated on a regular basis. The NMP shall conduct weekly planning and reporting meetings with programme staff. These shall extend to quarterly review and

planning meetings with stakeholders. The programme shall continually engage with stakeholders through the SMEAG and established technical working groups to review progress of thematic areas, provide policy guidance and technical advice. At the end of each annual cycle, the program shall hold reviews and planning meetings. As per norm and practice, there shall be a mid-term and end term review of this NSP to inform the development of the next national malaria strategic plan.

Under this strategy the NMP shall;

- (i) Conduct weekly planning and reporting meetings.
- (ii) Conduct quarterly implementers meeting.
- (iii) Conduct TWG meetings.
- (iv) Conduct annual programme review and planning meetings.
- (v) Conduct Mid Term Review
- (vi) Conduct End term Review.
- (vii) Develop a new Malaria Strategic Plan

#### **Strategy 4 Ensure Political Commitment for the Malaria Elimination Agenda**

The NMP shall continue advocating for political commitment at every level and for adequate and sustainable financial resources and staffing. The end results of fortifying the program's acquisition of political mileage are also to benefit from promulgation of favourable policies and regulations and establishment of the required infrastructure that may be needed for the NMP to function appropriately. There shall, as part of the efforts to amass enough political mileage, annual meetings with Traditional Authorities; Chiefs and Bucopho and as well as regular meetings will be with parliamentarians including the Health Port-folio Committee. The NMP shall at a much higher level and through the appropriate fora, advocate for political leadership to coordinate multisectoral and cross-border response. The national malaria elimination policy was assembled in 2011 and as such, it now needs reviewal to embrace the new strategies to be implemented. Under this strategy the NMP shall.

- i) Conduct Annual Meetings with traditional authorities, Chiefs and Bucopho
- ii) Conduct meetings with Parliamentarians to advocate for Malaria Issues- Health Portfolio Committee
- iii) Review the 2011 Malaria Elimination Policy

#### **Strategy 5 Strengthen cross border collaborations at national and sub national level.**

The programme has several partners who play a key role towards malaria elimination. Therefore, the NMP shall.

- (i) Conduct a mapping exercise to properly identify all key partners and the role that they play and potential roles that they can play towards malaria elimination in their respective sectors.
- (ii) Develop Memorandums of Understandings (MOUs) to detail the expectations on both parties as well as share the recommended intervention standards for quality service.
- (iii) Create platforms for monitoring and reporting with partners for all implemented interventions.

- (iv) Participate in regional cross border initiatives including MOSASWA and SADC/E8 initiatives including Cross Border Technical Working Groups (TWGs)
- (v) Through relevant TWGs and thematic areas, review and implement cross border collaborations recommendations and further conduct operational research to answer key implementation questions in collaboration with relevant stakeholders.
- (vi) Conduct Advocacy meetings with key malaria actors for integration of malaria activities.

**Strategy 6 Strengthen the programme’s administrative and logistics capacity.**

For the programme to function optimally, it will require not only adequate human resources, infrastructure, and logistics but also a strong and facilitated administration and operation coordination unit.

Under this strategy the NMP shall.

- i) Maintain the grants management function.
- ii) Provide for routine operational costs.
- iii) Advocate for adequate human resources
- iv) Maintain and procure adequate equipment & Vehicles.

## **5 CHAPTER FIVE: IMPLEMENTATION FRAMEWORK**

### **5.1 MSP implementation Plan**

To explore the strategic framework in this MSP, the NMP has developed a detailed implementation plan highlighting the activities to be done, the time frame for implementing the activities, the responsible authorities for the different activities and associated costs for each activity. This implementation plan shall guide the implementation of activities by the different thematic units and partners and as well as assist the NMP to coordinate the different activities. The detailed costs for each activity shall guide the allocation of resources, disbursement of funds and resource mobilization. The detailed implementation plan is in annex 1.

### **5.2 Coordination mechanisms**

The Ministry of Health through the National Malaria Programme has the mandate to provide leadership in the planning and coordination of implementation efforts for the elimination of malaria in Eswatini. This strategic plan has been developed in a consultative process with and is to be implemented jointly by all partners and stakeholders. All stakeholders shall respect this one strategic plan, its proposed coordination mechanism and adopts its monitoring and evaluation plan to measure progress and assess impact. The NMP thematic area heads shall oversee implementation of interventions at all levels and ultimately report to the Programme manager. These are namely heads for Health Promotion, Vector control, Case management, Surveillance, IT and Monitoring and Evaluation. In addition, SMEAG thematic sub committees and the general SMEAG shall monitor implementation of activities, provide guidance in the implementation of activities and measure performance towards malaria elimination. At the regional level, the Regional Health Administrator, supported by the Regional Health Management Teams (RHMTs) shall oversee implementation of strategies and activities. The major focus of the coordination mechanisms at all levels is on planning, implementation, resource mobilization and performance monitoring and supervision.

### **5.3 Role of key partners**

The NMP works with different key stakeholders who play different roles in the implementation of this MSP and also recognises the role of multi sectoral collaboration. In this section the role of key partners is outlined.

#### **5.3.1 The Eswatini Global Fund Country Coordinating Mechanism and NERCHA**

The Eswatini Global Fund Country Coordinating Mechanism was established in 2001 by the Minister of Health and Social Welfare as per the requirements of the Global Fund to Fight AIDS, Tuberculosis and Malaria. The CCM is a multi-sectoral body whose function is to oversee proposal development, planning, implementation, and resource utilization of the Global Fund support in the fight against HIV and AIDS, Tuberculosis (TB) and Malaria harmonious with other efforts to improve health and reduce poverty. The National Emergency Response Council on HIV and AIDS (NERCHA) is the principal recipient of the Global Fund grant in Eswatini. The National

Emergency Response Council on HIV and AIDS (NERCHA) is a government parastatal that was established in 2001 through an Act of Parliament to provide leadership in the coordination and facilitation of the multi-sectoral emergency response to HIV and AIDS in Eswatini.

### **5.3.2 The END Malaria Fund**

The End Malaria Fund (EMF) is an initiative by His Majesty the King that resulted in an independent, non-profit special fund composed of government, business, and the community that play a role in raising funding and performing advocacy for malaria elimination. Since its inception in 2019, the EMF has managed to raise financial and in-kind resources to the value of SZL 10 million and has approved and funded over 90% of the NMP's prioritized gap requests during the period. This is inclusive of the IRS temporary personnel contracts extension to ensure the spray coverage target is met as per the NMP's goal, maintenance of the NMP fleet for continuity in delivery critical interventions in all thematic areas, strengthening of malaria surveillance through the procurement and supply of tablets as well as the strengthening of case management through mitigating stockouts of antimalarial.

The EMF continues to devise fundraising strategies to ensure the sustainability of the funding for the NMSP. Currently, the EMF is venturing into engaging manufacturers of pharmaceuticals of critical drugs in the health sector a number of mutually benefitting avenues such as repackaging and distributing of commodities from Eswatini. Through this initiative, the EMF is set to earn a percentage of profits that will generate the revenue to sustain gaps and eventually attain long-term sustainability of the NMP post-elimination.

### **5.3.3 Political Leaders and Decision Makers**

At national level, the NMP will advocate for political commitment from the Cabinet, Parliamentarians, and Health Portfolio Committee and at regional and community level the NMP will advocate for the involvement and support of church leaders, Chiefs and Bucophos.

Their roles are to:

- a) provide political leadership and advocate for malaria elimination as a health priority and national strategy to improve the lives of everyone resident in Eswatini.
- b) Advocate, allocate and ensure adequate and sustainable resources are secured for the implementation of this malaria elimination strategic plan.
- c) advocate, develop and ensure a conducive regulatory environment is created to support malaria elimination in Eswatini and the region as a whole.
- d) Strengthen malaria elimination awareness to the different audiences that are accessible to them or under their jurisdictions.

### **5.3.4 Procurement bodies**

The national procurement system is regulated by SPPRA established by the National Procurement Act of 2011. Procurement for the programme is done through ministry of health procurement unit as well as Global Fund PR (NERCHA), given the country's dual funding sources. Within the ministry of health there is a procurement unit that is

responsible for procurement of all Ministry of health commodities and services including Malaria commodities. The NMP, CMS and EHLS also play a critical role in ensuring that consumption data, specifications and procurement plans are developed.

### **5.3.5 Civil Society**

Civil society organizations comprise international and national NGOs, community- and faith-based organizations (CBOs and FBOs). They provide curative and preventive health services through hospitals and health facilities including emergency situations or difficult to reach populations. Some provide funding and support the NMP implement several activities at different levels. These include WHO and CHAI.

