The Republic of Uganda

THE UGANDA MALARIA REDUCTION STRATEGIC PLAN 2014-2020

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Finally, I would like to state that the development of this UMRSP has been inclusive and participatory, involving all malaria stakeholders from different sectors of government, civil society, academia/research, development partners and the private sector. Therefore, I would like to call upon all stakeholders to adhere to the Roll Back Malaria principle of "**The Three Ones**" - one strategic plan, one monitoring and evaluation plan and one coordination authority.

I thank you all.

Dr. Asuman Lukwago
Permanent Secretary

Foreword

The main theme for this Uganda Malaria Reduction Strategic Plan (UMRSP) is ***"Accelerated nationwide scale up to achieve universal coverage of cost effective malaria prevention and treatment interventions".***

Malaria is a preventable disease associated with slow socio-economic development and poverty. In 2013, alone, over 16 million malaria cases and over 10,500 deaths were reported at health facilities. The determinants of malaria have roots beyond the health sector and the roles of other sectors need to be harnessed to prevent and control malaria in this country. There is a growing recognition in the Roll Back Malaria (RBM) partnership that malaria prevention and control programs need to have a multi-sectoral dimension. The slow pace in reducing the malaria burden in Uganda and the renewed international call for a multi-sectoral action necessitates reforms in Uganda's efforts to reduce malaria. A multi-sectoral approach led by the Ministry of Health will have added value in promoting effective financing synergies between malaria control and other key development agendas. Malaria imposes a heavy burden on our people, the health system and the national economy and this calls for all to do more to scale up and sustain its control. This will enable Uganda to move towards the vision of a malaria free country.

The focus, vision, mission, strategic objectives and core values articulated in this malaria reduction strategic plan have been discussed and agreed upon through a highly participatory and consultative country process with multi-sectoral stakeholders from government ministries and departments, development partners, the private sector, national and international non-governmental organizations, research/academia, local/urban authorities and other sub-national stakeholders. A comprehensive midterm review (MTR) 2014 of the previous national strategic plan, the malaria programme review (MPR) in 2010 and the recent report on the epidemiological profile of malaria and its control in Uganda (2013), have all informed the development of the strategic direction, objectives and targets of this malaria reduction strategic plan. While this reduction strategic plan builds on the lessons learnt during the previous malaria strategic plans, it also seeks to adopt bold actions to accelerate the nationwide scale up of universal coverage of cost effective malaria reduction interventions to ensure programmatic impact in the shortest time possible.

I appeal for more investments and increased technical support for implementation of this malaria reduction strategic plan.

Dr. Aceng Jane Ruth
Director General Health Services

Acronyms

ACT	Artemisinin-based Combination Therapy
AIDS	Acquired Immune-Deficiency Syndrome
AL	Artemether- Lumefantrine
ALMA	African Leaders Malaria Alliance
ANC	Antenatal Care
AMFm	Affordable Medicines Facility malaria
BCC	Behavioral Change Communication
CDC	Communicable Disease Control
CSO	Civil Society Organization
DFID	Department for International Development
DHE	District Health Educator
DMFP	District Malaria Focal Person
DDT	Dichlorodiphenyltrichloroethane
DHS	Demographic Health Survey
DHIS 2	District Health Information System 2
EPR	Epidemic Preparedness and Response
EIR	Entomological Inoculation Rate
EQA	External Quality Assessment
FBO	Faith-Based Organization
GDP	Gross Domestic Product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GOU	Government of Uganda
HBMF	Home-Based Management of Fever
HMIS	Health Management Information System
HIV	Human Immune-Deficiency Virus
HSSIP	Health Sector Strategic and Investment Plan
HSD	Health Sub-district
HPAC	Health Policy Advisory Committee
HW	Health Worker
iCCM	Integrated Community Case Management
IDSR	Integrated Disease Surveillance and Response
IMM	Integrated Management of Malaria
IPTp	Intermittent Preventive Treatment in pregnancy
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
IVM	Integrated Vector Management
JMS	Joint Medical Stores

LLIN	Long Lasting Insecticidal Net
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MIS	Malaria Indicator Survey
MSP	Malaria Strategic Plan
MTR	Mid-Term Review
MoH	Ministry of Health
MoU	Memorandum of Understanding
NGO	Non-Governmental Organization
NHP	National Health Policy
NMCP	National Malaria Control Program
NMS	National Medical Stores
NPA	National Planning Authority
NRH	National Referral Hospital
NPO	National Professional Officer
OPD	Outpatient Department
PFP	Private for Profit
PNFP	Private Not-for-profit
PSM	Procurement and Supply Management
QA	Quality Assurance
RBM	Roll Back Malaria
RDTs	Rapid Diagnostic Tests
RRH	Regional Referral Hospital
SAM	Service Availability Mapping
SBCC	Social Behaviour Change Communication
SURE	Securing Uganda's Rights to Essential medicines
TWG	Technical Working Group
UMIS	Uganda Malaria Indicator Survey
UMRSP	Uganda Malaria Reduction Strategic Plan
UNBS	Uganda National Bureau of Standards
UNMHCP	Uganda National Minimum Health Care Package
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Program
USD	United States Dollars
USAID	United States Agency for International Development
VHT	Village Health Team
WHO	World Health Organization
WHOPES	World Health Organization Pesticides Evaluation Scheme

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Executive Summary

Uganda has the sixth highest number of annual deaths from malaria in Africa, as well as some of the highest reported malaria transmission rates in the world, with approximately 16 million cases reported in 2013 and over 10,500 deaths annually. In addition, malaria has an indirect impact on the economy and development in general. The socio-economic impact of malaria includes out-of-pocket expenditure for consultation fees, drugs, transport and subsistence at a distant health facility. These costs are estimated to be between USD 0.41 and USD 3.88 per person per month (equivalent to USD 1.88 and USD 26 per household). Household expenditure for malaria treatment is also a high burden to the Ugandan population, consuming a larger proportion of the incomes in the poorest households. Further, malaria has a significant negative impact on the economy of Uganda due to loss of workdays because of sickness, decreased productivity, and decreased school attendance. A single episode of malaria costs a family on average 9 US dollars, or 3% of their annual income. Workers suffering from malaria may be unable to work for an estimated 5-20 days per episode. Given that many people are infected multiple times a year, this has substantial financial consequences to families. Moreover, a poor family in a malaria endemic area may spend up to 25% of the household income on malaria prevention and treatment. Industries and agriculture also suffer due to loss of person-hours and decreased worker productivity. Investors are generally wary of investing in countries where malaria rates are high, leading to a loss in investment opportunities. Further, severe malaria impairs children's learning and cognitive ability by as much as 60%, consequently affecting the performance of Uganda's universal primary and secondary education programmes.

Political commitment to fight malaria is reflected in the ruling National Resistance Movement (NRM) party manifesto 2010-2016: ***"It is the intention of the NRM to totally eliminate malaria from Uganda through preventive methods"***. However, based on the World Health Organization (WHO) guidelines, Uganda is still at the first stage; controlling malaria. Consequently, intensified efforts are first needed to reduce the malaria burden. In line with the 2000 Abuja declaration, Uganda's domestic financial contribution for malaria reduction needs to increase if this reduction strategy is to succeed. The Minister of Finance, Planning and Economic Development (MoFPED) in the budget framework paper (BFP) of 2013/14, expressed the need to prioritize malaria on Uganda's development agenda and subsequently called for the formulation of a comprehensive malaria reduction strategic plan. A mid-term review (MTR) of the current National Malaria Strategic Plan was conducted and this made a number of recommendations that have been incorporated into the Uganda Malaria Reduction Strategic Plan.

The purpose of the URMSP

The purpose of the Uganda Malaria Reduction Strategic Plan **UMRSP 2014 – 2020** is to provide a common framework for all stakeholders to accelerate nationwide scale up of evidenced-led malaria reduction interventions by the government, its development partners, the private sector and all stakeholders. It stipulates the priority interventions, the strategic re-orientations and the investments required for achieving the goals and targets.

Vision, Mission, Goals and Objectives

Vision: The vision is to have **a "malaria free Uganda".**

Mission: The mission of the Ministry of Health's National Malaria Control Programme is to provide quality assured services for malaria prevention and treatment to all people in Uganda.

Goals

1. By 2020, reduce annual malaria deaths from the 2013 levels to near zero[1]
2. By 2020, reduce malaria morbidity to 30 cases per 1000 population[2]
3. By 2020, reduce the malaria parasite prevalence to less than 7%[3]

Strategic Objectives

The following objectives will lead to the achievement of the above goals:

1. By 2017, achieve and sustain protection of at least 85% of the population at risk through recommended malaria prevention measures;
2. By 2018, achieve and sustain at least 90% of malaria cases in the public and private sectors and community level receive prompt treatment according to national guidelines;
3. By 2017, at least 85% of the population practices correct malaria prevention and management measures;
4. By 2016, the programme is able to manage and coordinate multi-sectoral malaria reduction efforts at all levels;
5. By 2017, all health facilities and District Health Offices report routinely and timely on malaria programme performance;
6. By 2017, all malaria epidemic prone districts have the capacity for epidemic preparedness and response.

[1] Near zero implies less than 1 death per 100,000 population
[2] That is 80% reduction from the 2013 levels of 150 confirmed malaria cases per 1000 population
[3] Over 85% reduction in malaria parasite prevalence from a baseline of 45% in 2010

The core values for this UMRSP are: **accountability for outputs, excellence, technical empowerment, efficiency, value for money (VfM) and multi-stakeholder involvement**. The UMRS will support reforms to facilitate better monitoring of efficiency and value for money (VfM) in delivering a comprehensive package of integrated services for malaria reduction according to a VfM framework of three Es plus C. The four major questions that the government and all implementing partners of the UMRSP will need to ask and provide answers for are:

1. **Economy** - Are the inputs for our programmes of the right quantity, quality and the right price?
2. **Efficiency** - How well do we convert inputs into outputs?
3. **Effectiveness** - How well are the outputs achieving the desired outcomes?
4. **Cost effectiveness** - How much impact is achieved relative to the inputs?

To ensure value for money, all implementers will be required to use a VfM framework that ensures that resource allocation and management of resources maximizes the impact achieved. All implementers will adopt six enablers that will help drive the quality of the implementation of the UMRS at all levels namely: skills and behaviors, transparency, scrutiny (internal and external), systems development, evidence, results and VfM tools and influencing other stakeholders.

Anticipated Risks

The anticipated risks that should be mitigated for the successful implementation of the UMRSP are:

1. Inadequate funding for comprehensive implementation of interventions;
2. Fragmented programming and implementation;
3. Failure to elevate the profile of the malaria programme within the Ministry of Health structure, failure to empower staff; poor working environment; and inadequate staffing;
4. Over dependence on overseas assistance leading to sustainability concerns;
5. Failure to use the decentralized structures at regional and district level;
6. Failure to improve the quality of data use for planning;
7. Failure to engage the private sector despite its potential;
8. Inadequate performance reviews, clinical audits, training, quality control/assurance;
9. Inadequate scope and scale of IEC/BCC;
10. Increasing resistance to insecticides.

Monitoring of the UMRSP

The performance framework for measuring progress in the implementation of the UMRSP has been articulated in detail and will be further presented in the revised Uganda malaria monitoring and evaluation (M&E) plan. There will be two main M&E responsibilities – 1) tracking progress for the program in implementing the specific components of the full package of malaria reduction interventions; and 2) tracking progress in meeting targets and

milestones. The methods for tracking of progress for program actions are fully detailed for impact, outcome, output, process and inputs. This tracking will use a variety of data platforms, including: routine HMIS, the weekly IDSR system, population-based household surveys (DHS and MIS), school and community surveys for infection prevalence, health facility surveys, special studies, drug and insecticide resistance monitoring and administrative information systems. Information will be compiled and synthesized and feedback provided to all stakeholders. Monitoring will be done through a joint collaborative approach by the Ministry of Health, the Ministry of Finance, Planning and Economic Development, malaria development partners and all stakeholders using regularly planned events including: Expanded RBM partnership forum reviews to be conducted quarterly; National Joint Annual Assessments/Reviews; A Mid-Term Review to be conducted in 2017 and an End-term Review/Evaluation in 2020.

Funding requirements

The total funding needed for the UMRSP is estimated to be **USD 1.361.Billion** over the six year period.

1.1 Introduction

Uganda has the sixth highest number of annual deaths from malaria in Africa, as well as some of the highest reported malaria transmission rates in the world. Malaria is one of the leading causes of ill health and deaths, with approximately 16 million cases and over 10,500 deaths reported in 2013. It remains one of the most important diseases in Uganda in terms of morbidity and mortality. It accounts for 30%-50% of outpatient visits and 15%-20% of hospital admissions. Although pregnant women and children under 5 are mostly affected, the entire population is risk of malaria. Malaria has a major social-economic impact on communities in form of out-of-pocket expenditure for consultation fees, drugs, transport and subsistence at a distant health facility. Further, malaria has a significant negative impact on the economy of Uganda due to loss of workdays because of sickness, decreased productivity, and school attendance absenteeism. A single episode of malaria costs a family on average 9 US dollars, or 3% of annual income. Further, severe malaria impairs children's learning and cognitive ability by as much as 60%, consequently affecting the performance of Uganda's universal primary and secondary education programmes.

Both the Uganda Health Sector Strategic and Investment plan (HSSIP) and National Health Policy II recognize the importance of communicable diseases and prioritizes their control and prevention. Communicable diseases account for 54% of the total burden of disease in Uganda with HIV/AIDS, tuberculosis (TB) and malaria, being the leading causes of ill health.

Following a mid-term review of the 2010-2015 malaria control strategic plan, it was observed that while some indicators showed progress others either slowed or showed no progress at all. The above issues required re-strategizing, re-targeting and a more accelerated approach to control malaria in Uganda. This malaria reduction strategic plan (UMRSP) covers the 2014 – 2020 period. In addition, the UMRSP will be a resource mobilization tool and will provide a common framework for the accelerated nationwide scale up of evidenced-led malaria reduction interventions by the government, its development partners, the private sector and all stakeholders. The plan stipulates the priority interventions, the strategic direction and the investments required for achieving the 2020 national goals. The strategic plan also outlines how the stakeholders in malaria control will organize themselves in achieving the objectives and goals set herein as informed by the midterm review and the other strategic documents.

1.2 National and international context and commitments

Malaria control has remained a priority action within the national health agenda in Uganda. The ruling party's Presidential Manifesto 2010 points towards "Malaria eradication". The Constitution of the Republic of Uganda, the National Development Plan (NDP 2010/11- 2014/15), and the National Health Policy II (NHP II) position malaria among the programs of national interest. The country has favorable policies to ensure that malaria is controlled in the country. User fees were abolished in all public facilities making treatment free in all public facilities and government taxes on ITNs, medicines and laboratory supplies were also waived in 2001. Further, the government is committed to the 2006 World Health Assembly (WHA) resolution to withdraw Artemesinin monotherapy. At the highest level, H.E the President is an active member of the African Leaders Malaria Alliance (ALMA). In order to ensure that malaria control is on the national agenda, a Parliamentary Malaria Forum was formed with the Right Hon. Speaker of Parliament as its patron. The country has embraced global and regional commitments in malaria prevention and control. The African Union Heads of State jointly stated their commitment in 2000 during the Abuja Declaration, calling for "Universal Access" to HIV/AIDS, Tuberculosis and Malaria services by 2010. All policies and strategic plans have always been aligned to the WHO guidelines, RBM and MDG targets. Following the United Nations Secretary General's call for 100% coverage of malaria control interventions and the elimination of malaria as a threat to public health, the government of Uganda has moved from targeting of malaria control interventions to universal coverage.

1.3 Process of development of the Uganda Malaria Reduction Strategic Plan

Between February and March 2014, the NMCP and malaria partners conducted a mid-term review (MTR) of the 2010 – 2015 malaria strategic plan. The review was all-inclusive and participatory involving all malaria stakeholders from different sectors, including: government, civil society, academia/research, development partners and the corporate/private sector. The purpose of the MTR was to examine progress to date against the goals and targets, and identifying key issues affecting implementation. Based on the MTR findings and recommendations, the new 2014-2020 UMRSP was developed.

The Uganda malaria reduction strategic plan has been discussed and agreed upon through a participatory and consultative country process with multi-sectoral stakeholders, including: government ministries and departments, development partners, the private sector, national and international non-governmental organizations, research/academia, local/urban authorities and other sub-national stakeholders. This plan has also been reviewed and approved by top management of the Ministry of Health chaired by the Hon Minister of Health.

1.4 Country profile

The Republic of Uganda is a landlocked country located within the Great Lakes region of East and Central Africa. It shares Lake Victoria with Kenya and Tanzania and Lakes Albert and Edward with the Democratic Republic of Congo (DRC). It is positioned between 1° south of the Equator and 4° north (Figure 1).

Figure 1: Map of Uganda

Uganda has an area of 241,550 square kilometers of which 41,743.2 square kilometers are open water bodies and swamps, and 199,807 square kilometers is land.

Within its boundaries are lakes Wamala, Bunyonyi, Nakivale, Mburo, Kyoga, George and Bisina. The three major rivers in Uganda are: Aswa, Kagera and the Nile. In addition, there are many smaller rivers and streams which drain into numerous wetlands and lakes or form tributaries and sub-tributaries to the major rivers. Wetlands cover 13% of the total land area[4]. The vegetation is mainly composed of savannah grassland, woodland, bush land and tropical high forest. Uganda has tropical rain forests in the south to savannah woodlands and semi deserts in the northern part.

[4] Ref 9

Uganda has a tropical climate which is favourable for both man and mosquitoes owing to its relatively high altitude (between 1,300m and 1,500m). Mean annual temperatures vary between 16° C in the Southwest and close to 30° C in the Northeast. The regions of West, Central and Eastern Uganda experience two peaks of rain fall from March to May and from September to December. The northern parts of the country experience less rainfall and have one rainy season in the year. The peak of malaria transmission coincides with the peak of the rainfall season which is also the planting and harvest seasons when demand for labour is high.

1.4.1 Economy

Uganda is mainly an agricultural economy (80%) with a large subsistence and a smaller scale agricultural-based industry. There is enough food production in the country, yet its distribution is inequitable. The immediate post-independence economy thrived with a GDP growth of 5% per annum. Between 1987 and 1996, GDP grew at an average of 6.5%. The growth rate was 6.8% between 2000 and 2004, and increased to 8% over the period 2005 to 2008. The impressive GDP growth performance in recent years has contributed to a significant reduction in poverty levels. The percentage of the population living below the poverty line declined from 56% in 1992/93 to 44% in 1997/98, and further to 31% in 2005/06 and in 2013 was estimated at 23-25%. With a GDP of US$ 430 per-capita., Uganda remains among the poorest countries in the world. Poverty is still wide spread in the country especially in rural areas.

1.4.2 Demography

Uganda's rapidly growing population has implications for malaria control because of the increasing pressure on arable and inhabitable land forcing people to move into previously uninhabitable areas. It is reported that malaria transmission is increasing in the country due to massive deforestation and cultivation of wetlands, poor environmental sanitation and other man-made breeding sites especially in peri-urban areas.

