

Republic of South Sudan



Malaria Strategic Plan 2014/15-2020/21 (Revised 2017)

National Malaria Control Programme

South Sudan

May 2017

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Government of South Sudan, Ministry of Health: National Malaria Strategic Plan for 2014/15 – 2020/21

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Foreword

The people of South Sudan, like many others in Sub-Saharan Africa continue to bear the greatest burden of malaria through ill-health and death. We pay with our lives the fact that our geographical location, climate and weather patterns are as equally conducive for our existence as that of malaria parasites and their vectors, the mosquitoes.

While there are proven, highly effective interventions for malaria prevention and control: IRS, LLINs, ACTs and others, often we are constrained by weak health systems, poor infrastructure, and limited financial and human resources to launch the full arsenal necessary to eliminate malaria in our environment. We are therefore forced to make choices of malaria control interventions that we can afford to implement. This Strategic Plan helps us to make those choices.

This plan has identified the strategic approach that South Sudan needs to take so as to be able to reduce morbidity and mortality due to malaria over the next 6 years by 80% of current levels. Like all people elsewhere in the world, the people of South Sudan too have a right to good health, free of disease. We therefore must commit our full efforts to implement the full range of interventions we have agreed upon in this strategic plan in order to be able to realize our vision of a malaria-free South Sudan.

I call upon all development and implementing partners to embrace this Strategic Plan and work closely with the National Malaria Control Programme to implement it fully.

The Government of South Sudan will continue to prioritize malaria control in its development agenda and this strategic plan lays out clearly the full scope of financial and human resources needed for impact.

Hon. Dr. Riek Gai Kok

Minister of Health

Government of South Sudan

Acknowledgements

The development of this strategic plan has been a very consultative effort involving all levels of the Ministry of Health and its valued partners – both donors and the implementing partners. Many hours have been committed to ensure that the product is one we can all rally around in the spirit of Roll Back Malaria, with commitment to the three ones: One agreed-upon Strategic Plan, one Coordination mechanism and one M&E Plan.

I express the sincere gratitude of the Ministry of Health and all the people of South Sudan to our development partners that provided the financial resources to see this plan developed. These partners include: The Global Fund to Fight AIDS, Tuberculosis and Malaria, The World Health Organization, UNICEF and USAID.

I express our thanks to the experts and consultants from WHO Inter-Country Support Team from WHO/AFRO, USAID, Malaria Consortium, UNICEF, and Mentor Initiative whose technical expertise has been invaluable to the quality of this Plan. These experts listed in the annex worked closely with the in-country team to finalise this document.

I extend my appreciation and recognition of the tireless efforts of Dr. Harriet Pasquale the Programme Manager, NMCP South Sudan and her staff for the overall coordination of the exercise. I also applaud the participation of other staff of the entire Ministry of Health that supported the development of this plan.

All the persons who participated in the writing of this document are listed in the annex of this document. To each and every one of you, accept the gratitude of the Ministry of Health and the people of South Sudan. Your efforts are not in vain.

I therefore urge all the malaria stakeholders and the people of South Sudan to rally around the aspirations of this strategic plan and I encourage all of you to fully support the goals and objectives of this malaria strategic plan 2014/15 – 2020/21.

Dr Makur Matur Kariom
Undersecretary Ministry of Health,
Republic of South Sudan

Acronyms

ACT	Artemisinin-based Combination Therapy
ANC	Antenatal Care
AQ	Amodiaquine
BCC	Behavioural Change Communication
BEG	Bahr El Ghazal
CBO	Community Based Organization
CDD	Community Drug Distributor
CMS	Central Medical Store
CQ	Chloroquine
CS	Child Survival
CSO	County Surveillance Officer
DFCA	Drug and Food Control Authority
DFID	Department for International Development
EARN	East African Roll Back Malaria Network
EPI	Expanded Programme of Immunisation
FBO	Faith-based Organization
GF	Global Fund
GFATM	Global Fund to Fight AIDS, Tuberculosis & Malaria
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HMM	Home Management of Malaria
HRD	Human Resource Development
ICCM	Integrated Community Case Management
IDP	Internally Displaced Persons
IEC	Information, Education and Communication
IFC	International Finance Corporation
IMA	Inter-church Medical Assistance
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate
IPT	Intermittent Preventive Treatment
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
IVM	Integrated Vector Management
LLIN	Long Lasting Insecticidal Net
MCP	Malaria Control Programme
MDG	Millennium Development Goal
MDTF	Multi Donor Trust Fund
MOH	Ministry of Health
MPD	Ministerial Policy Document
NGOs	Non-Governmental Organizations

NIDs	National Immunization Days
NRA	National Regulatory Authority
OLS	Operation Lifeline Sudan
PLWHA	People Living with HIV/AIDS
PSI	Population Services International
PSM	Procurement and Supply Management
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test
RRT	Rapid Response Team
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SoH	Secretariat of Health
SOP	Standard Operating Procedure
SP	Sulphadoxine-Pyrimethamine
SPLM/A	Sudan People's Liberation Movement/Army
SPR	Slide Positivity Rate
SRRA/C	Sudan Relief and Rehabilitation Association/Commission
SSO	State Surveillance Officer
TBA	Traditional Birth Attendant
TWG	Technical Working Group
U5	Under Five years of age
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WHOPES	WHO-Pesticide Evaluation Scheme

Contents

Foreword.....	iii
Acknowledgements.....	iv
Acronyms.....	v
Executive Summary	ix
1 Introduction	1
2 Country Profile	3
2.1 Socio-political system	3
2.2 Demographic data.....	3
2.3 Ecosystem, environment and climate.....	4
2.4 Socio-economic situation	4
2.5 Health system analysis	5
3 Malaria situation analysis	9
3.1 Epidemiology	9
3.1.1 Malaria parasites	9
3.1.2 Malaria vectors	10
3.1.3 Dynamics of malaria transmission and level of endemicity.....	10
3.1.4 Morbidity and mortality	12
3.1.5 Malaria stratification and mapping.....	13
3.2 Historical perspective of the malaria programme	14
4 Review of the progress at midterm.....	16
4.1 Progress made at mid term.....	16
4.2 Key challenges 2017/18 – 2020/21	18
4.3 Priority action points 2018 2020/21	21
5 Malaria Strategic Plan 2014-2021(as reviewed for the 2017/18 – 2020/21 period).....	22
5.1 Vision, Mission, Goal and Objectives	22
5.2 Strategies and Activities.....	22
6 Implementation Arrangements	33
7 Annexes.....	57

List of Tables

Table 1: Key development and health indices for South Sudan	4
Table 2: Species of malaria parasites among positive slides examined in the MIS 2009	9
Table 3: Implementation Plan.....	33
Table 4: Performance Framework	53

List of Figures

Figure 1: Map of South Sudan.....	3
Figure 2: Organizational and management structure of MOH	6
Figure 3: Map of epidemiological stratification based on SPR among U5s (MIS 2009).....	11
Figure 4: A graph showing temporal variation of Malaria	12
Figure 5: The burden of malaria with respect to other common diseases in outpatients	12
Figure 6: Trends of malaria cases (suspected and confirmed) from 2003 to 2012	Error! Bookmark not defined.
Figure 7: Trends of Malaria deaths from 2008 to 2012 (HMIS)	13
Figure 8: Map showing Climatic conditions in South Sudan.....	14

Executive Summary

Malaria continues to be a major public health problem world-wide. In 2012 alone, there were 627,000 deaths due to malaria globally. In South Sudan, malaria accounts for 20% to 40% of all visits to health facilities and 30% of all hospital admissions (HMIS, 2012). A population-based malaria indicator survey conducted in 2013 found that on average 30% and 13% of children under 5 years old had malaria parasites according to rapid diagnostic tests and microscopy, respectively.

Malaria is endemic in all parts of South Sudan with the entire population at risk of infection. The country experiences year-round transmission with peaks towards the end of the rainy season from September to November. A risk map derived from the MIS 2013 indicated that the greater Equatorial Region had the highest prevalence of more than 53%, followed by Greater Bahr el Ghazal region at 23%, with the Greater Upper Nile at 11%. The tropical climate of South Sudan, with average temperatures ranging between 20°C and 37°C, relative humidity between 26% and 88% and annual rainfall ranges between 1,000 mm in the South and 400 mm in the northern parts are favourable for propagation of malaria vectors.

The main vector species found in South Sudan are *Anopheles gambiae* s.s., *A. arabiensis* and *A. funestus*, which constitute some of the most efficient malaria vectors in the world. *Plasmodium falciparum* is the dominant malaria parasite species causing up to 93% of all morbidity with more than half occurring as mixed infections with *P. malariae* (54%), while *P. vivax* and *P. ovale* cause the remaining 7%

The response by the Government of South Sudan to the malaria problem has been influenced by the country's socio-political history. For long, South Sudan has been engulfed in war, political, economic, cultural hegemony and marginalization, resulting in serious neglect, lack of infrastructure development, destruction of property, loss of human life and population displacements leading to extreme levels of poverty. It is estimated that more than 90% of the population lives on less than 1 US\$ per day.

During the war, the public health system virtually collapsed and approximately 80% of minimum health care was provided by Non-Governmental Organizations (NGO) and Faith Based Organizations (FBO) covering only about 25% of population. It is only after the signing of the Comprehensive Peace Agreement in 2005 and the attainment of independence in 2011 that the government resumed responsibility for rebuilding and transforming the public health system.

Health services are delivered through a decentralized health system, with the central Ministry of Health at the top providing overall leadership, setting policy and guidelines, resource mobilization and health sector partner coordination. Service delivery is the responsibility of State Ministries of Health and the County Health Departments through state and county hospitals, Primary Health Care Centres and Units at the community level.

Key achievements and challenges of the first Malaria Strategic Plan 2006 - 2013

The first malaria strategic plan was developed in 2006 and was in operation until 2013. That plan formed the first framework within which malaria control was implemented in South Sudan. The goal of the first

plan was to reduce malaria related morbidity and mortality; and to minimize the socio-economic impact of the disease in South Sudan. A set of objectives were articulated by the plan that addressed key interventions such as case management, intermittent preventive treatment of malaria in pregnancy, vector control, IEC/BCC, supervision, monitoring and evaluation.

Under the first strategic plan, several achievements were realized including:

- a) The first-line treatment for uncomplicated malaria was changed from chloroquine and SP to an ACT
- b) ACTs were procured through a government and donor trust fund and distributed to all health facilities through a push system
- c) Home management of malaria was introduced and later integrated within the overall child survival strategy under the integrated community case management (ICCM) where malaria, pneumonia and diarrhea are treated by community based distributors (CBD).
- d) 25.8% of women received two or more doses of SP for IPT during their last pregnancy.
- e) Over 10 million LLINs have been distributed through mass distribution campaigns from 2008 in all states with the involvement of partners.
- f) Improvements in knowledge of communities on methods of prevention and control of malaria due to IEC/BCC activities carried out across the country by the NMCP and partners.
- g) The MOH has adopted use of District Health Management Information System (DHIS) software for collection and reporting of routine health information from lower level facilities to the MOH in addition to the weekly reporting of fourteen notifiable diseases through the Integrated Disease Surveillance and Response (IDSR) system.
- h) Two malaria indicator surveys were conducted in 2009 and 2013
- i) There has been a gradual but progressive increase in staffing for malaria at the NMCP (where there are now 7 full-time staff) and at the SMOHs (in each SMOH, there is a Malaria Coordinator and M & E officer).

Several challenges were experienced in the implementation of the first strategic plan. These included the overall weak health system characterized by insufficient funding for programs; inadequate staff at all levels with limited skills; poor infrastructure; weak supply chain management systems leading to frequent stock outs of malaria commodities; lack of supervision of services and weak monitoring and evaluation.

The process of developing this strategic plan 2014/15 – 2020/21

A series of stakeholder consultation meetings were carried out drawing participation from national level and representation from State, County and lower levels. The participation of stakeholders started with the Malaria Programme Performance Review (MPR) that was multi-stakeholder and all-inclusive in nature. A national stakeholder consensus workshop was held in March 2014 in which the gaps identified in the MPR were discussed. At this workshop, several thematic group discussions were held that analysed the various aspects of malaria control in South Sudan at all levels and developed action points to be included in the revised MSP. Thereafter, a workshop that further refined the objectives and strategies to be included in the revised MSP to draft the MSP was held in Nairobi for two weeks.

Technical assistance was provided by the WHO Inter-Country Support Team at all stages of the development and completion of this strategic plan.

A Midterm review of malaria strategic plan was carried out April 2017, with the participation of malaria stakeholders from the 32 states of South Sudan (State Ministries of Health, malaria coordinators and implementing partners), National Ministry of Health's malaria programme and other relevant MOH programmes. The MOH's senior management, including the Honourable Minister of Health participated in the review as well. A critical analysis of progress towards the strategic objectives, strategies, activities, and indicator targets was made. Challenges and bottlenecks of implementation were identified and recommendations suggested. The draft was shared widely within the malaria technical working group for inputs before approval by the Ministry of Health's Senior Management Board.

Strategic Objectives

The goals of this plan are to reduce malaria morbidity and mortality by 80% and malaria parasite prevalence by 50% of the 2013 levels by 2021. To achieve this, six objectives have been identified at midterm.

- a) Objective 1: To strengthen and sustain the management and coordination capacity of the malaria programme at all levels by 2021
- b) Objective 2: To ensure that at least 85% of the population at risk are covered by recommended malaria prevention methods by 2021
- c) Objective 3: To achieve at least 85% parasitological diagnosis and treatment of all presented malaria cases according to the national guidelines by 2021
- d) Objective 4: To increase to at least 80%, community and health worker knowledge, attitudes and practices on malaria prevention and control by 2021
- e) Objective 5: Establish malaria emergency preparedness and ensure timely responses in all communities affected by conflict, natural disaster or epidemics by 2021
- f) Objective 6: 80% of health facilities routinely report on core malaria indicators by 2021

Implementation plans

This revise Malaria Strategic Plan 2017/18 – 2020/21 builds on the lessons and best practices learned from implementation of the first strategic plan and the period 2014/15 – 2016/17 of this strategic plan. Each broad strategic objective has a planning and implementation matrix showing specific objectives, activities and timelines, as well as a monitoring and evaluation framework with targets, indicators and responsibility. A detailed cost plan by activity for each broad objective is also included.

1 Introduction

Globally there were an estimated 627,000 malaria deaths in 2012. Most of the deaths occurred in sub-Saharan Africa (90%) and in children under 5 years (77%). Between 2000 and 2012, estimated malaria mortality rates decreased by 45% worldwide and by 49% in the African Region. The mortality rates decreased by 51% in children under 5 years globally and by 54% in the African Region. It is projected that malaria mortality rates in under-5s will decrease by 63% globally and by 68% in the African Region by 2015 (WHO 2013, World Malaria Report).

The South Sudan Health Sector Development Plan (HSDP), 2012-2016, provides the strategic direction for all health sector work in the country. It is a shared vision of health development between the Ministry of Health (MOH) and sector stakeholders. It builds upon the Health Policy, 2007-2011, the MOH Policy Framework 2013-2016 and on the achievements since the formation of the Interim Government in 2005. The HSDP was developed taking into consideration the aspirations of the South Sudan Development Plan (SSDP) 2011-2013 and outlines the overarching framework for the South Sudan Poverty Reduction Strategy (SSPRS). Both plans are interlinked to maximize collaboration and synergy (South Sudan Malaria Programme Review, 2013).

The Malaria Control Programme in South Sudan is still relatively young. Since 2005, the government of South Sudan begun to define the malaria control policy and strategic framework for scaling up of key interventions and establishing monitoring and evaluation systems. The first South Sudan Malaria Strategic plan (2006-2011) later extended to June 2013 formed the first framework within which malaria control would be implemented in the country.

A comprehensive Malaria Programme Review started in 2012 was concluded in 2013 and provides the basis for the development of this revised plan, the South Sudan Malaria Strategic Plan 2014/15 – 2020/21. This plan selects interventions, approaches and priorities that address the gaps identified during the malaria programme review and takes into consideration existing technical and operational capacity for malaria control in the country at this time. The development of this plan builds on the current situational analysis using all currently available data and sources. It has involved wide participation of all malaria partners and stakeholders in the country.

Further, a midterm review was conducted in April 2017 where an evidence-based appraisal of the Strategic plan was made. The MTR allowed for a critical analysis of the achievements made, challenges faced and opportunities available for better implementation of malaria activities from 2017/18 – 2020/21.

The Process of developing the strategic plan

During the development of the current Strategic plan, a series of stakeholder consultation meetings were carried out drawing participation from the national level and representation from State, County and lower levels. A program review was conducted resulting into a national stakeholder consensus

workshop in March 2014. Gaps were identified in the MPR and discussed. Several thematic group discussions were held that analysed the various aspects of malaria control in South Sudan at all levels and developed action points to be included in the revised MSP. Objectives and strategies were further refined in a workshop held in Nairobi for inclusion in the revised MSP. Technical assistance was provided by WHO Inter-Country Support Team at all stages of the development and completion of this strategic plan.

This Malaria Strategic Plan 2014/15 – 2020/21 defines the programme objectives, strategies and targets how the programme will be organized, managed and financed. It provides strategic direction for the MOH, the decentralized governments at State and County levels and partners for ramping up efforts to achieve sustained control of malaria. This Strategic Plan:

- Describes the current malaria situation in South Sudan;
- Reviews the performance of the preceding Strategic Plan so as to draw on the best practices and lessons learned;
- Identifies the key strengths, weaknesses, opportunities and threats of the current approach towards malaria control and what actions need to be implemented to address these challenges going forward;
- Identifies and prescribes the evidence-based interventions necessary to be used to achieve the strategic shifts required for South Sudan to control malaria given its history and emerging security challenges;
- Suggests revised goals, objectives and targets for South Sudan for the period 2014/15 – 2020/21;
- Describes the choice of national policies and strategies needed to support this strategic shift;
- Describes how this strategy will be managed by the MoH/NMCP and its malaria partners and how these partnerships will be coordinated; and
- Determines how the performance of the strategic plan will be monitored.