Their roles are to:

- a) Ensure implementation of quality services according to national guidelines
- b) Provide technical guidance in the implementation of activities.
- c) Resource mobilization for specific activities within their mandates
- d) Apply and evaluate innovative approaches to deliver core interventions.

### **5.3.6 Private sector**

The private sector can be divided into several groups including formal establishments such as mission facilities, private hospitals; doctor or nurse owned clinics, industrial clinics, pharmacy, and NGO clinics and informal such traditional health practitioners and also includes their professional organizations.

In Eswatini, the private sector plays key role in providing universal access to free malaria services. Through a strong collaboration, the government supplies antimalarial treatment free of charge to the private sector through the central medical stores and in turn the private sector offers malaria services free of charge to the community.

Further, through the NMP, the government offers routine training private sector healthworkers on malaria case management while the private sector bears their own travel costs. Private sector attendance in trainings has been impressive with a high adherence to the national diagnosis and treatment guidelines.

Additionally, the regions are responsible for supervision of all the public and private health facilities and, the private sector also compile monthly morbidity and mortality to the HMIS.

Broadly, the private sector roles are to:

- a) Ensure quality of services according to national treatment guidelines
- b) Promote behavioural change in treatment seeking and prevention
- c) Ensure all malaria cases are reported to national level

The other category of private sector engaged in malaria services include the commercial manufacturers and distributors of health-related products such as LLINs, insecticides, medicines, diagnostics, and spray equipment and service providers such as transporters for IRS, or maintenance of spray equipment.

Their roles are to:

- a) Provide quality products and services that are adequate for the demands
- b) Support the development of new or improved products
- c) Actively participate in the coordination and planning of the national malaria elimination efforts

### 5.3.7 Communities

The community plays a crucial role in the implementation of the malaria strategic plan. Several strategies in this MSP are community driven or require community support to be implanted or are implemented at community level. The NMP recognises the role of the community in driving the elimination agenda.

Their roles are to:

- (i) Identify needs, prioritize, plan and map preventive measures with special emphasis towards the risk/special groups (pregnant women, children, and travellers)
- (ii) Identify ways how they can directly or indirectly contribute to the reduction of malaria transmission through community actions.
- (iii) Participate in community malaria prevention activities (elimination of breeding sites, peer education, personal protection, reporting unusual events)
- (iv) Participate in health commemorative activities e.g., SADC malaria week, world malaria day.
- (v) Participate in village health committees which links communities to health facilities.

## 5.4 Costing of the NMSP & Budget

### 5.4.1 Costing approach and budget

A detailed mixed financial and economic costing of this strategic plan was conducted through a consultative process with the key stakeholders. The costing adopted the provider (NMP) perspective and what was required for the NMP to deliver elimination interventions to scale within the affected communities. Through a bottom up/microcosting approach, the pathway for delivering the prioritized strategic activities was mapped, the resources required, their cost and when they would be required were determined. Resources with long lives such as vehicles and trucks were annualized over the years of the plan and the cost of the health workers force at health facilities attributed to malaria was estimated. The total cost of implementing this strategy is an estimated **SZL 211,867,045** as shown in Table 6 below.

**Table 6: Summary NMSP 2024-2028 budget by objective and year**

Objective	2024	2025	2026	2027	2028	Total
<b>Objective 1</b>	7,983,294	8,956,512	10,598,993	9,369,636	10,343,493	47,251,928
<b>Objective 2</b>	5,662,624	6,792,740	5,435,267	7,954,917	5,605,859	31,451,406
<b>Objective 3</b>	3,895,150	2,502,778	3,058,699	1,921,906	2,343,272	13,721,804
<b>Objective 4</b>	190,365	86,824	181,935	78,974	82,939	621,038
<b>Objective 5</b>	3,440,160	2,026,260	2,032,775	3,491,989	2,241,988	13,233,173
<b>Objective 6</b>	7,983,294	8,956,512	10,598,993	9,369,636	10,343,493	105,587,696
<b>Goal</b>	<b>40,388,400</b>	<b>40,812,039</b>	<b>42,812,937</b>	<b>41,871,345</b>	<b>45,982,323</b>	<b>211,867,045</b>

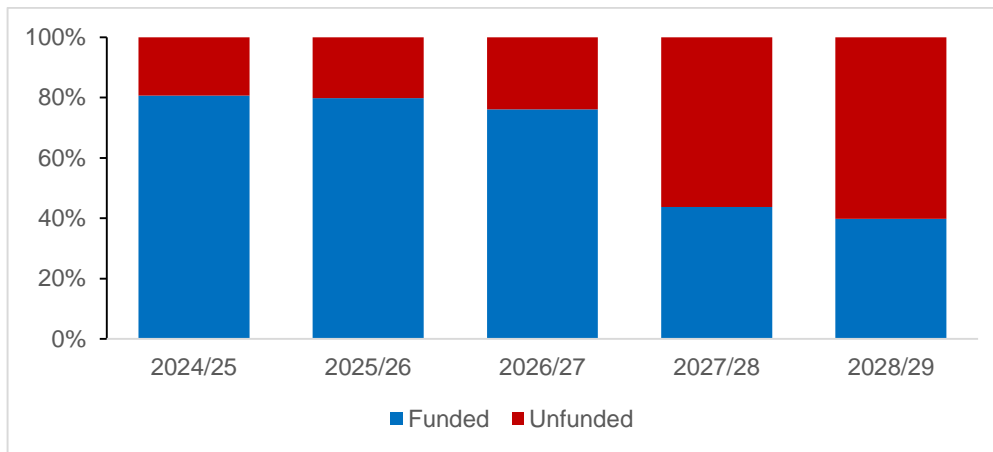
### 5.4.2 Funding landscape

Table 7 summarizes the analysis of the anticipated financial commitments both from the government and external sources.

**Table 7: funding landscape for the NMSP 2024-2028**

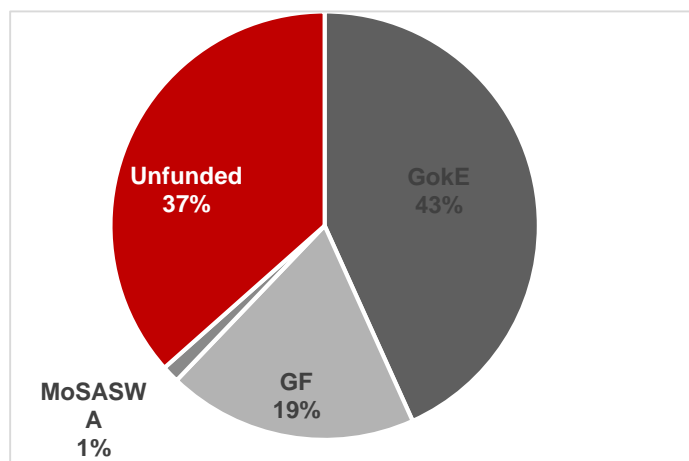
Fiscal Year/	2024/25	2025/26	2026/27	2027/28	2028/29	Total
<b>Need</b>	<b>40,388,400</b>	<b>40,812,039</b>	<b>42,812,937</b>	<b>41,871,345</b>	<b>45,982,323</b>	<b>211,867,045</b>
<b>Expected resources</b>						
Domestic	18,331,204	18,331,204	18,331,204	18,331,204	18,331,204	91,656,019
External	14,261,156	14,261,156	14,261,156			42,783,468
<b>Total available</b>	<b>32,592,360</b>	<b>32,592,360</b>	<b>32,592,360</b>	<b>18,331,204</b>	<b>18,331,204</b>	<b>134,439,487</b>
<b>GAP</b>	<b>7,796,040</b>	<b>8,219,679</b>	<b>10,220,578</b>	<b>23,540,141</b>	<b>27,651,120</b>	<b>77,427,558</b>

During the first three years of implementation, it is anticipated that at least 80% of the annual needs will be met by the Government of the Kingdom of Eswatini and its development partners as summarized on figure 12.



**Figure 12: proportion of the budget funded by year, 2024-2028**

There is uncertainty in funding beyond 2026 except from GoKE which meets the needs for at least 43% of the total NMSP needs as indicated on the figure 13.



**Figure 13: Proportion of the budget funded.**

The NMP in collaboration with the EMF and other stakeholder will embark on a resource mobilisation plan to ensure the the NMSP is adequately financed.