The population has increased from 9.5 million in 1969 to 24.2 million in 2002 and was estimated at 30.7 million in 2009. At a growth rate of 3.2% per annum (1991-2002), Uganda's population is projected to reach 38 million by 2015, implying a relatively high number of pregnant women. More than half of Uganda's population (51%) is female. The general population is increasingly becoming younger with the proportion of children (under

18 years) having increased from 51% in 1969 to 56% in 2002. The majority of Ugandans (80%) live in rural areas though the trend towards urbanization is increasing[5].

The 2005/06 Uganda National Household Survey revealed an overall literacy rate of 69% among persons aged 10 years and above, with more men found to be literate (76%) compared to women (63%). In addition, literacy rates were higher for urban dwellers (86%) compared to their rural counterparts (66%).

1.4.3 Socio-economic situation

The proportion of people living below the poverty line (live on less than 2 USD per day) declined from 52% in 1992 to 31% in 2005 and in 2013 was estimated at 23-25%. However, Uganda remains one of the poorest countries ranking number 161 on the 2012 global Human Development Index-HDI, with an HDI adjusted for inequality of 0.33 making it a very low development country.[6] To date agriculture continues to be a major source of foreign exchange. In 1987, inflation was about 240%, but was reduced to 42% by 1992, and further reduced to 5.1% in 2003. By 2007, the services sector had surpassed agriculture, and accounted for 52% of the gross domestic product (GDP). In 2007, the government approved the comprehensive national development planning framework which provided for the development of a 30 year vision to be implemented through, national development plans, sector investment plans and local government development plans. Later, cabinet approved the Uganda Vision 2040 statement, *"A transformed Ugandan Society from a peasant to a modern and prosperous country within 30 years"* [7][.

The Uganda Vision 2040 was launched in April 2013 and articulates strategies and policy directions to transform the country into a competitive upper middle income country with per capita income of US$ 9,500, currently standing at US$ 1,168 per person. This requires the average real GDP to grow at a rate of 8.2% per annum translating into total GDP of about US$ 580.5 billion from US$ 17 billion in 2010. The Ministry of Health (MoH) is expected to contribute to the 2040 vision through improving the health status and life expectancy of the people of Uganda and malaria reduction will play a key role in achieving these goals.

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[5] United Nations (2012). *World Urbanization Prospects: The 2011 Revision,* New York: Department of Economic and Social Affairs, Population Division*:* United Nations

[6] United Nations Development Programme (2013). *Human Development Report 2013. The Rise of the South: Human Progress in a Diverse World*. United Nations Development Programme, New York

[7] National Planning Authority (2013). Uganda Vision 2040 http://www.npa.ug/vision2040/

1.4.4 Socio-Political system

Administratively, Uganda is divided into 112 districts which are further sub-divided into lower administrative units namely counties, sub-counties, parishes and villages. The levels within local governments are districts, municipalities and sub-counties.

The GoU has been implementing a decentralization program as a way of improving the efficiency and effectiveness of service delivery since 1993. These programs are guided by the Constitution of the Republic of Uganda (1995) and the Local Government Act (1997). Services are decentralized to districts and within districts to Health sub-District (HSDs) with each level having specific roles and responsibilities.

1.4.5 Health care delivery system

The Uganda Health System is organised in a tiered manner, with the following levels: hospitals (district, regional referral, national referral), health centre IV (Health Sub-district), health centre III (Sub-county), health centre II (Parish) and health centre I (village level with no static structure) respectively. Unlike in many other countries, there is no intermediate administrative level (province) in Uganda. There are national referral hospitals (NRHs) and regional referral hospitals (RRHs), whilst government health facilities in the district health system consist of general hospitals and health centers (HCs) IV, III, IIs and I at district, HSD, sub-county, parish and village levels, respectively.

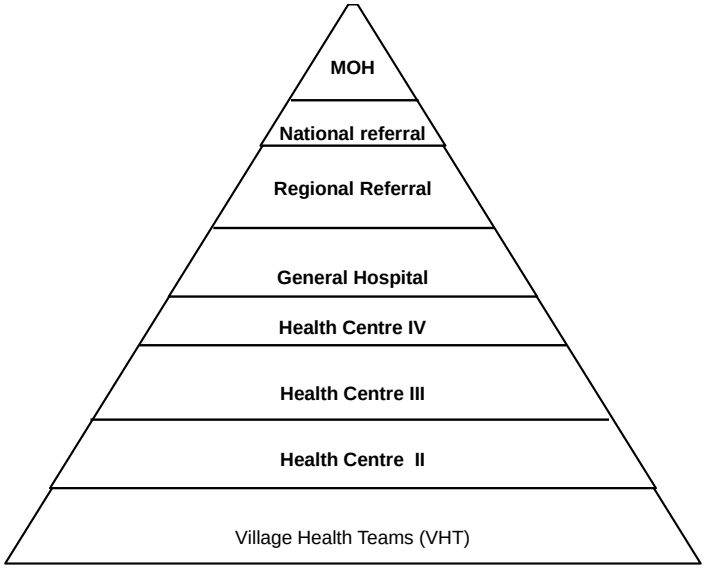


Figure 2: The Uganda Health System Structure

a) National Level

The MoH provides a leadership role and is responsible for delivering the outputs of all strategic plans for the health sector. Other stakeholders have defined roles to play in the implementation of the strategic plans. The MoH has defined the functions and responsibilities of each level of health care and set the minimum service standards and staffing norms for each level.

b) District health system

The district health system (DHS) encompasses both public and private general hospitals and health centres and community health programs. The Local Governments have the responsibility for the delivery of health services, recruitment and management of the personnel for district health services. In addition, they are tasked with development and passing of health related bye-laws, planning, budgeting, resource mobilisation and allocation for health services.

c) Health Centre IV

Within the district, the health system is further sub divided into health sub districts (HSDs) that have headquarters at health centres level IV or general hospitals. The HSD provides overall day-to-day management and technical oversight of the lower level health facilities (HC level III, II and community level) within its jurisdiction. It also provides leadership in the planning and management of health services including supervision and quality assurance within the HSD; and provision of technical, logistical and capacity development support to the lower health units and communities including procurement and supply of drugs.

d) Health Centres III and II

HC IIIs provide basic preventive and curative care as well as provide support supervision of the community and HC IIs under its jurisdiction. These are: provision of laboratory services for diagnosis, maternity care and first referral cover for the sub-county. The HC IIs provide outpatient care, community outreach services and linkages with Village Health Teams (VHT). Health workers at HC IIs supervise and mentor the village health teams (VHT), provide medicines and other commodities and receive referred cases from the VHT level.

e) Community Level

Health services at community level are provided by community health workers referred to as Village Health Teams in Uganda. Each village has 5 members selected by that community to form the village health team. A network of VHTs is facilitating community participation and empowerment in the delivery of health services. The VHTs are responsible for health promotion activities, community mobilisation to improve health seeking behaviour, disease prevention and adherence to treatment.

In 2010, Uganda adopted the integrated community case management (iCCM) strategy where two of the five VHTs members are responsible for diagnosis and treatment of common childhood illnesses including malaria, pneumonia, and diarrhoea in addition to the preventive platform.

1.4.6 Distribution and physical access to health facilities

In 2004, a service availability mapping (SAM) survey was carried out by the MOH and WHO which estimated the total number of health facilities to be 2,734 managed by government, NGO, and private sectors. The composition of facilities included: 108 hospitals, 160 health centre IVs, 873 health centre IIIs, and 1,593 health centre IIs. In 2012, the ministry of health compiled an updated version of a master health facility list. This master list had 2,561 facilities managed by the government and 796 facilities managed by NGO/FBO agencies. Presently, there are 115 facilities with a designated hospital status, 184 health centre IVs, 1,112 health centre IIIs and 1,946 health centre IIs.

1.4.7 Health status

There has been a general improvement in mortality rates. The infant mortality rate (IMR) declined from 122 to 75 deaths per 1,000 live births between 1991 and 2006 while the under five mortality rate (U5MR) declined from 203 to 137 deaths per 1,000 live births over the same period[8.] Malaria is a major contributor to child mortality, which invariably contributes to reduced life expectancy at birth which is still low, though it increased from 45 years in 2003 to 52 years in 2008[9].

Substantial declines in both infant and under-five mortality rates were witnessed from 1960 through to the early 1970s. However there was stagnation of progress leading to high mortality during the two decades of civil strife and war, as well as the emerging HIV/AIDs epidemic. By the mid-1990s Infant and child mortality began to decline significantly. The recent 2011 national household DHS suggests that under-five mortality is 90 per 1000 live births and infant mortality is 54 per 1000 live births.

Recent studies using the 2002 national census data indicate that the overall risk of child death in the first 5 years of life has decreased across Uganda. However, there are

[8] UNICEF-IGME (2011). Level and Trends in child mortality, Report 2010

[9] Uganda Bureau of Statistics & Measure DHS (2012). *Uganda Demographic and Health Survey 2011. Preliminary Report*. UBOS, Kampala, Uganda March 2012

significant spatial variations, highlighting inequalities in mortality by geographic location. Areas of high risk include: the south-west and north-west regions while Kampala District showed the highest reduced risks. Risk factors associated with high under-five mortality are: the number of under-five year old children in the household, marital status, education level of mother, ownership of electronic assets and shelter characteristics.[10] With intensified efforts at malaria reduction, there is likely to be further reduction of under-five and infant mortality in Uganda. Table 1 shows the status of key health indicators based on the DHS 2011.

Table 1: Status of key health indicators based on the DHS 2011

Indicator	DHS 2011
Under-five mortality rate/1000 live births	90
Infant Mortality rate/1000 live births	54
Maternal Mortality Ratio/100000 live births	440
Neonatal mortality rate/1000 live births	27
Stunting in children under-five years of age (Height-for-age < -2SD)	33
Acute malnutrition in children under-five years of age (Weight- for- height < -2SD)	5
Total fertility rate (15-49)	6.2
Delivery with skilled attendant	59.3%

[10] Kazembe L, Clarke A, Kandala N (2012). Childhood mortality in sub-Saharan Africa: cross-sectional insight into small-scale geographical inequalities from Census data. *British Medical Journal Open,* **2**: e001421

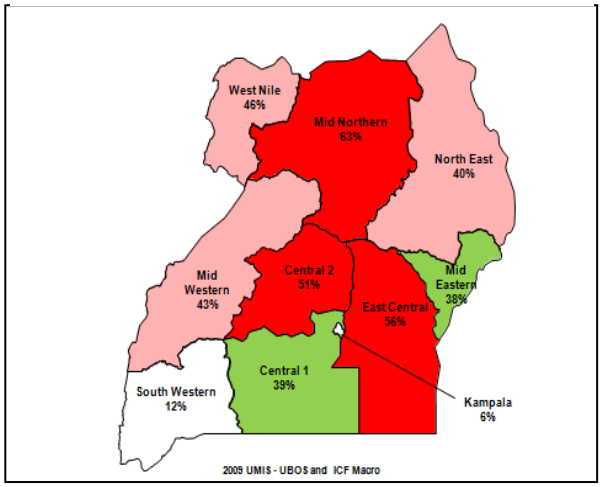
Chapter 2: Malaria Situation Analysis

2.1 Malaria epidemiology

2.1.1 Overview

Malaria is a major public health problem and the most frequently reported disease at both public and private health facilities in Uganda. Clinically diagnosed malaria is the leading cause of morbidity and mortality, accounting for 30-50% of outpatient visits at health facilities, 15-20% of all hospital admissions, and up to 20% of all hospital deaths. 27.2% of inpatient deaths among children under five years of age are due to malaria. A significant percentage of deaths occur at home and are not reported by the facility-based Health Management Information System (HMIS).

Figure 3: Epidemiological stratification based on MIS 2009



Malaria is endemic in approximately 95% of the country, affecting over 90% of the population of 3 million. The remaining 5% of the country consists of unstable and epidemic-prone transmission areas in the highlands of the south- and mid-west, along the eastern border with Rwanda, and the north-eastern border with Sudan. The 2009 Malaria Indicator Survey (MIS) reported high prevalence of malaria parasites in children <5 years of age ranging from 5% in Kampala to 63% in mid northern region, with a national average of 45% (Figure 3).

2.1.2 Malaria parasites and vectors

Four of the five known species of malaria parasites exist in Uganda, with *P. falciparum* being the most prevalent (97-99%), followed by *P. malariae* (2%), *P. vivax* (2%) and *P. ovale* (< 1%)[11], [12], [13]. Co-infections with different species of plasmodium occur at a

[11] Onori E (1967). Distribution of *Plasmodium ovale* in the Eastern, Western and Northern Regions of Uganda. Bulletin of World Health Organization, **37**: 665-668

[12] Onori E & Benthein F (1967). *An investigation of the annual cycle of malaria in an area of Uganda*. WHO unpublished document, WHO/Mal/67.628

[13] Onori E (1969). Malaria in Karamoja District, Uganda. *Parasitologgia*, **3**: 235-249

prevalence of 3%. The most common malaria vectors are *Anopheles gambiae s.l.* and *Anopheles funestus. A. gambiae* is the dominant species in most places, while *A. funestus* is generally found at higher altitudes and during the short dry seasons (September through November), when permanent water bodies are the most common breeding sites.

In some areas of northern Uganda, such as Apac and Oyam, *A. funestus* is the most common vector. Within the *A. gambiae complex* the predominantly anthropophilic (bite humans) and endophilic (rest indoors) *Anopheles gambiae s.s.* is by far the most common with *A. arabiensis* found in 1- 10%; The non-malaria vector, *A. quadriannulatus* is less common and the rare *A. bwambae* species is limited to the River Semliki forest hot springs. *Anopheles gambiae s.l.* and *A. funestus* feed and rest indoors, making ITNs and IRS viable vector control strategies.

2.1.3 Trends in Morbidity and Mortality

Reported malaria cases from outpatient departments have over the years increased from 28% in 2001 to 45% in 2010[14]. In the same period, there has been only a minimal malaria parasitological testing increase from 5% in 2001 to 24% in 2010 with an average positivity rate of 45%[14]. Inpatient malaria data are not readily available and the impact of malaria control interventions on severe malaria and deaths cannot be ascertained.

HMIS data demonstrate an increasing trend in malaria cases, with the average health facilities reporting completeness rate above 80%. The same increasing trend is shown for malaria incidence (Figure 4 and 5). Although there has been an increase in parasitological testing in the last two years (Figure 6), most of the reported cases are still clinical malaria because of the slow scale-up of parasite-based diagnosis.

[14] Roll Back Malaria (RBM) (2011). Uganda Malaria Programme Performance Review, May 2011. http://www.rollbackmalaria.org/countryaction/aideMemoire/Uganda-The-malaria-program-performance-review-2011.pdf

Figure 4: Reported malaria cases by year, and health facility completeness of reporting

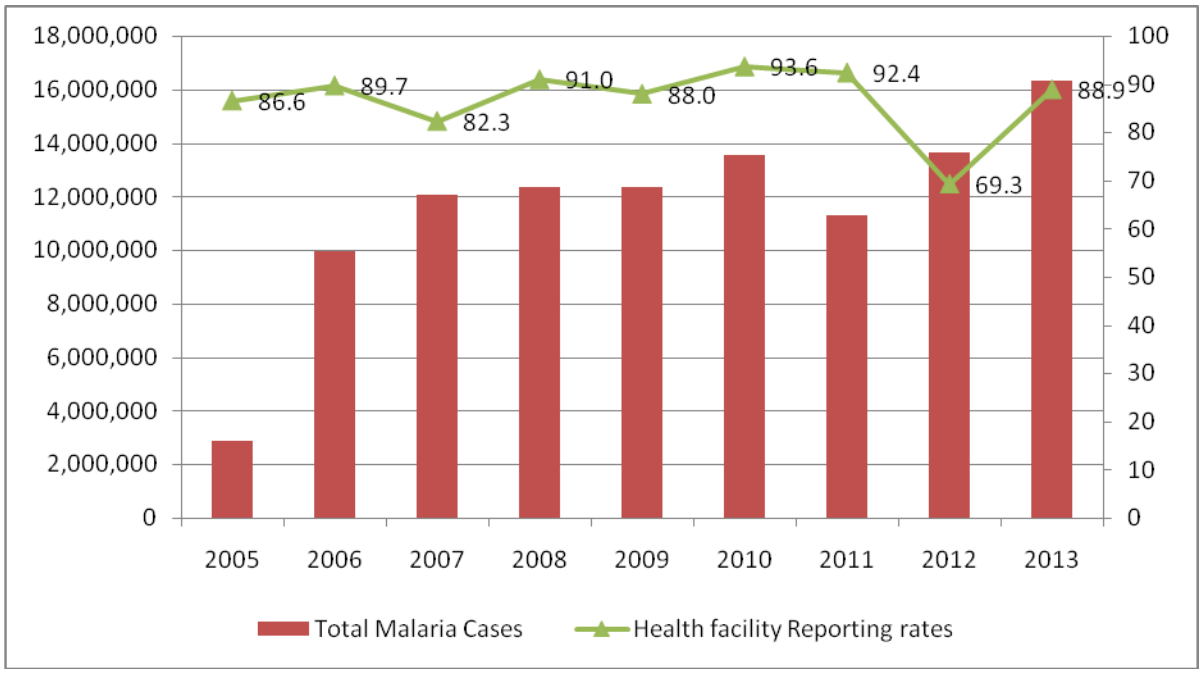


Figure 5: Malaria Incidence (per 1,000 persons per year)