2 Country Profile

The Republic of South Sudan covers a geographical area of approximately 640,000 square kilometres and lies between 250 to 300 East longitudes and 40 to 120 North latitudes. It borders Ethiopia to the East, Kenya and Uganda to the South, the Democratic Republic of Congo to the South West and the Central African Republic to the West.

Figure 1: Map of South Sudan



2.1 Socio-political system

About 71% of the 640,000 square kilometres of South Sudan is suitable for agriculture, 24% is forest and the remaining 5% is arid/semi-arid. Accordingly, agriculture is the main source of income for more than 85% of the population.

South Sudan faced one of the longest civil wars in modern African history (from 1955) which has destroyed most of the infrastructure in the country. It attained independence in July 2011 and is yet to fully develop all functions of a state. Armed civil strife continues to ravage the country. According to United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the conflict since mid-December 2013, has displaced 1.9 million within the country and a further 1.74 million to neighbouring countries (OCHA, March 2017).

2.2 Demographic data

The 2008 population census carried out by South Sudan Centre for Census, Statistics and Evaluation (SSCSE), estimates the 2013 total population to be 12 million. South Sudan's population is very young,

with 16% below the age of five, 32% under the age of 10, 51% under the age of 18 and 72% under the age of 30.3 years. The population is largely rural with 83% residing in rural areas (World Bank, April 2013).

2.3 Ecosystem, environment and climate

The climate in South Sudan is tropical with average temperatures ranging between 20°C and 37°C and relative humidity between 26% and 88%. South Sudan is a land of expansive grassland, swamps and tropical rain forest straddling both banks of the White Nile. Annual rainfall ranges between 1,000 mm in the South and 400 mm in the northern parts. The duration of the rainy season varies from 7–8 months in the South to 5–6 months in the northern region. Malaria is endemic across the entire country with year-round transmission but peaking towards the end of the rainy season from September to November (MOH/IDSR Reports).

2.4 Socio-economic situation

South Sudan has been subjected to political, economic, cultural hegemony and marginalization by various periods of central government of the original Sudan. The rural, subsistence economy has been devastated and negatively affected by episodes of conflict that have resulted in serious neglect, lack of infrastructure development, major destruction of property, loss of human life and displacement. It has also inhibited economic activity and market development resulting in very low levels of income and purchasing power. It is estimated that more than 51% of the population lives on less than 1 US\$ per day.

The Government of Southern Sudan (as it was then known) with the support of development partners began earnestly to work on the development of Southern Sudan after the signing of the Comprehensive Peace Agreement (CPA) in July 2005. There was virtually no road or water infrastructure then and no paved roads in and outside Juba, the capital city of the country. Structures for service delivery were practically non-existent (World Bank, 2013). In 2012, the sense of euphoria from the independence of South Sudan started to diminish when the oil supply was cut off and the Republic of South Sudan (RSS) lost 98% of its income. Austerity measures were implemented, the effects of which are still on-going in 2014. The implementation of the austerity measures is compounded by political instability which, in the longer term, could negatively impact on the delivery of health services (The World Fact Book, CIA, 2014).

Key development and health indices for South Sudan

Table 1: Key development and health indices for South Sudan

Statistic	Source
Area 644,329 square kilometres South Sudan is the 18 th largest country in Africa. It is slightly smaller than the state of Texas in the U.S.A., and about the size of France.	Statistical Yearbook 2011 (National Bureau of Statistics October 2012)
Population	
Population estimate for 2013 12 million	2008 population + returnees + population growth + refugees (OCHA)
51% population below 18 years	5 th Sudan Population and Housing Census (2008)

83% rural population as share of total	5 th Sudan Population and Housing Census (2008)
Average household size 6	5 th Sudan Population and Housing Census (2008)
Economy	
Gross domestic product estimated \$13 billion (92% of which comes from oil)	GDP estimate (National Bureau of Statistics August 2011)
Gross domestic product per capita (estimate) \$1,546	GDP estimate (National Bureau of Statistics August 2011)
51% people living below national poverty line of less than a dollar per day	National Baseline Household Survey (2009)
Mortality	
Life expectancy 42 years	South Sudan Household Health Survey (2010)
Maternal mortality 2,054 per 100,000 births (highest in world)	South Sudan Household Health Survey (2006)
Infant mortality 75 per 1,000 births (ranked in world's bottom 10%)	South Sudan Household Health Survey (2010)
Child mortality 105 per 1,000 births (ranked in world's bottom 10%)	South Sudan Household Health Survey (2010)
Health	
6.3% of children under 2 years fully immunized	South Sudan Household Health Survey (2010)
19.4% births attended by skilled personnel	South Sudan Household Health Survey (2010)
7.4% households using improved sanitation	South Sudan Household Health Survey (2010)
68.7% households with improved drinking water sources	South Sudan Household Health Survey (2010)
Antenatal care coverage- 4.8%	Health Sector Development Plan 2012-2016
2.6% HIV prevalence rate (15-49 years)	Antenatal Care HIV surveillance survey report 2013

Source: United Nations: South Sudan Statistics, January 2014

2.5 Health system analysis

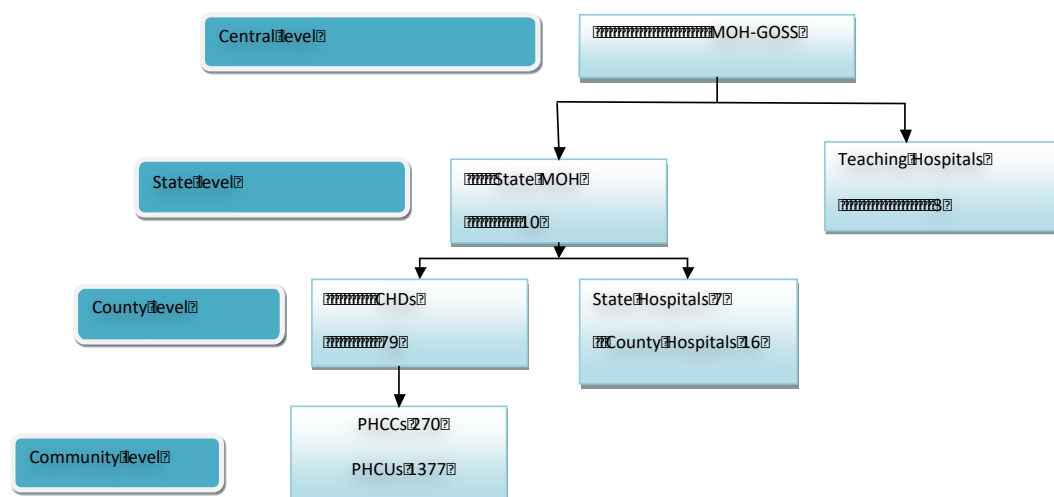
During the war, the public health system virtually collapsed. Approximately 80% of minimum health care was provided by Non-Governmental Organizations (NGO) and Faith Based Organizations (FBO) covering only about 25% of population. Under the CPA, the Ministry of Health (MoH) resumed responsibility for rebuilding and transforming the public health system.

In line with the decentralization policy of the interim constitution of South Sudan (2005) and the Local Government Act (2009), the MoH operates a decentralized structure. In this structure the MoH is in-charge of the health sector policy, guidelines, regulations and standards development; quality assurance, monitoring and evaluation (M&E), health financing and health sector partner coordination at the country level. It provides stewardship and guidance to the sector, manages the Tertiary (Teaching) Hospitals and executes a supportive role to the State Ministries of Health (SMoH). The SMoHs provide leadership for health service delivery and management at State level. The County Health Department (CHD) oversees the delivery of primary health care services in their respective County. Specific community health institutions are envisaged to ensure community participation and oversight although at present, these structures are not operative (HSDP 2011-2016).

The organisational and management structure of MOH

The Ministry of Health is decentralized with different mandates and roles delegated to State and County Health Departments as shown in Figure 2.

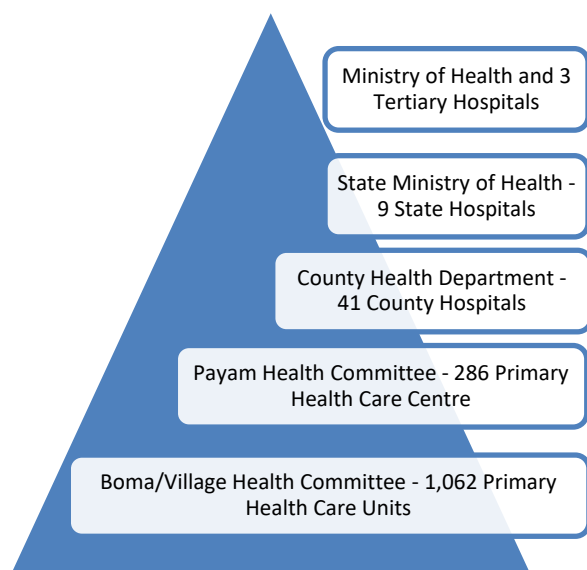
Figure 2: Organizational and management structure of MOH



The vision of the South Sudan Health Policy is to have a healthy and productive population, fully exercising its human potentials. The mission is to ensure basic health care for the population of South Sudan which is of acceptable standards, affordable, sustainable and cost-effective. The health services will focus on those most at risk, particularly women and children. The health policy aims to: (i) strengthen prevention and control of communicable and non-communicable diseases; (ii) reinforce Maternal and Child health care and; (iii) build up the Health System in partnership with communities and other stakeholders.

The provision of health care services is structured into community, primary, secondary and specialized care levels linked by a referral system (Figure 3). Community health care is expected to be provided within the framework of the Boma Health Initiative by Community Health Workers (CHWs), Maternal and Child Health Workers (MCHWs) and Home Health Promoters (HHPs). PHCUs provide the first level of interaction between the formal health system and the communities and they are expected to provide basic preventive, promotive and curative care for a catchment population of 15,000. PHCCs provide services for about 50,000 people and, in addition to services offered by PHCUs they provide basic diagnostic laboratory services and maternity care. Secondary care including comprehensive obstetric care, in-patient care and surgery is provided by County Hospitals for 300,000 people and State Hospitals for 500,000 people. However, there are numerous gaps and challenges to strengthen all these levels to reach minimum optimal standards. These and the overall health system challenges and the harsh and unfavourable living conditions, coupled with very limited access to basic health services, contribute to a poor health and nutrition status of the population and the unlikely prospect of reaching the MDGs by 2015 (NHSDP 2010-2015).

Figure 3: Health Care Services



Management and Governance

Governance of the health sector is seriously constrained due to lack of specific laws, policies and regulation which has resulted in the provision of sub-standard services by both public and private health care providers including NGOs. Management and coordination of Non-Government agencies providing health services is problematic. Communication between MOH, SMOHs and CHDs is weak and characterized by inadequate information sharing and poor feedback. Supervision in support of lower management levels in the health system or operational health units is hardly practiced.

Human Resources for Health

Many management and administrative positions in the public health sector at MoH, SMOHs and CHDs are either vacant or filled with staff of inappropriate skills and experience. It is estimated that just 10% of the staffing norms are filled by appropriately trained health workers. Overall 20% and in remote areas 40% of health facilities at the primary level are not operative mainly due to a deficit in HRH. Most services are provided by TBAs or CHWs.

Pharmaceutical and Medical Supplies

The procurement and supply chain for pharmaceuticals and medical supplies faces the challenges of poor forecasting, cumbersome centralized procurement, irregular distribution and deficient logistics resulting in the chronic shortage of medicines and medical and laboratory supplies in all health facilities. The current pharmaceutical selection and procurement is based on essential drugs kits allocated to health facilities. However, the number of functional health facilities to be supplied by Central Medical Stores (CMS) is not exactly known. Transportation of drugs and medical supplies is a big challenge and storage conditions in health facilities are usually poor. There is a critical shortage of qualified pharmaceutical staff in both public and private sectors. Moreover, the sector is facing the challenges of

irrational use of drugs, lack of adequate quality assurance mechanisms, lack of relevant laws and weak application of existing legislation and guidelines to regulate private pharmacies. Substandard and counterfeit pharmaceuticals, medical supplies, traditional and alternative medicines circulating in the market bring health threats to the population. In rural areas there are few or no private sources of pharmaceuticals and medical supplies which meet quality standards. Affordability of pharmaceuticals and medical supplies, especially to the poor and vulnerable groups, is an additional challenge.

Capital Investment and Infrastructure

The infrastructure network of the health sector is enormous with more than 1,377 PHCUs, 277 PHCCs, 25 hospitals and related buildings, training institutions and MoH offices at Central, State and County levels. Investments in infrastructure and equipment have been inadequate to meet the demand for reconstruction and renovation. The transport system is severely hampered with inadequate ambulances capacity and lack of a reliable fleet of vehicles (cars, motorbikes and boats) for the provision of medicines, supplies and managerial purposes and for the functioning of a reliable referral system.

Health Sector Financing

The sector is funded by both government and development partners. Funding from the development partners is either pooled or direct (off-budget) and amounted to an estimated US\$214.8 million in 2009 and US\$169 million in 2010. The percentage of government funding to the health sector has progressively reduced from 7.9% in 2006 to 4.2% in 2010. Total public health expenditure per capita is estimated to be US\$10, well under regional averages. The main source of revenue for health services is the government budget through block and conditional grants from MoFEP. Due to the centralized budgeting system, actual release of funding is cumbersome and results in an annual budget-expenditure gap of about 50%. Most States and Counties receive off-budget support from external sources mainly international NGOs. Health care is free at point of delivery and there are no formal cost-sharing mechanisms in place. Alignment and harmonization of development partner contribution in the financing of the health sector is a challenge.

Monitoring, Evaluation and Operational Research

The monitoring and evaluation system in the health sector consists of routine (HMIS, demographic and disease surveillance) and non-routine (Household Health Surveys, Research and Evaluations) systems. Other information systems mainly of vertical programs and NGOs operate in parallel to the routine system. The MoH is in charge of HMIS and disease surveillance. Non-routine information systems are often operated by other government or research entities. Overall, the functioning of the HMIS is limited. Data from health facilities are not always complete or reliable, data collection is delayed and feedback to collecting facilities from MoH, SMOH and CHDs is practically non-existent. FBOs in general comply with national information systems, but many NGOs and private agencies often do not provide required data or information. Disease surveillance is still at infancy. Operational research is under-funded and there is no national operational research agenda.

3 Malaria situation analysis

3.1 Epidemiology

Malaria is endemic in all parts of South Sudan with the entire population at risk of infection. According to the Malaria Indicator Survey (MIS) 2013, the parasite prevalence was highest in the greater Equatorial Region at 53%, followed by Greater Bahr el Ghazal region at 23% and Greater Upper Nile at 11%. The MIS showed that the malaria prevalence was higher in rural than in urban areas and that pregnant women and children under-5 were more affected than other age groups.

According to HMIS records, malaria is the leading cause of morbidity and mortality in the country. HMIS data indicates that there has been a gradual increase in the number of cases and deaths due to malaria reported by health facilities between 2008 and 2012. Analysis of weekly epidemiological data from IDSR showed a similar trend. This could partly be due to improving reporting from health facilities following the launch of the South Sudan IDSR reporting system in 2008 and the HMIS in 2009. Before 2008, South Sudan reports were within the original Sudan reporting systems and the review could not easily tease out data specific to South Sudan.

The MIS 2013 report indicated that only 46% of the children under-5 slept under an LLIN the previous night and only 17% received anti-malarial treatment the same or next day after onset of fever. Malaria accounts for 20% to 40% of all visits to health facilities and 30% of all hospital admissions (HMIS, 2012). According to the 2013 MIS, up to 45% of children below 5 years had a fever during the two weeks preceding the survey.

3.1.1 Malaria parasites

Plasmodium falciparum is the dominant malaria parasite species causing up to 93% of all morbidity with more than half occurring as mixed infections with *P. malariae* (54%), while 0.3% each is caused by *P. vivax*, and *P. ovale* (MIS 2013). There was a dramatic increase in detection of *P. malariae* parasites in 2013 (54%) compared with 0.7% in 2009. Table 2 shows the distribution of malaria parasite species by region.

Table 2: Species of malaria parasites among positive slides examined in the MIS 2013

Region	<i>P. falciparum</i>	<i>P. vivax</i>	<i>P. malariae</i>	<i>Mixed species</i>
Upper Nile	100.0	0.0	54.6	0.0
Bahr el Ghazal	69.7	1.1	39.3	1.1
Equatoria	100.0	0.0	59.5	0.0
Total	93.1	0.3	54.3	0.3

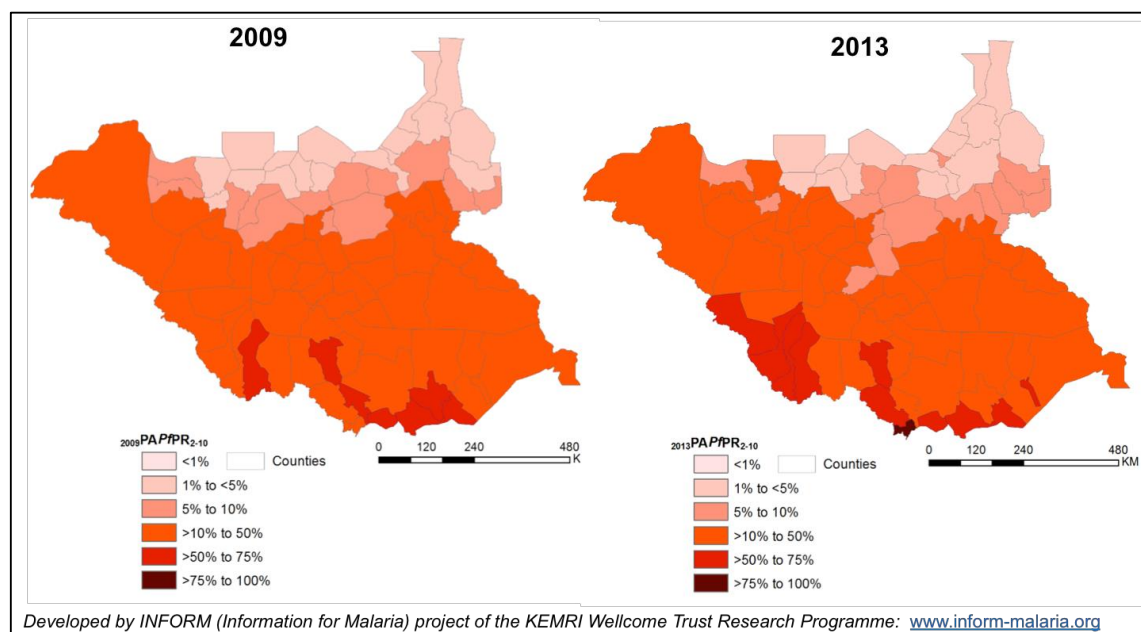
3.1.2 Malaria vectors

The major vectors are *Anopheles gambiae* s.s., *A. arabiensis* and *A. funestus*, with *A. nili* as a secondary vector. Very little is known about their relative distribution in the country. Vector densities vary from season to season and on a regional basis (South Sudan Malaria Strategic Plan 2006-2011). During the dry season the vector densities are low due to the limited breeding sites, whilst the opposite is the case during the wet season.