## 6 CHAPTER SIX: MONITORING AND EVALUATION FRAMEWORK

### 6.1 Health Surveillance and Information System

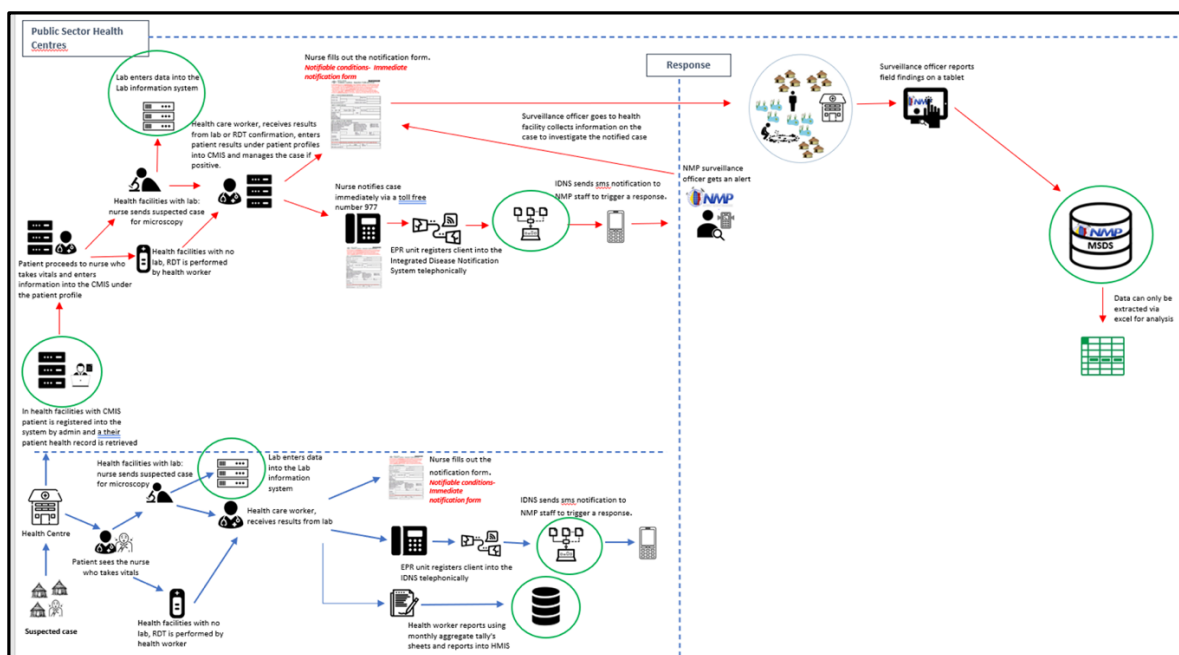
In a Eswatini there are two national health information systems: the Health Management Information System (HMIS) and the Client Management Information Management System (CMIS) currently in use at health facility level. The HMIS is a paper-based system which records only aggregated data for both outpatient and inpatient clients. The CMIS is an electronic system with patient-level-data, and it is currently in 217 sites in Eswatini. It is linked to the Laboratory Information System (LIS) which contains both microscopy and RDT data for patient samples.

Malaria data is generated when a healthcare worker suspects a presenting patient has malaria, the healthcare worker will conduct a malaria parasitological test (i.e., a malaria RDT and/or microscopy) on the patient. The patient details are captured on the CMIS and in Health facilities without CMIS the OPD register is used. If the case is confirmed positive, the healthcare worker immediately records and report the confirmed case through the Immediate Disease Notification System (IDNS) by dialling the toll-free number 977. The number 977 serves as a 24-hour hotline for reporting 15 notifiable diseases which include malaria. Upon entry of all data into the disease notification database, an SMS is immediately sent out to the Chief Surveillance Officer, Surveillance Supervisors, and Surveillance Officers based on their region an automated unique EPR Case ID is assigned to the case and is shared with the reporting HCW to note on the IDNS form. A detailed data set is sent through email to the NMP to allow investigation of the cases.

The surveillance officers use android-based application to investigate cases and conduct all the necessary interventions. The data is then transmitted remotely to the Malaria Surveillance Database (MSDS).

The MSDS has several modules which include case investigation, vector management, case management monitoring and mentoring data, Weather data, Health promotion activities, Slide bank, proficiency testing and training data. The MSDS is also data analysis and dashboard that allows users to visualized data and extract automated reports however, the NMPS intends to replace the current Powerbi report server with the DHIS2 an open-source global digital health product which has better mapping and data analytic capabilities required for elimination.

During the Global Fund NFM3 grant, the NMP secured funding to link the MSDS to the CMIS and IDNS to ensure that both suspected cases and confirmed cases are sent in real-time to the MSDS for actioning by the relevant officers. This was to reduce errors associated with paper-based system, reduce the reporting time for cases and create a direct and remote access to the CMIS by the NMP which was only accessible by visiting health facilities. The figure 3 summarizes the flow of malaria data across various systems.



**Figure 14: Flow of malaria data across the various systems**

The multiple systems are described in detail below.

### 6.1.1 Immediate Disease Notification System (IDNS)

The IDNS is a system under HMIS which captures all notifiable diseases in Eswatini, including malaria. Through the NMF3 grant a server was procured along with software to upgrade the system and reduce its downtime. There are funds already set aside to connect this system to the government network to allow for real-time access to health facility data. There is still a need to improve the user interface and back-end to support electronic transmission of data as the system is transitioning from paper to being fully digital. Feedback mechanisms need to be set up so that the clinicians can get the status of the cases that they reported. There is also a need to address the limitation of the system on sending out messages to relevant stakeholders. The SID has undertaken the task of upgrading both front and back-end of the application. Bulk messaging and email notification will be introduced on the IDNS.

### 6.1.2 Malaria Surveillance Database System

The Malaria Surveillance Database System (MSDS) housed within NMP offices and is a central repository for all malaria related interventions data. The aim is to connect both the IDNS and CMIS to the central database to ensure that all variables required for reporting are available to NMP staff for decision making. Mapping capabilities will be added through the use of DHIS2 which will significantly reduce the workload of designing maps for the Data manager. The Malaria Surveillance Database requires maintenance of the current hardware and software. Additional server role will also be required for staging area and reporting server which will host the DHIS2 platform. The android application requires constant maintenance to ensure that the relevant data is being collected for the interventions.

Data is backed up regularly on an onsite backup server and routinely backed up into the cloud. Staff

### **6.1.3 Commodity Tracking System**

To monitor consumption of all malaria commodities at health facilities, the Logistic Information Management System (LMIS) was developed. This electronic system is housed at the Central Medical stores (CMS). Health facilities submit order form which include consumption for previous months to CMS on monthly basis and this data is entered into LMIS to produce reports on consumption of health commodities. In conjunction with CMS, the NMP has developed a commodity tracking tool (e.g., RDTs, ACTs, and other anti-malarial) which largely mirrors existing inventory management tools to capture consumptions of malaria commodities at all health facilities. In the immediate future, the inventory management tool will be paper based, but in future years, the inventory management tool will be computerized. Technical assistance will be hired to ensure that malaria needs are included in the inventory management tool when it becomes digitized.

The Laboratory Information Systems (LIS) is found in all facilities that have laboratories in the country. It captures information on number of people tested at facility levels. This system feeds to central database at the national laboratory. The LIS has been integrated with CMIS at health facility level for health facilities with laboratories and mini laboratories.

### **6.1.4 Data Quality**

To ensure high data quality, there will be a series of quality assurance mechanisms implemented by the NMP, Principal Recipient and the implementing partners to promote accurate collection, aggregation, and reporting of data in addition to routine activities performed by the NMP'S M&E Officer. These mechanisms include:

Consolidation of parallel data collection and reporting- This aims to ensure that all systems are interoperable such that the CMIS is linked to the IDNS and LIS. The CMIS will then feed data directly to the MSDS. Household data collection will require constant data verification during data collection. For each survey, a data collection team will consist of data collectors and a supervisor whose primary responsibility will be to verify data quality. There are validation rules which ensure that correct data is captured at time of case investigation. Data collected on electronic tablets is automatically backed up to an external storage card daily. This data is updated on real time to the MSDS and cleansing and quality checks are conducted weekly to ensure data completeness. A staging area has been setup with data quality services to ensure that all data is cleansed before it gets to the reporting server.

For written reports such as the Drug Efficacy Report and the Insecticide Resistance Report, data will be cross-checked and verified internally by NMP staff. For example, the data aggregated by one entomologist will be confirmed by another. Similarly, reports will go through iterative drafts among implementing partners to ensure accuracy of the data.

Establishing of feedback loops to allow for data verification- For health facility-generated data, HMIS and the NMP will collaboratively verify the accuracy of the reported data. Data irregularities can be flagged monthly by the NMP'S Chief Surveillance Officer and/or the regional health teams, which regularly review HMIS

data. When data irregularity has been identified, the NMP and the relevant regional health team will investigate the cause of the irregularity and respond accordingly. If a data entry error has occurred, the data will be properly reconciled once the root of the data irregularity has been determined. Inventory data will be similarly verified by NMP's Case Management Coordinator and Laboratory Diagnosis Coordinator in collaboration with focal persons at CMS and Laboratory Services.