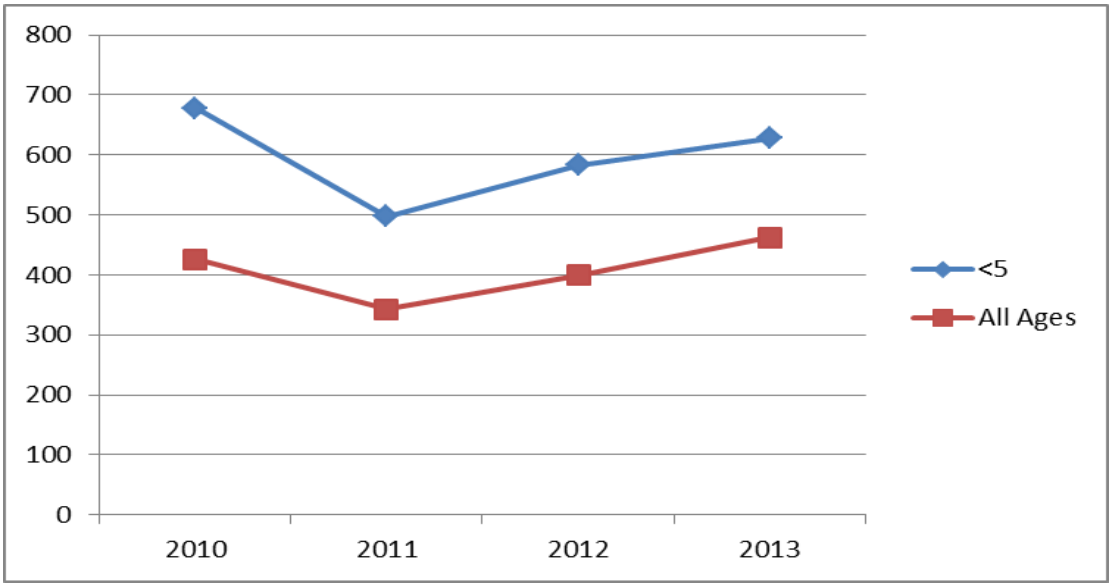
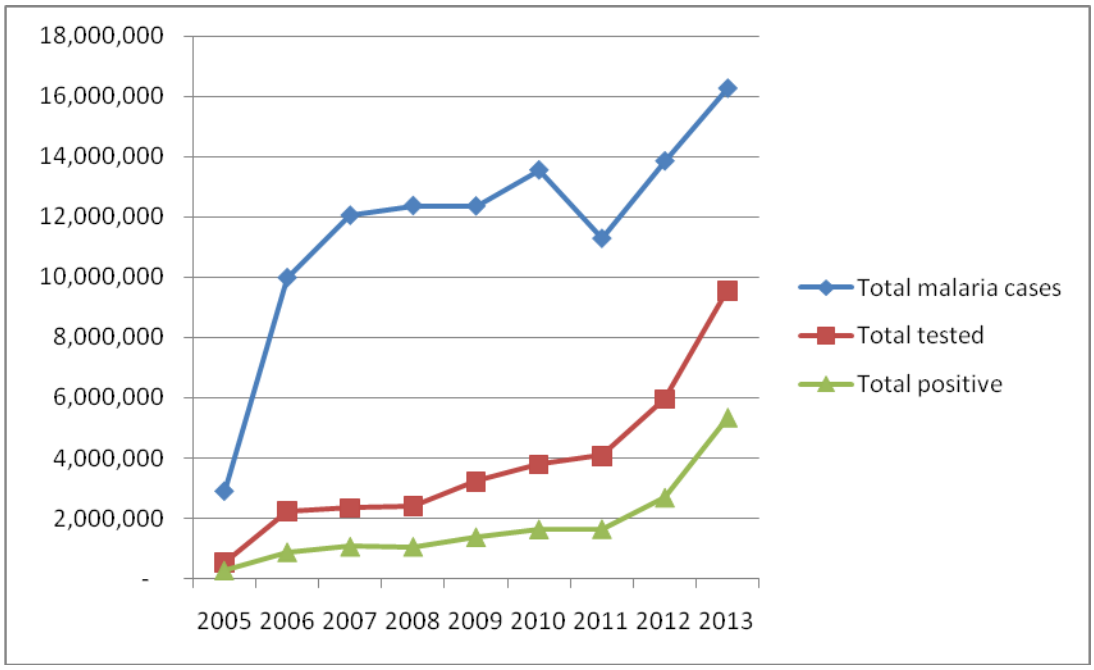
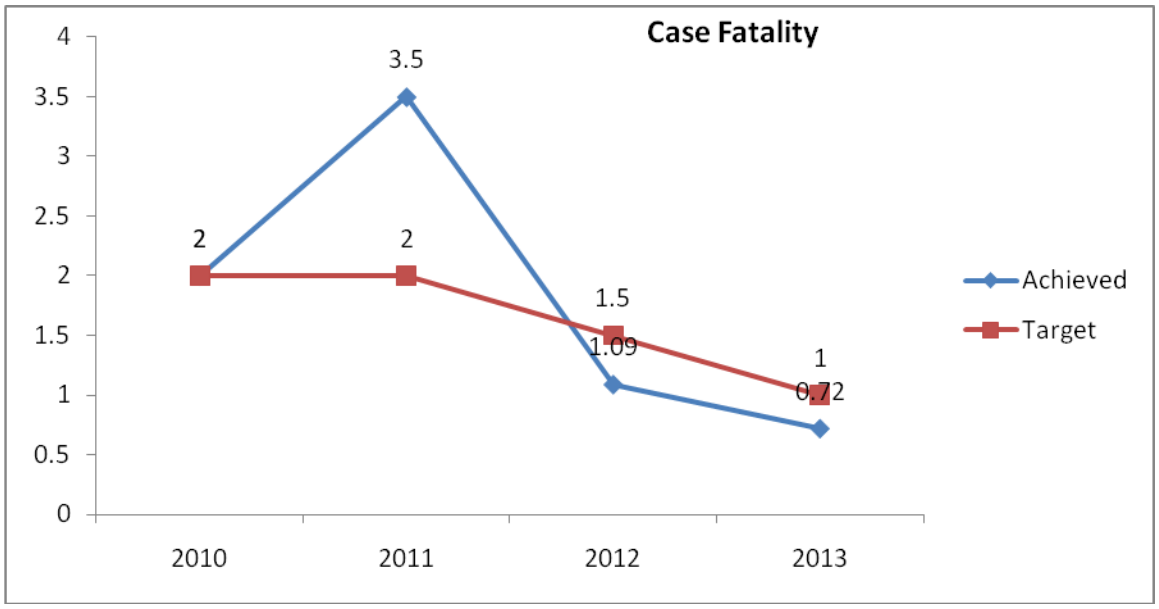


Figure 6: Trends of Parasitological Testing



There is inadequate data to show trends in mortality over time. However, the percentage of malaria deaths among malaria admitted cases in children under five years old (case fatality ratio/rate) has consistently shown declining trends (Figure 7).

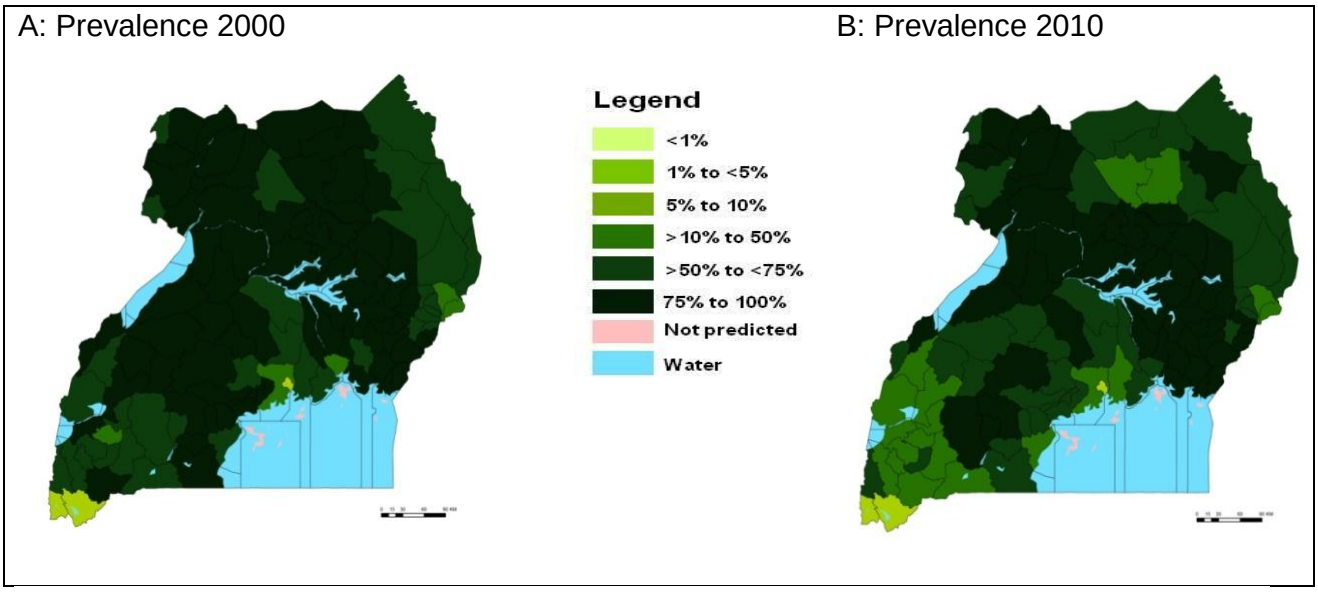
Figure 7: Percentage of malaria deaths among malaria admissions (Case fatality rate/ratio) in children <5 years old.



2.1.4 Malaria stratification and mapping

Previous malaria stratification in the country was based on surveys conducted in the 1960s and more recently the malaria indicator survey of 2009. However, in 2013, the MOH in collaboration with the University of Oxford-KEMRI-Wellcome trust programme, DFID, WHO and Abt associates developed a new malaria risk map from a repository of community based malaria infection surveys in Uganda for the period 1980 to 2012. Close to 1000 survey points were abstracted and geo-coded in a process that combined other traditional determinants of malaria such as: transmission, temperature, rainfall, surface water and urbanization. Population-adjusted estimates of malaria risk for each of Uganda's 112 districts were generated[15]. The following two maps show malaria prevalence in 2000 and 2010.

Figure 8: Malaria risk map



The recent epidemiological report demonstrated that 25 of 112 districts achieved a greater than 20% reduction in malaria prevalence by 2010 compared to 2000. Although, there is some improvement especially in the districts of south western, western, central and mid north, the rest of the country shows persistent high intensity of transmission.

[15] Talisuna AO, Noor AM, Mundia CW, Otieno V, Mitto B, Amratia P, Nanyunja M, Rwakimari JB, Okia M, Okui PA, Snow RW (2013). *An epidemiological profile of malaria and its control in Uganda*. Analysis and report funded by Roll Back Malaria and Department for International Development-UK, September 2013.

2.1.5 Exposure to malaria transmission

Exposure to malaria transmission usually measured during entomological surveys and expressed as the annual entomological inoculation rate (AEIR) was found to be as high as 1,500 infective bites per person per year but is more in the range of 100-400 in the highly endemic areas (hyper-endemic) and around 5-50 infective bites in the areas of moderate transmission (meso- and hyper-endemic). This entomological information was assembled in the early 2000s from seven sentinel sites.[16] Consequently, there is need to conduct another survey to update this information.

2.2 Historical perspective of malaria prevention and control

According to evidence published on the history of malaria in Uganda,[17] current malaria control and prevention has a significant retrospective road map. Spanning the 1990s to date, investments have been made to achieve and maintain protection of the population at risk of malaria.

a) Program Management

A Malaria Control Unit was set up in 1995. The Unit underwent a restructuring process in 1996 and the first NMSP (1996-2001) post the eradication era was formulated under the banner" *the intensified malaria control initiative*". Accompanying the first NMSP was an antimalarial policy that was approved in 1998. In line with the decentralized policy of 1993, the antimalarial policy recommended the creation of a zonal coordination system. The zonal coordination system was initiated in 1998 to support the district health team and district malaria focal persons to coordinate and implement previously centralized efforts. However, insufficient funds for the operational costs of the zonal system of integrated support prevented its smooth functioning. In 2001, the Malaria Control Unit was elevated to a National Malaria Control Program, and four technical working groups (TWGs) were created, namely; case-management, insecticide treated materials & vector control, advocacy and IEC and research.

b) Malaria case management

The first antimalarial drug policy recommended Chloroquine (CQ) as the first line regimen and Sulphadoxine–Pyrimethamine (SP) as the second line regimen with quinine as the treatment of choice for several malaria and in case of resistance to CQ or SP. However,

[16] Okello PE, Van Bortel W, Byaruhanga AM, Correwyn A, Roelants P, Talisuna A, D'Alessandro U, Coosemans M (2006). Variation in malaria transmission intensity in seven sites throughout Uganda. *American Journal of Tropical Medicine & Hygiene,* **75**: 219-225

[17] Talisuna AO, Noor AM, Mundia CW, Otieno V, Mitto B, Amratia P, Nanyunja M, Rwakimari JB, Okia M, Okui PA, Snow RW (2013). *An epidemiological profile of malaria and its control in Uganda*. Analysis and report funded by Roll Back Malaria and Department for International Development-UK, September 2013.

because of resistance the policy was changed in 2000 to a combination of CQ+SP. The NMCP initiated the home based management of fever (HBMF) strategy for children under the age of five years in the early 2000, as part of the Integrated Management of Childhood Illnesses (IMCI) programme. The then first line treatment, CQ+SP was branded "HOMAPAK" and was administered through volunteer community health workers called Community Drug Distributors (CDD). However, HBMF faced many challenges, including: an inability to sustain the initial motivation of the volunteers due to lack of remuneration or other incentives; inability to ensure adequate supervision, data flows and drug supply management challenges; problems associated with being a vertical programme. Moreover, an alternative became more popular between 2004 and 2006, with a focus on integrated community case management (iCCM) and several assessment studies were conducted in the country that demonstrated that iCCM was feasible. Currently, iCCM is a formally endorsed strategy for community health systems strengthening.

Faced with increasing parasite resistance to CQ+SP, the NMCP announced that CQ+SP would be abandoned in favor of Artemether-Lumefanthrine (AL) on 17th May 2004. The decision was based on multi-country therapeutic efficacy studies demonstrating the good efficacy of AL and the likely long useful life-expectancy with low probabilities of resistance. However, affordability, acceptability, adherence and feasibility remained uncertain. The Global Fund-GFATM Round 4 provided approximately US$ 66 million within the US$ 158 million award to accelerate the implementation of the new AL treatment policy. Between 2007 and to date, in-country development partners and the GFATM have supported the roll-out of the AL policy as well as diagnostics in lower level health centres and large scale use of RDTs by Village Health Teams under the iCCM strategy in select districts of Uganda. In 2010, the GFATM awarded additional funds under Round 10, US$ 156 million, for the procurement of ACTs and Rapid Diagnostic Tests (RDTs). Therefore, between 2005 and 2010 Uganda had an unprecedented access to malaria development assistance, which has led to a sharp rise in the use of malaria diagnostics for febrile patients from 8% to 24% in 2010 to 59% during 2013/14.

c) Long lasting Insecticidal Nets

Historically, insecticide treated nets (ITNs) had a heavy leaning to private sector distribution, with most nets owned by households between the 1990s and 2006, obtained from the commercial sector. In 2000, the government waived import taxes and tariffs on mosquito nets and netting materials to promote use. In 2002, an ITN Working Group of the inter agency coordination committee for malaria (ICCM) was established to address the dual challenge of rapidly scaling up coverage of ITNs among pregnant women and under-fives and supporting the development of a sustainable, commercial ITN market in Uganda. The National ITN Voucher scheme was a primary outcome, whose funding was anticipated to come from the Global (Round 2) Fund proposal in 2002. However, the GFATM grant was temporarily suspended in 2005 and the gap was covered by in country development

partners.

Despite the concerted efforts to increase ITN coverage, the volume of nets remained too low to achieve 60% coverage of vulnerable groups. Following the debates on the optimal model for the delivery of ITN, a "mixed sector model" was finally adopted with a stronger emphasis on public sector delivery without complicated voucher schemes and mass free distribution campaigns were recommended. In 2009, Uganda shifted to universal coverage of the whole population with LLINs (one LLIN for every two people). In 2010, the program distributed over 7.2 million LLINs, with GFATM Round 7 support. However, routine distribution of LLINs to pregnant women and children under 5 through the ANC and EPI services remained limited. In 2013/2014 the NMCP has so far distributed over 12 million LLINs through mass campaigns achieving an administrative coverage of 60%.

d) Malaria In Pregnancy

The second NMSP (2001-2005) identified IPTp as a key intervention that was upgraded to a more comprehensive and integrated package (IPTp, clinical case management and prevention with ITNs) for malaria in pregnancy (MiP), coordinated principally through the Reproductive Health Division. The objectives of this strategy were by 2004 to have 60% of all pregnant women receiving two doses of SP as IPTp in their second and third trimesters; at least 80% of pregnant women would have access to quality case management; and at least 60% using ITNs. The national IPTp coverage of at least two doses, reported through HMIS increased from 22% in 2002 to 27% in 2003 and to 33% by 2004. However, during the period 2001-2005 the routine distribution of ITNs through antenatal clinics (ANC) remained limited and there was poor coordination between the reproductive health division and the Malaria Control Programme. Further, stock outs of Sulphadoxine-Pyrimethamine(SP) in ANC services reduced the potential coverage of IPTp. ITN coverage among recently pregnant women in 2006 remained low, only 16% of women had received two presumptive treatments with SP during ANC visits.[18] The implementation of the malaria in pregnancy (MiP) control strategy continues to be carried out through the existing health care delivery structures from the national level through to the community level.

e) Indoor residual spraying

After the malaria eradication pilot experiments in the late 1950s and early 1960s, only small and sporadic IRS campaigns were conducted. These were mainly as a response to malaria epidemics, notably in Kabale, Kisoro and Kanungu districts. Between the late 1990s and 2004, the NMCP used lambda cyhalothrin (ICON™10% WP) during the epidemics in the three districts. From 2006 – 2009, the NMCP expanded IRS using DDT in Northern Uganda, where malaria transmission intensity is very high. With increased pressure from

[18] Uganda Bureau of Statistics (UBOS) and Macro International Inc (2007). *Uganda Demographic and Health Survey 2006*. Calverton, Maryland, USA: UBOS and Macro International Inc

some stakeholders against the use of DDT, the ministry switched to other alternative insecticides like carbamates and pyrethroids. Routine health facility data on slide positivity rates (SPR) from Apac district, showed a significant reduction six months following the first round of DDT spraying in 2007. A further reduction was realized between March 2007 and October 2011. This was followed by another decline after the rounds of alpha-cypermethrin spraying in 2010, as well as a decrease during the six month period after spray activities with bendiocarb.[19]

f) Urban Malaria control

Urban malaria control received a renewed interest during the early 2000s. A community-based environmental management program for malaria control was started in 2002 within two Ugandan cities (Kampala and Jinja). A detailed assessment of vector breeding sites was undertaken at two sites in Kampala (Kitebi & Kikulu) and two in Jinja (Police Barracks & Loco Estate). Action plans in 2003 were specific to the ecology and social make-up in each site. In Kampala, the interventions included filling puddles, introducing larvivorous fish and improving drainage. In Jinja, the plans focused on building and repairing drainage channels and soak-pits. Collections of adult mosquitoes from sentinel houses suggested that there was a reduction in malaria transmission (a drop in the number of adult mosquitoes collected). Most important, the interventions were associated with reductions in malaria prevalence of 11% in the Police Barracks and 36% in Kitebi, providing evidence of the potential benefits of environmental management for reducing malaria transmission in these urban settings.[20] Due to public demand for mosquito control services, the vector control units (VCUs) were re-introduced in 2006 in the Kampala City Council (KCC). However, faced with the perennial problem of inadequate funding, these units have not been able to perform targeted activities within the community. The vector control division (VCD) of the MoH, has in recent years been advocating for integrated vector control of malaria (IVM).