3.1.3 Dynamics of malaria transmission and level of endemicity

Malaria is endemic in all parts of South Sudan with the entire population at risk of infection. The endemicity levels in the country vary from hypo-endemicity, through meso-endemicity, hyper-endemicity to holo-endemicity. The MIS 2013 found a parasite prevalence of 30 percent by RDT among children age 0-59 months, an increase from 25 percent found in 2009 MIS. By microscopy, the prevalence in 2013 was 13 percent is similar to 14 percent reported in the 2009 MIS. There was no difference in prevalence by gender. Prevalence by microscopy was higher in rural (14 percent) compared with urban areas (9 percent). Among regions, prevalence by was lowest in the Upper Nile (11 percent RDT 4.3 percent microscopy) and highest in Equatorial region (53 percent by RDT and 25 percent by microscopy). Figure 4 shows epidemiological risk maps from the 2009 and 2013 surveys. Figure 4 shows the updated population adjusted *P. falciparum* prevalence in children aged two to 10 years ($PAPfPR_{2-10}$) malaria risk maps for South Sudan using data from 2009 and 2013 malaria indicator surveys. The maps show that most of the counties in South Sudan are either meso-endemic ($>10\%$ to 50% $PAPfPR_{2-10}$) or hyper-endemic ($>50\%$ to 75% $PAPfPR_{2-10}$) or with few holo-endemic districts ($>75\%$ $PAPfPR_{2-10}$). Overall, there appears to have been very little change in malaria risk between 2009 and 2013. However, some counties in Warrap, Unity and Western Equatoria had increased malaria prevalence in young children in 2013 compared with 2009. A few counties in Upper Nile, Unity and Northern Bahr el Ghazal are classified as hypo-endemic ($\leq 10\%$ $PAPfPR_{2-10}$), although these areas also had few children sampled in both surveys.

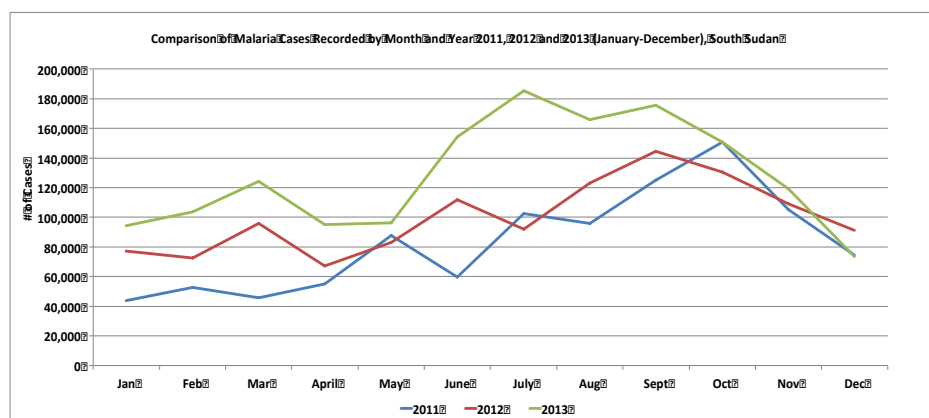
Figure 4: Epidemiological map of the population adjusted $PfPR_{2-10}$ by county in 2009 and 2013



Temporal distribution of malaria

The eco-epidemiological profile of South Sudan is ideal for proliferation of malaria vectors and hence malaria transmission is almost perennial country-wide with seasonal variations. The malaria transmission season is longer in the southern regions (7-8 months) than in the northern regions (5-6 months) and peaks towards the end of the rainy season in November. Vector densities vary from season to season and on a regional basis (South Sudan Malaria Strategic Plan 2006-2011). During the dry season, the vector densities are low due to the limited breeding sites, whilst the opposite is the case during the wet season. The graph below shows that transmission takes place throughout the year, with a peak between August and November and that reported malaria cases have been steadily increasing from 2009 to 2013.

Figure 5: Temporal variation of Malaria cases recorded from 2011-2013 through IDSR

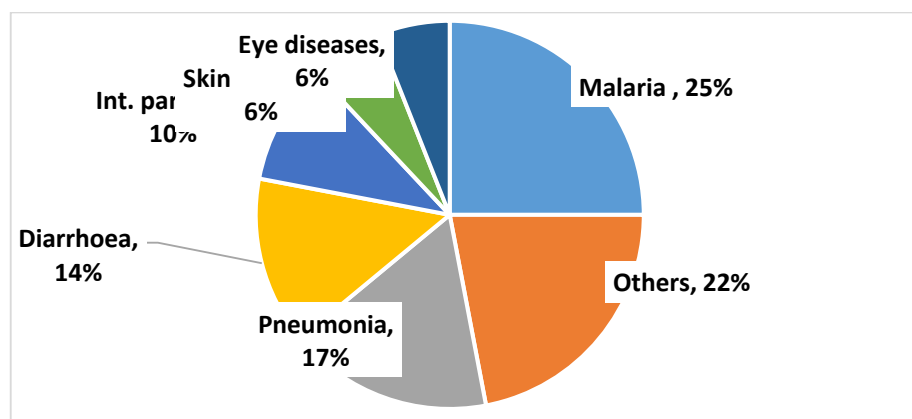


Source: South Sudan IDSR reports 2011-2013

3.1.4 Morbidity and mortality

According to HMIS, malaria is the leading cause of morbidity and mortality in the country. Malaria accounts for 20% to 40% of all visits to health facilities and 30% of all hospital admissions (HMIS, 2013). According to the 2013 MIS, 45% of children below 5 years had suffered from a fever during the two weeks preceding the survey.

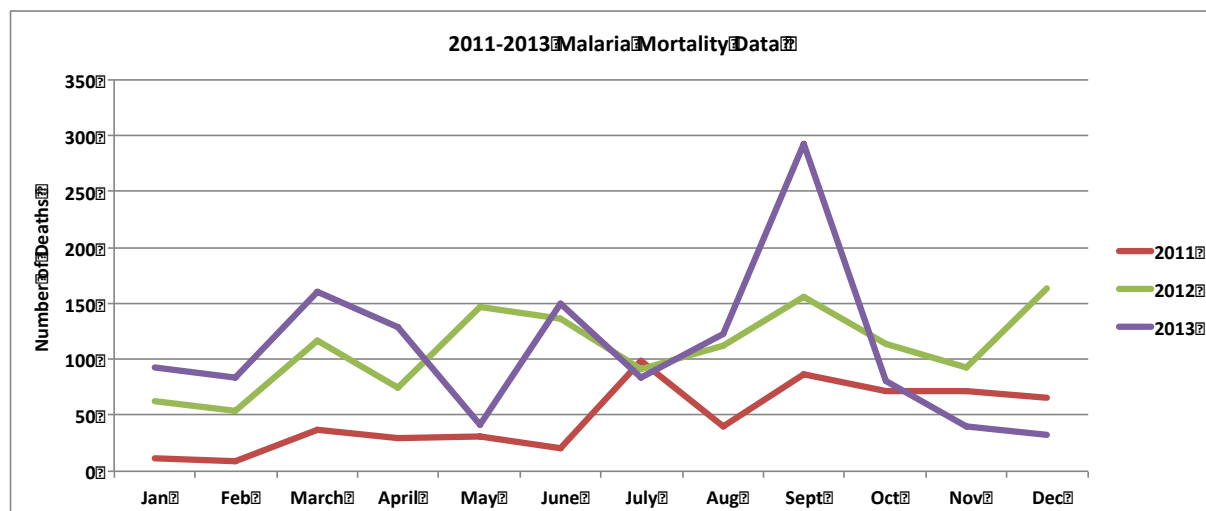
Figure 6: The burden of malaria with respect to other common diseases in outpatients



Also data from HMIS shows a gradual increase in the number of cases and deaths due to malaria reported by health facilities between 2008 and 2012 (see Figure 6). Part of the observed increase could be explained by improvements in reporting by health facilities.

A similar trend is observed with regard to the number of reported deaths due to malaria. A gradual increase is observed from 2011-2013 as shown in Figure 7 below.

Figure 7: Trends of malaria deaths from 2011 -2013 (IDSR)



Source: IDSR 2011-2013

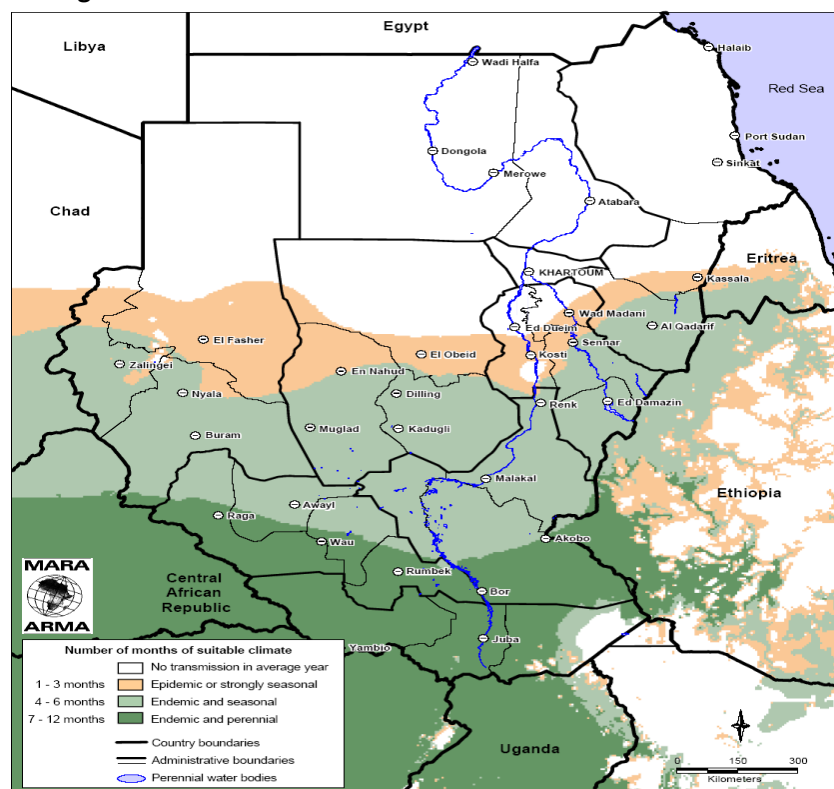
However, most malaria cases are diagnosed and managed based on clinical symptoms because only 40% of the health facilities have capacity to perform malaria diagnostic tests (Health Facility Assessment Report, 2011) despite policy recommendation for parasite diagnosis before treatment at all levels.

Seasonal peaks of malaria (unconfirmed malaria epidemics and localized outbreaks) occur in the country. Environmental and climatic factors (e.g. massive flooding) have been associated with these outbreaks. Also the constant population movements of returnees and refugees often with little malaria immunity into areas of high transmission are other possible causes. However, due to poor data collection and analysis at all levels especially at the peripheral health centres, it has not been possible to assess whether reported cases are within or above expected seasonal variation.

3.1.5 Malaria stratification and mapping

The Map in Figure 8 below shows the correlation between the climatic conditions across South Sudan and the various levels of malaria endemicity in the country, developed by the Mapping Malaria Risk in Africa (MARA) project, 2004.

Figure 3: Map showing climatic conditions in South Sudan



Generally, areas along the edges of malaria endemicity e.g. outer edges of deserts or upper limits of highlands are usually considered epidemic prone. The areas are normally less favourable for malaria transmission, but when certain climatic, biological and/or epidemiological conditions change (e.g. abnormally heavy rainfall), an increase in transmission far beyond the typical pattern, results.

The levels of endemicity projected by this map correlate with the malaria risk map generated from the MIS 2009 and 2013 in Figure 4 above. Both maps show that malaria endemicity in South Sudan varies from hypo-endemicity in the northern parts of the country close to the desert regions, through meso-endemicity, hyper-endemicity to holo-endemicity to the south of the country.

3.2 Historical perspective of the malaria programme

The first health policy for Southern Sudan was released in 1998, long before independence was attained in South Sudan. At that time most of the country was in civil war and most health services were provided by NGOs and FBOs. In 1998, WHO began to support the coordination and management of malaria control within the Southern Sudan Health Secretariat, a point considered to be the starting point of the Malaria Control Programme. In 2003, a Malaria Task Force was formed in order to allow a broad discussion and consensus building mechanism among partners with respect to the new malaria treatment policy. This paved way for the formation of the National Malaria Control Programme in 2004 as part of the Secretariat for Health, then based in Nairobi. A vector control needs assessment was done

in 2005 following the WHO Resolution (EM/RC.52/R.6) where WHO's Eastern Mediterranean Region Member States endorsed the Regional Strategic Framework for Integrated Vector Management (IVM) for the implementation of vector control.

The turning point in malaria control was at the dawn of self-governance following the signing of the Comprehensive Peace Agreement when the Secretariat inclusive of NMCP was relocated to Juba, South Sudan in 2006. At that time, the NMCP was staffed by one person, the Programme Manager supported by USAID-seconded full time malaria Technical Advisor.

In 2007, the first NMCP Office was established with support from USAID and developed the initial Malaria Prevention and Control Strategic Plan (July 2006-June 2011), which provided the platform for malaria control in South Sudan. The strategic plan was subsequently extended to July 2013 to allow the country conduct a comprehensive malaria programme review before developing this strategic plan.

Under the 2006 – 2011 strategic plan, several technical guidelines and tools were developed and disseminated by the NMCP. The ACT based treatment Policy was finalised leading to development of the first Malaria Treatment Policy, followed by a national roll out of training of health workers on appropriate treatment of malaria in all the health facilities between 2007 and 2010. Similarly, the Country Malaria Technical Working Group (MTWG) was formed to ensure coordinated malaria programming. The TWG has played a critical role in supporting NMCP to fulfil its functions.

Between 2014/15 and 2016/17, the programme made advances in various areas. The terms of reference of the MTWG were reviewed and updated and five working groups (case management; vector control; behaviour change communication; surveillance, M&E and EP&R; and programme management) were set up. The malaria case management and training guidelines were extensively reviewed and updated in 2015. A new vector control needs assessment was done in 2015 and IVM technical guidelines (IVM Strategy, IRS Guidelines, LSM Guidelines and IRM Guidelines) were developed in 2016. The South Sudan Malaria Emergency Preparedness and Response Guideline that was first produced in 2009 was also extensively reviewed in 2017.

4 Review of the progress at midterm

4.1 Progress made at mid term

After signing the Comprehensive Peace Agreement in January 2005, South Sudan developed its first malaria strategic plan 2006-2011 (extended to 2013), which aimed to provide a common platform and a description of interventions for all RBM partners and sectors. It encouraged all partners to engage in malaria control with a common strategy and objectives using “The Three Ones” approach of One agreed-upon Strategic Plan, One Coordination mechanism and One monitoring and evaluation Plan.

The vision of the plan then was to reduce malaria to a level where it was no longer the leading health problem in South Sudan by 2011 its goal was to reduce malaria related morbidity and mortality in South Sudan and to minimize the socio-economic impact of the disease.

The plan (2006-2013) was implemented against the backdrop of limited financing. More than 80% of the funding was from external sources such as the GFATM, USAID, DFID and UN Agencies such as WHO and UNICEF, with limited domestic funding.

a) Case management:

In March 2005, the treatment policy was changed to ACTs. Home Management of Malaria (HMM) was successfully introduced as part of a comprehensive community based child survival strategy in 2008. This strategy involved the integrated community case management (ICCM) strategy where malaria, pneumonia and diarrhoea are treated by community-based distributors (CBD) in almost a third of the counties of South Sudan. By 2012, the majority of cases were diagnosed and treated clinically and only 25% of the health facilities had malaria diagnostic equipment (microscopy or RDTs) (HMIS, 2012).

Prompt and effective treatment for uncomplicated malaria: The malaria case management and training guidelines were reviewed and updated using the 2015 recommendations from WHO. Case management trainings were carried out at state, county and facility levels. Coordination with ICCM partners through the ICCM technical working group was done.. Training in MIP was incorporated into regular case management training. Improving management of severe malaria: Artesunate injection was introduced for the management of severe malaria from PHCC level upwards..

b) Strengthening the quality assurance and quality control for diagnosis and treatment of malaria

Malaria in pregnancy:

Gains in pregnant mothers receiving IPT2 and LLIN distribution through routine ANC were registered with 25.8% of pregnant women receive at least 2 doses of IPT and 50% of pregnant women sleep under an LLIN (MIS 2013).