Work in collaboration with the MoH M&E department to conduct data validation and verification- To ensure that data is accurately captured in the databases, tools, and reports, data verification mechanisms will be established for each of the data flow processes. There will be periodic data validation and verification exercises conducted in collaboration with MoH M&E department.

### **6.1.5 Tracking Implementation Progress**

The MSP describes all M&E processes, indicators and targets that will track Eswatini progress toward elimination. To monitor progress, data will be regularly collected, analysed, reviewed, and used to inform programme management. In addition to routine data collection through the passive and active surveillance system, detailed and standardised facility reporting will enable tracking of progress. Several specific indicators have been chosen to demonstrate commitment from national and community level to the goal of malaria elimination.

Evaluation of the elimination targets is undertaken annually through national malaria programme reports compiled by a team from the programme together with the SMEAG and SMEAG sub-committees. The SMEAGs are the advisory committees consisting of experts in epidemiology, case management, vector control, surveillance, health promotion, programme management and other relevant areas. The 2020-2023 Strategic Plan will be reviewed at its midpoint in 2022 to assess progress against the targets set within the plan, as well as the efficacy and efficiency of its strategies and activities.

### **6.1.6 Performance Framework**

The success of the malaria elimination programme will be gauged by a series of impact, outcome, output, and process indicators, which measure the results of programmatic implementation at different levels. The impact indicators measure the long-term effect of all the interventions, specifically malaria morbidity and mortality in Eswatini. The outcome indicators are measurements of the effect of each intervention area. For example, the outcome of the case management intervention is to increase the number of confirmed malaria diagnosis and to ensure confirmation and treatment of all cases. Output indicators measure the effects of the service delivery areas. Active case investigation outputs include the number of cases followed-up at household level. All these indicators at the different levels of implementation are key measurements of the planned strategic interventions over the 3-year period, 2020-2023. Performance framework (annex 2)

### **6.1.7 Data management**

There are several roles within the data management systems.

- a) **Health Care workers:** They capture patient level data into the CMIS and notify malaria cases through the IDNS. LMIS forms are completed and sent to

- the central medical stores to report consumption on malaria commodities.
- b) **NMP Information Technology (IT) Officer:** The NMP Information Technology Officer manages all data captured by the malaria surveillance team using the Malaria Surveillance Database System (MSDS) and produces reports that enable effective decision-making on outbreak or epidemic response. The Chief Surveillance Officer works closely with the Information Technology Officer to ensure that accurate and prompt information is entered and analysed to inform strategy. The Information Technology Officer also ensures the proper function and security of all computers, computer tablets and other technology used within the programme.
  - c) **NMP Monitoring and Evaluation (M&E) Officer:** The NMP Monitoring and Evaluation (M&E) Officer oversees the quality assurance procedures for effective monitoring and evaluation to address data quality issues of malaria data from all sources. The Monitoring and Evaluation Officer works closely with the HMIS team and the NMP IT Officer to identify discrepancies in reported data and conducts data verification exercises to health facilities to confirm malaria indicators. The Monitoring and Evaluation Officer further shares feedback on quality of data captured with health facilities and is responsible for training healthcare workers on accurate data capturing.

#### **6.1.8 Tracking and monitoring of implementation.**

The NMP shall draft and M and E framework which shall be used by the M&E officer and partners in tracking performances and cause for timely reporting in accordance with the set policy frameworks. Such data on performance shall be gathered by the M and E Officer within the NMP who shall also frequently liaise and coordinate with external partners and stakeholders on matters involving M and E and report within the set timelines and in accordance with the reporting templates.

#### **6.1.9 M&E Partnerships**

The NMP has a functional M&E partnership with MOH-SID and NERCHA (PR), who have strong M&E technical capacities. The core mandate of the M&E technical partners is to support the implementation of the MSP and to facilitate the culture of M&E at all levels of the health system.

#### **6.1.10 M&E Reviews and Meetings**

M&E reviews and meetings are structured within the Malaria strategic plan with focus on review of recording and reporting tools (manual and electronic) which is necessitated by the evolving reporting needs for malaria in line with changes in malaria guidelines globally. The NMP plans to conduct a mid-term review of this strategic plan in 2022 to accommodate changes in implementation brought about by reprogramming and lesson learnt during annual implementation of activities.

#### **6.1.11 Indicator Alignment and Reporting Timelines**

With the increasing support for malaria interventions nationally and internationally there are new data requirements, reporting timelines and there is need to harmonize NMP data flow mechanisms. Different target audiences have been identified and their information needs captured by the annexed M&E Framework with clear timelines for reporting from all levels of the M&E system designed to suit the varying deadlines by which information products should reach all stakeholders and partners.

## 7 Chapter SEVEN: Annexes:

### Annex 1: Implementation Plan

Goal: To eliminate malaria local transmission by 2025 and prevent re-establishment of malaria

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
<b>Objective 1: To achieve 100% coverage of at-risk populations with appropriate vector control interventions in residual non-active and active foci and areas with high malariogenic potential according to national guidelines by 2028.</b>								
1.1 Implement the Integrated Vector Management (IVM) guidelines.	1.1.1 Finalize the IVM strategy	PEHO		X				
	1.1.2 Disseminate the IVM strategy to all partners for its implementation.	PEHO		X				
	1.1.3 Train key personnel on IVM strategy.	PEHO		X			X	
	1.1.4 Conduct annual microplanning and needs assessment.	PEHO		X	X	X	X	X
	1.1.5 Convene vector control SMEAG sub-committee meetings to ensure the implementation of IVM strategy.	PEHO		X	X	X	X	X
	1.1.6 IVM guideline review.	MEO				X		
1.2 Strengthen national capacity for Vector Control	1.2.1 Review and update IRS guidelines and associated SOPs and data collection tools	PM & PEHO				X		
	1.2.2 Review and update Entomology guidelines and associated SOPs and data collection tools	PM & PEHO		X				X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
	1.2.3 Procure Tablets and power-banks for IRS and Entomology teams	Programme management & IT/Data Manager					X	
	1.2.4 Procure communication contracts for supervisors			X	X	X	X	X
	1.2.5 Procure IRS and Entomology laptops for supervisors						X	
	1.2.6 Provide an internet connection the entomology team office			X	X	X	X	X
1.3 Conduct quality IRS in active foci, residual non active foci, areas with high malariogenic potential and reactive IRS to interrupt malaria transmission and prevent re-establishment.	1.3.1 Carry out prioritization mapping of targeted areas for IRS	PEHO & IT/Data Manager		X	X	X	X	X
	1.3.2 Conduct timely quantification and procurement of appropriate and adequate equipment, commodities, and insecticides for vector control interventions	Programme Management		X	X	X	X	X
	1.3.3 Train IRS supervisors	PEHO		X	X	X	X	X
	1.3.4 Train IRS spraying teams	PEHO		X	X	X	X	X
	1.3.5 Community sensitization before IRS	Health Promotion		X	X	X	X	X
	1.3.6 Conduct annual IRS Campaigns in high malariogenic areas within a duration of 8 weeks	PM		X	X	X	X	X
	1.3.7 Conduct IRS as reactive response to malaria index case.	EHO		X	X	X	X	X
1.4 Implement Long Lasting Insecticide	1.4.1 Map special population groups	PEHO		X		X		X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
Treated bed nets (LLINs) and supplementary vector control interventions targeting special population groups and areas	1.4.2 Identify appropriate vector control interventions for special population groups	PEHO		X		X		X
	1.4.3 Conduct quantification of LLINs and larviciding commodities	PEHO		X	X	X	X	X
	1.4.4 Procure and distribute LLINs to targeted groups of population.	PEHO		X	X	X	X	X
	1.4.5 Procure and distribute Larviciding commodities	PEHO		X	X	X	X	X
	1.4.6 Train communities on mosquito larval control in peri-domestic settings (environmental management).	PEHO		X	X	X	X	X
	1.4.7 Promote housing improvements to reduce mosquito entry inside houses in areas at high risk of malaria transmission	Health promotion		X	X	X	X	X
	1.4.8 Promote mosquito repellents for personal protection with public-private partnerships (personal and household usage for travellers and other special groups: hotels, borders, bars, restaurants).	Health Promotion		X	X	X	X	X
	1.5 Strengthen the capacity for regular entomological surveillance to support decision making.	1.5.1 Recruit entomological surveillance personnel at central and peripheral level	PM and PEHO		X	X		
1.5.2 Procure equipment of entomological laboratory (distiller, humidifier and lighting system, PCR and ELISA for vector speciation)		PM		X				