Chapter 3 : Review of the Malaria Strategic Plan 2010-2015

[19] Kigozi R, Baxi SM, Gasasira A, Sserwanga A, Kakeeto S, Nasr S, Rubahika D, Dissanayake G, Kamya MR, Filler S, Dorsey G (2012). Indoor Residual Spraying of insecticide and malaria morbidity in a high transmission intensity area of Uganda. *PLoS One*, **7**: e42857

[20] Lindsay S, Egwang T, Kebba A, Oyena D, Matawale G (2004). *Community-based Environmental Management Program for Malaria Control in Kampala and Jinja, Uganda Final Report*. Prepared for the USAID mission to Uganda under EHP Project 26568/E.V.5.UG.DESIGN.IMP, Activity Report 140

The 2010-2015 National Malaria Strategic Plan (NMSP) was developed largely on the basis of the findings and recommendations of the Uganda Malaria Program Review (MPR 2011). The overall goal of the plan was to reduce mortality due to malaria by 80% of the 2010 levels and reduce morbidity due to malaria by 75% of the 2010 levels, thereby setting the ground for pre-elimination subsequently. This was in line with the regional strategy for malaria elimination endorsed by the government of Uganda (GoU).

3.1 Overview of the plan

The 2010 - 2015 MSP implementation approach was to rapidly scale up the coverage of effective malaria prevention and treatment interventions in the first 3 years and thereafter consolidating the achievements in the reduction of malaria infection prevalence and achievement of improved health outcomes.

The objectives of the 2010-2015 MSP were: to reduce malaria prevalence by at least 75% of the 2010 levels by 2015, increase to 90%, by 2015, the proportion of malaria cases parasitologically confirmed and treated with effective antimalarials; to achieve by 2015, 80% of the population consistently using at least one malaria preventive method together with appropriate treatment seeking behaviours, to strengthen M&E systems to assess progress towards set targets, informing refinement and decision making during implementation, and to strengthen the NMCP for effective malaria control policy development, planning, management, partnership coordination and timely implementation of planned interventions in order to achieve all country objectives and targets set for 2015.

A set of strategies were identified whose implementation would lead to the achievement of planned targets, including: strengthening NMCP capacity. Critical to this was the need to raise the profile, position and skills mix of the NMCP to allow it to fully mobilize partners and efforts during the rapid scale up; moving towards integrated vector management (IVM) and rapid and sustained scale up of LLINs, IRS, intensifying environmental management and larviciding where feasible; scaling up diagnosis using microscopy and RDTs and treatment with effective antimalarials, social mobilization and behaviour change communication (SBCC) and strengthening existing malaria surveillance, monitoring and evaluation systems.

Implementation of these strategies was planned to be through the decentralized structures. Having implemented the 2010-2015 MSP for three years, the MOH conducted a mid-term review (MTR 2014) to examine progress against the goals and targets outlined in the plan, identify challenges and bottlenecks that have affected implementation of the MSP to date, document lessons learnt and best practices.

3.2 Key achievements, issues and proposed actions

Based on the mid-term review findings, the following key achievements were demonstrated by intervention area.

3.2.1 Epidemiology

The targets for all-cause under-5 mortality rate and the proportion of children 6–59 months with moderate or severe anaemia were achieved. All-cause under-5 mortality rate per 1000 live births dropped from 137 in 2006 to 90 in 2011. HMIS data from public and private not for profit (PNFP) facilities showed a modest decline in reported cases between 2010 and 2011. In addition, there was a decline in the proportion of out-patient department (OPD) visits attributable to malaria in both the under and above five year old cases. The proportion of OPD attendance attributed to malaria in the >5 year olds declined from 40% in 2011 and stagnated at 29% in 2012 and 2013 well above the target of 15% in 2015.The proportion of OPD attendance attributed to malaria in children <5 years old declined from 48% in 2011 and stagnated at 14% in 2012 and 2013. There was a steady increase in number of admissions due to malaria between 2010 and 2013. However, the case fatality rate/ratio in children <5 years among malaria admissions decreased from 3.5% in 2011 to 0.72% in 2013 well below the target of 1% set for 2015. Total attendance of OPD due to malaria remained high at 16,265,670 cases while admissions were 739,129 for all ages and 445,056 for those under five.

3.2.2 Program Management

The NMCP updated its policies and guidelines, in line with the WHO guidance. The NMCP was able to coordinate the RBM partnership forum and developed a resource mobilization strategy to fund malaria control. This resulted in increased funding from the government, development partners and global health initiatives. In 2011, a round table dialogue with parliamentarians was held in which support for malaria activities was pledged resulting in the formation of a parliamentary forum on malaria to advocate for additional resources for malaria. The following weaknesses and bottle necks were identified;

The NMCP profile within the MOH structure was very low and this affected its decision making process and coordination. There was gross understaffing and many functions within the NMCP were supported through short-term technical assistance with different salary structures. Although funding from partners and global initiatives existed; the government allocations for malaria control remained inadequate and not commensurate to the level of prioritization.

While a forum for partner coordination existed, coordination of partners and activities remains weak and the scope of stakeholders did not reflect the multi-sectoral nature of malaria.

The following were the main areas to address in order to improve the NMCP program management:

a) Enhance the management capacity of NMCP staff and raise the profile of the NCMP as well as appoint substantive staff in the programme,
b) Harmonize salary schemes for technical assistants who should be targeted to specific needs,
c) Strengthen coordination between the NMCP and in-country malaria partners, especially the leadership of the programme,
d) Hold regular scheduled expanded RBM Partnership Forum meetings with a standard agenda and action plans,
e) Institute quarterly and annual planning and review meetings to monitor progress of implementation of activities,
f) Restrict the NMCP's central role to its core mandate (policy and guidelines development, standards setting, technical support and supervision, resource mobilization, quality assurance and monitoring and evaluation) and revitalize the role of districts and relevant decentralized levels in planning, implementation and supervision of malaria control activities.

3.2.3 Malaria Vector Control

The key intervention introduced during the plan period was universal coverage of LLINs. At the time of the MTR, administrative coverage was 60% of the country. In 10 target districts in Northern Uganda, IRS was introduced and maintained using two rounds annually. Wall bio-assays and insecticide resistance monitoring studies were also conducted, although no epidemiological studies were conducted to assess the overall epidemiological impact. Although funds for larviciding were earmarked, the NMCP was not able to implement this intervention, except for small pilots in two districts.

The following key issues were identified: Limited capacity at the National Drug Authority (NDA) and the Uganda National Bureau of Standards (UNBS) to monitor the quality of public health insecticides and LLINs in the open market. Despite a huge effort to implement universal coverage of LLINs, there was still weak social mobilization to promote their use. With regards to IRS there was irregular flow of government funds, which affected its timely implementation, as well as the sustainability of IRS especially given that most of the IRS districts are using donor funding. There was increasing insecticide resistance to public health insecticides used for both LLINs and IRS which is likely to compromise the potential impact of vector control interventions. There was limited involvement of other ministries and partners such as environment and agriculture in IVM activities. There was limited capacity

at lower levels (district) to implement IVM activities leading to centralised implementation of activities with limited involvement and utilisation of lower levels.

The following are the main areas of improvement in order to improve the impact of vector control interventions in Uganda:

a) Maintain a comprehensive approach for implementing vector interventions using the IVM approach.
b) Strengthen advocacy, social mobilization and behaviour change communication to improve the uptake of IVM interventions.
c) The NMCP should institute insecticide resistance risk monitoring and management as recommended by WHO.
d) Pro-actively engage the private sector to support IVM through their corporate social responsibility (CSR) programs.
e) Establish and operationalize the sentinel surveillance system for vector behaviour, bionomics and insecticide resistance.
f) Conduct comprehensive malaria epidemiological and vector mapping.

3.2.4 Case Management

The 2010 – 2015 MSP stated that all suspected cases of malaria should be confirmed with either microscopy or RDTs and treated promptly with ACTs. Rapid Diagnostic Tests (RDTs) are being provided at lower health units, VHTs and where laboratory services are unavailable or not functional. The integrated Community Case Management (ICCM) strategy, which is built on the Home Based Management of Fever (HBMF) strategy, is being scaled up to cover all districts. Training of health workers at all levels, including the private sector, on use of RDTs and microscopic diagnosis was performed in 54 of 112 districts. A quality assurance system for parasitological testing (EQA) was rolled out in 34 of 112 districts. Consequently, the proportion of cases receiving parasitological diagnosis with microscopy and RDTs increased from 24% in 2009 to 59% in 2013, still below the target of 90% by 2015.

Health workers at all levels including the private sector were trained in integrated management of malaria (IMM) in 102 of 112 districts (10,500 HWs). IMM guidelines and job aids were developed, printed and distributed; in addition diagnosis guidelines were developed although they are not yet finalized. Integrated quarterly support supervision was done in 34 of 112 districts. Health workers were trained in the management of severe malaria and clinical audits for severe malaria were performed in 34 of 112 districts. Further, support supervision of VHTs was done in 28 of 112 districts.

Key issues identified were as follows: Low coverage (34 out of 112 districts) of iCCM with no well-defined strategy to rapidly scale it up to all villages as well as limited engagement of

the private sector for malaria case management activities including training, QA, data capture and use, which continues to hinder appropriate diagnosis and treatment for the majority (about 56%) seeking treatment. While access to parasitological testing is improving due to availability of RDTs, coverage of QA and EQA remains low. Despite an increase in parasitological testing, there has not been a corresponding reduction in drug consumption as expected. A significant proportion of malaria cases were still being treated based on clinical diagnosis, even when test results are negative or are not tested at all. Commodity distribution systems remain weak to deliver timely and according to demand. Irregular follow up and support supervision remains a serious challenge; even when supervision is conducted, the weaknesses identified are rarely addressed.

The following are the main areas to address in order to improve case management:

a) Roll out iCCM to all villages across the country in a phased manner,
b) Ensure consistent and sustainable supply and access to all malaria commodities at all levels including the community,
c) Rapidly scale-up the Test, Treat and Track (T3) initiative to ensure early detection, prompt treatment with effective drugs and ensure that a good surveillance and reporting system is available for accurate reporting of cases and measuring disease burden,
d) Strengthen support supervision and clinical audits to address issues of adherence to policies and guidelines, quality assurance for diagnostics to all districts,
e) Conduct therapeutic efficacy studies to continuously monitor ACT efficacy to better manage treatment failures and drug resistance,
f) Strengthen referral systems from lower levels, community and private sector to improve management of severe malaria,
g) Provide free or highly subsidized ACTs and RDTs to the private sector.

3.2.5 Malaria prevention and treatment in pregnancy

The numbers of LLINs distributed through the ANC increased from 0 in 2010 to 504,715 in 2011 then to 641,799 in 2012 with a sharp decline to 107,108 in 2013. Similarly the proportion of pregnant women who slept under an ITN the previous night modestly increased from 44% in 2010 to 47% in 2011. According to HMIS, the proportion of pregnant women attending ANC services who have received IPTp2 increased from 33% in 2011 to 50% in 2013. The proportion of women who gave birth in the last 2 years and received 2(+) doses of IPTp during their last pregnancy was only 25% in 2011, and proportion of health facilities with no reported stock outs of the nationally recommended drug for IPTp lasting more than 1 week at any time during the past 3 months (public and PNFP); or during the last month was 50% (HMIS, 2010). There are reduced stock outs of SP in the facilities and the first ANC attendance has improved giving opportunities for improving uptake of 2 or

more doses of IPT. Also the collaboration with other partners involved in malaria in pregnancy has improved.

However, there is inadequate supportive supervision for MIP, weak coordination among the NMCP, RHD and partners and inadequate funding. There is lack of coordination between MiP implementing partners with no action plans; and there is inadequate information sharing on MIP activities. The national IPTp guidelines are not yet adapted to current WHO guidelines on IPTp.

The following are the main areas to address in order to improve the impact of malaria in pregnancy interventions in Uganda:

a) Develop effective partnership and coordination among MiP/malaria stakeholders,
b) Ensure that SP is one of the essential supplies to health facilities by the NMS,
c) Strengthen coordination between the NMCP and HIV/AIDS to ensure that data on cotrimoxazole given to pregnant women are captured under IPTp,
d) Integrate IPTp in other ongoing community outreach programs to avoid missed opportunities such as immunization and HIV counselling and testing (HCT) outreach clinics,
e) Conduct targeted BCC on MiP reaching both men and women,
f) Update the current IPTp policy in line with the WHO 2011 recommendation for monthly administration of SP after quickening,
g) Supply SP to public and private health facilities with robust regulatory mechanisms.

3.2.6 Advocacy, Social Mobilization and Behaviour Change Communication (ASBCC)

The 2010 – 2015 NMSP recognized ASBCC as an essential element of malaria control efforts in the country. According to the MIS 2009, the proportion of people aware of malaria prevention measures was 75%. The proportion of children under 5 years of age with fever seeking care from a recommended person within 24 hours of recognition of fever was 66.4% in MIS 2009 and increased to 81.6% in 2011. A communication strategy was developed to harmonize activities of the NMCP and partners.

However, delayed completion, endorsement and use of the communication strategy is affecting the coordinated approach and implementation. The BCC Technical Working Group/Task Force has also been inactive. Implementing partners involved in BCC have sometimes developed materials and messages with limited participation and endorsement by the NMCP. There is also inappropriate selection of channels of communication and poor utilization of existing structures for BCC at district level such as DHEs and VHT structures leading to inadequate impact of the messages.

The following are recommended in order to improve this area moving forward:

a) The SBCC focal person positions in the NMCP should be filled urgently with adequate numbers and appropriate skills,
b) Revise and update the communication strategy and disseminate it to partners for proper coordination of stakeholders,
c) SBCC should be prioritized across the program and provided appropriate funding, human and other resources,
d) Revitalize the SBCC technical task force to plan and harmonize the SBCC efforts in the country.

3.2.7 Surveillance, Monitoring, Evaluation and Operational Research

The M & E unit of the NMCP has now been linked to the Resource Centre to improve data capture from DHIS2. Also bi-annual supervision has been conducted in 78 districts. The proportion of districts conducting surveillance and reporting according to guidelines is very high (100%). Four quarterly reports/bulletins have been produced. There was improved use of the DHIS2 data with reporting rates increasing from 68.8% in 2012 to 88.8% in 2013. Similarly, timeliness of data improved from 37.9% in 2012 to 74.8% in 2013. Data for epidemic preparedness and response (EPR) showed strengthening in 38% of the epidemic prone districts in 2012.

However, there is poor coordination within the unit and among partners. There are inconsistencies in health facility reporting, late reporting, inaccurate reports, and poor quality data. Further, there is limited utilization of data, quarterly bulletins are not widely disseminated and utilized and there is lack of a unified database for all malaria interventions: Other challenges include: lack of data from the private sector and the community level; poor quality data due to limited data validation, and lack of a quality assurance system.

Action points

a) The program manager in liaison with the M&E unit should clarify the roles and responsibilities of each officer. The latter will enhance better coordination of M&E activities within the program.
b) The M&E unit needs to develop a central repository for storage of all activity reports, research studies from internal and implementing partners.
c) Publications of the malaria quarterly bulletins and any other related documents like policies, guidelines and strategic plans should be archived (e-library).
d) All NMCP personnel who routinely use data for decision making should have access to the DHIS2 and m-Trac databases.

e) There should be support for Malaria EPR activities country wide since malaria epidemics are likely to be frequent as various malaria interventions are scaled up.

3.3 Way Forward

Moving forward, the following the key directions and re-orientations are needed to achieve malaria reduction in Uganda.

1. An institutional review of the programme should be conducted with a view of raising the profile of the NMCP within MoH structure and substantively appoint staff to operationalize the vision of a malaria free Uganda.
2. The aim for all interventions should be to achieve universal coverage through coordinated planning and strategic planning and financing.
3. The MoH should support central and decentralized structures so that the role of programme implementation is duly invested at sub-national levels.
4. Expand and strengthen partnerships with the private sector, academia, research and other related sectors such as environment, industry and housing.
5. Strengthen support to health workers through regular support supervision and mentorship, as well as improve referral systems
6. Increase the availability of commodities such as ACTs and RDTs in both public and private health facilities.
7. Conduct drug efficacy and insecticide resistance risk management as per WHO guidance.
8. Integrate and prioritize IEC/BCC into all interventions to facilitate adoption of good practices by the community.
9. Institute quarterly and annual planning and reviews to monitor progress of activities.
10. Introduce innovative approaches to capture and integrate data from the private sector into the national HMIS system.

Chapter 4: The Malaria Reduction Strategic Plan 2014-2020

The 2014-2020 Uganda Malaria Reduction Strategic Plan (MRSP) was developed based on the recommendations of the malaria program review (2011) and the MTR (2014) of the strategic plan of 2011-2015. The following will be guiding principles and social values as aligned to the HSSIP:

4.1 UMRSP guiding principles and social values

4.1.1 UMRSP guiding principles

This UMRSP is aligned to the guiding principles of the broader MOH HSSIP (2010/11 – 2015/16). These principles are: universal coverage with proven malaria interventions, equity and equality and non – discrimination, participation and accountability and the right to the health elements of: availability, accessibility, acceptability, adequacy, quality and contiguous expansion of interventions.

a) Universal coverage for all populations at risk with proven malaria interventions

The whole population including key affected populations (children under the age of five years, pregnant women, people living with HIV/AIDs, internally displaced populations-IDPs, refugees, and nomads) will all access malaria prevention and control interventions.

b) Equity, equality and non-discrimination

All individuals are equal as human beings and by virtue of the inherent dignity of each person. All are entitled to their human rights without discrimination of any kind, such as by: race, colour, sex, ethnicity, age, language, religion, political or other opinion, national or social origin, disability, property, birth or other status as enshrined in the international human rights treaties and charters to which Uganda is a signatory. This principle requires the Government to address discrimination (intentional and non-intentional) in laws, policies and practices, including in the distribution and delivery of resources and health services.

c) Availability

The Ministry of Health will ensure that public health and health care facilities, goods, services and programmes exist in sufficient quantity and quality. This is a broader health system issue that directly affects malaria service delivery.

d) Accessibility

The Ministry of Health will ensure non-discrimination, physical accessibility, economic accessibility (affordability) and information accessibility with regard to public health and health care facilities, goods, services and programmes.

e) Acceptability

Ensure that public health and health care facilities, goods, services and programmes are respectful of medical ethics and culturally appropriate, sensitive to age and gender.

f) Adequacy and Quality

The Ministry of Health will ensure that public health and health care facilities, goods, services and programmes are user friendly, scientifically and medically appropriate and of high quality.

g) Contiguous expansion of interventions

Malaria control interventions will be guided by expansion of the gains made by past interventions, including cross border collaborations with Uganda's neighbours.