Increase uptake of IPTp3+ among pregnant women: A total of 2740000 doses were distributed through the focused antenatal care as part of the IPTp package for malaria prevention during pregnancy. There was close collaboration between NMCP and the Reproductive and Maternal Health services to ensure optimum uptake of IPTp3+. Mid wives from public sector were trained to promote and provide IPTp3+ services.

c) Vector control:

By 2013, 9,335,035 LLINs had been distributed. The 2013 Malaria Indicator Survey found that 46% of children under 5 had slept under an LLIN the previous night; while 66% of households owned at least one LLIN. However, IRS been applied in only 3% of households in the previous 12 months. During midterm review, a total of included 4, 8782,400 LLINs were distributed through mass campaigns and continuous routine distribution. IRS was only implemented in Protection of Civilian (Malakal and Bentiu) and refugee Camps (Maban) guided by national IRS guidelines. The IVM policy guidelines for the implementation of malaria vector control guidelines were developed. Annual assessments, mapping and larviciding of breeding sites during the dry season in PoC (Malakal and Bentiu) and Refugee camps (Maban) were done by trained community workers.

d) Epidemic preparedness and response:

South Sudan had reported unconfirmed malaria epidemics and localized outbreaks due to environmental and climatic factors, movement of IDPs and sometimes lack of access to anti-malaria treatment in some areas. Emergency Preparedness and Response (EPR) was part the Integrated Disease Surveillance and Response (IDSR) Action Plan 2009-2013. National policies and guidelines were in place as well as communication facilities.

e) Commodities procurement and supply management:

The pharmaceutical procurement process in the public sector was based on medicines pre-packed kits used as part of a push distribution system. The introduction of ACTs as fixed dose at health facility and community level, and provision of these drugs through a push system, did not create universal and equitable access to treatment. People in the community had to travel long distances to get treatment and stock-outs were common.

f) Advocacy, social mobilization and behaviour change communication

The National Malaria Communications Strategy for Malaria Control was completed in March 2009. The NMCP collaborated with NGOs and other stakeholders to coordinate IEC/BCC activities. The Programme trained 3,641 CBO staff out of a target of 3,600 on BCC Community Outreach activities for prevention and management of Malaria (PUDR reports, 2011 – 2013). As a result of some of these activities, out of the 66% of women who knew one way to avoid getting malaria, 34% mentioned sleeping under insecticide treated mosquito net, the same proportion (34%) mentioned sleeping under any mosquito

net, 12% mentioned taking preventative medicine, while 3% and 5% mentioned destroying mosquito breeding sites and spraying houses with insecticide respectively, as ways to avoid getting malaria. There is limited capacity at all levels of health service delivery to effectively deliver IEC/BCC and is insufficient domestic and international funding to support IEC/BCC activities. Overall, there was poor coordination between the NMCP and partners in facilitating sharing of information, harmonization of messages and materials, while avoiding duplication of efforts.

g) Programme management

The NMCP in South Sudan gradually grew from one staff member in 2003 to three technical staff by 2007 and by 2009 all State Malaria Coordinators were in place. By the end of 2013, the programme had 27 staff dedicated to managing malaria (7 at central level and 2 at each state – the Focal person + M&E officer) (NMCP Office Records, April 2014).

However, there is high dependence on donors with limited Government funding, limited human resource at all levels and lack of a staff appraisal system for malaria result in gaps between staff roles and capacity, thus stifling programme performance improvement efforts.

h) Supervision, monitoring and evaluation and operational research

The implementation of the HMIS /DHIS tools started in 2011. By 2013, only 51% of health facilities reported to the national HMIS. The NMCP established 32 sentinel sites across the 10 states in 2012. These sites are used for monitoring malaria interventions coverage. At least two population-based surveys have been conducted during the life of the 2006-2011 NMCP Strategic Plan. Several challenges have constrained effective supervision, monitoring and evaluation of the malaria programme. These include:

- Most health facilities have poor infrastructure, are inadequately staffed and frequently experience stock outs of key supplies and drugs.
- Health facilities do not have adequate reporting tools for HMIS. Health workers are not well skilled to correctly understand the importance of quality data. These factors lead to poor data recording, incomplete filling of the registers, and delayed or sometimes non-reporting.
- There is inadequate staff, both in numbers and qualification at state and county levels. In addition, limited support supervision is provided, leading to limited capacity to analyze and interpret data collected from the health facilities and to provide timely feedback.
- At the National level, there is inadequate funding to allow implementation of supervision and M&E plans, as well as inadequate staff to comfortably support the lower level structures.

4.2 Key challenges 2017/18 – 2020/21

a) Prevention

LLINs: Partners faced challenges in accessibility, limited LLINs for continuous distribution (ANC, EPI, schools) and attrition rates with LLINs being leaked to the markets. The low utilization rate reported in the MIS (2013) highlighted the need for harnessing BCC campaigns to encourage continuous use throughout the transmission season but this has not been monitored.

IRS: Lack of resources to cover initial targets of spraying in the 3 major towns in 2015 and extending to the 10 towns

LSM: Inadequate resources for LSM on a large scale in targeted areas at County and State level.

Uptake of IPTp3+: The private sector was not involved in training to promote and provide IPTp services.

The vector control surveillance system was not established due to inadequate resources (equipment, consumables & technical guidance). There has been no operational research activities conducted to guide in decision making.

b) Case management

Prompt and effective treatment for uncomplicated malaria: There was limited diagnostic capacity in most health facilities. The newly updated case management guidelines were not widely disseminated for use by health workers. Training of health workers in malaria case management was not fully cascaded to all health facilities. The 2013 MIS found that only 28% of patients received parasitological confirmation before treatment.

Quantification of medicines and commodities: coordination within partners; reporting consumption data from health facilities and counties and delivery of commodities were the major challenges faced during the period under review.

Access to affordable and recommended malaria drugs and commodities in the private sector: While private health providers are known to provide health services to a large section of the population, this sector remains largely unregulated. Coordination with the private sector was not regularised and there were no mechanisms established to ensure access of case management commodities in the private sector.

Scaling up HMM through the ICCM strategy: Integrated Community Case Management (ICCM) were not implemented in all hard to reach areas and there was a lack of coordination across partners with the NMCP. National coverage of the ICCM strategy remains low.

Improving management of severe malaria: No appropriate job aids were developed for the management of severe malaria in children and adults. . Health workers were not trained and there was also weak supportive supervision. Clinical audits to monitor and improve quality of care were not conducted. There was no focal malaria person at the national public health laboratory for quality control and quality assurance.

c) Malaria in pregnancy

The level of knowledge on the clients' perspective on the use of IPTp and LLINs remained low with routine distribution remains very low and is not across all health facilities. Collaboration between the malaria and reproductive health programmes is poorly coordinated.

d) Information, Education, Communication (IEC); Social Mobilization and Advocacy:

Insufficient funding and limited capacity at all levels of health service delivery affected the delivery of IEC/BCC. The common communication channels have limited reach for the communities living in the rural areas. The development of BCC messages was not backed by evidence-based research and there was no community participation. Lack of harmonization of messages as different partners develop and deploy their own BCC malaria messages remained a challenge.

e) Epidemics and Outbreaks

Thresholds were not available due to lack of data, The reported upsurges of malaria in localized areas were often associated with environmental and climatic factors (e.g. massive flooding) and also by movement of populations with little immunity into areas of high transmission (typically, Internally Displaced Persons (IDPs). More so, South Sudan continued to experience complex humanitarian emergency situations as a result of war and political upheavals.

f) Program Coordination, Management, Policies and Strategies:

Resources allocated for malaria from the Republic of South Sudan (RSS) were limited, with most activities being supported by the Global Fund. Partners were not fully coordinated, leading to fragmented program implementation, while limited capacity at all levels coupled with poor staff motivation and a lack of staff appraisal system result in uninformed decisions. Delays in disbursing the GFATM fund contributed to delays in the implementation of key activities.

g) Procurement and supply management (Health Systems Strengthening):

Procurement and the supply chain management system for malaria commodities were weak. Undertaking commodities quantification exercise was challenging due to lack of consumption data of malaria commodities. There were insufficient basic pharmaceutical management information system (PMIS) tools for commodity management nationwide. The human resources needed for proper PSM were grossly limited and unskilled. The Central Medicines Store (CMS), as the major storage area, had infrastructural weaknesses and lacked basic equipment such as palettes and fork lifts. Also, South Sudan

has a multiplicity of uncoordinated supply chains operated by the MOH and partners, which leads to ineffective coordination especially of in-state medicines supply management.

h) Emergency Prepared and Response

HMIS data or other services delivery outputs such as LLINs, IRS, commodities stock control and malaria test positivity rates were not reported. There was also lack of coordination at state and lower levels, including poor timeliness in submission of reports and limited use of data from these systems. The NMCP has established 32 sentinel sites which are used for monitoring malaria intervention coverage. The MOH through NMCP did not conduct any operational research. There was no comprehensive database that captured Malaria Indicators in the country.

4.3 Priority action points 2018 2020/21

In the remaining period of the malaria strategic plan the following priority actions are identified:

- a) Scale-up vector control interventions through mass and continuous distribution of LLIN across South Sudan; introduce evidence based IRS in a phased wise approach and advocate and conduct LSM initiatives in targeted urban areas (holoendemic and hypodemic) under the IVM framework .
- b) Conduct routine monitoring of key entomological factors which includes insecticide resistance monitoring at representative sites to determine the spatial and temporal distribution of predominant vector species as well as vector binomics, feeding and resting behaviours.
- c) Scale up malaria diagnosis of all suspected cases before treatment at all levels including the community.
- d) Expand community case management through scaling up of Integrated Community Case Management (ICCM) using the Boma Health Initiative.
- e) Ensure sufficient and timely provision and management of malaria commodities Strengthen coordination between state malaria focal points and implementing partners at state and county levels in sharing stock information on anti-malaria commodities.
- f) Regularly conduct anti-malarial therapeutic efficacy testing studies and insecticide resistance monitoring
- g) Ensure Drug and Food Control Authority (DFCA) enforces a ban on non-recommended anti-malarial medicines (i.e. oral mono therapies as treatment for uncomplicated malaria). - Conduct on job and pre-service trainings for the health workers in various areas of malaria to fill up identified gaps.
- h) Strengthen supportive supervision and quality of care monitoring at all levels of service delivery
- i) Establish collaboration with other government departments including reproductive health programme to increase uptake of interventions Develop and disseminate communication and SBCC strategy for NMCP
- j) Strengthen inter-sectoral collaboration on data sharing (between the MOH and the Ministries of Interior, Agriculture, meteorological services, statistical institutes, the uniformed forces and other organizations) to allow maximum malaria risk mapping, case detection and early prevention/control of malaria epidemics mainly among returnees, IDPs and refugees.
- k) Strengthen malaria epidemic preparedness and response and malaria control in complex humanitarian emergency situations.
- l) Strengthen institutional, managerial and technical capacity of staff at all levels
- m) Advocate for government to increase domestic funding for the NMCP
- n) Update the HMIS reporting tools to capture key malaria indicators.
- o) Strengthen malaria data management functions at all levels including central, state and county to improve on monitoring, analysis and utilization of data.

- p) Establish a malaria research agenda,

5 Malaria Strategic Plan 2014-2021(as reviewed for the 2017/18 – 2020/21 period)

5.1 Vision, Mission, Goal and Objectives

5.1.1 Vision and Mission

The Vision of this plan is “a malaria – free South Sudan”.

The Mission of the Malaria Control Programme is to provide free, efficient, accessible, and quality-assured malaria interventions to all people in South Sudan.

5.1.2 Goal and Objectives

The goals of the 2014/15 – 2020/21 Malaria Strategic Plan (MSP) are to reduce by 80 % reported malaria morbidity and deaths of 2013 levels and to reduce malaria parasite prevalence by 50% of the 2013 levels by 2021.

To achieve this goal, the following objectives were agreed upon:

- a) Objective 1: To strengthen and sustain the management and coordination capacity of the malaria programme at all levels by 2021;
- b) Objective 2: To ensure that 85% of the population at risk are protected by recommended malaria prevention methods by 2021;
- c) Objective 3: To achieve 90% parasitological diagnosis and treatment of all presented malaria cases according to the national guidelines by 2021;
- d) Objective 4: To increase to at least 80%, community and health worker knowledge, attitudes and practices on malaria prevention and control by 2019;
- e) Objective 5: Establish malaria emergency preparedness and ensure timely malaria control responses in all communities affected by conflict, natural disaster or epidemics by 2021; and
- f) Objective 6: Ensure 80% of health facilities routinely report on core malaria indicators by 2021.

5.2 Strategies and Activities

For each objective, several strategies have been agreed upon and for each strategy several activities were identified as follows:

Objective 1: To strengthen and sustain the management and coordination capacity of the malaria programme at all levels by 2021

The Government of South Sudan, together with several funding and implementing partners, provide a range of malaria prevention and control services throughout the country. These efforts are

implemented in strong leadership by the National Malaria Control Programme and well-coordinated partnership with all the malaria stakeholders to ensure harmony and limit duplication. A clear policy and strategy for malaria control that is all-inclusive and supported by all stakeholders in the process of finalisation ensure that implementation of interventions leads to achievement of desired goals and targets. To achieve this objective, the following strategies will be implemented.

Strategy 1.1: Update or develop malaria policy documents and guidelines

The NMCP will finalise one national malaria control policy and five guidelines to guide the implementation of malaria prevention and control activities in the country. It will also develop and implement dissemination strategy to make sure that all policy documents and guidelines are disseminated to all the service providers and facilities across the country including the private sector.

Strategy 1.2: Develop capacity and strategy for resource mobilization

A comprehensive gap analysis of the NMCP at central, state and county level will be conducted to guide the process of developing a resource mobilization strategy. Other sources of funding for malaria activities will be considered, including engaging the private sector. The Government will also initiate special tax laws and lobby approach a business community to generate revenue for malaria control program.

Strategy 1.3: Build human resource capacity for malaria management

The program will recruit new staff to ensure effective and efficient implementation of the programme.. Comprehensive malariology courses will be organized to build the capacity of the malaria focal persons and team at all levels. NMCP will review existing training curriculum for pre-service training on malaria policy and guidelines. The MOH will conduct DHIS training for all concerned health workers at national and state levels. Finally, study tours will be conducted to learn lessons from other countries. NMCP will support post graduate studies in malaria related field.

Strategy 1.4: Strengthen coordination capacity of program planning, implementation and partnership

To coordinate the implementation of the program, a mapping matrix of all partners will be developed. At the national level, regular quarterly Malaria TWG meetings will be conducted. To strengthen the inter-sectoral coordination, the NMCP at all levels will conduct two meetings a year to establish an all-embracing inter-sectoral coordination mechanism with ministries, partners and the private sector.

Strategy 1.5: Strengthening the infrastructure and enabling environment for the implementation of the malaria program

The NMCP will avail storage structures in the 32 SMOHs offices. To ensure effective coordination and monitoring of activities in the counties, vehicles, motorcycles, motorboats and office supplies will be procured and distributed. The programme will purchase IT materials such as desktop computers, laptops and furnish the office space in the new 22 state.

Strategy 1.6: Establishment of malaria emergency preparedness and response mechanism

This strategy will consist of the development of a malaria emergency and preparedness plan and guidelines. Training of staff in epidemic preparedness and response will be conducted annually.

Objective 2: To ensure that 85% of the population at risk are protected by recommended malaria prevention methods by 2021.

Coverage of stratified malaria vector control interventions will be scaled up in South Sudan . The NMCP, in collaboration with partners, will rapidly scale up effective malaria vector prevention and control interventions to contribute towards reducing the malaria burden in the country. WHO recommended prevention interventions such as LLINs, IRS, LSM and IPTp will be implemented.

Strategy 2.1: To ensure universal coverage and utilization of LLINs

LLINs will be procured and distributed every three years through mass campaigns to achieve universal coverage (one LLIN per two persons) The programme will work with partners to forecast the LLIN needs, procure and distribute LLINs, as well as promote their utilization. Continuous distribution of LLINs through various channels will be carried out to maintain LLINs universal coverage including integration with the Boma Health Initiative.

Strategy 2.2: To deliver quality indoor residual spraying (IRS) in targeted areas

Evidence based indoor residual spraying will be applied in selected areas of both stable and unstable malaria transmission and will also be used to control malaria in emergencies. The NMCP, in collaboration with partners, will introduce IRS in a phased approach targeting urban areas in ten States by 2021 IRS will also be conducted in epidemic prone areas. NMCP and partners will procure WHOPES approved insecticide, IRS equipment and supplies.

The NMCP will ensure quality of spraying through regular supervision and quality control. To ensure the quality of IRS application and residual effectiveness, sentinel sites will be identified in sprayed areas for performing wall cone bioassays using susceptible colonies of the predominant species. The National programme will develop in collaboration with the Ministry of Agriculture the National guidelines for transportation, storage, handling and disposal of waste and containers for use at different levels (State, county, Payam).

Strategy 2.3: To implement evidence-based larval source management (LSM) in targeted areas in the context of integrated vector management (IVM)

This strategy will consist of mapping of breeding sites, building capacity in larval source management and conducting and monitoring its implementation in the targeted areas.

Strategy 2.4: To perform monitoring and operational research activities in vector control to guide in decision making

The strategy will consist of train a team of four field entomology assistants per state and establishing entomological sentinel sites and insectaries. The NMCP will procure entomology equipment, supplies

and transport and develop the relevant data collection tools. The NMCP will also monitor essential entomological indicators including insecticide resistance. Finally, capacity will be developed in the area of entomological analysis at the National Reference Laboratory.

Strategy 2.5: Increase uptake of IPTp3+ among pregnant women

Through IEC, all pregnant women will be encouraged to visit health facilities within the framework of the Focused Antenatal Care (FANC) to access IPTp package for malaria prevention during pregnancy. Every pregnant woman will receive at least three doses of IPTp according to South Sudan policy. The NMCP will collaborate with the Reproductive and Maternal Health services and private sector to ensure optimum uptake of IPTp3+. Midwives from the public and private sector will be trained to promote and provide IPTp services.