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
	1.5.3 Connect WIFI in the Entomology lab	Programme management & IT/Data Manager		X				
	1.5.4 Wire and connect electricity at the camps			X				
	1.5.5 Set-up a susceptible colony of mosquitoes at national mosquito insectary	PM		X				
	1.5.6 Train and equip community for temporary support of larva and adult mosquito samplings.	Health promotion		X	X	X	X	X
	1.5.7 Conduct routine entomological surveillance in the sentinel sites.	EHO		X	X	X	X	X
	1.5.8 Conduct entomological surveillance in active, residual non active and cleared areas with high malariogenic potential	EHO		X	X	X	X	X
	1.5.9 Develop SOP for the notification system between surveillance officers and entomology team on local cases	EHO						
	1.5.10 Carry out entomology investigation in response to reactive response of malaria index case.	EHO		X	X	X	X	X
	1.5.11 Train EHO on entomological surveillance	PEHO		X	X	X	X	X
	1.5.12 Conduct Routine Insecticide Resistance Monitoring (IRM)	PEHO		X	X	X	X	X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
1.6 Strengthen quality control of vector control interventions and products	1.6.1 Set-up susceptible colony of mosquitoes to support the needs of bioassays tests	EHO		X	X	X	X	X
	1.6.2 Conduct quality control of vector control interventions (IRS) and LLINs using WHO Bioassays/Susceptibility tests	EHO		X	X	X	X	X
	1.6.3 Carry out quality control of VC products (insecticides) in collaboration with WHO accredited laboratories.	PEHO and PM		X	X	X	X	X
	1.6.4 Establish facilities for appropriate disposal for solid and liquid IRS waste.	PEHO & PM		X				

**Objective 2: To provide prompt quality assured diagnosis to all suspected malaria cases and effective treatment for all confirmed malaria cases that is in line with national guidelines by 2028.**

2.1 Strengthen quality assurance of malaria diagnosis at all levels	2.1.1 Review, print & disseminate SOPs, Job Aids, QA guidelines for malaria diagnosis to all testing health facilities	LDC				X		
	2.1.2 Conduct malaria refresher trainings on malaria microscopy and RDTs (Lab technologist & phlebotomist)	LDC		X	X	X	X	X
	2.1.3 Microscopy External Competency Assessment Training (NCAMM & ECAMM)	LDC		X	X	X	X	X
	2.1.4 Maintain malaria microscopy slide bank	LDC			X		X	
	2.1.5 Enrol all laboratories in malaria microscopy national PT	LDC		X	X	X	X	X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
	2.1.6 Conduct quarterly onsite support supervision	LDC		X	X	X	X	X
	2.1.7 Conduct pre-and post-shipment lot testing of RDTs	LDC		X	X	X	X	X
2.2 Ensure universal access to quality treatment for confirmed malaria cases	2.2.1 Review, update, print & disseminate diagnosis, and treatment guidelines	CMC				X	X	
	2.2.2 Train healthcare workers on the national diagnosis and treatment guidelines (nurses, doctors, pharmacists)	CMC		X		X		
	2.2.3 Develop and disseminate SOPs on treatment follow-up	CMC		X				
	2.2.4 Train key clinical personnel on the management of severe malaria	CMC			X		X	
	2.2.5 Train regional case management trainers and supervisors	CMC		X	X	X		X
	2.4.6 Conduct Integrated drug efficacy surveillance	LDC		X	X	X	X	X
2.3 Strengthen Quality of care monitoring	2.3.1 Review supportive supervision checklists and SOPs	CMC			X		X	
	2.3.2 Train CMC and LDC on Supportive Supervision Mentorship and Coaching and facilitation	LDC;CMC		X	X			
	2.3.3 Conduct bi-annual malaria diagnosis QA meetings in accordance with the QA guidelines	LDC		X	X	X	X	X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
	2.3.4 Conduct onsite support supervision and mentoring in private and public health facilities	LDC; CMC		X	X	X	X	X
	2.3.5 Conduct annual meetings for supervisors, mentors, and clinical audit teams	LDC; CMC		X	X	X	X	X
	2.3.6 Establish clinical audit teams for malaria deaths	CMC		X				
	2.3.7 Conduct clinical audit for severe and deaths in all health facilities	CMC		X	X	X	X	X
2.4 Ensure the availability of quality malaria consumables and commodities at all levels	2.4.1 Conduct forecasting and quantification of malaria commodities	CMC; LDC		X	X	X	X	X
	2.4.2 Procurement of lab commodities and anti-malarial drugs	LDC; CMS		X	X	X	X	X
	2.4.3 Conduct biannual inventory management review meetings with CMS and Lab stores	LDC; CMC		X	X	X	X	X
	2.4.4 Develop Post-marketing surveillance guidelines	LDC		X				
	2.4.5 Train end users on post market surveillance SOPs and forms	LDC		X	X	X	X	X
	2.4.6 Conduct periodic review of the PMS reports from health facilities	LDC		X	X	X	X	X
	2.4.7 Conduct periodic review on pharmacovigilance reports from health facilities	CMC		X	X	X	X	X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
2.5 Chemoprevention to accelerate malaria elimination	2.5.1 Develop SOPs on chemoprevention	CMC		X				
	2.5.2 Seek approval for antimalarial drugs selected	CMC		X				
	2.5.3 Train key personnel on chemoprevention	CMC		X	X	X	X	X
	2.5.4 MDA in targeted high-risk groups	CMC		X	X	X	X	X
	2.5.5 Review implementation and impact	CMC					X	
<b>Objective 3. To develop a fully functional malaria elimination surveillance system that is capable of early detection of cases, investigation of all cases and timely response to all cases detected by 2028.</b>								
3.1 Strengthen malaria surveillance systems to allow for prompt notification and investigation of malaria cases	3.1.1 Maintenance & upgrade of IDNS	IT, EPR, HMIS, EDCU			X	X	X	X
	3.1.2 Maintenance & upgrade of MSDS	IT		X	X	X	X	X
	3.1.3 Strengthening the integration of IDNS and CMIS	IT, EPR, HMIS		X	X			
	3.1.4 Update notification booklets	IT, EPR		X	X			
	3.1.5 Review & update data quality assessment tool	IT, EPR, HMIS, EDCU		X				
	3.1.6 Conduct routine data quality Assessments	MEO, IT		X	X	X	X	X
	3.1.7 Conduct routine surveillance assessments							
3.2 Capacitating programme officers on data systems	3.2.1 Training of programme technical officers on data systems, skills, and usage	IT, EPR		X		X		X
	3.2.2 Pilot the DHIS2 Android application	IT, WHO		X				

