The Republic of Uganda

National Malaria Control Programme

Mid Term Review of the 2010 – 2015 Malaria Strategic Plan

Ministry of Health

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UGANDA NATIONAL MALARIA CONTROL PROGRAMME

REPORT OF THE MID TERM REVIEW

OF THE 2010 – 2015 MALARIA STRATEGIC PLAN

Mid Term Review Report

Ministry of Health

March 2014

List of acronyms

ACT	Artemisinin-based Combination Therapy
AMFm	Affordable Medicines Facility for Malaria
CDC	Communicable Disease Control
CSO	Civil Society Organization
DMFP	District Malaria Focal Person
HMIS	Health Management Information System
HPAC	Health Policy Advisory Committee
HW	Health Worker
ICCM	Integrated Community Case Management
IMM	Integrated Malaria Case Management
IPTp	Intermittent Presumptive Treatment in pregnancy
IRS	Indoor residual Spraying
ITN	Insecticide Treated Net
IVM	Integrated Vector Management
LLIN	Long Lasting Insecticidal Net
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MoH	Ministry of Health
MoU	Memorandum of Understanding
NMCP	National malaria Control Program
NPO	National Professional Officer
PNFP	Private Not-for-profit
PSM	Procurement and Supply Management
QA	Quality Assurance
RBM	Roll Back Malaria
SBCC	Social Behaviour Change Communication
TWG	Technical Working Group
UMIS	Uganda Malaria Indicator Survey
VHT	Village Health Team

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Foreword

Malaria though preventable continues to adversely affect the health and well-being of the people of Uganda. In 2013, there were over 16 million cases of malaria accounting for 30 – 50% of outpatient visits to health facilities. Malaria also has significant 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 with several man-hours lost to productivityand loss of the health system resources.

This review assessed the progress in implementing the 2010-2015 National Malaria Strategic Plan. The findings of this review show successes that have been achieved in the last 3 years and the obstacles impeding progress. This review therefore provides a solid foundation for identifying new strategies and actions that are required to be implemented in the new Uganda Malaria Reduction Strategy (UMRS) for the period 2014 – 2020.

The MTR shows areas where progress has been made: increase in access to Long-Lasting Insecticidal nets and access to diagnosis and effective treatment for malaria using Rapid Diagnostic Tests (RDTs) and Artemisinin-based combination therapy (ACT) medicines respectively. These achievements are a result of sustained funding by Government of Uganda and its valued partners: the Global Fund to Fight HIV/AIDS, Malaria and Tuberculosis (GF), the US President's Malaria Initiative (PMI), the UK's Department for International Development (DfID) and World Health Organization, and UNICEF, to mention but a few. The MTR also points out problems which continue to impede the implementation of malaria programs such as inadequate funds for comprehensive implementation, overall health system challenges and need for better coordination.

The burden malaria imposes on our people, the health system and the national economy begs of all stakeholders led by the Government of Uganda to do more to achieve sustained control of malaria so that Uganda can in the next decade move towards elimination of the disease. This is a rallying call to all of us to invest more in malaria prevention and control.

Dr. Aceng Jane Ruth

Director General Health Services

Acknowledgements

The completion of this mid-term review of the 2010-2015 National Malaria Strategic Plan would not have been possible without the technical and financial support provided by World Health Organization country office and WHO/AFRO Inter-Country Support Team, the Global Fund, the US President's Malaria Initiative, Malaria Consortium and other RBM partners. The Government of Uganda extends its appreciation to these organizations.

I would like to extend a word of thanks to all the staff of the NMCP and all the malaria stakeholders who endeavoured to spend their valuable time over a period of one month to participate in the thematic working groups that reviewed the MSP and provided input into the goals, objectives and strategies required to be implemented over the next 6 years so as to achieve malaria reduction in Uganda as articulated in the Malaria Reduction Strategy 2014 – 2020.

I thank the consultants – Dr. Ambrose Talisuna, Dr. Patrick Okello and Assoc. Prof Pauline Byakika-Kibwika – for steering this process to its logical conclusion.

It is my conviction that this MTR process has clarified to all of us what strengths and opportunities we need to ride on going forward and what weakness and threats we need to address for better malaria prevention and control in Uganda. It is my wish that the findings from this review will help the National Malaria Control Programme and partners to double their efforts so as to be able to sustain the gains achieved and to overcome the obstacles and challenges observed.

I thank you all.