Objective 3: To achieve 90% parasitological diagnosis and treatment of all presented malaria cases according to the national guidelines, by 2021

The national policy for management of malaria in South Sudan requires that all cases receive diagnostic confirmation before treatment with ACTs. It is imperative that capacity for diagnosis of malaria should be created in all health facilities and at community level and that commodities for malaria diagnosis (RDTs, microscopes and reagents) be readily available, in addition to ACTs. The capacity of health workers for malaria diagnosis also needs to be strengthened to be able to correctly diagnose and treat malaria in all health facilities. The following strategies will be implemented to ensure that there is adherence to the national policy for the treatment of malaria.

Strategy 3.1: Improve prompt and effective diagnosis and treatment for uncomplicated malaria in the public sector

The initial priority is to improve the infrastructure for malaria diagnosis in public health facilities and harmonize the treatment guidelines for uncomplicated malaria. This will ensure that all health care providers throughout South Sudan use the same ACT drugs and case definitions as outlined in the treatment guidelines. Secondly, access to ACTs and diagnostics commodities will be expanded to all health facilities including those of local NGOs and FBOs and to the community level through the Home Management of Malaria. The Boma Health Initiative will be the framework used to deliver Home Management of Malaria. All health workers will be trained on diagnosis and treatment of uncomplicated malaria and management of the supply chain for malaria commodities. This training will be updated at regular intervals. Emphasis will be given to counties, health facilities and bomas and supportive supervision with on-job training strengthened. A system of regular supervision and mentorship will be established at all levels as well as a Diagnostics Quality Assurance and Control system.

Procurement and supply chain management of malaria commodities will be strengthened from quantification, procurement timelines, distribution, coordination of partners including state malaria focal points and implementing partners and the sharing of consumption data among partners at all levels. Regular case management audits of case management practices will be introduced every two

years to measure adherence to the case management guidelines, to identify bottlenecks in implementing effective case management and to give recommendations for improvement.

Strategy 3.2: Improve access to affordable and recommended malaria drugs and commodities in the private sector

Mapping of private sector providers including pharmaceutical outlets and facilities will be conducted. To accredit pharmaceutical outlets the MOH will collaborate with the Drug and Food Control Authority (DFCA). The NMCP will support training of accredited private sector providers on national guidelines for diagnosis and treatment. An effort will also be put to adapting and disseminating national tools for data reporting in the private sector. Guidelines and job aids to the private sector will be disseminated and the NMCP will supply subsidized RDTs and malaria drugs to the private sector. Supervisory tools will be developed and the NMCP will collaborate with DFCA on supervision of the private sector. A forum for regular consultation with the private sector will be established.

Strategy 3.3: Scale up home management of malaria through the ICCM strategy

This strategy will identify and train community based distributors -CBDs for home based management of malaria, including training them on the use of RDTs. The NMCP will provide commodities and tools to the CBDs. Supportive supervision will be strengthened and on the job mentoring will be strengthened to ensure proper treatment and timely reporting. To optimise the potential of the community based health delivery linkages between community, health facility and county health department will be strengthened. In addition the referral system from the community to health facility will be strengthened.

For the period 2017/18–2020/21, the ICCM strategy will be integrated into the Boma Health Initiative as part of overall community health systems strengthening. ICCM tools will be appropriately harmonised and monthly activity reports will eventually be submitted to the NMCP for national consolidation, analysis and feedback.

Strategy 3.4: Improve the management of severe malaria

Despite current efforts to reduce progression of uncomplicated malaria to complicated forms of the disease, severe malaria still occurs in South Sudan. The recommended treatment for severe malaria is parenteral Artesunate while parenteral Artemether and Quinine are alternatives where parenteral Artesunate is not available.

The NMCP and partners will conduct training of health workers in the management of severe malaria and its complications. Trainings will be designed for different health worker cadres separately and focus will be at the county and health facilities. On job training will be strengthened. Guidelines and job aids on management of severe malaria will be developed and made available for training and use at health facilities. NMCP will ensure availability of drugs and supplies for treatment of severe malaria at health facility level. Efforts will also be focused on improving the delivery of supportive services in the management of severe malaria patients.

The objective of treatment in severe malaria is to save life hence timely action is critical to meeting this objective. It is therefore important that severe malaria cases should be urgently treated wherever they are detected. In places where this is not possible, referral to the nearest facility where appropriate treatment can be provided should be done without delay following administration of pre-referral treatment with rectal Artesunate. In this regard, referral linkages will be strengthened between the Community, PHCU, PHCC and Hospital levels including a feedback system. Regular supportive supervision and clinical audits at health facilities will be carried out to ensure improved quality of care for severe malaria.

Strategy 3.5: Strengthen quality assurance and quality control for diagnostics and treatment of malaria

A robust quality assurance and quality control system for diagnostics and treatment is essential towards ensuring high quality services. The MOH will provide space in the existing national reference laboratory to create a malaria reference laboratory unit. The unit will be equipped and staffed appropriately to function as the national malaria reference laboratory. At the state and county levels, laboratory capacity will be strengthened through provision or improvements in infrastructure, equipment and human resources so as to effectively perform quality assurance and quality control functions at those levels. Quality Assurance and Control guidelines and standard operating procedures and techniques for diagnosis and equipment maintenance will be developed and disseminated for use at all levels. These guidelines will be the basis for setting up the internal and external quality control system for malaria microscopy and RDTs. NMCP will spearhead collaboration with a WHO approved international laboratory for “Lot Quality Assurance Sample” testing of RDTs for stability in field conditions.

To ensure continuous professional development of laboratory technicians, standards of competencies and an accreditation system will be developed in line with WHO guidelines. Regular supportive supervision will be provided at all levels using standardized supervision tools to ensure that diagnostic services are of high quality and that storage conditions for RDTs are within recommended temperature and humidity conditions. Efforts will be made to establish collaboration with regional laboratory centres of excellence and with WHO collaborating centres for capacity building and mentorship. Some laboratory personnel will be identified to participate in WHO’s external competency assessments.

Objective 4: To increase to at least 80%, community and health worker knowledge, attitudes and practices on malaria prevention and control by 2019

Correct information on malaria prevention and control and use of appropriate communication and education channels play a critical role in ensuring that health workers and communities adopt behaviours that enable prevention and control of malaria. In this plan, the NMCP, in collaboration with all stakeholders, will ensure that there is a strong component on advocacy, social mobilization and behaviour change communication that will underpin all interventions implemented. The following strategies for enhanced BCC are proposed:

Strategy 4.1: Conduct an evidence-based review of the advocacy, social mobilization and BCC strategy and guidelines

Quantitative and qualitative research will be conducted to establish evidence for reviewing the existing advocacy, social mobilization and behaviour change communications (BCC) strategy. The NMCP and partners will develop BCC guidelines that will be geared at standardizing the key communication approaches and messages. The strategy and guidelines will be disseminated at all levels to ensure correct and standard malaria communication activities. Also, communication guidelines for use during emergencies will be developed and disseminated to all stakeholders.

Strategy 4.2: Build capacity for health promotion on malaria prevention and control

A training package will be developed and used to conduct Training of Trainers (ToT) on malaria prevention and control communications. This training will target health workers in both public and private sectors. The training will also be cascaded to home health promoters to ensure standard malaria behaviour change interpersonal communication activities in the community. In addition, community and other sector leaders such as teachers and agricultural extension workers will be trained to conduct malaria interpersonal communications targeting school going children and communities respectively. In collaboration with the Ministry of Information, media houses will also be oriented on malaria prevention and control to ensure correct reporting and dissemination of malaria issues to the public.

Strategy 4.3: Conduct comprehensive social mobilization and behaviour change communication activities on malaria prevention and control

A combination of mass media awareness and interpersonal communication approaches will drive social mobilization and behaviour change communication activities for malaria prevention and control. These efforts will lead to increased knowledge on preventive measures against malaria and improve uptake of interventions. The network of health home promoters will be strengthened to improve coverage of community based social mobilization and BCC activities. It is planned that routine behaviour change interpersonal communications will be primarily driven through trained home health promoters using standard communications guidelines and job aids. The NMCP will also collaborate with other stakeholders and line ministries to improve health promotion in schools and increase media coverage of malaria issues. Innovative use of mass media and mobile technologies will also be explored to improve frequency of messaging and ensure efficient communication during malaria emergencies. Community groups and civil society organizations will be actively encouraged to participate in the dissemination of BCC messages.

Strategy 4.4: Promote malaria advocacy at all levels

Advocacy will be a key component of the malaria strategy to improve political commitment, funding, and community leadership and support for malaria. To ensure effective advocacy, a comprehensive package will be developed to guide all malaria advocacy activities at the national, state and county levels. The NMCP will also collaborate closely with other sectors such as the media, education, agricultural and faith based sectors to influence and increase support for malaria control and prevention in the country.

Objective 5: Establish malaria emergency preparedness and ensure timely malaria control responses in all communities affected by conflict, natural disaster or epidemics by 2021

South Sudan continues to be at risk of malaria epidemics given its eco-epidemiological profile. The country is facing many challenges due to the humanitarian emergency at refugee camps, internally displaced populations and returnees. A lapse in sustaining malaria prevention interventions or even a breakdown in control measures can lead to malaria upsurges. Therefore, active surveillance and action plans for epidemic preparedness are required to minimize the consequences including fatality from epidemics and resurgences of transmission. In this plan the following mitigation strategies will be implemented as earlier planned:

Strategy 5.1: Establish malaria emergency preparedness and response mechanisms

South Sudan is facing a multitude of challenges attributed to natural and manmade emergencies. The need for emergency response mechanisms to be in place to detect early and avert malaria epidemics and other emergencies cannot be underestimated. This is effected by forming emergency task force committees and establishment of emergency response teams at all levels (national, state, county and facility levels). The existing malaria emergency preparedness and response guideline is updated to fit to the current situation in the country, and a comprehensive emergency and preparedness plan developed. The NMCP will train a multi-disciplinary emergency preparedness and response teams to ensure an effective emergency response capacity is in place. Mobilization of resources is conducted for execution of planned emergency preparedness activities.

Strategy 5.2: Improve the technical and management capacity of the emergency preparedness and response (EmPR) coordination mechanism.

In order to enhance technical capacity for EmPR, the NMCP will recruit and train a technical officer who will be the EmPR Focal Person. The Focal Person will coordinate all the different partners (Line Ministries, UN Agencies, INGOs, and NNGOs), including those operating in malaria emergency areas in the identification, planning and response to any malaria emergency within the country, among others. The NMCP and its partners will develop and disseminate a country action plan for EmPR in the context of epidemics in humanitarian emergencies. This action plan will minimize the consequences, including mortality from epidemics and resurgence of transmission.

Strategy 5.3: Establish a Malaria Early Warning System (MEWS) to prevent epidemics

In order to prevent epidemics, a comprehensive risk map for malaria including emergency prone areas shall be developed and updated regularly according to epidemiological situation, response and population movements. The capacity of surveillance officers at all levels will be enhanced to enable them to monitor climatic indicators; population-vulnerability factors including movement of non-immune people to endemic areas; concentration of people in high-risk, high-exposure settings; breakdown of existing health services and programmes; and analysis and interpretation of entomological and epidemiological data.

Strategy 5.4: Ensure early detection, epidemic preparedness, and response in all risk areas

In collaboration with implementing partners, countrywide malaria surveillance, epidemic forecasting systems / data collection and analysis and analysis of IDSR and sentinel sites data shall be strengthened by training of service providers and county surveillance officers. Confirmed malaria cases will be reported through IDSR weekly and HMIS monthly. Malaria epidemic thresholds for early detection will be defined on confirmed malaria cases which are updated periodically. NMCP shall work with the State malaria focal persons to ensure that the Counties update and utilize planned malaria action plans for malaria epidemic preparedness and response. A contingency stock of malaria drugs and commodities will be procured and pre-positioned in epidemic prone areas prior to annual epidemic risk periods.

Epidemics will be detected within one week of onset and effectively managed within two weeks of detection. Early indications of epidemics will be investigated within 72 hours of alert reports being received and clinic or community based surveys to validate epidemic reports will be conducted. Health services during epidemics will be reinforced, supplemented with additional health staff and stocks to increase screening and out-patient and in-patient capacity. Targeted interventions (IRS or adequate coverage of LLINs) will be implemented.

Strategy 5.5: Ensuring delivery of effective and appropriate malaria prevention and case management services in all emergency situations including IDP and refugee settings, and their host communities

Malaria epidemics may occur in emergency situations such as refugee camps, internally displaced populations and returnees. Malaria control interventions shall be targeted for camps and other temporary living settings or communities hosting displaced people. Timely access by the population to malaria treatment, prevention and IEC/BBC interventions shall be guaranteed. CBDs will be selected and trained on malaria case management and prevention.

Objective 6: Ensure 80% of health facilities routinely report on core malaria indicators by 2021

As part of this strategic plan, NMCP and partners will develop a comprehensive M & E plan, which is in line with national malaria goals, targets and milestones. The plan is to integrate malaria indicators into the routine HMIS system and population-based national surveys in order to be able to track disease control. Data generated from routine health information systems (IDSR and HMIS/DHIS), sentinel surveillance, and periodic household and health surveys, will be used to measure the outputs, outcomes and impact of the malaria control interventions. The HMIS will be revised to include the missing indicators that are necessary for tracing the malaria burden in the country and upgraded into the new DHIS. This will strengthen the routine data collection, use and dissemination. The NMCP will also work with both the National and State MOHs to improve staffing for M & E at all levels.

Strategy 6.1: Strengthen program monitoring

Since the MOH endorsed use of the District Health Information System (DHIS), an electronic database, in 2011, the NMCP will support training and skills building of health workers at PHCUs and PHCCs to

accurately complete and submit the hard copy HMIS summary forms in a timely manner (every month). Staff at the County and State Health Departments will be trained to use computers for entry, aggregation and transmission of HMIS reports from the lower levels. Similarly, at the national level, the NMCP M & E officer will work collaboratively with the staff at the Central DHIS database at Ministry of Health headquarters to collate, analyse and report on the data generated in a timely manner. The NMCP will adapt and adopt the WHO malaria database so that all interventions implemented by the Programme can be monitored using a centralized data base.

During the course of this plan, MOH/NMCP will focus on further strengthening both routine- and survey-based information systems. Specific focus will also be placed on the strengthening of community information systems in order to respond and actively track malaria programs implemented at community level and assess overall impact.

Strategy 6.2: Strengthen surveillance

The National Malaria Control Programme (NMCP) relies on data collected and reported through Integrated Disease Surveillance and Response (IDSR), a system that has been supported by WHO since 2006 to detect malaria epidemics. The NMCP will work with disease surveillance officers at State MOHs to continue strengthening the weekly data collection and reporting to the national level. State surveillance officers will be trained on how to analyse malaria data and generate key indicators to be reported weekly to both SMOHs and to the national level. Also, NMCP will continue to strengthen the existing malaria sentinel sites that were established in 2012 to ensure that the data collected and reported from these sites is of very high quality and can be used to accurately track malaria incidence and to compare with data from the routine HMIS.

Strategy 6.3: Strengthen programme evaluation

Programme evaluation is key to identifying gaps in programme implementation and measuring impact of interventions. A series of programme reviews will be carried out at regular scheduled intervals. Every quarter, a review will be carried out to document progress of implementation and address any identified challenges. Every year, an annual programme review will be carried out with all implementing partners as a precursor to the annual planning exercise. In 2017, a mid-term review of the strategic plan was conducted and an end-term review will be carried out in 2021 to assess overall performance of the plan overall and measure impact. Information from these reviews will be disseminated through quarterly bulletins, posted on the MOH website, peer-reviewed publications, policy briefs, ministerial policy statement.

The NMCP will plan and work with other departments of the MOH and other Government Ministries to ensure that population-based surveys are regularly conducted on schedule. These surveys will include: Census, Malaria Indicator Survey, South Sudan Household and Health Survey, Lot Quality Assurance Sampling Survey and the EPI coverage survey.

Strategy 6.4: Conduct operational research

This Malaria Strategic Plan includes the operational research component so as to obtain the evidence base needed to guide effective and appropriate national policies and practices. Accordingly, the NMCP will conduct operational research that is relevant to its national objectives and priorities. From 2014 to 2020, various research activities will be conducted and findings disseminated. The operational research areas will focus on malaria treatment, prevention and KAPB. The NMCP and partners will develop a research agenda that will ensure that the best approaches, implementation processes and best practices are adhered to, therefore maximizing desired health outcomes. However, in the past the research agenda, LLINs Durability, retention and use monitoring, LLINs Tracking Survey, and IRS quality assurance has not been implemented due to inadequate funding and technical support.

Strategy 6.5: Strengthen the pharmacovigilance system

Malaria commodities, especially drugs, are prone to abuse and counterfeit. The NMCP will work collaboratively with other government agencies, especially the DFCA, to ensure that strong pharmacovigilance system is in place to assure quality of procured medicines and supplies for malaria and ensure Strengthening capacity to enforce regulations. Additional staff will be trained on the use of minilabs to test malaria commodities including anti-malarials, thereby weeding out counterfeits.

6 Implementation Arrangements

This strategic plan will be implemented in the context of the following challenges:

- a) Very large population movements and displacement due to recurring conflicts, seasonal migration and natural disasters
- b) Limited access to health care services compounded with poor or no infrastructure
- c) Population living in temporary settings
- d) Inadequate human resource and management capacity in health facilities at all levels
- e) Weak procurement and supply chain management (PSM) systems
- f) Limited Government budgetary support and donor dependence for malaria interventions

There will be periodic reviews of this strategic plan to ensure effective implementation. While addressing the above-mentioned challenges the strategic plan looks towards strengthening the health service delivery system in the country.