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
	3.2.3 Roll out the DHIS2 Android application	IT, WHO		X	X	X	X	X
	3.2.5 Conduct refresher trainings on integrated Disease Surveillance Reporting (IDSR)	CSO			X	X	X	X
3.3 Strengthen case investigation of all malaria cases within 48 hours in all tinkhundla	3.3.1 Review, update and disseminate surveillance guidelines and associated SOPs and data collection tools	CSO		X			X	
	3.3.2 Train surveillance officers on updated surveillance guidelines	CSO		X	X	X	X	X
	3.3.3 Sensitize health care workers, call centre agents	CSO		X	X	X	X	X
3.4 Strengthen implementation of focus investigation, classification, and response	3.4.1 Review and update focus investigation, classification and response SOPs and data collection tools	CSO, PEHO			X			X
	3.4.2 Train surveillance officers and EHOs on Focus investigation, classification, and response	CSO, PEHO			X	X		
	3.4.3 Develop Foci response plan	EHO		X	X	X	X	X
	3.4.4 Annual Review and foci classification	M&E, CSO, VC		X	X	X	X	X
3.5 Strengthen epidemic preparedness and response (EPR)	3.5.1 Review and Update EPR guidelines	CSO		X			X	
	3.5.2 Map EPR stakeholders	CSO		X			X	
	3.5.3 Train RRTs and stakeholders on updated EPR guidelines	CSO			X			X
	3.5.4 Roll out the EPR guidelines	CSO			X	X	X	X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
3.6 Strengthen Operational Research	3.6.1 Conduct annual Operational Research	CSO	X	X	X	X	X	X
	3.6.2 Publish Operational Research	CSO	X		X		X	
<b>Objective 4: To timely conduct sub-national verification of malaria to qualifying Tinkhundla by 2028</b>								
4.1 Implement sub national elimination at tinkhundla level	4.1.1 Establish independent elimination advisory committee	PM, CSO		X				
	4.1.2 Develop guidelines and tools for sub national verification of malaria elimination	CSO, PEHO, CMC		X	X			
	4.1.3 Train key personnel on sub national verification of malaria elimination	CSO		X	X			
	4.1.4 Review and update the malaria stratification map	CSO		X	X	X	X	X
	4.1.5 Identify and enrol qualifying Tinkundla for sub national verification of malaria elimination	CSO		X	X	X	X	X
4.2 Introduce and implement aggressive foci clearance programme	4.2.1 Develop guidelines, SOPs, and tools on foci clearance programme	CSO, PEHO		X				
	4.2.2 Sensitize implementers/surveillance teams on the foci clearance programmes	CSO, PEHO		X	X			
4.3 Strengthen community surveillance of malaria in all qualifying tinkhundla	4.3.1 Train and refresher training focal persons at community level appropriate case detection, notification, and investigation guidelines	CSO, PEHO		X	X	X	X	X
	4.3.2 Identify key personnel and stakeholders at community level	CSO, PEHO		X	X	X	X	X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
	4.3.3 Sensitize community level cadres and other stakeholders on community surveillance	CSO, PEHO, IT			X	X	X	X
	4.3.4 Provide community level cadres with required tools	CSO, PEHO, IT			X	X	X	X
	4.3.5 Conduct community surveillance				X	X	X	X
4.4 Strengthen prevention of re-establishment of malaria in tinkundla that have eliminated malaria	4.4.1 Develop Prevention of re-establishment guidelines and associated SOPs and data collection tools	CSO, PEHO, IT		X				
	4.4.2 Train surveillance officers and EHO on prevention of re-establishment guidelines	CSO, PEHO, IT		X				
	4.4.3 Ensure screening of migrant populations	PM, CSO, PEHO			X	X	X	X
	4.4.4 Monitor malariogenic potential in Tinkundla that have eliminated	PEHO			X	X	X	X
	4.4.5 Target residents of Tinkundla that have eliminated with appropriate messages	Health Promotion		X	X	X	X	X
<b>Objective 5: To engage and empower communities to adopt and own Malaria elimination interventions by 2028.</b>								
5.1 Create malaria awareness amongst special risk groups and the population at large	5.1.1 Identify Community volunteers and peer educators	SPO, National HP Officer		X	X		X	
	5.1.2 Engage and train community volunteers and special risk groups in the targeted communities (CMMs, RHMs, NGO volunteers, peer educators)	SPO, National HP Officer			X		X	

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
	5.1.3 Identify special population groups for LLINs and supplementary vector control interventions in collaboration with other NMP thematic units	SPO, National HP Officer		X	X	X	X	X
	5.1.4 Review and revise current and procure IEC material to align with the malaria elimination mode	SPO, National HP Officer		X	X	X	X	X
	5.1.5 Conduct malaria awareness campaigns including commemoration of special malaria days	SPO, National HP Officer		X	X	X	X	X
5.2 Establish and strengthen collaborations with relevant stakeholders in malaria elimination	5.2.1 Conduct stakeholder mapping	SPO		X		X		X
	5.2.2 Engage all identified stakeholders and Establish Malaria Elimination Committees in communities	National HP Officer, Health Educator. (Eswatini Medical Christian University) ETA School Health		X		X		X
	5.2.3 Cascade malaria awareness to community stakeholders	National HP Officer, Health Educator. (Eswatini Medical Christian University) ETA School Health		X	X	X	X	X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
	5.3.4 Conduct Technical Working Group meetings	National HP Officer, Health Educator. (Eswatini Medical Christian University) ETA School Health		X	X	X	X	X
5.3 Robust use of mass and social media to strengthen malaria awareness in communities	5.3.1 Host malaria website	IT Officer		X	X	X	X	X
	5.3.2 Conduct surveys, community dialogues, interpersonal communication	SPO HP		X	X	X	X	X
	5.3.3 Procure phone, data, and tablet for social media campaign	Social Media Officer		X				X
	5.3.4 Expand social media coverage	Social Media Officer		X	X	X	X	X
	5.3.5 Conduct mass media campaigns	SPO HP		X	X	X	X	X
	5.3.6 Assess the impact of the programme's investment in social media campaigns and seek for opportune approach	SPO HP		X	X	X	X	X
5.4 Integrate malaria elimination BCC at the central level for maximum reach.	5.4.1 Scale up integration with the central health promotion unit in supporting BCC for malaria elimination	National HP Officer,		X				
	5.4.2 Train CBOs on malaria elimination BCC techniques	National HP Officer		X			X	

**Objective 6: To provide strengthened capacity, effective leadership and improved coordination for the planning and management of malaria elimination and prevention of re-establishment programme by 2028.**

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
6.1 Strengthen the programme's technical capacity at all levels	6.1.1 Advocate for filling of vacant positions Advocate for absorption of malaria surveillance officers	Programme Manager		X	X	X	X	X
	6.1.2 Develop forecast, training, procurement, and work plans for the programme on an annual basis	Programme Manager Grants Coordinator, Accounts Officer, Stores,		X	X	X	X	X
	6.1.3 Compile annual training needs/plans for programme staff	Programme Manager		X	X	X	X	X
	6.1.4 Train programme management on strategic management and leadership with result-based management and Monitoring	Programme Manager and Grants Coordinator		X		X		X
	6.1.5 Advocate for increased Funding for the Malaria Programme	Programme Manager, Oversight, End Malaria Fund		X	X	X	X	X
	6.1.6 Mobilize Support for infrastructure development and functionalization for Malaria Elimination	Programme Manager, Oversight, End Malaria Fund		X	X	X	X	X
	6.1.7 Conduct Programme Staff Orientation on Current Malaria Strategic Plan	Program Manager		X		X		X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
6.2 Improve team coordination to achieve malaria elimination	6.2.1 Ensure regular reviews for the staff performance	Programme Manager, Human Resources Officer		X				
	6.2.2 Review the organogram and improve the reporting structure	Programme Manager		X				
	6.2.3 Create TORs to functionalize SMEAG Thematic TWGs and Malaria Elimination Committee	Programme Manager, Thematic Heads		X				
	6.2.5 Conduct routine meetings with TWGs to monitor programme progress towards malaria elimination	Programme Manager, Thematic Heads		X	X	X	X	X
	6.2.6 Conduct Team building programmes for staff	Programme Manager, Grants Coordinator		X	X	X	X	X
6.3 Strengthen programme planning, review and reporting	6.3.1 Conduct Weekly planning and reporting meetings	Programme Manager, M & E officer		X	X	X	X	X
	6.3.2 Conduct quarterly implementers meeting	Programme Manager, Grants Coordinator, Accounts Officer, M & E Officer		X	X	X	X	X

Strategy	Activities	Responsible	Cost	2024	2025	2026	2027	2028
	6.3.3 Conduct TWG Meetings	Thematic Area Heads, M&E Programme Manager, M & E Officer		X	X	X	X	X
	6.3.4 Conduct annual programme review and planning meetings	Programme Manager, Grants Coordinator, M & E Officer		X	X	X	X	X
	6.3.5 Conduct Mid Term Review	Programme Manager, M & E				X		
	6.3.6 Conduct End Term Review	Programme Manager, M & E						X
	6.3.7 Develop a new Malaria Strategic Plan	Programme Manager, M & E						X
6.4 Ensure Political Commitment for the Malaria Elimination Agenda	6.4.1 Conduct annual meetings with Traditional Authorities; Chiefs and Bucopho	Programme Manager, Health Promotion		X	X	X	X	X
	6.4.2 Conduct meetings with Parliamentarians to advocate for malaria issues -Health Port-folio Committee	Programme Manager, Health Promotion		X	X	X	X	X
	6.4.3 Review the 2011 Malaria Elimination Policy	Programme Manager			X			
6.5 Strengthen cross border collaboration at	6.5.1 Conduct advocacy meetings with key malaria actors for integration of malaria activities	Programme Manager, TWGs		X	X	X	X	X

<b>Strategy</b>	<b>Activities</b>	<b>Responsible</b>	<b>Cost</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
national and sub-national level	6.5.2 Participate in Regional or Cross border technical working groups	Programme Manager, Thematic Heads		X	X	X	X	X
6.6 Strengthen the programme's administrative and logistics capacity	6.6.1 Grants management	Program Manager		X	X	X	X	X
	6.6.2 Programme administration	Program Manager		X	X	X	X	X
	6.6.3 Adequate programme human resource	Program Manager		X	X	X	X	X
	6.6.4 Procure Equipment and vehicles	Program Manager		X	X	X	X	X