4.1.2 The UMRSP Social values

The implementation of the UMRSP shall be guided by the following social values:

a) Evidence-led and forward looking

The implementation of the UMRSP shall be evidence-led, forward looking and take into account emerging trends, risks and health innovations.

b) Pro-poor and sustainability

The UMRSP shall be pro-poor and shall provide a framework to support sustainable development. In order to address the burden of disease in a cost effective way, the GoU, PFPs and PFNPs shall provide services included in the Uganda National Minimum Health Care Package (UNMHCP) with special attention to the underserved parts of the country. The GoU shall explore alternative, equitable and sustainable options for health financing and health service organization, targeting vulnerable groups.

c) Partnerships

The government of Uganda considers partnership with other institutions, ministries, CSOs and the private sector as a cornerstone of all its undertakings. With regard to service delivery, the private sector shall be seen as complimentary to the public sector with respect to increasing geographical access to health services (scope and scale). Efforts shall be made towards joint planning, monitoring and evaluation between the GoU and other institutions, ministries, CSOs and the private sector in an effort to strengthen accountability, participation and transparency.

d) Primary Health Care

Primary Health Care (PHC) shall remain the major strategy for the delivery of health services in Uganda, based on the district health system, and recognizing the role of hospitals as an essential part in a national health system. Greater attention and support shall be given to health promotion, education, enforcement and prevention interventions as defined in the UNMHCP and empowerment of individuals and communities for a more active and meaningful participation in health development through VHTs and health unit management committees (HUMCs).

e) The Uganda National Minimum Health Care Package

In order to address the burden of disease in a cost effective way, public and private providers shall offer services that are included in the UNMHCP.

f) Integrated health care delivery

Curative, preventive, promotive and rehabilitative services shall be provided in an integrated manner.

g) Gender-sensitive and responsive health care, policy formulation and programming

A human rights and gender-sensitive and responsive national health delivery system shall be achieved and strengthened through mainstreaming human rights and gender analysis in planning and implementation of all health programs. To facilitate and strengthen the evidence base for human rights and gender mainstreaming, efforts shall always be made to disaggregate health data by age and sex and gender analysis carried out on the results in order to enhance the effectiveness and efficiency of interventions and programs. Every effort will be made, when involving CSOs, to specifically include women-centred CSOs.

h) Mainstreaming of health into other sectoral policies

Health shall be mainstreamed in all relevant policies and the MoH, with its stewardship role on health issues, shall provide advice to other government ministries and departments and the private sector.

i) Uganda in the international context

In order to minimize health risks, the GoU shall play a pro-active role in initiating cross border initiatives in health and health- related issues. The HSSIP shall follow the principles of the Paris Declaration and the Accra Agenda for action for Aid effectiveness through the IHP+ in the interaction and collaboration with national and international development partners.

j) Decentralization

Health services shall be delivered within the framework of decentralization. However, the MoH will continue to advocate for re-centralization of some aspects of health services delivery like training and recruitment, as well as investigation and response to epidemics.

4.2 Vision, Mission, Goals and Objectives

4.2.1 Vision

The vision is to have a “malaria free Uganda”.

4.2.2 Mission

The mission of the Ministry of Health’s National Malaria Control Programme is to provide quality assured services for malaria prevention and treatment to all the people in Uganda

4.2.3 Goals

a) By 2020, reduce annual malaria deaths from the 2013 levels to near zero[21]
b) By 2020, reduce malaria morbidity to 30 cases per 1000 population[22]
c) By 2020, reduce the malaria parasite prevalence to less than 7%[23]

4.2.4 Strategic Objectives

The following objectives will facilitate the achievement of the above stated goals:

a) By 2017, achieve and sustain protection of at least 85% of the population at risk through recommended malaria prevention measures;
b) By 2018, achieve and sustain at least 90% of malaria cases in the public and private sectors and community level receive prompt treatment according to national guidelines;
c) By 2017, at least 85% of the population practices correct malaria prevention and management measures;
d) By 2016, the programme is able to manage and coordinate multi-sectoral malaria reduction efforts at all levels;
e) By 2017, all health facilities and District Health Offices report routinely and timely on malaria programme performance
f) By 2017, all malaria epidemic prone districts have the capacity for epidemic preparedness and response.

[21] Near zero implies less than 1 death per 100,000 population
[22] That is 80% reduction from the 2013 levels of 150 confirmed malaria cases per 1000 population
[23] Over 85% reduction in malaria parasite prevalence of 45% in 2010

4.3 Strategic Interventions

4.3.1 Objective 1: By 2017, achieve and sustain protection of at least 85% of the population at risk through recommended malaria prevention measures.

The country is stratified into three epidemiological/transmission zones: low (parasite prevalence: <10%), medium (parasite prevalence: 11-50%) and high (parasite prevalence: >50%). Under this strategic plan period, all the 3 vector control strategies; Long Lasting Insecticide Treated Nets (LLINs), Indoor Residual Spraying (IRS) and Larval Source Management (LSM) will be deployed according to the current risk stratification context. The country will achieve universal coverage with LLINs by June 2014. Mass distribution campaigns will be repeated every three years and continuous LLIN distribution through ANC, EPI and schools in the whole country will be done to maintain high levels of coverage during the entire period of the strategic plan. IRS coupled with routine entomological monitoring and vector susceptibility studies will be scaled-up in a phased and contiguous manner specifically in 50 districts with the highest transmission rates. The targeted districts are contiguous with areas where IRS has been previously implemented with impressive entomological and epidemiological results enabling cost effective scale up in terms of IRS operational costs. Vector resistance monitoring in the different eco-epidemiological zones will guide the choice of insecticides for IRS. In districts where transmission has been substantially reduced by IRS as demonstrated by epidemiological and entomological monitoring, such districts will be weaned off and further protection maintained by LLINs. IRS will then be extended to the neighbouring districts according to a phased scale up plan. Larval source management using both environmental management and larval source management will be used to compliment the major vector control interventions in suitable areas – mainly the city, municipalities and major towns.

Strategy 1.1: Scale up and sustain indoor residual spraying (IRS) in 50 districts

This strategy will aim at promoting district ownership and capacity to conduct IRS. Districts with the highest malaria transmission intensity (parasite prevalence >50%) will be identified and supported to implement IRS. The national malarial control program will conduct a needs assessment and address gaps in the target districts including: supporting the development of district micro plans, conducting trainers of trainers (TOT) for management teams, training of IRS personnel to implement IRS activities, construction of disposal pits and bath shelters, monitoring and evaluation of the IRS activities, and training health workers to manage insecticide adverse events. The plan will also support conducting of wall bio-assays to assess the quality of spraying and clinical examination of spray personnel to determine vitality and pregnancies. The program will conduct advocacy activities for IRS in the target districts in addition to feedback and re-planning meetings.

Strategy 1.2: Sustain universal access to LLINs

Use of long lasting insecticidal nets (LLINs) is one of the ways of preventing malaria. These LLINs provide protection against mosquito bites and the transmission of parasites and also kill mosquitoes or repel them. It will be the responsibility of the national malaria control programme and partners to source for and distribute LLINs. This strategic plan will support the procurement of LLINs, distribution of the LLINs through mass campaigns and routine distribution through ANC, EPI, schools, private providers and commercial outlets. BCC for LLINs use and maintenance at households will be conducted. Further, the NMCP will update and implement the malaria communication plan, monitor coverage and use of LLINs at household level through post distribution and utilization surveys, as well as collect and incinerate wastes generated during LLIN distribution.

In addition, the NMCP in collaboration with partners will conduct market research and social marketing for LLINs. It will be the responsibility of the NMCP to set and disseminate specifications for LLINs in Uganda. These will then be enforced by the National Bureau of Standards and National Drug Authority. This plan will support the dissemination of LLIN specifications to the private sector, and will strengthen the capacity of the regulatory authorities to monitor and regulate the quality of LLINs in the private sector.

In addition to the distribution of LLINs, the NMCP will guarantee the availability of LLINs in households, institutions and facilities through the promotion of net retention. Over the planned period, the NMCP and partners will conduct community sensitization on care and repair of LLINs, monitoring field efficacy of LLINs including longevity, as well as, provide IEC materials for LLIN care and repair.

Strategy 1.3: Build capacity for larval source management including urban malaria control

Larval source management (LSM) is a complimentary strategy that the country has adopted in order to reduce malaria. Its implementation will be the responsibility of the NMCP, the vector control division (VCD) and National Chemotherapeutic and Research Laboratory. This plan will support the conduct of baseline and follow entomological and vector bionomic studies, training of health workers and VHTs on larval source management techniques, mapping of potential sources for larval source management (breeding areas), larval source management acceptability studies and BCC for larviciding.

In Uganda, urban authorities champion the control of malaria in their jurisdictions. Under this endeavour, with support from the NMCP and partners, urban authorities will hold quarterly coordination meetings, sensitize urban communities on malaria control, and build

the capacity for urban vector control authorities to deliver IVM. The NMCP will conduct detailed mapping and malaria epidemiological profiling within major towns and cities and establish a forum for coordinating urban malaria control with vector control departments, environmental management authorities and urban authorities.

Strategy 1.4: Strengthen capacity in entomology, epidemiological surveillance, insecticide resistance monitoring, vector behaviour and bionomics

Resistance management and vector surveillance are fundamental in implementing a cost effective and efficient IRS program. This strategy will equip the NMCP, partners and the district with knowledge and skills to implement an informed and evidence-led IRS program in order to achieve maximum impact. This strategic plan will also support the NMCP and partners to conduct baseline and post IRS entomological surveys/entomological studies to establish vector susceptibility to WHOPES approved insecticides, develop and implement an insecticide resistance management plan. The plan will also support the establishment of seven sentinel surveillance sites for vector surveillance and an insectary. In addition national wide vector and parasite prevalence mapping will be conducted.

4.3.2 Objective 2: By 2018, achieve and sustain at least 90% of malaria cases in the public and private sectors and community level receive prompt diagnosis and treatment according to national policy

Uganda's second national health policy 2011-2020 (NHP II) and the health sector strategic and investment plan, 2010-2015 (HSSIP) prioritize malaria parasitological diagnosis and prompt treatment with ACTs as the means for reducing morbidity and mortality – both of which are critical outcomes of the malaria action program for the districts results framework. Strategically, the NMCP seeks to strengthen the capacity of health workers to implement the new Test, Treat and Track (T3) strategy by strengthening capabilities in prompt and targeted malaria case management; integration of quality assurance and quality control schemes; incorporating malaria in pregnancy into the maternal and child health strategy; improving the procurement and supply chain for the commodities for malaria prevention and treatment; proactive engagement of the private sector in malaria control, as well as community participation in diagnosing, treating and reporting malaria cases.

Strategy 2.1: Strengthen health worker capacities for malaria diagnosis and treatment through regular training, clinical audits in the public and private sectors (PNFPs and clinics).

Specifically health workers from the public, private and village levels will be trained/re-trained on the national treatment guidelines and management of fever including severe malaria management, with particular emphasis on adherence to test results and case

management guidelines. Health worker training sessions will be conducted at HC IV or Hospital settings, involving all health workers at these facilities and those from the lower levels. Standard Operating Procedures, job aids and treatment algorithms will be produced and provided to health workers during training and support supervision visits, using standard check lists. National teams will routinely provide the district health teams with mentorship and support supervision skills to support the health workers. To improve the quality of care, national teams will train district health teams in clinical auditing. Training will be conducted at 14 regional centres. Trained district clinical auditors will conduct clinical audits in a phased manner.

Strategy 2.2 Scale up and sustain parasite based diagnosis of malaria at all levels

Procurement of RDTs and microscopy reagents and sundries for all health facilities will be done through the NMS. To scale up diagnostic capacity in the private sector, the NMCP will explore the possibility of subsidized RDTs to be provided through the Joint Medical Sores. Under the GFATM Round 4 and Round 10 grants, 5000 health workers were trained on RDTs and microscopic diagnosis of malaria in 22 districts. With funding from USAID/PMI, malaria microscopy and RDT training was done in 34 additional districts. Building on the achievements realized under the above two grants, 10,000 additional health workers will be trained on malaria microscopy and the use of RDTs to cover all the remaining 56 districts. Support supervision will be conducted at all levels including the districts, the private sector and at the community level to strengthen malaria diagnostic capacity.

Strategy 2.3: Scale up and strengthen iCCM

Uganda is expected to achieve close to 100% success in parasitological confirmation of all suspected malaria cases before prompt and accurate treatment of positive cases with ACTs, at all levels of care. For community based health care, the Ministry of Health, in 2010, adopted a strategy for integrated community case management (iCCM) to facilitate access to and reduce the treatment gap for malaria, pneumonia and diarrhea. The iCCM program includes using ACTs to treat malaria after confirmation with malaria RDTs, amoxicillin for prompt treatment of pneumonia and oral rehydration solution and zinc for the management of diarrhea at the community level. The NMCP will contribute to this strategy by producing and translating appropriate iCCM training materials for the VHTs.

The NMCP in partnership with other MoH programs, will also train clinical health workers at HC II and III on iCCM. The NMCP will take lead in guiding the partnership involved in training supervisors of the iCCM program and VHTs, on malaria case management. The NMCP will supply VHTs with required medicines, equipment, iCCM registers and logistical materials (job aids) in partnership with the pharmacy division and the central medical stores. Working with the district health teams, the NMCP will advocate for iCCM and sensitize the

communities about the strategy implemented by VHTs. Health workers at HC II and III levels of care, will regularly (monthly) mentor and supervise VHTs.

Strategy 2.4 Strengthen the management of malaria in pregnancy (MiP)

The NMCP seeks to implement the MoH recommendation of full integration of the MiP program within the reproductive health division (RHD) of MOH. The need to fully integrate the management of malaria in pregnancy at the antenatal point of care is supported by results of the 2011 UDHS that demonstrate that over 95% of pregnant women in Uganda attended at least one ANC visit. However, only 25% attended at least two visits and received two doses of SP. Under this strategy, the NMCP will be responsible for updating guidelines and job aids on IPTp, orienting health workers on updated IPT guidelines, producing integrated data collection tools for MiP, procuring IPT DOTs commodities/kit, procuring Sulphadoxine-Pyrimethamine (SP) for the public and private sector and mobilizing communities on antenatal care attendance in collaboration with RHD.

Strategy 2.5: Strengthen the quality assurance and quality control of laboratory diagnosis element

The current diagnostic policy has been rolled out in all the public health facilities in the country, though adherence to the policy remains challenging. The NMCP developed a quality assurance manual (2014) that outlines the plan for implementing a district level malaria microscopy and RDT quality assurance program in Uganda. It encompasses retraining, validation and the development of competency standards designed to ensure the quality of diagnosis necessary for a successful malaria program. Between 2015 and 2020, the NMCP plans to train clinical laboratory personnel in performing malaria microscopy and quality assurance. The NMCP and the NDA with technical partners will conduct malaria RDTs post purchase and shipment lot testing and quality control both at the point of entry and field monitoring at the health facilities post-distribution. The NMCP will conduct malaria blood slide validation at reference (district hospital) laboratories as well as competence assessments of clinical laboratory staffs. Standard Operating Procedures for malaria diagnostics QA/QA implementation will be prepared and updated regularly by the NMCP and partners. Completion and distribution of parasite-based diagnosis guidelines and QA manual will be done in the first year of this plan.

4.3.3 Objective 3: By 2017, at least 85% of the population practices correct malaria prevention and management measures

Implementation and coordination of this multi-sectoral malaria reduction strategy by the MOH will require a more revamped BCC approach. CSOs/ CBOs will be used to empower

communities to demand for services, health rights, and accountability from duty bearers therefore increasing utilization and value for money.

Advocacy, social mobilization and Information Education (BCC) will be driven by the understanding of changing paradigms that emphasize engagement with various participant groups and deepened empowerment of households and communities to adopt appropriate behaviour. Activities will seek to reduce malaria morbidity and related mortality by motivating every Ugandan to take recommended actions to fund, prevent, diagnose and treat, control and eventually eliminate the disease and to bring about sustainable social and individual behaviour change. It acknowledges challenges in the areas of prevention and vector control, malaria in pregnancy and case management and proposes strategies for effective communication with relevant stakeholders.

The implementation of the malaria communication programme interventions will be measured as they occur through process and output indicators. The outcomes of the interventions will also be assessed to determine the contribution of the strategy to the overall goal of the UMRSP 2014 – 2020. The following are the core intervention strategies for this objective:

Strategy 1: Strengthen national communication framework
Strategy 2: Develop messages for different communication platforms
Strategy 3: Strengthen community behavioural change activities for malaria
Strategy 4: Strengthen social mobilization at national and sub national level
Strategy 5: Create a system for mapping, identifying, and engaging hard-to-reach, minority and socially disadvantaged populations
Strategy 6: Improve advocacy for support for malaria control both in public and private sector

Strategy 3.1: Strengthen national communication framework

The Malaria communication strategy will be reviewed, updated and disseminated to address and track the redemption of policy and resource commitments to effective service delivery in communities using appropriate strategies.The national communication framework will build on current high levels of knowledge about malaria prevention to create awareness about appropriate case management and health care seeking behaviour, while addressing barriers to change in attitudes and practices identified in the situation analysis. Once the communication framework is set, all partners will be able to buy in such that the communication is structured. This will also define the approaches that will be used to reach the targeted audience for maximum benefit and participation in malaria prevention, treatment and control.

Strategy 3.2 Develop messages for different communication platforms.

In order to increase awareness, knowledge and to stimulate demand for malaria prevention and treatment through Information, Education and Communication, IEC materials will be developed, deployed and disseminated to various groups. These messages will focus on creating demand, social and behaviour change. This will be done with guidance from the operational research conducted on knowledge, attitudes and practices in relation to use of malaria control measures. NMCP will develop, pre-test, print and disseminate approved IEC materials. This will require the NMCP recruiting and training at least two social media practitioners for the programme who will focus on developing, pre-testing, and disseminating electronic IEC/BCC messages on radio, television and social media platforms.

Uganda's approach will target social, individual and environmental and health systems levels through promotion of a supportive society at family, community and policy makers. Communication materials on malaria will be developed or updated and translated in alignment with the communication pathways model of strategic communication for behaviour change, namely: (i) At the community levels to mobilize and strengthen community capacity and change social norms; (ii) At the level of engaging the individual and households for behaviour change (iii) At the policy level.

Strategy 3.3: Strengthen community behavioral change activities for malaria.

This strategy will focus on conducting community dialogues, promoting interpersonal communication, film shows, soap operas – containing integrated malaria message in each episode and engaging community institutions; cultural groupings, and religious houses.

VHTs will be trained on malaria interventions and will conduct focused household visits-Interpersonal Communication (IPC). They will be provided with performance related incentives. The MOH and CSOs / CBOs will conduct community dialogue forums, drama, film shows, sports events and other social mobilization interventions to boost malaria control and treatment behaviour among the community. These will include strategic engagement of school pupils to champion malaria intervention messages and act as change agents at home and among peers. Social mobilization and peer mentoring techniques will also be used to facilitate integration of malaria talking points into the activities of the clergy, community leaders, policy makers and the heads of primary and secondary schools.,

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Strategy 3.4: Strengthen social mobilization to increase awareness and demand for malaria prevention and treatment at national and sub national level

At national level, the NMCP will commemorate/mark international malaria related events such as world malaria day at national and sub national levels. A malaria ambassador identified and designated at the national level. MOH/NMCP will indentify, assess, build capacity and equip CSOs / CBOs to facilitate, support and monitor social mobilization of BCC activities at community level. The CSOs and CBOs will work with the DHT to monitor

BCC activities and ensure that the right messages on malaria control and treatment reach the targeted population.
In addition Social marketing will be used to build on current high levels of knowledge about malaria prevention; create awareness about appropriate case management and health care seeking behaviour, while addressing barriers to change in attitudes and practices. Social marketing defines the approaches that will be used to reach the targeted audience for maximum benefit and participation in malaria prevention, treatment and control. The introduction of a multi sectoral approach in the UMRSP will play a complimentary that produces synergistic effect in jointly improving access to treatment, testing and prevention of malaria.