6.1 Implementation Plan

The implementation plan lays out the key activities identified under each strategy and for each activity the institution or unit responsible for ensuring its funding and implementation has been indicated. The implementation will be guided by the stated implementation principles and supported with identified coordination mechanisms.

Table 3: Implementation Plan

Objective 1: To strengthen and sustain the management and coordination capacity of the malaria programme at all levels by 2017

				Timeline					
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
1.1 Update or develop malaria policy documents and guidelines	1.1.1 Finalise draft malaria policy.	NMCP	WHO, USAID, GF, UNICEF	X					
	1.1.2 Finalise drafts, review and update all five malaria program related guidelines.	NMCP	WHO, USAID, GF, UNICEF, TWGs	X					
	1.1.3 Disseminate policy, guidelines and	NMCP	WHO, USAID, GF,	X					

			Timeline						
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
	tools at all levels.		UNICEF						
1.2 Develop capacity and strategy for resource mobilization	1.2.1 Strengthen capacity for resource mobilization.	NMCP	MOFEP, CCM, GF, WHO, TWGs	X	X	X	X	X	
	1.2.2 Engage the private sector and other implementing partners in funding of malaria activities including accreditation of private health care facilities..	NMCP	WB, CCM, GF, TWGs	X	X	X	X	X	
1.3 Build human resource capacity for malaria control	1.3.1 Recruit and deploy 132 malaria program staff and health XXX care workers at all levels to strengthen service delivery.	NMCP	GF, USAID, WHO, UNICEF, WB, DFID, TWGs	X	X	X	X	X	
	1.3.2 Review existing curriculum for pre-service training on malaria policy and guidelines and update with NMCP guidelines and adapt it countrywide.	NMCP	WHO, MOE, TWGs		X	X	X		
	1.3.3 Organize ToT and cascaded trainings on comprehensive malariology including emergency preparedness) for service providers and malaria program staff at all levels.	NMCP	WHO, Training Institutes, TWGs	X	X				
	1.3.4 Conduct study tours to countries with experience in best malaria practices to improve on program capacity and delivery.	NMCP	WHO, WB, UNICEF, GF, USAID, TWGs	X	X	X	X	X	
	1.3.5 Organize two post-graduate studies for key malaria program staff per year.	NMCP	WHO, GF, TWGs	X	X	X	X	X	
	1.3.6 Organize trainings on programme and financial management of malaria program staff at all levels include the same training of comprehensive malariology..	NMCP	MOFEP, GF, TWGs	X	X	X	X	X	
	1.3.7 Conduct regular quarterly supportive supervision field visits by national level and	NMCP	WHO, CCM, GF, USAID, UNICEF,	X	X	X	X	X	

			Timeline						
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
	monthly supportive supervision at all levels by malaria program staff.		Implementing Partners, TWGs						
	1.3.8 Provide incentives for NMCP staff at all levels.	NMCP	GF, USAID, UNICEF, DFID, Implementing partners	X	X	X	X	X	
1.4 Strengthen coordination of capacity of program planning, implementation and partnership	1.4.1 Update the mapping matrix of malaria stakeholders in the country.	NMCP	WHO, UNOCHA, TWGs	X	X	X	X	X	
	1.4.2 Conduct quarterly meetings of malaria technical working groups at national and state level.	NMCP	CCM, GF, all malaria partners	X	X	X	X	X	
	1.4.3 Establish and maintain malaria coordination mechanisms at all levels.	NMCP	CCM, WHO, GF, TWGs	X	X	X	X	X	
	1.4.4 Regular information sharing of program activities with malaria stakeholders.	NMCP	CCM, WHO, GF, TWGs	X	X	X	X	X	
	1.4.5 Establish inter-sectoral coordination with relevant stakeholders, including Ministries and the private sector.	NMCP	DFCA, CCM, GF, Line Ministries	X	X	X	X	X	
1.5 Strengthening the infrastructure and enabling environment of the malaria program	1.5.1 Maintenance and running costs for procured items especially for 22 new states.	NMCP	GF, WHO	X	X	X	X	X	
	1.5.2 Procurement of malaria program vehicle per state, motorcycles, motorboats for and office equipment especially for county malaria program in 22 new states.	NMCP	GF	X	X	X	X	X	
	1.5.3 Maintenance and running costs for procured items.	NMCP	GF	X	X	X	X	X	
1.6 Establishment of malaria emergency preparedness and response	1.6.1 Finalize an emergency & preparedness plan and guidelines for malaria.	NMCP	all Malaria partners, TWGs	X					
	1.6.2 Mobilize resources for malaria emergency.	NMCP	MOFEP, CCM, GF, WHO,	X	X	X	X	X	

				Timeline						
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget	
mechanism			UNICEF, DFID, USAID							
	1.6.3 Organize trainings of program staff and health workers on malaria emergency response include the same in the training on comprehensive malariaology..	NMCP	WHO, UNICEF, GF, TWGs, implementing partners	X	X					

Objective 2: To ensure that 85% of the population at risk are protected by recommended malaria prevention methods by 2021;

				Timeline					
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
2.1 To ensure universal coverage and utilization of LLINs	2.1.1 Quantify LLINs required and procure.	NMCP, MoH	WHO, UNICEF, GF, USAID		X	X	X		
	2.1.2 Perform LLIN mass distribution campaigns based on the national guidelines.	NMCP/MoH	GF		X	X	X		
	2.1.3 Carry out continuous distribution of LLINs to sustain coverage using the best available strategies (ANC, EPI, schools, hospitals, community distribution, private sector where appropriate).	NMCP, MoH	GF, USAID, UNICEF		X	X	X	X	
	2.1.4 Coordinate in-country quality assurance of nets.	NMCP, MoH	DFCA		X			X	
2.2 To deliver quality indoor residual spraying (IRS) in targeted areas	2.2.1 Select and map suitable areas for targeted IRS.	NMCP, SMoH	Mentor Initiative, WHO, GF		X	X	X	X	
	2.2.2 Procure equipment, supplies and logistics for IRS.	NMCP, MoH	WHO, USAID, Mentor Initiative, GF		X	X	X	X	
	2.2.3 Establish storage facilities at state and county levels.	NMCP, MoH, SMoH, CHD	Mentor Initiative, WHO, GF			X	X		
	2.2.4 Develop data collection tools for IRS.	NMCP, MoH	WHO, GF, Mentor Initiative		X				

			Timeline						
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
	2.2.5 Conduct ToT and train spray operators.	NMCP, SMoH	WHO, Mentor Initiative, GF		X	X	X	X	
	2.2.6 Conduct, supervise and monitor the IRS program.	NMCP, SMoH, CHD	WHO, Mentor Initiative, GF		X	X	X	X	
	2.2.7 Coordinate in-country quality assurance of chemicals.	NMCP, MoH	DFCA, WHO		X	X	X	X	
	2.3 To implement evidence-based larval source management (LSM) in targeted areas in the context of integrated vector management (IVM)	NMCP, SMoH, CHD	WHO, Mentor Initiative		X	X	X	X	
2.4 To perform monitoring and operational research activities in vector control to guide in decision making and planning	2.3.1 Map breeding sites.	NMCP, SMoH, CHD	WHO, Mentor Initiative		X	X	X	X	
	2.3.2 Build Capacity for LSM.	NMCP, SMoH, CHD	WHO, Mentor Initiative		X	X	X	X	
	2.3.3 Conduct and monitor LSM in selected areas.	NMCP, SMoH, CHD	WHO, Mentor Initiative		X	X	X	X	
	2.4.1 Train a team of four field entomology assistants per state.	NMCP, SMoH	WHO, Mentor Initiative		X	X	X	X	
	2.4.2 Establish entomological sentinel sites and insectaries.	NMCP, MoH, SMoH	WHO, GF, USAID		X	X	X	X	
	2.4.3 Procure entomology equipment, supplies and transport.	NMCP, MoH	WHO, GF		X	X	X	X	
	2.4.5 Develop data collection tools.	NMCP, MoH	WHO, USAID, Mentor Initiative, GF		X	X	X	X	
	2.4.6 Monitor entomology indicators including insecticide resistance.	NMCP, MoH, SMoH	WHO, USAID, Mentor Initiative, GF		X	X	X	X	
	2.4.7 Develop capacity for entomological analyses at the National Reference Laboratory.	NMCP, MoH	WHO, USAID, GF		X	X	X	X	

			Timeline						
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
2.5 To increase uptake of IPTp2+ among pregnant women.	2.5.1 Collaborate with reproductive health to increase uptake of IPTp3+.	NMCP, MoH, SMOH, CHD	All partners	X	X	X	X	X	
	2.5.2 Ensure availability of IPTp drugs in facilities.	NMCP, MoH, SMOH, CHD	WHO, UNICEF, UNFPA, USAID	X	X	X	X	X	
	2.5.3 Devise innovative strategies to improve IPTp access and uptake at public and private health facilities and community level.	NMCP, MoH	WHO, UNICEF, UNFPA	X	X	X	X	X	

Objective 3: To achieve 90% parasitological diagnosis and treatment of all presented malaria cases according to the national guidelines by 2021;

				Timeline						
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget	
3.1 Improve prompt and effective diagnosis and treatment for uncomplicated malaria in the public sector	3.1.1 Quantify, procure and distribute RDTs and malaria drugs at all levels.	NMCP, MOH	GF, USAID, DFID, WB, WHO	X	X	X	X	X		
	3.1.2 Provide annual trainings of health care providers in malaria diagnostics, RDTs and or microscopy.	NMCP, NPHL	GF, USAID, WHO, UNICEF	X	X	X	X	X		
	3.1.3 Provide annual training of health care providers on the case management of uncomplicated malaria.	NMCP	GF, USAID, WHO, UNICEF	X	X	X	X	X		
	3.1.4. Conduct two-yearly case management audits	NMCP, State MOHS	GF, USAID, WHO, UNICEF,		X		X			
3.2. Improve access to affordable and recommended malaria drugs and commodities in the private sector	3.2.1 conduct Mapping of private sector providers including pharmaceutical outlets and facilities.	MoH, DFCA	WHO, GF, WB, USAID, UNICEF, DFID	X		X	X	X		
	3.2.2 Collaborate with the Drug and Food Control Authority to accredit pharmaceutical outlets.	DFCA, MoH	WHO	X	X	X	X	X		
	3.2.3 Train accredited private sector providers on national guidelines for diagnosis and treatment.	NMCP	USAID, GF, WHO	X	X	X	X	X		
	3.2.4 Adapt and disseminate national tools	MoH, DFCA	USAID, GF, WHO	X	X	X	X	X		

			Timeline						
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
	for data reporting in the private sector.								
	3.2.5 Disseminate guidelines and job aids to the private sector.	MoH, DFCA	USAID, GF, WHO	X	X	X	X	X	
	3.2.6 Supply subsidized RDTs and malaria drugs to the private sector.	MoH	GF, DFID, WHO	X	X	X	X	X	
	3.2.7 Develop supervisory tools and collaborate with DFCA on supervision of the private sector.	MoH, DFCA	USAID, GF, WHO, DFID	X	X	X	X	X	
	3.2.8 Establish a forum for regular consultation with the private sector	NMCP, DFCA	WHO		X	X	X	X	
3.3 Scale up home management of malaria through the ICCM strategy	3.3.1 Identify and train community based distributors -CBDs for home based management of malaria, including use of RDTs.	MoH, NMCP, PHC Directorate	UNICEF, WHO, DFID, GF, USAID	X	X	X	X	X	
	3.3.2 Provide commodities and tools to the CBDs.	MoH, NMCP, PHC Directorate	UNICEF, WHO, DFID, GF, USAID	X	X	X	X	X	
	3.3.3 Strengthen supportive supervision and on the job mentoring to ensure proper treatment and timely reporting.	MoH, NMCP, PHC Directorate	UNICEF, WHO, DFID, GF, USAID	X	X	X	X	X	
	3.3.4 Strengthen the linkages between community, health facility and county health department.	MoH, NMCP, PHC Directorate	UNICEF, WHO, DFID, GF, USAID	X	X	X	X	X	
	3.3.5 Strengthen the referral system from the community to health facility.	MoH, NMCP, PHC Directorate	UNICEF, WHO, DFID, GF, USAID	X	X	X	X	X	
	3.3.6 Provide incentives to CHWs within the BHI framework	MoH	UNICEF, WHO, DFID, GF, USAID	X	X	X	X	X	
	3.4.1 Build capacity of health workers for severe malaria case management and its complications.	MoH, NMCP	UNICEF, WHO, DFID, GF, USAID	X	X	X	X	X	
	3.4.2 Procure and distribute drugs and	MoH, NMCP	UNICEF, WHO,	X	X	X	X	X	

			Timeline						
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
3.5 Strengthen quality assurance and quality control for diagnostics and treatment of malaria	consumables for severe malaria treatment at facility level.		DFID, GF, USAID						
	3.4.3 Conduct regular supportive supervision and clinical audits to improve quality of care.	MoH, NMCP	UNICEF, WHO, DFID, GF, USAID	X	X	X	X	X	
	3.5.1 Establish a malaria unit in the National Reference Laboratory.	MoH, NMCP, NPHL	GF, WHO						
	3.5.2 Strengthen laboratory capacity at County and State level.	MoH, NMCP, NPHL	GF, WHO	X	X	X	X	X	
	3.5.3 Develop a Quality Assurance and Quality Control guideline and standardize techniques for malaria diagnosis and maintenance of equipment.	MoH, NMCP, NPHL	GF, WHO, USAID	X	X	X	X	X	
	3.5.4 Establish standards of competencies for laboratory technician and establish an accreditation system.	MoH, NPHL	GF, WHO, USAID	X					
	3.5.5 Develop tools for standard supervision and ensure regular supervision to performing laboratory diagnosis of malaria.	MoH, NMCP, NPHL	GF, WHO, USAID	X	X	X	X	X	
	3.5.6 Establish a system of internal and external quality control for microscopy.	MoH, NPHL	GF, WHO, USAID						
	3.5.7 Establish a system of quality control of RDTs	MoH, NPHL	WHO	X	X	X	X	X	
	'Lot Quality Assurance Sample' with an international laboratory, temperature monitoring and monitoring of the stability of RDTs in the field.								
	3.5.8 Establish collaboration with regional laboratory centres of excellence	MoH, NMCP, NPHL	WHO		X	X	X	X	
	3.5.9 Participate in WHO's external competency assessments	MoH, NMCP, NPHL	WHO		X	X	X	X	

Objective 4: To increase to at least 80%, community and health worker knowledge, attitudes and practices on malaria prevention and control by 2019;

				Timeline						
Strategies	Activities	Responsible	Partners		16/17	17/18	18/19	19/20	20/21	Budget
4.1 Conduct an evidence-based review of the advocacy, social mobilization and BCC strategy and guidelines	4.1.1 Conduct KAP and qualitative surveys to generate evidence.	MOH/ NMCP	All Partners		X	X	X	X	X	
	4.1.2 Review, update and disseminate BCC strategy and implementation guidelines.	MOH/ NMCP	All Partners		X	X	X	X	X	
	4.1.3 Develop, produce and disseminate malaria IEC materials and communication job aids for health workers and HHPs (flip charts, posters, leaflets, etc).	MOH/ NMCP	All Partners		X	X	X	X	X	
4.2 Build capacity for health promotion on malaria prevention and control	4.2.1 Develop a training package and conduct ToT training on malaria prevention and control communications.	MOH/ NMCP	All Partners							
	4.2.2 Train health care providers in the public and private sector on malaria prevention and control including interpersonal communications.	MOH/ NMCP	WHO, GF, UNICEF		X	X	X	X	X	
	4.2.3 Cascade training to Home Health Promoters (HHP).	MOH/ NMCP	USAID, UNICEF, GF		X	X	X	X	X	
	4.2.4 Train community and other sector leaders (e.g. teachers, agricultural extension workers) on malaria prevention and control including interpersonal communications.	MOH/ NMCP	WHO, UNICEF, GF, USAID		X	X	X	X	X	
	4.2.5 Orient media houses on effective malaria prevention and control communication.	MOH/ NMCP	All Partners		X	X	X	X	X	
4.3 Conduct comprehensive social mobilization and behaviour change	4.3.1 Conduct awareness campaigns during malaria day and other related national events.	MOH/ NMCP	All Partners		X	X	X	X	X	
	4.3.2 Conduct mass media communications and technologies to increase awareness of	MOH/ NMCP	All Partners		X	X	X	X	X	

				Timeline					
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
communication activities on malaria prevention and control	malaria prevention and control interventions.								
	4.3.3 Conduct routine behavior change communications through HHPs and other community mechanisms.	MOH/ NMCP	All Partners	X	X	X	X	X	
	4.4.1 Develop an advocacy package at all levels.	MOH/ NMCP	All Partners						
4.4 Promote advocacy at all levels	4.4.2 Develop a website/page for dissemination of information.	MOH/ NMCP							

Objective 5: Establish malaria emergency preparedness and ensure timely malaria control responses in all communities affected by conflict, natural disaster or epidemics by 2021

				Timeline					
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget
5.1 Improve the technical and management capacity of the Emergency Preparedness and Response (EP&R) coordination mechanism.	5.1.1 Delegate one technical officer as malaria focal point to EPR and emergency cluster and other coordination meetings.	NMCP		X					
	5.1.2 Develop and disseminate a country action plan on control of malaria in epidemics and humanitarian emergencies.	NMCP	All Partners	X	X	X	X		
	5.1.3 Coordinate and partner with relevant stakeholders operating in malaria emergency affected areas.	NMCP		X	X	X	X	X	
	5.2.1 Develop and regularly update a risk map of areas prone to epidemics.	NMCP	All Partners	X	X	X	X	X	
5.2 Establish a Malaria Early Warning System to prevent epidemics	5.2.2 Enhance the capacity of officers at all levels for monitoring of climatic indicators, population-vulnerability factors, entomological and epidemiological data analysis and interpretation.	NMCP	GF, UNICEF, WHO, USAID,	X	X	X	X	X	

Strategies	Activities	Responsible	Partners	Timeline						Budget
5.3 Ensure early detection, epidemic preparedness, and response amongst all risk areas	5.3.1 Strengthen surveillance and data analyses in all areas of the country that are at risk of malaria epidemics through IDSR and sentinel sites.	NMCP	GF, USAID, UNICEF, WHO	X	X	X	X	X		
	5.3.2 Train service providers in epidemic prone areas in epidemic preparedness and response.	NMCP	GF, USAID, UNICEF, WHO	X	X	X	X	X		
	5.3.3 Ensure that facilities in epidemic prone areas report confirmed cases of malaria through IDSR.	NMCP	GF, USAID, UNICEF, WHO	X	X	X	X	X		
	5.3.4 Define epidemic thresholds for early detection at health facility level and update periodically.	NMCP	GF, USAID, UNICEF, WHO	X	X	X	X	X		
	5.3.5 Procure and pre-position contingency stocks of malaria case management commodities in epidemic prone areas are in place prior to annual epidemic risk periods.	NMCP	GF, USAID, UNICEF, WHO	X	X	X	X	X		
	5.3.6 Detect epidemics within one week of onset and effectively manage within two weeks of detection.	NMCP	All Partners	X	X	X	X	X		
5.4 Ensuring delivery of effective and appropriate malaria prevention and case management services in all emergency situations including IDP and refugee settings.	5.4.1 Roll out targeted malaria control interventions for camps and other temporary living settings and those communities hosting displaced people.	NMCP	All Partners	X	X	X	X			
	5.4.2 Recruit and build capacity of community based prevention teams in emergency setting.	NMCP	All Partners	X	X	X	X	X		

			Timeline					
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21
and their host communities								

Objective 6: Ensure 80% of health facilities routinely report on core malaria indicators by 2021.