## Annex 2: Performance Framework

Indicators	Type	Data Source	Method	Freq	Responsible	Baseline / Targets						
						Value	Year	2024	2025	2026	2027	2028
<b>Goal: Eliminate Malaria from Eswatini by 2025 and prevent re-establishment of malaria</b>												
Number of malaria cases	Impact	MSDS	Routine	Annual	MEO	326	2022	200	100	50	50	50
Proportion of foci classified	Impact	MSDS	Routine	Annual	MEO	100%	2022	100%	100%	100%	100%	100%
Proportion of the foci active investigated(field)	Impact	MSDS	Routine	Annual	MEO			50%	75%	100%	100%	100%
Number of deaths	Impact	MSDS	Routine	Annual	MEO	2	2022	0	0	0	0	0
Test Positivity rate	Impact	MSDS	Routine	Annual	MEO	0.9%	2022	0.7	0.3	0.1	0.1	0.1
Number of indigenous cases	Impact	MSDS	Routine	Annual	MEO	201	2022	150	50	0	0	0
<b>Objective 1: To achieve 100% coverage of at-risk populations with appropriate vector control interventions in residual non-active and active foci and areas with high malariogenic potential according to national guidelines by 2028.</b>												
Percentage of the population living in receptive areas covered by appropriate vector control.	Outcome	MSDS	Routine	Annually	PEHO	90%	2023	95%	100%	100%	100%	100%
Percentage of targeted structures sprayed.	Outcome	MSDS	Routine	Annually	PEHO	90%	2023	95%	100%	100%	100%	100%
Availability of a finalized and validated IVM strategy	Output	Annual reports	Routine	Annually	PM	No	2023	Yes				
Proportion of targeted risk group protected by IRS	Outcome	MSDS	Routine	Annually	PEHO	0	2023	100%	100%	100%	100%	100%
Proportion of sentinel sites where IRM studies was conducted	Outcome	Training reports	Training	Annually	PEHO	50%	2022	100%	100%	100%	100%	100%
Proportion of sentinel sites where vector bionomics was conducted	Outcome	Training reports	Training	Annually	PEHO	100%	2022	100%	100%	100%	100%	100%
Proportion of population at risk potentially covered by distributed ITNs.	Outcome	MSDS	Routine	Annual	PEHO	41%	2022		50%	100%		50%

Indicators	Type	Data Source	Method	Freq	Responsible	Baseline / Targets						
						Value	Year	2024	2025	2026	2027	2028
Proportion of quality control conducted in targeted structures on one week and every 2monthly post IRS per region.	Outcome	MSDS	Routine	Annually	PEHO	0	2023	10%	25%	50%	50%	50%
<b>Objective 2: To provide prompt quality assured diagnosis to all suspected malaria cases and effective treatment for all confirmed malaria cases that is in line with national guidelines by 2028.</b>												
Proportion of suspected cases tested for malaria	Outcome	CMIS/H MIS	Routine	Monthly	CM			100%	100%	100%	100%	100%
Proportion of confirmed cases treated according to national guidelines	Outcome	CMIS/M SDS	Routine	Monthly	CM			100%	100%	100%	100%	100%
<b>Objective 3: To develop a fully functional malaria elimination surveillance system that is capable of early detection of cases, investigation of all cases and timely response to all cases detected by 2028.</b>												
Proportion of confirmed malaria cases investigated within 48 hours.	Outcome	MSDS	Routine	Monthly	CSO	94%	21/22	100%	100%	100%	100%	100%
Number of active foci	Outcome	MSDS	Routine	Annual	CSO	97	2022	64	34	20	10	5
Proportion of cases notified to IDNS within 24 hours of diagnosis	Outcome	IDNS/M SDS	Routine	Monthly	CSO	95%	2021/22	100%	100%	100%	100%	100%
Proportion of cases with geo-coordinates for likely source of infection	Outcome	MSDS	Routine	Monthly	CSO	60%	2022	80%	100%	100%	100%	100%
Proportion of epidemics responded to and contained according to Malaria EPR guidelines	Outcome	Epidemic report	Routine		CSO	100%	2022	100%	100%	100%	100%	100%
Number of people tested in community (RACD or proactive)	Output	MSDS	Routine	Monthly	CSO	1335	2022	16,263	18,461	20,659	22,856	25,054
<b>Objective 4: To timely conduct sub-national verification of malaria to qualifying Tinkhundla by 2028</b>												

Indicators	Type	Data Source	Method	Freq	Responsible	Baseline / Targets						
						Value	Year	2024	2025	2026	2027	2028
Number of Tinkhundlas targeted for aggressive foci clearance	Outcome	MSDS	Routine	Annually	CSO	0	2023	12	25	38	38	38
Number of Tinkhundla that have eliminated malaria	Outcome	MSDS	Routine	Annually	CSO	0	2023	7	15	19	19	19
Proportion of Tinkhundla that have prevented re-establishment of malaria	Outcome	MSDS	Routine	Annually	CSO	0	2023	0	0	10	10	10
<b>Objective 5: To engage and empower communities to adopt and own Malaria elimination interventions by 2028.</b>												
Proportion of malaria cases presenting at health facilities within 24 hours after onset of symptoms.	Outcome	MSDS	Routine	Quarterly	HP & CMC			100%	100%	100%	100%	100%
Proportion of the population who can correctly name 4 or more malaria prevention measures.	Outcome	KAP	Periodic	Biennially	HP	6.3%	2020	50%	50%	50%	50%	50%
Number of malaria elimination articles published per year	Output	Annual report	Routine	Annually	HP			14	14	14	14	14
Proportion of chiefdoms reached with malaria elimination messages	Output	Reports	Routine	Annually	HP			100%	100%	100%	100%	100%
Number of malaria elimination committees established	Output	Annual report	Routine	Annually	HP			12	25	38	38	38
Percentage of the national health sector budget allocated to malaria	Outcome	Reports	Routine	Annually	HP, GCO	0.05%	2022	0.07%	0.09%	0.1%	0.1%	0.1%
<b>Objective 6: To provide strengthened capacity, effective leadership and improved coordination for the planning and management of malaria elimination and prevention of re-establishment programme by 2028.</b>												
Number of NMP staff and health personnel trained on strategic plan	Output	Reports	Routine	Annually	PM	0	2023	55		55		

Indicators	Type	Data Source	Method	Freq	Responsible	Baseline / Targets						
						Value	Year	2024	2025	2026	2027	2028
Proportion of the annual prioritized funding gap covered	Outcome	Reports	Routine	Annually	GC			100%	100%	100%	100%	100%
Malaria Elimination Committee established	Output	Reports	Routine	Annually	PM	0	2023		Y			
Proportion of the adequate HR structure filled						70%	2023	85%	90%	95%	95%	95%
Proportion of the annual NMSP budget funded by domestic resources	Coverage	Financial reports	Routine	Annually	PM	28%	2021	30%	32%	34%	34%	34%

### Annex 3: Indicator Matrix

Indicator Name	Operational definition	Indicator Type
<b>Goal: Eliminate Malaria from Eswatini by 2025 and prevent re-establishment</b>		
1.Malaria case incidence: Number of malaria cases	N: Number of confirmed malaria cases identified passively and active D: Mid-year number of people at risk of malaria infection during the reporting year	Impact
2.Number of foci by classification	N: Number and population of foci by classification (active, residual, cleared)	impact
3.Malaria Mortality: Number	Number of malaria specific deaths reported	impact
4.Test positivity rate	N: Number of patients receiving a parasitological test D: Mid-year number of people at-risk for malaria	impact
<b>Objective 1: To achieve 100% coverage of at-risk population with appropriate vector control interventions in residual, active foci, and at-risk areas according to national guidelines by 2023</b>		
1.1 Availability of a finalized, validated and disseminated IVM strategy to stakeholders	<u>N</u> : Number of conducted dissemination meetings <u>D</u> : Total number of targeted dissemination meetings	Outcome
1.2 Percentage of targeted structures sprayed in active and residual foci.	<u>N</u> : Number of structures sprayed <u>D</u> : Total structures targeted/found	Output
1.3 Percentage of targeted structures sprayed in response to emerging index cases.	<u>N</u> : Number of structures sprayed in response to index case <u>D</u> : Total number of structures identified within 500 m radius of index cases	Output
1.4 Proportion of population receiving supplemental vector control intervention using larviciding	<u>N</u> : Number of mapped breeding sites that received LSM <u>D</u> : Total number of breeding sites mapped for LSM	Output
1.5 Number of sentinel sites reporting entomological parameters on mosquito bionomics	<u>N</u> : Number of sentinel sites reporting at least three entomological parameters on bionomics <u>D</u> : Total number of sentinel sites in place and reporting entomological parameters on bionomics	Outcomes
1.6 Number of sentinel sites reporting insecticide resistance data at least for 4 classes of insecticides (15)	<u>N</u> : Number of sentinel sites that reporting insecticide resistance data within a specific reporting period <u>D</u> : Total number sentinel sites in place and reporting insecticide resistance	Outcomes