Dr. Asuman Lukwago

Permanent Secretary

EXECUTIVE SUMMARY

Between February and March 2014, the National Malaria Control Programme (NMCP) of the Ministry of Health together with partners conducted a mid-term review of the 2010 – 2015 Malaria Strategic Plan (MSP). Technical and financial assistance was provided by WHO, PMI, Global Fund and other in-country RBM partners. The review was all-inclusive and participatory involving all stakeholders in malaria control from different sectors such as governmental, civil society, academia and research. The purpose of the review was to examine at the mid-point of the MSP, progress to date against the goals and targets as outlined and identifying key issues affecting progress by undertaking a strengths, weaknesses, opportunities and threats (SWOT) analysis of factors influencing implementation of malaria prevention and control interventions over the review period.

The key findings of the review were:

<u>On financing:</u>

The MSP 5yr-projected budget was US$ 887,481,696 however external funding over the 3 year period 2011 – 2013 amounted to US$227 million (GF ~ $120m, PMI ~ $102m & DfID ~ $5m) while government of Uganda provided funds for malaria control through overall health investments, salaries, drugs and supplies (NMS) – approx. 8 – 10 billion per year and UGX 97m for NMCP operations annually. However problems of delay in accessing these funds and piecemeal disbursements were experienced and greatly affected smooth implementation of programs.

<u>Progress was shown by the following indicators</u>

- Overall a decline of nearly 25% in malaria parasite positivity was observed in the 10 districts where IRS was applied in the last 3 years compared to neighboring districts without IRS program
- All-cause under-5 mortality rate per 1000 population dropped from 137 in 2006 to 90 in 2011.
- Percentage of targeted houses sprayed with a residual insecticide in the last 12 months was consistently over 90% in the 10 districts sprayed.
- Percentage of OPD visits attributed to malaria in children under 5 (in public and PNFP facilities) fell from 51.7% in 2010 to 13.71% in 2013 as reported in the HMIS.

- Malaria Case fatality rate dropped from 2 in 2010 to 0.72 in 2013.
- Proportion of fever cases confirmed as malaria increased from 25% in 2010 to 58.8% in 2013 as a result of increased availability of RDTs.
- Proportion of households with 1 LLIN per 2 people increased from 28% in 2011 (2011 UDHS) to 59.6% by the end of 2013 (program reports).

Indicators that showed stagnation or decline were:

- Proportion of pregnant women who slept under an ITN the previous night did not increase much between 2010 (44%) (MIS, 2009) and 2011 (47%) (2011 UDHS). There is no current estimate for this indicator; however, it will be available after the planned malaria indicator survey of 2014. Proportion of under 5 children who slept under ITN was 41% in 2010 (MIS 2009) and 43% in 2011 (2011 UDHS). Similarly, there is no current estimate for this indicator until the 2014 MIS is conducted.
- The percentage of OPD visits attributed to malaria in individuals 5 years and above ranged between 30% in 2010 and 29% in 2013.
- Percentage of women who received 2 or more doses of IPTp ranged between 42% in 2010 and 50% in 2013 as measured by HMIS and dropped from 33% in 2010 to 25% in 2011 as measured by population-based surveys.
- Overall malaria incidence is noted to have slightly increased from 403 cases per 1000 population to 460 cases per 1000 population. These are cases as reported from the HMIS which includes both suspected and confirmed malaria cases..

The following issues were noted to impede progress in achieving the objectives of the MSP:

- Inadequate funding for comprehensive implementation of interventions was a cross-cutting challenge over the various thematic areas.
- Fragmentation in terms of programming, implementation and reporting e.g. Depending on the type of insecticide in use, IRS is supposed to be conducted twice a year when using pyrethroids but in Kumi and Ngora districts, that regular spaying was not followed; iCCM is only in 34 districts out of 112.

- Ineffective NMCP as evidenced by lack of substantive programme manager in over one year, existence of many vacant positions within the NMCP with some being filled by technical assistance provided by different donors leading to multiple salary schemes, lack of regular staff and program reviews, inadequate empowerment of existing staff and general poor working environment coupled with the low positioning of the NMCP within the MOH structure – all these led to poor coordination of the programme internally and externally with stakeholders.

- Limited use of district structures for programming and implementation as a result of centralization of activities.

- Poor quality data which is not used to support planning and implementation.

- Inadequate capture of data from the private sector and yet 60% of patients seek care from there.

- Limited engagement of the private sector despite the huge potential provided by corporate companies to support malaria.