Strategies	Activities	Responsible	Partners	Timeline					Budget
6.1 Strengthen surveillance	6.1.1 Update and disseminate malaria data collection and reporting tools at all levels.	NMCP/MoH	All Partners	X	X	X	X	X	
	6.1.2 Perform support supervision at all levels.	NMCP	All Partners	X	X	X	X	X	
	6.1.3 Conduct routine data validation in collaboration with the M&E department	M & E Directorate	All Partners	X	X	X	X	X	
	6.1.4 Improve the quality and performance of malaria sentinel sites.	NMCP	All Partners	X	X	X	X	X	
	6.1.5. Conduct therapeutic drug efficacy testing biennial using existing malaria sentinel sites.	MoH/DFCA	WHO, GF	X	X	X	X	X	
	6.1.6 Integrate IDSR and HMIS efforts at state and lower levels to streamline information flow.	M & E Directorate	WHO, GF, WB	X	X	X	X	X	
	6.1.7 Strengthen capacity for IDSR and HMIS officers at all levels.	M & E Directorate	WHO, GF	X	X	X	X	X	
6.2 Strengthen program monitoring	6.2.1 Monitor interventions not captured in facility reporting, including LLIN distribution and IRS.	NMCP	All Partners	X	X	X	X	X	
	6.2.2 Receive and review weekly, monthly, and quarterly reports and provide feedback.	NMCP	WHO	X	X	X	X	X	
	6.2.3 Conduct quarterly data review meetings with state malaria coordinators and implementing partners.	NMCP	All Partners	X	X	X	X	X	

				Timeline						
Strategies	Activities	Responsible	Partners	16/17	17/18	18/19	19/20	20/21	Budget	
	6.2.4 Establish a malaria database.	NMCP	All Partners	X	X					
6.3 Evaluation	6.3.1 Conduct regular program reviews and planning.	NMCP	All Partners	X	X	X	X	X		
	6.3.2 Carry out periodic program reviews (e.g. the Malaria Program Reviews)..	NMCP	All Partners	X				X		
	6.3.3 Conduct household surveys (MIS and DHS).	NMCP	All Partners	X			X			
	6.3.4 Conduct health facility surveys.	NMCP	All Partners	x	x	x	X	x		
6.4 Operational research	6.4.1 Strengthen linkages with research institutions and academia.	MoH/NMCP		X	X	X	X	X		
	6.4.2 Develop a national research agenda and perform operational research.	NMCP	All Partners	X	X	X	X	X		
	6.4.3 Disseminate research findings.	NMCP	All Partners	X	X	X	X	X		
6.5 Strengthen the pharmacovigilance system	6.5.1 Conduct a workshop to clarify the pharmacovigilance system at country level.	NMCP/DFCA	All Partners	X		x		x		
	6.5.2 Advocate for the designation of a national pharmacovigilance centre.	NMCP/DFCA	DFCA	X	X					
	6.5.3 Establish a Pharmacovigilance Technical Committee.	DFCA/NMCP		X						
	6.5.4 Develop the national pharmacovigilance policy.	DFCA/NMCP		X						
	6.5.5 Develop and validate adverse reactions drug and vaccine notification form.	DFCA/NMCP		X	X	X	X	X		
	6.5.6 Build capacity for pharmacovigilance for antimalarial drugs.	DFCA/NMCP	All Partners	X		X		X		
	6.5.7 Train health providers in pharmacovigilance.	DFCA/NMCP	All Partners		X		X			
	6.5.8 Link the National Centre with the WHO International Centre for Pharmacovigilance.	MoH/WHO/NMCP		X	X	X	X	X		

6.2 Policy and Regulatory Framework

The implementation of this Plan will be done in compliance with the established policy, regulatory, institutional, planning, financing, and M&E frameworks. The implementation will be guided by the stated implementation principles and supported with identified coordination mechanisms. The National Malaria Control Program shall be the custodian of this Strategic Plan in regards to programmatic management and overall policy guidance. South Sudan developed a national health policy in 2006 which was revised in 2012. Other key policy and guideline documents that complement the national health policy and will largely guide the implementation of this strategy include: Health Sector Development Plan (HSDP-2011/2016), Basic Package of Health and Nutrition Services (BPHNS - 2012/2017) and set of specific technical malaria guidelines and regulations. It is important to note that there is no comprehensive national malaria policy document. The current political situation in the country has resulted in large population movement and displacement with potential increase in the seasonal and localized upsurges of malaria cases or epidemics. These demographic and epidemiological changes may impact on the implementation of the strategic plan. In close collaboration with malaria stakeholders, the NMCP shall ensure adherence and compliance to all aspects of this strategy and other relevant health policies and guidelines. The Strategy shall be reviewed regularly and necessary amendments made to address any policy gaps.

6.3 Institutional Framework

The plan will be implemented within the existing programme and health sector institutional frameworks. The MOH will take the overall responsibility for directing policy and implementation of the plan, which also forms part of the HSDP 2011-2016. However, the MOH has delegated the responsibilities of management and coordination of the malaria programme to NMCP, which will take responsibility for day-to-day implementation of the plan. Below is a brief description of the institutional framework through which this plan will be implemented.

6.3.1. Implementation Principles

The implementation of this plan will be under a multisectoral approach. NMCP will ensure that all the implementing partners will adhere to the following principles:

- a) Adherence to the "three ones": All malaria control and prevention implementing partners will adhere to the principles of the three ones:
 - *One country coordination mechanism through a national coordination framework;*
 - *One country malaria control and prevention strategy (National Malaria Strategic plan, 2014/15 – 2020/21), and*
 - *One country monitoring and evaluation mechanism (M&E framework of the 2014/15 – 2020/21 NMSP).*
- b) Transparency, mutual accountability and broad based stakeholder participation: Success in the implementation of the national strategic plan is predicated on the transparency, accountability and involvement of a broad range of stakeholders at all levels. The NMCP shall place great emphasis on what the stakeholders have committed themselves to implement with tangible results.

- c) Programme management and ownership: National and state ministries have statutory responsibility for malaria control and prevention and will lead the multisector response to malaria at the different levels. The national malaria control programme, as the secretariat of the multisector response, will coordinate the following: development of norms, standards, policies, guidelines and tools; planning; resource mobilization and management; capacity building including technical support; monitoring and evaluation; and operational research. The decentralized governments will lead service delivery efforts to the community.
- d) All malaria stakeholders that shall be involved in the implementation of this plan should prioritize investment on high impact interventions and quick-win measures. Investment of variable resources should be carried out in both stable and unstable settings.
- e) Responsiveness to broader health system context – this should involve all stakeholders at all levels in malaria control and prevention programmes. For example engaging the community in services delivery and sensitization, and support to infrastructure development.

6.3.2. Management and Partner Coordination

In order to manage the implementation of the malaria control programme, a three year rolling implementation plan will be developed and updated each year. The coordination of malaria related activities and their integration with the overall health activities will be the primary responsibility of the National Malaria Control Programme. At national level there will be two mechanisms of coordination:

- a) Malaria Technical Working Group – will meet at least quarterly and comprise of technical staff from the Malaria Control Programme and all partners. This forum will discuss issues regarding policy and implementation guidelines of all aspects of malaria control, review emerging new evidence and make recommendations to the overall RBM coordination forum and the Ministry of Health. The malaria technical working group will have five working groups (case management; vector control; BCC; surveillance, M&E and EP&R; and programme management) that meet on a monthly basis
- b) RBM Partnership Forum that meets at least twice a year and brings together all partners from government ministries, Academia, civil society, faith based organization, the UN, donors and the private sector. This forum will be chaired by the MOH and discuss progress in malaria control as well as take decisions on major issues based on the recommendations of the TWG. Results will be reported to the Health and Nutrition Consultative Group where the Malaria Control Programme will also be represented.

As the Ministry of Health of the Government of South Sudan is just forming itself, there may be further changes in the overall coordination mechanisms or government policies. The coordination of malaria activities will be adjusted accordingly. At State and County levels the coordination will be managed by the State Malaria Control Programmes and will be integrated into the overall health coordination mechanism.

6.3.3 Malaria Implementation Structure

The South Sudan National Malaria Control programme (NMCP) is relatively young having started in 2004 as part of the Secretariat of Health based in Nairobi, Kenya. Up to 2008, the programme only consisted of one staff, the Malaria Programme Manager, supported by a seconded technical advisor.

Within the Ministry of Health, NMCP falls under the Directorate of Preventive Health Services. Under the leadership of the Programme Manager, the National Malaria Control Programme is organized along five main units namely, Case Management, Vector Control, BCC, M & E and Finance and Administration.

With on-going adjustments to the overall MOH Organogram, NMCP has been elevated to a department headed by a Director. Functionally, the Programme Manager reports directly to the Director General. The NMCP Manager participates in the meetings of the MOH Board of Directors, which is the main decision making body of the Ministry of Health.

6.3.4 Malaria Partners

- a) **Government line ministries and departments:** the Ministry of Health provides the overall oversight in collaboration with the line Ministries such as Education, Agriculture, Finance, Information and research and academic institutions.
- b) **Donors/supporting partners:** The key partners currently involved in malaria control include multilateral and bilateral organizations such as Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM); United Kingdom's Department for International Development (DFID); United Nations Children's Fund (UNICEF); United States Agency for International Development (USAID) and the World Health Organization (WHO) among others.
- c) **Non-Governmental Organizations:** International NGOs like Mentor Initiative, PSI, Malaria Consortium, Merlin, IMA, Save the Children and National NGOs are involved in several health care interventions in the country. The implementation by NMCP of this plan will ensure their continuous involvement and commitment in service delivery.
- d) **Faith based organizations/CBOs:** Currently, there are several FBOs/CBOs that are actively involved in the delivery of basic health services and community mobilization and sensitization. The NMCP, in collaboration with implementing partners, shall encourage stronger participation and involvement of FBOs, CBOs and CSOs in the implementation of this strategy.
- e) **Planning and Capacity Building:** The current structure of the national malaria control programme has demonstrated inadequate technical and managerial capacity at all levels to support the implementation of this strategy. The NMCP, in coordination with other stakeholders, will work on mobilizing relevant human resource capacity to implement this strategy. The MOH will advocate for increased funding to the NMCP to strengthen the institutional and human resource capacity of the Programme at all levels.

6.3.5 Procurement and supply chain management system

The Directorate of Pharmaceuticals and Medical Supplies (DP&MS) in the Ministry of Health is responsible for the procurement of essential medicines and medical supplies for the public health facilities in the Republic of South Sudan, a role mandated through Southern Sudan interim public

procurement regulations, 2006. The DP&MS will continue to take the lead in procurement of malaria commodities to ensure a consistent supply of safe, effective, good quality, affordable and accessible medicines and health commodities for malaria prevention and control. This will be achieved through well-coordinated activities of the pharmaceutical management cycle, i.e. the selection, forecasting and quantification, procurement, inventory management, distribution and rational use of antimalarial medicines. Currently drugs and supplies to public health facilities are provided using a push kit system. As capacity of health workers for quantification and ordering are improved, a pull system will be adopted. State MOHs are responsible for distribution of drugs and supplies to lower levels. Steps are being taken to devolve this function further to the County level.

Procurement of malaria commodities for the public sector under special programmes like the Global Fund and other donor agencies follow rules and regulations by the relevant organizations but use agreed specifications for the country from the Ministry of Health. The Ministry of health is currently developing plans to integrate all procurement, warehousing and distribution of health commodities through national procurement and supply chain management system. This will enable cost savings from parallel warehousing and distribution mechanisms as well as ensure equitable distribution of these commodities countrywide.

6.4 Finance and Resource Mobilization

A comprehensive costing analysis for this Strategic Plan has been conducted thereby establishing the funding gap. The total cost for implementing the strategy is estimated to be six hundred and fifty one million UD dollars (USD **651,615,800**) for the plan duration 2014/2015 – 2020/2021. Depending on the evolution of the current political and socio-economic situation in the country, NMCP anticipates significant contributions from major multi-lateral, bi-lateral donors as well as other implementing partners. The Government through the MOH has made commitment and pledged budgetary support for NMCP activities at all levels and to ensure successful implementation of this strategy. Other possible sources of support include the private sector, particularly the Oil Firms that previously had shown increasing interest to support delivery of basic primary health care services including malaria in several states. In collaboration with all stakeholders, the NMCP shall ensure adequate resources are mobilized and directed towards effective implementation of this strategic plan.

7.0 Monitoring and Evaluation

7.1 Performance Monitoring

The NMCP will maintain linkages with other departments in the Ministry of Health and malaria implementing partners to monitor the implementation of malaria interventions in the country. The monitoring of the programme will include regular supportive supervision, monthly programme meetings at implementation sites, quarterly review meetings with all partners involved in malaria control and regular technical meetings to review technical issues related to implementation. To make sure implementation is monitored effectively, the monitoring plans will be disseminated to all programme

personnel and partners. Routine monitoring of disease trends through the strong disease surveillance system already in place and other operational studies will be undertaken.

The programme will also monitor and document antimalarial and insecticide resistance to influence decision making on appropriate strategies. Malaria data collected routinely will flow manually from the community based drug distributors to the health care facilities using the appropriate data collection tools. From the primary health care centres to the CHD, State and National levels, transfer of information will be both manually and electronically using the upgraded DHIS reporting systems. Given the current challenges in the DHIS reporting system which does not segregate malaria data from health facilities and those from the community-based drug distributors, the NMCP will work with the department of HMIS to incorporate and separate community-based malaria data. This will provide opportunity to monitor the implementation of malaria interventions at both health facilities and community according to set indicators laid down in the performance framework.

Specific information such as data on IRS and mass LLIN distribution will be collected using special forms and conveyed through the same channels to the NMCP. To ensure collection of high quality data and transmission of accurate information to the relevant authorities and stakeholders, data verification and data quality audits will be conducted on a quarterly basis by designated key programme personnel.

7.2 Tracking progress

Monitoring and evaluation is a key component of the national malaria control program. In line with having one Coordinating Mechanism, one National Strategic Plan and one Monitoring and Evaluation Framework, a national M & E plan will be developed to operationalize the monitoring and evaluation framework. The monitoring and supervisory system includes routine monitoring systems, regular supervision visits and quality audits, surveys/studies to complement routine systems and rapid assessments where needed during emergencies. Planning and review forums such as the annual malaria review meeting and technical working group meetings will also be used to monitor key activities on a regular basis.

7.2.1 Routine activity monitoring systems (DHIS, Malaria Surveillance System/ IDSR)

The District Health Information System, a web-based system, is used to capture malaria activities and key indicators. This data is reported from health facilities at the county level and further cascaded to the State and National level for analysis on a monthly basis. In addition, the program also makes use of its malaria surveillance system which is linked to the Integrated Disease Surveillance and Response system to capture malaria morbidity and mortality data for outbreak prone diseases, including malaria. Data is sent from sentinel sites to the county, state and then national level where it is used to produce monthly sentinel reports and weekly IDSR bulletins. A monthly bulletin which comprehensively captures malaria indicators is also compiled.

7.2.2 Routine supervisory systems (QSC, HFA, LQAS)

To maintain optimum quality of malaria activities, regular supervision visits will be conducted at county and health facility level using standard MOH tools such as the Quantified Supervision Checklist (QSC). In addition to this, Health Facility Assessments (HFA) will be conducted annually to monitor performance, quality and supply chain (including availability of essential malaria supplies). Lot Quality Assurance Surveys (LQAS) will also be conducted routinely to assess malaria performance.

7.2.3 Surveys (MIS, DHS, KAPB, Other operational Studies - Drug efficacy studies, Insecticide resistance studies)

Beyond routine activity monitoring and supervision systems, the malaria control program conducts regular population-based surveys that include the malaria indicator survey to establish progress on additional key indicators. In addition, operational studies including drug efficacy and insecticide resistance studies will also be conducted to inform and review malaria prevention and treatment guidelines and policies. The malaria control program also contributes and utilizes data from other surveys such as the Demographic and Health Surveys (such as the Household and Health Survey) to measure progress on key indicators.