Strategy 3.4 Strengthen monitoring and evaluation of BCC interventions

To guide development of appropriate messages, MOH, local government and partners will **c**conduct KAP and post survey on health seeking behaviour, to identify levels and determinants of the use of malaria preventive measures. The U–report will be used periodically to generate instant information on effectiveness of BCC interventions in the prevention and control of malaria to guide development of appropriate messages. To monitor BCC activities, NMCP will put in place a system for monitoring the trends in relation to malaria knowledge, attitude and practices. Monitoring tools will be developed to escalate the reporting paradigm to monitor behaviour of the population on a continuous basis and adjusting the communication strategies to address emerging issues. The DHT and CSOs/ CBOs will act as appropriate channels for ensuring BCC activities are reported.

Strategy 3.5 Create a system for mapping, identifying, and engaging hard-to-reach, minority and socially disadvantaged populations

Population living in hard to reach areas and minority groups have limited access to key malaria messages. During the implementation of this plan, these disadvantaged communities will be mapped so that targeted messages can be designed specifically to reach them in their different settings. Specific and innovative methods will be used to reach these groups. This is in line with the broader principles of this strategic plan that include among others equity and equality.

Strategy 3.6: Improve advocacy for support for malaria control both in public and private sector

The MOH and partners will conduct advocacy meetings to stimulate dialogue, strengthening coordination and collaboration mechanisms to support malaria prevention and treatment interventions in both public and private sector.

4.3.4 Objective 4: By 2016, the programme is able to manage and coordinate multi-sectoral malaria reduction efforts at all levels

Both the MPR and MTR indicated that the profile of the NMCP within the MOH structure is low. This results in poor coordination of the programme internally and externally with stakeholders. Implementation and coordination of this multi-sectoral malaria reduction strategy therefore requires elevating the position of the NMCP within the MOH to the level where it is able to participate in key policy, technical coordination and resource allocation decisions; and effective collaboration with partners, donors and the corporate private sector. The enhanced coordination role will enable the NMCP to adequately scale up, sustain and monitor program interventions.

Strategy 4.1: Strengthen central level advocacy for resource mobilization for malaria control across all sectors

During the period of this strategic plan, advocacy will continue for the elevation of the position of the NMCP through advocacy meetings with Ministries of Public Service, Finance Planning and Economic Development and other key stakeholders. This strategic plan aims to rapidly scale up cost effective interventions in a synchronized manner to national scale to achieve impact. In order to mobilize additional resources that will be required to implement the strategic plan, the programme will hold advocacy meetings and engage all potential funders to mobilize resources for malaria prevention and control. The NMCP will develop concept notes, proposals, and work-plans for resource mobilization from the government, development partners and the corporate private sector.

Strategy 4.2: Strengthen central and sub-national capacity to deliver malaria control interventions

In order to effectively implement this strategic plan, the overall national health system needs to be strengthened. This will entail strengthening the national and sub-national capacity to deliver malaria control services at all levels. A capacity needs assessment will be conducted and the identified gaps used to advocate for the recruitment of staff to fill the vacant and new positions at all levels and also to address infrastructure (office space and equipment) gaps. The NMCP will support and facilitate districts to hold quarterly coordination meetings with partners implementing malaria control activities. The NMCP will support annual district integrated health sector planning to include key malaria interventions in their work plans, and conduct regular integrated supportive supervision. Malaria policies, guidelines and job aids will be reviewed, updated and disseminated to the districts.

Strategy 4.3: Strengthen the coordination of malaria control activities by all stakeholders including the private sector through national and RBM mechanisms

The NMCP is mandated to coordinate all malaria prevention and control activities by all stakeholders in the spirit of the 'three ones'. This strategic plan aims at strengthening the coordination role of the NMCP by conducting malaria partner mapping to identify and define their activities and geographical scope. The NMCP will streamline malaria control efforts to ensure the delivery of a comprehensive package of interventions to targeted populations and avoid duplication.

In addition the programme will ensure that regular programme meetings, thematic group meetings, RBM in-country partnership coordination meetings, quarterly and annual review and planning meetings are held. Beyond national coordination, the NMCP will organize and participate in cross border malaria activities and meetings with neighbouring countries in the region.

In line with the targets of the Ministry of Health stipulated in the Public-Private partnership Strategy frame work (MoH, 2013); the NMCP commits to spearhead a strong partnership through coordination meetings with the private sector specifically to address effective malaria treatment and prevention strategies. This plan has embraced a multi-sectoral approach to ensure implementation and lobby for support from the private sector. The national malaria control program will conduct quarterly coordination meetings and joint supervisions with other ministries and government departments. The NMCP will form and operationalize a private sector co-payment taskforce to facilitate the private sector to access subsidized ACTs. The NMCP will develop/adapt appropriate supervision and monitoring tools for private health providers. In order to fully capture data from the private sector where a sizable population first seeks care, the NMCP will create a platform at district level for private drug shops, pharmacies and clinics to report on malaria HMIS indicators

Strategy 4.4: Strengthen programme capacity for procurement and supply chain management of malaria commodities

Quantification of malaria commodities is a primary role of Pharmacy Division QPPU working together with the NMCP. While still problematic; the supply of ACTs at health facilities has improved over time with the increase in commodity availability and improvement national forecasting of supplies. To boost health worker and community confidence in health care interventions, consistent and timely supply of essential medicines and pharmaceutical commodities is essential. Specifically the program will play a key role in the quantification of RDTs, ACTs, rectal Artesunate, injectable Artesunate and other malaria commodities. The Central Medical Stores (NMS and JMS) will procure and distribute these commodities to all levels of care through both the 'pull' the 'push' basic kit system. The NMCP and the district health teams will conduct integrated supervision and inspection of the supply and distribution process in the public, private and private-not-for-profit sectors. During support supervision, appropriate HMIS forms for each level of care, will be supplied by the

supervising teams. The NMCP will train health workers on proper quantification, forecasting and ordering for malaria commodities, general supply chain management. The NMCP will also hold monthly and quarterly review meetings to assess and resolve the the PSM challenges and bottlenecks.

4.3.5 Objective 5: By 2017, all health facilities and District Health Offices report routinely and timely on malaria programme performance

All the districts in Uganda have DHIS2, biostatisticians and /or HMIS focal persons. At this level all data from the lower level health centres including the community are compiled and analysed for onward transmission to the centre. Secondly, most of the implementation of routine interventions takes place at the district level where activity reports are collected. Thirdly, the CSOs and partners implementing at district level should be able to generate reports and submit them to the district. The district structures will be strengthened to ensure that all HMIS data and activity reports are collected, collated and analysed at all levels. All malaria policies will be guided by coordinated research on malaria. During the scale up efforts changes are expected in the epidemiology, parasite response to drugs and vector behaviour and bionomics. To monitor the progress attained and aide planning, regular monitoring through program reviews and surveys will be given a high priority.

Strategy 5.1: Strengthen malaria surveillance through HMIS (public and community)

Data generation, collection, collation and transmission of all health data is the mandate of the Uganda Ministry of Health Resource Centre (RC). They collect routine malaria data, which are accessed through the DHIS2. This strategic plan will support training of staff in HMIS, conduct revision and dissemination of HMIS tools. In addition the plan will strengthen the regular collection, collation, analysis and reporting of malaria data. The NMCP and the RC will strengthen data collection, management and analysis capacity so that all districts are capable of timely reporting of the weekly and monthly numbers of suspected malaria cases, cases receiving a diagnostic test and the number of parasitologically confirmed malaria cases from all public health facilities (government and PNFP), as well as malaria inpatients cases and deaths. As the malaria deaths reduce due to the scale up of malaria reduction interventions, the NMCP and the RC will review the need to change the paradigm from aggregated reporting of inpatient malaria cases and deaths to line listing of inpatient malaria deaths to gain an insight into programme weaknesses responsible for leading to continuing malaria deaths. The plan will also aim at harmonizing integrated supportive supervision tools before its scale up nationwide. In addition the plan will build capacity for M&E staff in data quality audits. Data quality assessments/audits will also be conducted.

Strategy 5.2: Conduct program implementation reviews

Program implementation reviews are the responsibility of the NMCP. This is done through the planning, coordination and assessment of progress in the implementation of malaria intervention activities. The strategic plan will support the NMCP to conduct monthly meetings, undertake regular supervision activities and coordinate quarterly review meetings. The strategic plan will also support the program to conduct annual reviews and planning meetings as well as mid-term and end-term strategic plan reviews.

Strategy 5.3: Conduct regular malaria surveys/evaluations

In order to assess the program performance in line with the set outcomes and impact, in addition to the routine data, the program together with its partners will conduct periodic surveys and studies. This strategic plan will support the implementation of annual representative health facility (public and private) assessments for the quality of malaria care (uncomplicated and severe) and other surveys including: service availability and readiness assessments (SARA), Malaria Indicator Surveys, DHS and impact evaluations.

Strategy 5.4: Strengthen data collection from the private sector.

Most of the malaria cases seek care from the private sector. However collecting and reporting data from the private sector in the past has been challenging. This strategic plan will support the improvement of reporting from the private sector by sensitizing the private sector on HMIS reporting, training the private sector in HMIS, integrating private sector reporting into HMIS, and continuously collecting, collating and reporting malaria data through HMIS. This will be further strengthened through supervision. Under this strategy, the program will also monitor the availability of ACT and other antimalarials, especially artemisinin monotherapy to monitor progress in achieving the WHA 2006 resolution on the withdrawal of oral artemisinin monotherapy in the private sector health facilities. In this effort the NMCP in collaboration with the NDA will conduct periodic representative surveys and analyses to monitor the quality of antimalarial drugs on the market (public and private). Further, the UMRSP will support the monitoring of pricing of subsidized commodities in retail outlets.

Strategy 5.5: Strengthen data demand and use at all levels

Generation of data demand for use in program planning is the core responsibility of the NMCP. The NMCP will support capacity building and development of relevant infrastructure. This strategic plan will support training of health workers in data use for decision-making and support capacity building for geographical information systems-GIS for use in malaria mapping and programming. Procurement of GIS equipment and software and training of relevant staff will be supported. The plan will support the development and provision of routine updates of malaria stratification maps using routine and survey data. The program

will develop, disseminate and regularly update a grid of core indicators for regular monitoring of the malaria status in the country. The programme and the districts will also produce and widely disseminate quarterly and annual reports to all stakeholders, including the communities and the media.

Strategy 5.6: Strengthen epidemiological, parasitological, entomological surveillance, drug and insecticide resistance monitoring and pharmacovigilance

Epidemiological surveillance is fundamental in understanding the temporal and spatial distribution of malaria in Uganda, while entomological surveillance enables the country to know the distribution of vectors so as to implement appropriate malaria control interventions. This strategic plan will support the National Malaria Control Program and partners to conduct sentinel surveillance and train medical entomologists so as to boost the country's capacity in entomological surveillance. The plan will also support conducting of vector behaviour and bionomics studies, therapeutic efficacy test studies at select sentinel sites every two years, parasite prevalence surveys among school going children at representative sites nationwide every two years and insecticide susceptibility studies. In addition the NMCP in collaboration with the NDA will support districts to established/strengthen functional systems for pharmacovilance of antimalarial drugs.

Strategy 5.7: Develop and implement an operation research agenda for malaria

It is through operations research that the country will adopt informed decisions in the control of malaria. In pursuit of this plan, strengthening research capacity to generate the evidence required for evidence-led policies, inform interventions and programmatic decisions will be a priority. This will be done through revamping of the Uganda Malaria Research Centre (UMRC) as a constituent entity of the Uganda national health research organisation (UNHRO) to coordinate malaria research in collaboration with research/academia and other research institutions. The NMCP in collaboration with academic institutions and other partners will define a malaria operational research agenda, maintain collaboration with local and international research institutions and provide a forum for research results dissemination.

4.3.6 Objective 6: By 2017, all malaria epidemic prone districts will have the capacity for epidemic preparedness and response

As the country scales up effective interventions, a reduction in malaria prevalence is expected leading to an increase in epidemic prone districts. Adequate preparation and management of epidemics will reduce malaria morbidity and mortality. This will be implemented through the establishment of early warning, early detection and response systems and capacity building at all levels for EPR. Epidemic prone districts will be

determined by malaria prevalence levels using routine surveillance data and the available malaria parasite prevalence data. Coordination and collaboration with IDSR, the Metrological Department, Public Emergency (PM) and the districts will also be strengthened for effective implementation of the strategy.

Strategy 6.1: Strengthen malaria epidemic forecasting and preparedness in epidemic prone districts

The implementation of epidemic forecasting and preparedness will be a collaborative effort between the NMCP, the Epidemiological Surveillance Division, WHO and the Metrological Department. In collaboration with the meteorology department the NMCP will develop and strengthen a malaria epidemic forecasting system in the country using climatic (rainfall and temperature) and other data sources, including intervention coverage changing, malaria transmission to predict the likely occurrence of malaria epidemics.

Strategy 6.2: Strengthen malaria epidemic detection and response at all levels

In order to ensure that epidemics are detected and responded to in a timely manner (within 2 weeks of notification), a number of activities will require strengthening. This strategic plan will support the adaptation of Integrated Disease Surveillance and Response (IDSR) guidelines, printing and dissemination of epidemic preparedness (EPR) guidelines and tools as well as training of district health teams (DHTs) and health workers in malaria EPR including mapping of epidemic risk areas. The UMRSP will support the development of annual EPR plans, including buffer stocks, to be stored at the zonal level. In addition the UMRSP will support reviews and planning meetings with relevant stakeholders. Further, the strategic plan will support the collection, collation and reporting of weekly malaria surveillance data. Health facilities will be supported to upgrade their early warning epidemic thresholds and weekly plotting of health facility data against the epidemic thresholds. This plan will support the training of health workers in epidemic response and the formation of district malaria epidemic response teams. In order to appropriately assess the management and response to epidemics, the plan will support the conduct of malaria post epidemic evolutions after each epidemic.

CHAPTER 5: Implementation Plan

5.1 Implementation arrangements

This strategic plan will be implemented at different levels of the health care system. This will include National, Zonal, District, HSD, health facility and community level and through a wider multi-sectoral partnership framework.

The table below summarizes the roles of the different actors:

Table 2: Implementation roles

Level of implementation	Actor	Role
National	Ministry of Finance	Resource mobilization, budget allocation and financing the UMRSP
	Ministry of Health, NMCP	Policy formulation, supervision, capacity building, quality assurance, setting standards, guidelines, partner coordination, planning, reviews, surveys, monitoring and evaluation, resource mobilization, surveillance, operational research.
	Other Government line ministries (education, agriculture, metrological etc)	Foster a multi-sectoral partnership with MOH in malaria control leveraging on their respective mandates
	WHO	Technical guidance in the implementation of malaria reduction interventions; Financial/commodity support to implement malaria reduction interventions; Evidence-based norms/standards to guide the implementation of interventions; Technical assistance in sourcing, procurement and distribution of commodities; Assistance in conducting monitoring and evaluation activities such as surveys and operational research.

	Bilateral & Multilateral Partners	Technical guidance in the implementation of malaria reduction interventions; Financial/commodity support to implement malaria reduction interventions; Technical assistance in sourcing, procurement and distribution of commodities; Assistance in conducting monitoring and evaluation activities such as surveys and operational research.
	NGO's	Implementation of malaria prevention, treatment and control
	Corporate entities	Provide financial support through CSR
	Universities, academia and research institutions	Conduct research to provide technical evidence for policy formulation and capacity building
Zonal level	RPMTs	Support the decentralized districts, supervision, support response to malaria epidemics, improving quality of care, support M&E
District Level	DHTs	Planning and management, supervision of HCs, community and private sector/NGO; data compilation and transmission to MOH, coordination of partners at that level
	District political leadership	Advocacy, resource and community mobilization, supervision of implementation
	NGOs	Support implementation of malaria prevention, treatment and control
	Health centres	Implementation and supervision of VHTs, data collection and transmission to district
Community	VHTS	Health promotion, iCCM implementation, keeping health records

The implementation of this Strategic 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. In addition to specifically preventing and controlling malaria, the strategic plan looks towards strengthening the health service delivery system in the country.

Overall management

Malaria reduction in Uganda like the HIV/AIDs response requires a fully inclusive multi-sectoral partnership approach. Further, the financial landscape for malaria control in Uganda has increased from just a few hundred thousand dollars in the late 1990s to millions of US dollars currently. Consequently the country needs reforms in the partnership coordination framework and financial accountability systems. To support the rapid efficient and effective implementation of the UMSR 2014-2020, the Ministry of Health will elevate the NMCP to a department of malaria and other vector borne diseases. This department will oversee, plan and coordinate malaria reduction efforts throughout Uganda. The department will coordinate all partners at national, sub-national level and community level

The Commissioner of Health Services in charge of malaria and other vector borne diseases will be, overall, responsible for the supervision of the implementation and monitoring of the UMRS. The UMRS will be implemented through a broad collaborative nationwide coalition whereby all stakeholders will participate within the framework of the UMRS. Working arrangements will be used to strengthen 'bottom-up' approaches to foster decentralization of service delivery at district level to increase efficiency. Coordination and supervision of implementation will be through the following partnership framework.

There are inadequately trained managerial personnel to coordinate malaria interventions because of limited financial resources. Relevant skills are required to provide informed oversight on the implementation, monitoring and evaluation of malaria activities needed for effective scale-up and sustainability. Therefore, the MOH through NMCP and in collaboration with partners will conduct national training of all district and health sub-district health mangers focused on managerial principles and implementation and the monitoring and evaluation of malaria programs.

Roll Back Malaria RBM partnership

The Roll Back Malaria partnership framework will be the mechanism through which the department of malaria performs its coordination task, by rallying all constituencies around one national strategic plan, one national surveillance, monitoring and evaluation (SME) plan and commitment to support one coordination mechanism for the national malaria reduction strategy. This partnership aims to: minimize wasteful duplication and maximize synergies, encourage harmonization and pooling of efforts for faster scale up of malaria reduction. All malaria stakeholders will come together to share information, plan and monitor

performance of the interventions. This will be in harmony with the Global Roll Back Malaria (RBM) “three ones” principle for coordinating multi-sectoral action for malaria reduction in Uganda. This RBM partnership framework will be strengthened to fulfill its coordination task at national and sub-national level.