1.7 Number of personnel recruited to support entomological surveillance activities.	<u>N</u> : Number of personnel recruited to support entomological surveillance activities at central level <u>D</u> : The total gap of personnel needed to support entomological surveillance	Output
1.8 Number of trainings organized to strengthen the capacity of entomological surveillance	<u>N</u> : Number of trainings conducted to enhance capacity of entomological surveillance personnel	Output
proportion of bio-efficacy tests conducted for quality control of IRS	<u>N</u> : Number of bio-efficacy tests conducted for quality control of IRS <u>D</u> : Number bio-efficacy tests planned for quality control of IRS	Outcome
1.9 The number of insecticide samples tested for quality control	<u>N</u> : Number of batches tested for quality control <u>D</u> : Total batches received for IRS operation	Outcome
1.10 Proportion of targeted risk group receiving LLINs	<u>N</u> : Number of LLINs distributed to risk groups <u>D</u> : Number of people in risk groups	Outcome
1.11 Proportion of targeted risk group receiving IRS	<u>N</u> : Number of targeted populations receiving IRS <u>D</u> : Number of people in risk groups	Outcome
<b>Objective 2: To test 100% of suspected malaria cases with quality assured diagnostics and assure prompt and effective treatment of confirmed cases according to national guidelines.</b>		
2.1 Proportion of patients with fever tested for malaria	<u>N</u> : number of tested <u>D</u> : number of fever cases	Outcome
2.2 Proportion of confirmed cases treated according to national guidelines	<u>N</u> : Number of confirmed cases treated according to guidelines <u>D</u> : Total confirmed cases	Outcome
2.3 Proportion of health facilities that reported no stock out of malaria commodities	<u>N</u> : Facilities with no stock outs <u>D</u> : Total facilities	Outcome
<b>Objective 3: To interrupt malaria transmission through timely notification of cases, accurate identification of likely location of transmission and</b>		
3.1 Proportion of confirmed malaria cases investigated within 48 hours.	<u>N</u> : Number of malaria cases investigated within 48 hours <sup>15</sup> of presentation <u>D</u> : Number of confirmed malaria cases	Outcome
3.2 Proportion of new active foci investigated and responded to according to guidelines	<u>N</u> : Number of new active foci investigated and responder to according to guidelines <u>D</u> : Number of new active foci	Outcome
3.3 Proportion of cases notified to IDNS within 24 hours of diagnosis <sup>16</sup>	<u>N</u> : Number of malaria cases notified within 24 hours <u>D</u> : Number of confirmed malaria cases	Outcome

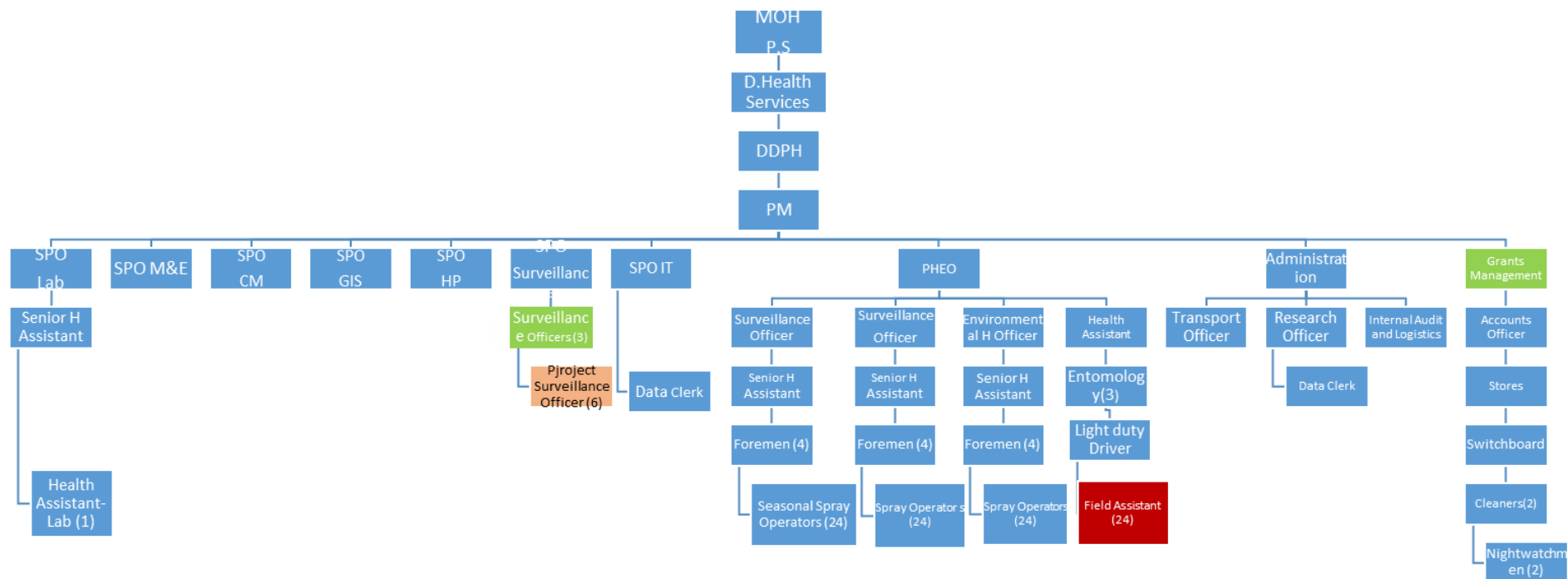
<sup>15</sup> If patients present on Day Zero, investigation to be completed by Day Two

<sup>16</sup> If patient presents on Day Zero, the notification should be done by end of Day Zero

3.4 Proportion of local malaria cases with geo-coordinated for likely location of infection	<u>N</u> : Number of local malaria cases with geo-coordinates of likely location of infection <u>D</u> : Number of local malaria cases	Outcome
3.5 Revised Malaria EPR guidelines	Malaria EPR Guidelines	Output
3.6 Number of people tested in RACD	Number of people tested in communities through reactive case detection	Output
<b>Objective 4: To empower all the population to adopt malaria prevention and control practices by 2023</b>		
4.1 Proportion of malaria cases presenting at health facilities within 48 hours after onset of symptoms.	<u>N</u> : Number of malaria cases reported within 48hours <u>D</u> : Total number of malaria cases	Outcome
4.2 Proportion of population who can correctly name 4 or more malaria prevention measures	<u>N</u> : Number of people who can name the 4 protective measures <u>D</u> : Total number of populations	Outcome
4.3 Number of malaria elimination articles published per year		Output
4.4 Proportion of chiefdoms reached with malaria elimination messages.	<u>N</u> : Number of chiefdoms reached with malaria elimination messages <u>D</u> : Total number of chiefdoms	Output
4.5 Proportion of active foci and residual non-active foci with established malaria elimination committees	<u>N</u> : Number of foci with operational malaria elimination committees <u>D</u> : Total number of foci	Output
4.6 Percentage of the national health sector budget allocated to malaria.	<u>N</u> : The amount of money allocated to NMP <u>D</u> : Total National health budget	Outcome
<b>Objective 5: To expand and maintain multi-sectoral partnerships and capacity for effective programme management and coordination at all levels</b>		
5.1 Number of partnership forums held according to NMP strategy	Total number of Meetings held	Output
5.2 Proportion of NMP staff and health personnel trained on strategic plan	Total number of personnel trained/total number of targeted NMP & health personnel to be trained	Output
5.3 Number of coordination meetings held during the NMP strategy	Number of meetings held	Output
5.4 Improved performance at all levels within NMP		Outcome
5.5 Total number of partners identified and engaged	Number of partnerships identified and engaged	Output

5.6 Proportion of prioritized Funding GAP covered	N: Total funds availed D: Total funding GAP	Outcome
5.7 Malaria Elimination Committee established	Number of meetings held	Output
5.8 Proportion of research topics under study	Number of research results disseminated	Output
5.9 Proportion of facilities reporting no stock out	<u>N</u> : Number of facilities reported no stock out <u>D</u> : total facilities	Output
<b>Objective 6: To reach 95% high risk population with appropriate mix of interventions.</b>		
6.1 Report of Eswatini high risk populations (annually)		Output
6.2 Number of research studies implemented		Output
6.3 Proportion of areas with high-risk populations where new strategies were rolled out according to guidelines	<u>N</u> : Number of areas where new strategies were rolled out <u>D</u> : Number of areas with high-risk populations	Outcome
6.4 Number of people tested during proactive screening	Number of people tested in communities during proactive screening	Output

## Annex 4: Organogram



Government Positions

Global fund Positions

E8 position

WHO Funded Positions