7.2.4 Planning and review

In addition to routine monitoring and supervisory activities and surveys, the malaria control programme conducts regular programme reviews.. The last malaria program review was conducted in 2013. Beyond planning for activities, annual malaria planning and review meetings are also used to review and monitor performance of the program. The malaria technical working group is also used as a regular monthly forum to monitor progress on key malaria activities.

h.3 Measuring outcome and impact

The ultimate goal of this malaria strategic plan is to reduce the malaria parasite prevalence by 50% of the 2013 levels, by 2021. Regular programme performance assessment at output, outcome and impact levels will provide a basis for determining if the goal of the strategy is being realized.

The National Malaria Control Programme will conduct quarterly performance monitoring meetings to review progress of implementation against targets in the annual business plan, address implementation bottlenecks and refocus as necessary. Semi-annual stakeholder performance monitoring and review meetings at state and national levels will also review performance against targets, address any constraints to implementation and refocus activities if needed.

To ensure that HMIS is being strengthened and thereby providing reliable data for planning and management, annual data quality audits will be conducted.

Annual review and planning meetings will be conducted with all stakeholders at both national and State levels as part of the commitment to performance monitoring. At the end of each annual review process, a revised annual plan will be generated that clearly define priorities for the following year.

A mid-term review of the strategic plan will be conducted in 2017 to ensure proper alignment with the country's medium-term planning processes. The findings from this review will feed into the review of the strategy for the remainder of the life of the strategic plan, 2017/18 – 2020/21.

It is envisaged that a final evaluation of the strategy will be integrated into an in-depth review of the National Malaria Control Programme during the first half of 2020. This will culminate in a new national malaria strategy 2021 onwards.

6.2 Performance Framework

The Performance Framework is the monitoring tool to be used by all partners for monitoring performance of the plan. It spells out the outcome/impact indicators to measure progress towards achieving the goal of this plan, the output indicators for assessing progress per activity under each objective, the targets for the baseline year and each year of implementation, the data sources and frequency of measurement as well as the institution/unit with primary responsibility for the indicator. The Framework is presented in Table 4 below.

Table 4: Performance Framework

Item	Indicators	Baseline (2013) and Targets (2014-21)								Data Source	Frequency	Responsible
		13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21			
● Goal 1: By 2021, reduce reported malaria morbidity and deaths by 80 % of 2013 levels	Malaria incidence (per 1000 population)	171	157	144	130	116	89	61	34	IDSR	annual	MOH
	Number of malaria attributable deaths	1,321	1,215	1,110	1,004	898	687	475	264	IDSR/HMIS	annual	MOH
	Proportion of malaria deaths (per 100,000 popn)	No data	-10%	-20%	-30%	-40%	-60%	-80%	-80%	IDSR	annual	MOH
	All-cause under-5 mortality ratio	105	97	88	80	71	55	38	21	SSHHS	5 years	MOH/NBS
	Malaria parasite prevalence	30%	30%	30%	20%	20%	20%	20%	15%	MIS	3 years	NMCP
● Goal 2: By 2021, reduce the malaria parasite prevalence by 50% of the 2013 levels												
Objective 1: To strengthen and sustain the management and coordination capacity of the malaria programme at all levels by 2017	Number of policy and guidelines developed, reviewed and disseminated	6	7		7		7			NMCP reports		
	Number of malaria program staff trained in malariology at national, state and county level	7	8	12	16	16	16	18	18	Training reports		
	Number of quarterly malaria coordination meetings held	2	4	4	4	4	4	4	4	Meeting minutes		
	Annual and mid-term review meetings conducted	Not done	2	2	2	2	2	2	2	NMCP reports		
	Proportion of total annual malaria budget funded by GOSS and partners	32%	40%	45%	50%	55%	60%	65%	70%	NHA		
Objective 2: To	Proportion of households with at	28%	35%	55%	75%	90%	95%	95%	95%	MIS 2013	3 years	MoH, NMCP

ensure that 100% of the population at risk are covered by recommended malaria prevention methods by 2017	least one LLIN for every two people																			
	Proportion of under-5s who slept under an LLIN the previous night	46%	50%	60%	70%	75%	80%	85%	85%		MIS 2013	3 Years		MoH, SMoH						
	Proportion of targeted population protected by IRS in the past 12 months	2.5%	2.5%	2.5%	3%	3%	3%	5%	5%		MIS	3 Years		MoH, NMCP						
	Proportion of pregnant women who slept under an LLIN the previous night	50%	65%	70%	75%	85%	85%	85%	85%		MIS	3 Years		MoH, NMCP						
	Proportion of pregnant women who received three or more doses of IPTp during an ANC visit during the last pregnancy	26%	15%	30%	50%	60%	70%	80%	85%		NMIS	Monthly		MOH						
	Number of breeding sites mapped and managed according to national guidelines	No baseline data	Assessment to be done (baseline)	10	20	30	40	50	60		Entomological survey reports/vect or surveillance	Monthly (during the dry season)		MoH, NMCP						
Objective 3: To achieve 100% parasitological diagnosis and treatment of all presented malaria cases according to the national guidelines by 2021	Proportion of people with suspected malaria receiving a diagnostic test (RDT and/ or microscopy)	27%	35%	45%	60%	70%	80%	90%	100%		NMIS	Monthly		MOH/ NMCP						
	Test positivity rate	N/A	25%	25%	20%	20%	17%	15%	12.5%		NMIS	Annually		MOH/ NMCP						
	Proportion of health facilities with capacity to test suspected malaria cases	27%	30%	50%	80%	90%	100%	100%	100%		HFS	Annually		MOH						
	Proportion of children under-5 with fever in the last two weeks who had a finger or heel stick	27.2 %	35%	45%	60%	70%	80%	90%	100%		MIS	3 years		MOH/ NMCP						
	Proportion of children under-5 with fever in the last two weeks for whom advice was sought from a health facility or health	56.8 %a	60%	65%	70%	75%	80%	90%	100%		MIS	3 years		MOH/ NMCP						

7 Annexes

8.1 Bibliography

8.2 NMCP organizational chart

8.3 Commodities needs

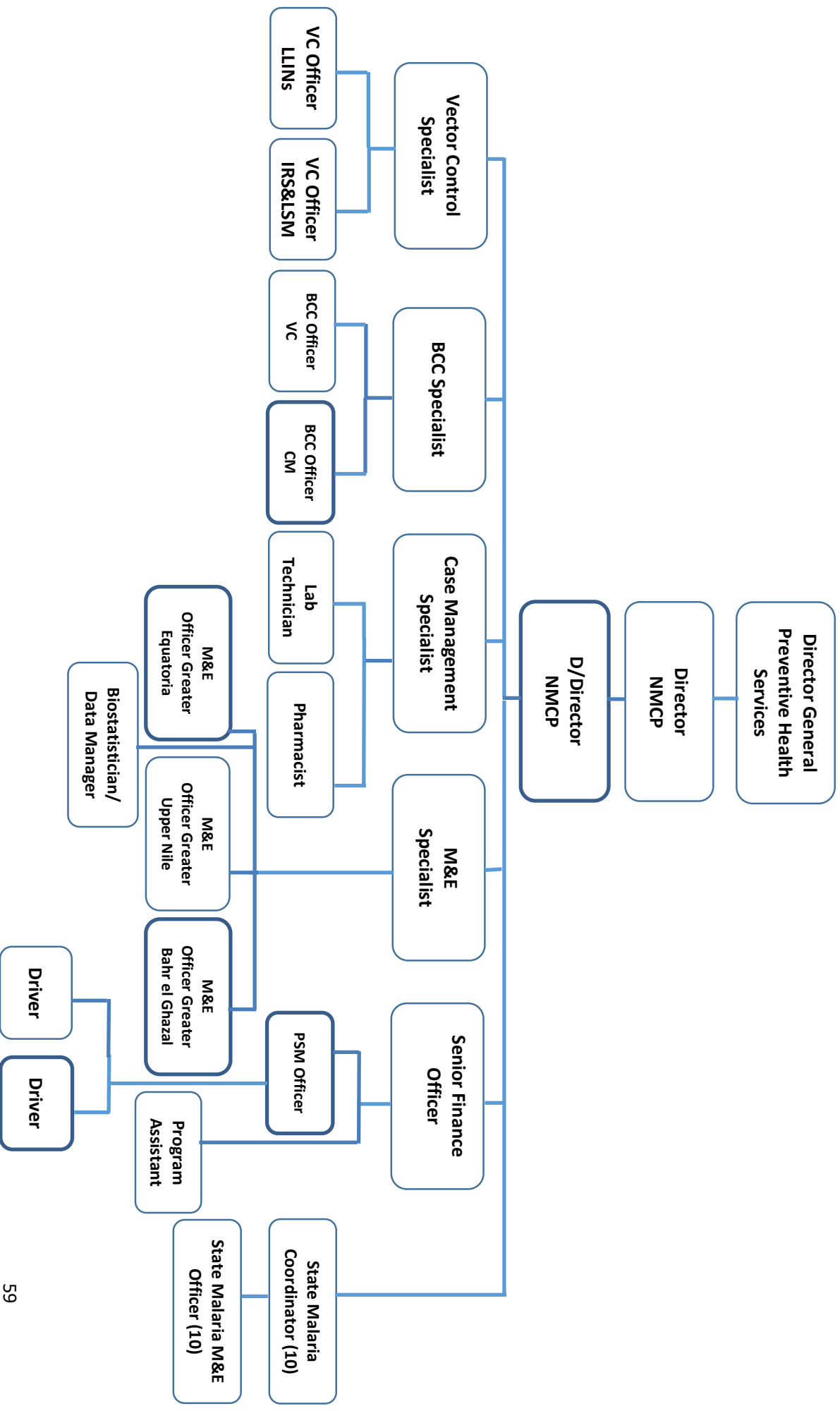
8.4 Budget details

8.5 Participants in the strategic planning process

7.1 Bibliography

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7.2 NMCP Organizational Chart



7.3 Commodity needs

Inputs	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
ACT treatments (AS + AQ)	10,393,677	9,605,391	8,760,454	7,856,175	6,200,780	5,272,452	4,282,844
Quinine treatments 300mg	5,816,283	5,325,131	4,799,274	4,237,073	3,273,139	2,697,067	2,083,484
Quinine Injection 600mg/2mL amp	1,491,020	918,625	628,363	375,668	207,108	120,879	51,199
Artemether injection 40mg/80mg	755,904	698,568	318,560	0	0	0	0
Artesunate Injection 60mg	536,692	991,975	1,357,074	1,622,657	1,360,789	1,225,126	1,050,465
Artesunate rectal	850	1,572	2,150	2,571	2,156	1,941	1,664
IPT (SP) doses	374,811	609,562	837,131	1,077,807	1,332,169	1,600,823	2,002,172
RDTs	14,006,109	14,426,292	14,859,081	15,304,853	14,187,599	14,613,227	1,505,1624
LLINs - Mass campaigns	0	0	5,987,814	0	0	6,543,047	0
LLINs - Routine distribution	599,402	664,473	705,963	777,099	800,412	900,978	928,007
IRS - Spray Pumps	620	648	345	321	2016	193	246
Insecticides – Bendiocarb 80%WP 0.2g/sqm a.i (125g sachets)	196,409	401,834	511,265	612,850	638,883	700,082	777,869

7.4 Budget details

Objective and Strategy	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	Total US\$
Objective 1: To strengthen and sustain the management and coordination capacity of the malaria program at all levels, by 2017	4,294,044	5,157,877	5,922,717	4,730,048	4,636,872	4,287,477	3,908,189	32,937,224
Strategy 1.1: Update or develop malaria policy documents and guidelines	337,206	107,914	-	-	-	369,544	-	814,664
Strategy 1.2: Build human resource capacity for malaria control	27,243	28,605	30,035	31,537	33,114	34,770	36,508	221,811
Strategy 1.3: Strengthen coordination capacity of program planning, implementation and partnership	1,685,745	1,322,831	1,448,348	1,272,624	1,703,389	1,412,691	1,299,958	10,145,586
Strategy 1.4: Strengthening the infrastructure and enabling environment of the malaria program	251,877	264,471	277,694	353,244	306,158	321,466	408,454	2,183,363
Strategy 1.5: Strengthening the infrastructure and enabling environment of the malaria program	1,092,000	2,491,650	3,177,113	2,033,640	1,503,259	1,003,505	960,493	12,261,660
Strategy 1.6: Establishment of malaria emergency preparedness and response mechanism	899,974	942,406	989,527	1,039,003	1,090,953	1,145,501	1,202,776	7,310,141
Objective 2: To ensure that 85% of the population at risk are protected by recommended malaria prevention methods, by 2017	6,509,832	9,759,628	46,398,123	13,520,222	14,593,451	53,404,491	16,479,257	160,665,004
Strategy 2.1: To ensure universal coverage and utilization of LLINs	2,949,059	3,269,207	38,262,538	3,823,325	3,938,025	42,447,910	4,565,794	99,255,858
Strategy 2.2: To deliver quality indoor residual spraying (IRS) in targeted areas	2,832,403	5,624,431	7,068,738	8,397,372	9,206,035	9,473,179	10,430,706	53,032,865

Strategy 2.3: To implement evidence-based larval source management (LSM) in targeted areas	257,250	244,650	501,900	686,000	823,900	819,700	819,700	4,153,100
Strategy 2.4: To perform monitoring and OR activities to guide in decision making and planning	21,000	145,500	54,750	81,750	62,250	81,750	54,750	501,750
Strategy 2.5: To increase uptake of IPTp2+ among pregnant women	450,121	475,839	510,197	531,774	563,241	581,952	608,307	3,721,431
Objective 3: To achieve 100% parasitological diagnosis and treatment of all presented malaria cases according to the national guidelines, by 2021	46,293,851	41,681,052	46,809,911	48,793,470	47,974,517	26,258,843	46,715,791	304,527,435
Strategy 3.1: Improve prompt diagnosis and effective treatment for uncomplicated malaria in the public sector	22,020,126	23,448,662	24,400,501	25,207,509	23,118,644	3,896,613	23,153,275	145,245,331
Strategy 3.2: Improve access to affordable recommended malaria medicines and commodities in the private sector	122,265	125,299	131,329	140,812	143,576	149,808	150,833	963,922
Strategy 3.3: Scale up home management of malaria through the ICCM strategy	2,910,738	3,084,494	3,401,623	3,723,150	4,049,503	4,381,050	4,718,189	26,268,747
Strategy 3.4: Improve the management of severe malaria	371,000	378,420	385,840	393,260	400,680	415,520	408,100	2,752,820
Strategy 3.5: Strengthen quality assurance and quality control for diagnostics and treatment of malaria	20,869,722	14,644,176	18,490,618	19,328,738	20,262,114	17,415,852	18,285,395	129,296,615
Objective 4: To increase to at least 80%, community and health worker knowledge, attitudes and practices on malaria prevention and control by 2019	4,413,174	3,950,759	5,039,968	7,605,594	7,453,693	8,299,578	8,840,944	45,603,710
Strategy 4.1: Conduct an evidence-based review of the advocacy, behaviour change communication and social mobilization strategy and guidelines	1,782,516	883,567	927,745	2,056,309	1,022,839	1,073,981	1,699,837	9,446,793

Strategy 4.2: Build capacity for health promotion on malaria prevention and control	666,960	524,088	393,908	1,102,492	606,306	427,884	3,583	3,725,220
Strategy 4.3: Conduct comprehensive social mobilization and behaviour change communication activities on malaria prevention and control	1,960,777	2,540,175	3,715,248	4,443,647	5,821,320	6,794,399	7,134,118	32,409,682
Strategy 4.4: Promote advocacy at all levels	2,922	2,930	3,068	3,146	3,228	3,315	3,405	22,014
Objective 5: Establish malaria emergency preparedness and ensure timely malaria control responses in all communities affected by conflict, natural disaster or epidemics by 2017	12,935,527	6,242,737	7,881,987	6,226,549	7,796,006	6,113,939	5,953,191	53,149,936
Strategy 5.1: Improve the technical and management capacity of the Emergency Preparedness and Response (EP&R) coordination mechanism.	1,376,273	1,411,200	1,481,760	1,555,848	1,671,431	1,715,322	-	9,211,835
Strategy 5.2: Establish a Malaria Early Warning System to prevent epidemics	1,645,915	-	1,645,915	-	1,645,915	-	1,645,915	6,583,660
Strategy 5.3: Ensure early detection, epidemic preparedness, and response amongst all risk areas	9,113,339	3,991,537	3,872,312	3,744,601	3,506,255	3,375,591	3,236,199	30,839,835
Strategy 5.4: Ensuring delivery of effective malaria prevention and case management services in all emergency situations including IDP and refugee settings and their host communities	800,000	840,000	882,000	926,100	972,405	1,023,025	1,071,077	6,514,607
Objective 6: Ensure 80% of health facilities routinely report on core malaria indicators by 2016	5,927,795	5,844,725	9,470,791	7,189,890	7,383,266	9,821,069	9,094,956	54,732,492

Strategy 6.1: Strengthen surveillance	5,353,725	5,139,047	5,871,469	5,639,835	6,418,344	6,163,741	7,019,666	41,605,827
Strategy 6.2: Strengthen program monitoring	231,840	279,443	300,306	353,846	331,070	339,665	417,610	2,253,779
Strategy 6.3: Conduct Evaluation	114,594	116,886	2,865,418	635,773	124,040	2,846,649	1,070,341	7,773,702
Strategy 6.4: Conduct Operational research	75,612	20,757	15,387	87,059	23,982	17,812	107,962	348,571
Strategy 6.5: Strengthen the pharmacovigilance system	152,025	288,592	418,210	473,377	485,829	453,202	479,378	2,750,613
TOTAL US\$	67,438,697	66,394,040	113,641,510	81,839,224	82,041,800	102,071,457	85,039,136	651,615,800

7.5 Participants to the strategic planning process

South Sudan Malaria Partners and Stakeholders Strategic Plan development meeting March 17 – 21, 2014

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