Regional /Zonal coordination

In line with the 1993 policy of decentralization, the first anti-malarial policy of 1998 recommended the creation of a functional level called zonal/regional coordination centres to support the decentralized districts in the implementation of malaria control. These coordination centres are based at the regional referral hospitals. With support from the Global Fund Health Systems Strengthening grant, the MOH has recently operationalized 12 Regional Monitoring Performance Teams (RPMTs). These teams based at the regional referral hospitals (RRHs) each have malaria Resource Person responsible for the districts within the catchment area of the RRH. The main objective of the RMPTs is to strengthen the capacity for active performance monitoring and surveillance of program outputs in order to support the performance management of implementing agencies at all levels. During the UMRS 2014-2020, the functionality of the Malaria Resource Persons in the RPMTs to coordinate on behalf of the MoH the malaria reduction activities, especially those related to case management, IPTp and MIP and SME will be strengthened.

District level coordination

Implementation of this UMRS will mainly be at the district level in line with the decentralization policy. The district health officer (DHO) will be the overall responsible for the coordination and supervision of the implementation of malaria reduction activities at district level. However, just like at the national level, every district will establish a multi-sectoral district malaria partnership forum. The partnership forum will include: DHT who will coordinate malaria control activities. In addition, all national and international NGOs dealing with malaria in a given district will be members of the district partnership forum as well as line ministries and departments that have a bearing on malaria.

Community level coordination

This strategic plan aims at strengthening the role of communities in malaria prevention and control. At community level, the UMRS will empower VHTs with relevant skills to conduct effective malaria prevention and control, focused on delivery of information, education, diagnosis and treatment. VHTs will provide formal linkages between health facilities and the community and will operate in collaboration with various Community-based Organizations (CBOs) and traditional/religious leaders. In addition the NMCP will facilitate the districts to create organizations for peer education, drama outreach and community dialogue meetings in scaling up malaria reduction efforts. The VHTs will be used to identify people that could

be used for the distribution of LLINs or serve as spray men. In this way the UMRS will contribute to the strengthening of community systems by working with community development committees to provide human resources in both distributions of LLINs well as community mobilization for IRS in target areas. The VHTs will also keep a register of all the people in their catchment area identifying those with LLINs and those without.

Role of the corporate private sector for the malaria reduction efforts

Uganda has not invested substantially in using the private sector and corporate companies in malaria prevention and control. Active involvement of the private sector can result in an excellent return on investment, with significant reductions in malaria-related illnesses, deaths, worker absenteeism and malaria related spending. The private sector is a critical partner and this strategic plan will harness its contribution through partnership meetings and their corporate social responsibility.

Resource mobilization and financing

While Uganda's Health Budget has been increasing in the past ten years, the National Health budget remains at 9%, less than the 15% recommended by Abuja Declaration 2000. This implies that the domestic contribution for malaria prevention and control in Uganda is minimal. There is need to increase domestic funding if the malaria reduction strategy is to succeed. The Ministry of Finance, Planning and Economic Development (MoFPED) should prioritize malaria reduction by increasing budgetary allocation for malaria control. In addition, the Government of Uganda will work closely with a number of partners to jointly finance the UMRS.

Further success in malaria reduction in Uganda requires a multi-sectoral framework that identifies actions to address the social and environmental determinants of malaria, and calls for malaria strategies to be complemented by a broader development approach.

The successful implementation of UMRS will also depend on timely and consistent availability of adequate resources. Significant progress has been made in governance and financial accountability related issues by strengthening leadership structures, and improving internal auditing and procurement systems. The UMRS will support further improvements in financial accountability procedures at all levels. The UMRS will support and monitor the establishment of committed technical leadership, good governance and accountability at national and sub-national level, including strengthening performance based financing models for national and sub-national level health managers.

Improving capacity for procurement and supply chain management

In terms of procurements of malaria commodities, this strategic plan builds on an already existent operational procurement system. Procurement and supply management of pharmaceuticals, medical and non-medical health products in Uganda is the responsibility of the Procurement and Disposal of Assets Unit (PDU) in the Ministry of Health, The PDU is under the Permanent Secretary in the Ministry of Health. The NMCP, with support from Quantification and Procurement Unit (QPPU) of the Pharmacy Division will provide technical guidance in product selection, forecasting, quantification and procurement in consultation with the districts health offices to ensure un-interrupted supplies of health and non-health commodities for malaria prevention and treatment. The MOH will collaborate with various partners (WHO, US-PMI, UNICEF, WHO, GFATM, the National Medical Stores and the Joint medical stores) to ensure the following:

- Develop annual procurement and supply management plans for malaria commodities;
- Build the capacity of health workers in procurement and supply chain management, specifically in forecasting and quantification of malaria commodities;
- Conduct reviews of the distribution systems for diagnostics, medicines and other commodities to determine ways of strengthening the Procurement Supply Management system;
- Support national and international efforts aimed at strengthening the procurement and supply system and, where feasible, utilize complementary mechanisms in the delivery of commodities.

Strengthening cross-border malaria initiatives - with Uganda's malaria endemic neighboring countries, establish direct and regional communications and plans to jointly address malaria on both sides of national borders.

CHAPTER 6: PERFORMANCE ASSESSMENT FRAMEWORK

The monitoring, evaluation and performance assessment framework to be used in measuring progress in the implementation of the UMRS is described in the performance framework and will be further detailed in the revised Uganda malaria monitoring and evaluation plan 2014-2020. There will be two main M&E responsibilities: tracking progress for the program in implementing the specific components of the full package of malaria reduction interventions; and tracking progress in meeting targets and milestones.

6.1 Tracking implementation progress

The tracking of the progress in meeting the targets and milestones for the UMRSP will utilize the revised National Malaria M&E Plan 2014-2020, but will also focus on strategic areas to assure that prioritized activities are appropriately addressed. Monitoring implementation progress will be done through a joint collaborative approach by the Ministry of Health, the Ministry of Finance, Planning and Economic Development and malaria partners and stakeholders using regularly planned monitoring events including:

- RBM partnership reviews to be conducted quarterly.
- National Joint Annual Assessments/Reviews.
- A Mid-Term Review to be conducted in 2017.
- An End-term Malaria Strategic plan Review/Evaluation in 2020.

6.2 Measuring the achievement of outputs, outcomes and impact

The malaria reduction strategic plan will be evaluated based on several indicators, including those for strategic re-orientations and those for performance assessment detailed in **Annex 1.** These indicators will also be included in the revised National Malaria M&E Plan 2014-2020. The methods for tracking of progress for program actions will be fully detailed for impact, outcome, output, process and inputs in the revised Uganda Malaria M&E Plan. This tracking the achievement of outputs, outcomes and impact will use a variety of sources of information including: routine HMIS, the weekly IDSR system, population-based household surveys (DHS and MIS), school and community surveys for infection prevalence, other surveys such as: health facility surveys, special studies, including drug and insecticide resistance studies and administrative information systems (e.g., commodity procurement and distribution data). HMIS will provide continuous data from patient care settings; while surveys will compliment this data with population-based information but only on an intermittent basis (DHS every5 years; Malaria indicator Surveys [MIS] every 2-3 years); Quality of care health facility surveys will also be conducted and iCCM strategy reviews and special studies will be directed at specific issues as the need arises. Information will be

compiled and synthesized and feedback provided through periodic reports, bulletins, and newsletters and various presentations to summarize the information obtained. This collective documentation will be made available to partners, donors and the communities through various opportunities and channels including conferences/workshops, technical working group-TWG meetings, annual review and planning meetings, peer-reviewed publications, and the NMCP and partner websites.

6.3 Strategic Plan Performance Framework

This strategic plan proposes set of critical indicators which will allow the tracking of performance towards achieving outcomes and impact enshrined in the goals and objectives. The agreed targets and outcome and impact indicators are outlined in the table below. The details, including definitions, of these indicators are outlined in the monitoring and evaluation plan of this plan.

ANNEXES:

Annex 1: Strategic Plan Performance Framework

Table 3: Strategic Plan Performance framework

GOALS	INDICATORS	BASELINE	YEAR	DATA SOURCE	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020	2020/ 2021
By 2020, reduce annual malaria deaths from 2013 levels to near zero.(1 death per 100,000 population)	All-cause under-5 mortality ratio	90	2010	UDHS	56				26		
	In patient malaria deaths per 100,000 persons per year	29.93	2013	HMIS	21.73	13.53	5.33	5.33	5.33	5.33	5.33
	Proportion of malaria deaths of total deaths.	18.09	2013	HMIS	16.09	14.09	12.09	10.09	9.09	8.09	7.09

By 2020,reduce malaria morbidity to 30 cases per 1000 population	Malaria cases per 1000 persons per year	150	2013	HMIS							30
By 2020, reduce the malaria parasites prevalence to less than 7%	Malaria parasite prevalence - Proportion of children aged 6-59 months with malaria infection	42%	2009	MIS	9.70%			6.7%			6.7%
OBJECTIVES											
By 2017, achieve and sustain protection of at least 85% of the population at risk through recommended malaria prevention measures	Proportion of households with at least 1 LLIN for every 2 people	27.1	2011	UDHS		85%					100%
	Proportion of the population that slept under LLIN the previous night (disaggregated by sex)	34.5	2011	UDHS		55%					85%

	Proportion of the population protected by IRS (in the last 12 months)	10%	2013	Activity reports	10%	19%	30%	38%	29%	19%	9%
	Proportion of pregnant women attending ANC 1 who have received two or more doses of IPTp	50.10%	2013	HMIS	57%	64%	71%	79%	86%	93%	93%
By 2018, achieve and sustain at least 90% of malaria cases in the public and private sectors and community level receive prompt treatment according to national guidelines	Proportion of suspected malaria cases tested in Public sector	66%	2013	HMIS	70%	75%	85%	90%	100%	100%	100%
	Proportion of suspected malaria cases tested in Private sector	31%	2011	ACTWatch Household Survey	31%	65%	70%	80%	90%	95%	
	Proportion of suspected malaria cases tested in the community	80%	2011	ACTWatch Household Survey	85%	90%	95%	100%	100%	100%	100%

	Percentage of HC that reported no stock out of first line anti-malarial medicines (ACTs) lasting more than 7 days in the previous month	85%	2013	HMIS	86	87%	88%	89%	90%	91%	92%
By 2017, at least 85% of the population practices correct malaria prevention and management measures;	Proportion of under 5 children with confirmed malaria receiving correct treatment within 24 hours of onset of symptoms	46.4%	2011	UDHS		64%					81%
	Proportion of care givers who know malaria prevention measures	86%	2009	MIS	90%		90%		90%		90%

By 2016, the programme is able to manage and coordinate multi-sectoral malaria reduction efforts at all levels	Proportion of actions generated from RBM coordination meetings that are implemented	TBD	2013	RBM Meeting Minutes	50%	70%	80%	100%	100%	100%	100%
By 2017, all health facilities and District Health Offices report routinely and timely on malaria programme performance	Proportion of districts submitting quarterly malaria reports with in stipulated time frames.	0%	2013	Quarterly district reports	10%	40%	60%	70%	80%	90%	100%
	Proportions of health units reporting (public and private)	88%	2013	HMIS	88%	90%	92%	92%	92%	92%	92%

	Proportion of partners providing data/reports to NMCP	0%	2013	Partner Reports	50	100%	100%	100%	100%	100%	100%
	Proportion of research agenda studies conducted and findings disseminated at the national malaria forum		2013		70%	90%	90%	90%	90%	90%	90%
By 2017, all malaria epidemic prone districts have the capacity for epidemic preparedness and response.	Proportion of epidemic prone districts with annual epidemic preparedness and response plans.	0%	2013	EPR Annual Plans	19%	95%	95%	95%	95%	95%	95%
	Proportion of reported epidemics detected on time.	TBD			80%	80%	90%	100%	100%	100%	100%
	Proportion of epidemics responded to	TBD	2013		100%	100%	100%	100%	100%	100%	100%

ANNEX 2: IMPLEMENTATION PLAN TABLE

Table 4: Implementation Plan Table

Strategy	Activity	Sub activity	Responsible	Partners	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Objective 1: By 2017, achieve and sustain protection of at least 85% of the population at risk through recommended malaria prevention measures.											
Strategy 2: Scale up IRS to rapidly reduce parasite burden in 50 high risk districts	Mapping the targeted districts for IRS	Conduct needs assessment for IRS in targeted Districts									
	Micro-planning	Hold feedback and re-planning meetings			X	X	X	X	X	X	X
		Development of micro plans with the Technical team.			X	X	X	X	X	X	X
	Procurement	Procure IRS logistics including equipment, clothing among other for all Districts									
	Capacity building for IRS	TOT for district Management teams and Training of IRS personnel to implement IRS			X	X	X	X	X	X	X
		Training the private sector in IRS implementation			X	X	X	X	X	X	X
		Training clinicians to manage insecticide poisoning			X	X	X	X	X	X	X
	Conducting HH spraying	Conduct clinical examination of spray personnel to determine vitality and pregnancies			X	X	X	X	X	X	X
		Construction of disposal pits and bath shelters.			X	X	X	X	X	X	X
	Conduct BCC for IRS	Orientation of stakeholders advocacy			X	X	X	X	X	X	X
		Conduct targeted AS BCC activities for IRS (pre, during and post spray)			X	X	X	X	X	X	X
	M&E for IRS	Monitoring and evaluation for IRS activities(supervision for IRS)			X	X	X	X	X	X	X
		Conduct wall bio-assays to assess the quality of spray.			X	X	X	X	X	X	X
		Conduct environmental impact assessment			X		X		X		X
Strategy 2: Achieve and ssustain universal coverage with LLINs (1 net for every 2 persons in a household)	Conduct mass campaign	Procure LLINs for mass distribution				X					
	Conduct routine LLINs campaign	Procure LLINs for routine distribution			X	X	X	X	X	X	X
		Continuously distribute LLINs through mass and targeted distribution, campaigns, ANC, EPI, schools private providers and commercial outlets.			X	X	X	X	X	X	X

	Conduct BCC for LLINs use	Targeted BCC for LLINs use and maintenance at household			X	X	X	X	X	X	X
		Update and implement the NMCP communication plan for LLINs			X			X			
		Social marketing			X	X	X	X	X	X	X
		Community sensitization on care and repair of LLINs			X	X	X	X	X	X	X
		IEC materials for LLIN care and repair			X	X	X	X	X	X	X
	Engage private sector to promote availability of nets	Disseminate specifications of approved quality LLINs to private sector			X	X	X	X	X	X	X
		Train the regulatory bodies to ensure adherence by private sector.			X			X			
	Conduct post campaign surveys	Monitoring coverage and use of LLINs at household level – post distribution and utilization survey			X	X	X	X	X	X	X
		Market research			X	X	X	X	X	X	X
	Quality assurance of LLINs	Develop guidelines for distribution of quality LLINs			X						
		Monitoring field efficacy of LLINs including longevity.			X	X	X	X	X	X	X
		Develop guidelines and quality standards for LLINs									
Strategy 3: Strengthen larval source management	Conduct mapping and baseline surveys	Conduct larval source management acceptability studies			X	X	X	X	X	X	X
		Mapping of potential sources for larval resource management (breeding areas)			X			X		X	
	Capacity building for LSM	Conduct training of health workers and Village Health Teams on larval source management techniques,			X	X	X	X	X	X	X
		Build Capacity of urban vector control authorities to deliver IVM			X	X	X	X	X	X	X
	Conduct BCC for LSM in urban areas	Conduct BCC for larviciding			X	X	X	X	X	X	X
		Sensitization of urban communities on malaria control			X	X	X	X	X	X	X
	Conducting LSM	Establish a forum for coordinating urban malaria control with vector control departments, environmental management authorities and urban authorities.			X	X	X	X	X	X	X
		Hold quarterly coordination meeting			X	X	X	X	X	X	X
	Conduct monitoring and Evaluation of LSM	Conduct periodic monitoring of larval densities at breeding sites			X	X	X	X	X	X	X
Strategy 4: Conduct	Build capacity in entomology,	Establish seven (7) more sentinel site for vector surveillance									

Environmental and entomological Monitoring	surveillance, insecticide resistance monitoring and vector bionomics	Develop and implement an insecticide resistance management plan			X	X	X	X	X	X	X
		Conduct joint supervisions			X	X	X	X	X	X	X
	Conduct vector and parasitological mapping, entomological surveys and environment impact assessment	Conduct baseline and post -line entomological surveys			X	X	X	X	X	X	X
		Conduct entomological studies to establish vector susceptibility for qualified insecticides			X	X	X	X	X	X	X
		Conduct vector mapping nationwide			X			X			
		Conduct parasite mapping nationwide			X			X			
		Hold coordination meetings			X	X	X	X	X	X	X
Strategy 5; strengthen IPTp and other methods of chemoprevention	Update and disseminate guidelines for IPTp	Hold meetings, workshops to update IPT guidelines			X			X		X	
		Orient health workers on updated IPT guidelines			X			X		X	
		Produce integrated data collection tools for MiP			X			X		X	
	Procure IPTp medicines and other materials for implementation of DOT at HFs	Procure IPT DOTs commodities			X	X	X	X	X	X	X
		Procure Sulfadoxine/ Pyrimethamine (SP) for public and private sector			X	X	X	X	X	X	X
	Promote use of ANC services	Mobilize communities on ANC attendance in collaboration with Reproductive Health Unit			X	X	X	X	X	X	X
	Conduct operational research for increased uptake of IPTp	Explore other chemo-preventive interventions such malaria vaccine subject to available evidence			X			X		X	
Objective 2: By 2018, achieve and sustain at least 90% of malaria cases in the public and private sectors and community level receive prompt treatment according to national guidelines											
Strategy 1: Strengthen health worker capacities for correct management of malaria	Develop and disseminate case management guidelines, policies and job aids	Develop and disseminate Standard Operating Procedures for management of malaria			X	X	X	X	X	X	X
	Train HW in management of malaria including Malaria in Pregnancy (MiP)	Train health workers on IMM			X	X		X	X		
		Train health workers on MiP			X			X			

	Improve the capacity of HW in the private sector to manage malaria	Train health workers in private sector on IMM			X		X			X	
		Train health workers in private sector on MiP			X		X			X	
	Conduct mentorship and supportive supervision at the public and private health facilities	Mentorship and regular supervision of health workers			X			X			
	Conduct specialized training in the management of severe malaria in the hospitals	Conduct TOT for Clinical audits			X	X	X	X	X	X	X
		Conduct clinical audits.									
	Conduct Private sector Co-payment activities to ensure access to subsidized ACTs and malaria RDTs in private sector	Complete and print the national private sector case management strategy			X						
		Disseminate the national private sector case management strategy			X						
		Establish the private sector co-payment taskforce			X						
		Hold coordination meetings for first line buyers and manufacturers of ACTs			X	X	X	X	X	X	
		Hold meetings of the private sector co-payment taskforce			X	X	X	X	X	X	
		Conduct price and availability monitoring of ACTs in private sector outlets			X	X	X	X	X	X	
		Conduct community sensitization on availability of quality assured subsidized ACTs in private sector			X	X	X	X	X	X	
Strategy 2: Scale up and sustain parasite based diagnosis of malaria at all levels	Expand availability of malaria diagnostic tools (RDTs and Microscopy)	Quantify, procure and distribute RDTs, Microscopes and microscopy consumables			X	X	X	X	X	X	
		Training Health workers on RDTs and Lab techs on malaria microscopy			X	X	X	X	X	X	X
		Train laboratory technologists and technicians on malaria microscopy			X	X	X	X	X	X	X
		Train private health providers in malaria diagnosis			X	X	X	X	X	X	X
		Develop an online curriculum for malaria diagnosis			X						
		Deploy malaria diagnostics to public, private and community levels			X						
		Operational research to improve uptake and guidelines for malaria RDTs			X	X	X	X	X	X	X

Strategy 3; Ensure availability of Quality Assured Anti-malarial medicines	Procure and distribute ACTs, rectal Artesunate and Artesunate injections and relevant consumables				X	X	X	X	X	X	X
	Conduct regular anti-malaria drug resistance monitoring				X			X			X
	Conduct pharmacovigilance	Screen quality of antimalarials on the market			X			X			X
		Conduct post market surveillance of ACTs and RDTs			X	X	X	X	X	X	X
Strategy 4: Scaling of community case management of malaria within the context of iCCM	Establish an NMCP-Child Health joint committee on iCCM	Establish an NMCP-Child Health joint committee on iCCM			X	X		X	X	X	
	Map districts for iCCM expansion	Map districts for iCCM expansion			X			X			
	Update, translate produce and, disseminate iCCM training materials and job aids	Translation of iCCM materials			X	X					
		Print and disseminate translated iCCM materials			X	X	X	X	X	X	X
	Train VHT on iCCM	Training VHTs on iCCM			X	X	X	X	X	X	X
	Provide malaria commodities for iCCM	Supply VHTs with required medicines, equipment, iCCM registers and logistical materials. (job aids)			X	X	X	X	X	X	X
	Conduct training of Trainers iCCM	Training Health Workers at HC II and III on iCCM including their role as VHT supervisors			X						
	Facilitate mentorship and supportive supervision of VHTs	Mentorship and supervision of VHTs by assigned health workers			X	X	X	X	X	X	X
	Conduct advocacy and community sensitization for iCCM	Advocacy and community sensitization on iCCM by VHTs			X	X	X	X	X	X	X
Strategy 5: Strengthen the quality assurance and quality control of malaria	Develop and disseminate framework for malaria diagnostics QA	Secure TA for RDT lot testing									
		Develop and Disseminate parasite-Based Diagnosis guidelines			X	X	X	X	X	X	X
		Develop and Disseminate Diagnosis QA Manual			X	X	X	X	X	X	X

parasitological diagnosis element	Scale up national malaria quality assurance processes	Conduct continuous RDT Field quality monitoring at health facility			X	X	X	X	X	X	X
	Conduct RDT lot-testing (NMCP, UMRC with TA from Technical partners	Identify reference centres for quality assurance of malaria diagnostics			X			X			
		Conduct periodic WHO Malaria Microscopy competence assessments for Lab Techs			X	X	X	X	X	X	X
		Conduct post shipment quality checks at port of entry of Malaria RDTs			X	X	X	X	X	X	X
		Conduct Blood slide validation at reference/District laboratories			X	X	X	X	X	X	X
Objective 3. By 2017, at least 85% of the population practices correct malaria prevention and management measures											
Strategy 1 : Strengthen national communication framework	Develop and disseminate a national malaria communication strategy	Hold 5-day meetings/retreat with 25 stakeholders to finalize communication strategy			X						
		Print and disseminate 1000 copies			X			X		X	
		Dissemination meeting (venue and meals)			X			X		X	
		Distribution (at no cost)			X			X		X	
	Establish national and sub national structures for coordination of BCC activities – BCC Technical working group and DHE	Inaugurate the national BCC TWG (one day meeting)			X						
		Monthly meeting of TWG			X	X	X	X	X	X	X
		Train the district BCC coordinating team on their functions			X	X					
		Quarterly meetings of the district BCC coordinating team (7), 1day X 4 X 112			X	X	X	X	X	X	X
	Establish the BCC materials clearing house	Regular meetings			X	X	X	X	X	X	X
Strategy 2: Develop messages for different communication platforms	Conduct operational research on knowledge and practices in relation to use of malaria control measures	One research study in alternate years – (costed in M&E)			X		X		X		X
	Develop, pre-test, and disseminate print IEC/BCC materials	Develop print IEC/BCC materials (450k X 5)			X	X	X	X	X	X	X
		Translate into 8 commonly spoken local languages - the print IEC/BCC materials			X			X			X
		Pre-test print IEC/BCC materials			X			X			X
		Disseminate print IEC/BCC materials (10 posters, 50 leaflets X 60,000 villages)			X	X	X	X	X	X	X

	Recruit and train two social media practitioners for the programme	Recruit and train two social media practitioners			X			X			
		Create information/media centre			X			X			
	Develop, pre-test, and disseminate electronic IEC/BCC messages	For radio Translation, air radio spot			X	X	X	X	X	X	X
		For television Translation			X	X	X	X	X	X	X
Strategy 3: Strengthen community behavioural change activities for malaria	Conduct community dialogues	Community dialogues by VHTs and health worker from nearest health facility			X	X	X	X	X	X	X
	Promote interpersonal communication				X	X	X	X	X	X	X
	Soap Opera -a malaria message in each episode	Outsource to a consultant –Sopa opera development and casting			X	X	X	X	X	X	X
		Procure TV air time for soap opera			X	X	X	X	X	X	X
	Engage community institutions; cultural groupings, religious houses,	Hold meetings with cultural and religious leaders once a year Develop and disseminate dialogue package			X	X	X	X	X	X	X
Strategy 4: Strengthen social mobilization to increase awareness and demand for malaria prevention and treatment at national and sub national level	Commemorate/mark international malaria related events such as world malaria day at national and sub national levels	Malaria day – aggregated cost			X	X	X	X	X	X	X
	Designated malaria ambassadors, malaria in schools				X	X	X	X	X	X	X
	Malaria sports events	T shirts, caps, badges, car sticker, trophies			X	X	X	X	X	X	X
	Radio drama	Produce drama script			X	X	X	X	X	X	X
		Translate drama script			X	X	X	X	X	X	X
		Radio air time			X	X	X	X	X	X	X
	Conduct film shows	Conduct film show in villages			X	X	X	X	X	X	X
Strategy 5: Create a system for mapping, identifying, and engaging hard-to-reach, minority and	Map the hard-to-reach, minority and socially disadvantaged communities	Outsource - Composite cost			X	X	X	X	X	X	X

socially disadvantaged populations	Modify messages to reach hard-to-reach, minority and socially disadvantaged populations	Translate messages			X	X	X	X	X	X	X
	Develop innovative channels to reach hard-to-reach minority and socially disadvantaged populations				X	X	X	X	X	X	X
Strategy 6: Improve advocacy for support for malaria control both in public and private sector	Create a framework for private sector engagement (local and multinational				X				X		
	Develop advocacy pack	Develop advocacy pack			X						
	Conduct national level advocacy visits/meetings	Conduct national level advocacy visits/meetings			X	X	X	X	X	X	X
	Conduct sub-national level advocacy visits/meetings	Conduct sub-national level advocacy visits/meetings			X	X	X	X	X	X	X
	Resource mobilization	Malaria business breakfast			X	X	X	X	X	X	X
	Mobilise them to actively participate in malaria control activities	Private stakeholder – malaria business forum			X	X	X	X	X	X	X
		Targeted presentations – corporate organizations									
Conduct periodic evaluation of feedback about BCC activities and link to outcome and impact indicators within the M&E framework	Assess impact of BCC	Outsource – ipsos synovate			X			X		X	
	Operational research										
Objective 4. By 2016, the programme is able to manage and coordinate multi-sectoral malaria reduction efforts at all levels											
Strategy 1: Strengthen central	Mobilize additional domestic and external	Develop resource mobilization proposals and work-plans			X	X					

level advocacy for resource mobilization across all sectors for malaria control	resources for malaria control	Hold resource mobilization advocacy meetings with political, civil and private sector leadership			X	X	X	X	X	X	X
Strategy 2: Strengthen implementation capacity for malaria control interventions at national level	Enhance human resource capacity of the NMCP to manage the programme	Advocacy meetings with key Ministries other key stakeholders to elevate the position of the NMCP			X						
		Recruit staff to fill the vacant and new positions			X	X	X	X	X	X	X
		Conduct an institutional review of the program			X	X					
	Expand available Infrastructure to enhance functionality	Procure office space and equipment			X	X	X	X	X	X	X
	Facilitate planning for malaria control at the district	Support annual district integrated health sector planning									
	Conduct integrated support supervision and inspection	Conduct regular integrated supportive supervision									
		Supervision and inspection in public, private and private-not-for-profit sectors)				X	X	X	X	X	X
	Develop and disseminate policies and standards	Review update and disseminate Malaria policies, guidelines and job aids				X			X		
Strategy 3: Coordination of malaria control activities by all stakeholders including the private sector through national and RBM mechanisms	Enhance the coordination function of NMCP	Conduct malaria partner mapping									
		Conduct quarterly malaria thematic working group meetings			X	X	X	X	X	X	X
		Hold malaria policy review meetings biannually			X	X	X	X	X	X	X
		Conduct RBM in-country partnership coordination meetings			X	X	X	X	X	X	X
		Conduct monthly meetings for the programme			X			X			X
		Conduct quarterly and annual review and planning meetings			X	X	X	X	X	X	X
		Conduct cross border malaria activities and meetings			X	X	X	X	X	X	X
		Hold quarterly coordination meetings at district level with partners									
		Conduct regular meetings with commodities regulatory bodies including UBOS, NDA									

		Hold regular co-payment taskforce meetings (subsidised ACTs and RDTs) in the private sector			X	X	X	X	X	X	X
Strategy 4: Strengthen procurement and supply chain management of malaria control commodities	Monitor the supply chain system	Stock status review meetings (quarterly).			X	X	X	X	X	X	X
		Provide HMIS forms to health facilities			X	X	X	X	X	X	X
		Develop/adapt appropriate supervision and monitoring tools for private health providers			X	X	X	X	X	X	X
	Enhance staff capacity for PSM	Training health workers on PSM.									
Objective 5: By 2017, all health facilities and District Health Offices report routinely and timely on malaria programme performance											
Strategy 1: Strengthen malaria surveillance through HMIS (public and community)	Enhance capacity of M&E staff at all levels	Training of staff in HMIS			x	x			x	X	
		Harmonization of integrated supportive supervision tools				X	X	X	X	X	X
		Scale up integrated supportive supervision				X	X				
	Collect, report and use malaria data for programming	Review and disseminate HMIS tools				X		X		X	
		Collect, collate and report malaria data through HMIS				X	X	X	X	X	X
		Conduct monthly meetings for the programme				X	X	X	X	X	X
	Ensure quality of data	Routine DQA training for M&E staff					X	X	X	X	X
		Conduct data quality assessments/audits				X	X	X	X	X	X
Strategy 2: Strengthen data demand and use at all levels	Conduct regular and periodic program reviews, assessments and monitoring	Conduct quarterly meetings				X	X	X	X	X	X
		Conduct annual review and planning meetings				X	X	X	X	X	X
		Conduct mid-term and end-term strategic plan reviews				X	X	X	X	X	X
		Conduct health facility assessments					X			X	
		Conduct regular supervisions				X	X	X	X	X	X
	Conduct operation/implementation research	Conduct operations Research on iCCM KAPS, diagnostics, ANC, LLINs, ACT availability, efficacy studies				X	X	X	X	X	X
Strategy 3: Conduct regular malaria surveys/evaluations	Conduct regular surveys	Conduct health facility surveys including SARA					X		X		X
		Conduct Malaria Indicator Surveys					X			X	

		Conduct DHS			X		X		X	
	Conduct operation research and implementation	Conduct periodic evaluation of feedback about BCC activities and link to outcome				X				
Strategy 4: Strengthen data collection from the private sector	Training health workers in private sector on malaria data collection and reporting through HMIS	Sensitize the private sector on HMIS reporting					X			
		Training of the private sector in HMIS				X	X	X	X	X
		Training health workers in data use for decision making			X	X	X	X	X	X
		Supervision of private facilities			X	X	X	X	X	X
	Improve malaria reporting from the private sector facilities	Adapt and disseminate HMIS tools to facilitate private sector reporting			X	X	X	X	X	X
		Collect, collate and report malaria data through HMIS			X	X	X			
		Monitor availability and pricing of malaria commodities at private sector health facilities.			X	X	X	X	X	X
Strategy 6: Strengthen epidemiological, parasitological and entomological surveillance	Build capacity for contemporary malaria entomological surveillance techniques	Training of health workers in GIS for use in malaria programming			X	X	X	X	X	X
		Training of medical entomologists			X	X	X	X	X	X
		Procure GIS equipment			X	X		X		X
	Conduct regular entomological monitoring and surveillance	Conduct malaria sentinel surveillance			X	X	X	X	X	X
		Conduct vector bionomics studies				X		X		X
		Develop/update stratification map using routine data				X		X		X
		Develop/update a grid of core indicators for regular monitoring of malaria status			X	X	X	X	X	X
		Produce quarterly and annual reports				X		X		X
		Conduct insecticide susceptibility studies			X		X		X	
		Detailed mapping and malaria epidemiological profiling within major towns and cities.			X	X	X	X	X	X
Strategy 7: Develop and implement an operation research agenda for malaria	Develop and disseminate a research agenda	Define a malaria operational research agenda			X	X	X	X	X	X
		Provide a forum for research results dissemination			X	X	X	X	X	X

		Maintain collaboration initiative with local and international research institutions			X	X	X	X	X	X
Objective 6 : By 2017, all malaria epidemic prone districts have the capacity for epidemic preparedness and response.										
Strategy 1: Strengthen malaria epidemic forecasting and preparedness in epidemic prone districts	Enhance preparedness of districts to manage malaria epidemics	Adapt Integrated Disease Surveillance and Response (IDSR) guidelines								
		Conduct review and planning EDS meetings			X		X		X	
		Print and disseminate EPR tools			X	X	X	X	X	X
		Training District Health Teams (DHTs) and health workers in malaria EPR including mapping				X				
		Develop annual EPR plans (including buffer stocks)				X				
		Collect, collate and report weekly malaria surveillance data			X	X	X	X	X	X
Strategy 2: Strengthen malaria epidemic detection and response at all levels	Build capacity of districts to use data to detect and respond to malaria epidemics	Upgrading of thresholds			X	X	X	X	X	X
		Plotting of health facility data against thresholds			X	X	X	X	X	X
		Training of health workers in epidemic response			X	X	X	X	X	X
		Formation of district malaria epidemic response teams				X	X	X	X	X
		Conduct malaria epidemic post mortem meetings (after an epidemic)			X	X	X	X	X	X

Annex 3: Plan Budget for the UMRSP

Table 5: Plan Budget for the UMRSP

MALARIA REDUCTION STRATEGIC PLAN 2014/15-2020

SUMMARY COSTING.

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2014/15-2019/20
	AMOUNTS IN US $ MILLIONS						
OBJECTIVE 1: By 2017, achieve and maintain at least 85% protection of the population at risk through scaled up malaria prevention measures.							
1.1: Scale up and maintain IRS in at least 50 Districts	20.75	32.80	43.14	36.40	25.50	12.05	170.64
1.2: Achieve and sustain universal access to LLINs	15.48	145.07	28.74	29.96	174.58	31.90	425.72
1.3 Strengthen larval source management.	0.28	0.63	1.55	1.80	2.37	2.94	9.56
1.4: Conduct Environmental and entomological Monitoring	0.61	0.76	0.57	0.61	0.24	0.49	3.27
1.5 Strengthen integration of Malaria in Pregnancy (MiP) in focused antenatal care	0.92	0.71	0.90	0.78	0.97	0.85	5.14
Objective 2: By 2018, achieve at least of 90% of malaria cases in the public, private sectors and community level receive prompt treatment according to							-
2.1 Strengthening health worker capacities for targeted malaria treatment through regular training, clinical audits, in public and private sectors(PNFPs and clinics).	7.42	5.31	5.18	5.36	1.29	5.36	29.93
2..2 Strengthening community capacities for malaria diagnosis and treatment.	9.72	9.78	9.00	3.58	3.41	3.51	39.00
2.4. Ensure consistent, sustainable supply and access to all malaria commodities at public, private not for profit, and private sectors and community level	76.51	69.34	62.71	60.24	60.37	61.01	390.17
2.5. Scale-up parasite-based diagnosis, Strengthen the quality assurance and quality control of malaria parasitological diagnosis element	13.43	14.09	14.76	17.64	17.64	17.64	95.18
Objectice 3: By 2017 at least 85% of the population has correct practices about malaria prevention and treatment.							-
3.1 Increase awareness, knowledge to stimulate demand for malaria prevention through Information , Education and Communication.	18.53	18.32	18.46	18.52	18.46	18.46	110.74
3.2 Strengthen advocacy and behavior change communication to stimulate demand fro malaria prevetion	0.48	0.61	0.48	0.45	0.58	0.45	3.03
3.3 Strengthen advocacy and behavior change communication to stimulate demand fro malaria prevetion	3.11	2.78	3.11	3.63	3.63	3.63	19.87
Objective 4: By 2016, have strengthened programme management capacity to coordinate multi-sectoral malaria reduction efforts at all levels							-
4.1 Strengthen central level advocacy for resource mobilization across all sectors for malaria control	0.0202	0.0202	0.0202	0.0206	0.0206	0.0206	0.12
4.2: Strengthen implementation capacity for malaria control interventions at national level	1.1424	1.2459	1.1837	3.1809	3.4700	3.1809	13.40
4.3 coordination of malaria control activities by all stakeholders including the private sector through national and RBM mechanisms	0.7650	0.7650	0.7650	0.7357	0.7357	0.7357	4.50
4.4 : Strengthen procurement and supply chain management of malaria control commodities	0.0014	0.0015	0.0016	0.0016	0.0015	0.0016	0.01
Objective 5: By 2018, all districts report routinely on malaria programme performance for decision making							-
5.1 Strengthen malaria surveillance through HMIS (public and community)	3.12	3.07	3.03	3.43	3.59	3.43	19.68
5.2: Conduct program implementation reviews	0.20	0.20	0.48	0.19	0.19	0.47	1.72
5.3: Conduct regular malaria surveys/evalautions	0.32	0.45	3.48	0.28	0.28	0.28	5.10
5. 4: Strengthen data collection from the private sector	0.78	0.89	1.03	0.99	0.99	0.99	5.68
5.5: Strengthen data demand and use at all levels	0.37	0.30	0.33	0.47	0.34	0.34	2.14
5. 6: Strengthen epidemiological, parasitological and entomological surveillance	0.44	0.44	0.44	0.50	0.50	0.50	2.82
OBJECTIVE 6: By 2017, all malaria epidemic prone districts will have the capacity for epidemic preparedness and response.							-
6.1: Strengthen malaria epidemic forecasting and preparedness in epidemic prone districts	0.24	0.17	0.17	0.26	0.15	0.15	1.15
6.2: Strengthen malaria epidemic detection and response at all levels	0.53	0.53	0.53	0.50	0.50	0.50	3.10
GRAND TOTALS	175.16	308.26	200.06	189.52	319.79	168.88	1,361.67