- Inadequate support to health workers that ideally should have been achieved through on-job support supervision, clinical audits, training and quality control and assurance.

- Inadequate integration of IEC/BCC within the different interventions being rolled out by NMCP such as the universal campaign distribution of LLINs.

- Increasing insecticide resistance to compounds such as DDT and pyrethoids.

As a result of the review, the following strategic actions were identified that will enhance ongoing programming in the new malaria reduction strategy being developed:

- The MOH should urgently conduct an institutional review of the programme with a view of raising the profile of the NMCP within MoH; substantively appoint staff that can be empowered with adequate skills mix while moving towards harmonization of pay schemes.

- Implement programs rationally by ensuring that the scale and scope of the interventions are sufficient to achieve universal coverage through coordinated planning and strategic planning and financing.

- The MoH should support central and decentralized structures so that the role of programme implementation is duly invested at sub-national levels.
- Expand and strengthen partnerships with private sector, academia, research and other related sectors such as environment, industry and housing departments.
- Strengthen support to health workers through scheduled support supervision and mentorship, referral systems and increased availability of commodities such as ACTs and RDTs in both public and private health facilities.
- Conduct drug efficacy and insecticide resistance management as per WHO guidance.
- Integrate and prioritize IEC/BCC as part and parcel of all interventions to facilitate adoption of good practices by the community.
- Institute quarterly and annual planning and review meetings to monitor progress of activities led by a strong M & E team at the NMCP.
- Capture and integrate data from the private sector into the national HMIS system

These recommendations will be incorporated in the new Uganda Malaria Reduction Strategy 2014 – 2020.

1. Introduction

1.1. Preamble

Malaria remains one of the leading causes of ill-health and deaths in Uganda. The country has the third highest number of annual deaths from malaria in Africa, as well as some of the highest reported malaria transmission rates in the world [WHO, 2013). In 2013, a total of 16,338, 914 malaria cases were reported through the Health Management Information System (HMIS). Overall, malaria accounts for 30%-50% of outpatient visits and 15%-20% of hospital admissions [Yeka et al., 2011], MoH HMIS, 2012].

1.2. Background to 2010 -2015 Malaria Strategic Plan (MSP)

The Ministry of Health (MoH) and its partners conducted a comprehensive review of the progress and performance of the malaria programme for the period 2000 to 2010. The aim was to assess the strategies and activities that had been implemented and progress made in achieving the targets of reducing the malaria burden in Uganda over the period 2000-2010. The comprehensive review assessed the epidemiology of malaria and its control, organization and management framework of the National Malaria Control Programme (NMCP)within the health system and the national development agenda; and defined the next steps for sustaining and improving program performance.

The 2010-2015 MSP was developed on the basis of the findings of the 2011 comprehensive Malaria Programme Review (MPR 2011). Following the MPR, Government and all partners signed an Aide memoire that contained key undertakings for all malaria stakeholders and was to be implemented during the strategic plan period.

The MPR findings formed the basis for the 2010-2015 MSP whose overall goal was to reduce mortality due to malaria by 80% of 2010 levels and reduce morbidity due to malaria by 75% of 2010 levels, thereby setting the ground for pre-elimination in the next strategic plan period. This was in line with the regional strategy for malaria elimination endorsed by the Government of Uganda (GoU).

The 2010 - 2015 MSP aimed at rapidly scaling up the coverage of effective malaria prevention and treatment interventions in the first 3 years and thereafter consolidating the achievements in reduction of malaria infection prevalence and achievement of improved health outcomes.

Objectives of the 2010 – 2015 MSP:

1. To reduce malaria prevalence by at least 75% of 2010 levels by 2015;
2. To increase to 90% by 2015 the proportion of malaria cases parasitologically confirmed and treated with effective antimalarials;
3. To achieve by 2015, 80% of the population consistently using at least one malaria preventive method together with appropriate treatment seeking behaviours;
4. To strengthen M&E systems to assess progress towards set targets, informing refinement and decision making during implementation;
5. 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.

The 2010-2015 MSP envisaged that the NMCP would be positioned and supported to enable it and partners to meet the challenges of rapid scale up and maintenance of high coverage of interventions so as to be able to achieve the targets set. The resulting new strategic direction for the program would be to rapidly scale-up selected interventions to universal coverage and achieve consolidated control by addressing identified major gaps and set the ground for pre-elimination in the next strategic plan period. A set of strategies were identified within the MSP 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 strategic partners and efforts during the rapid scale up;
- Moving towards integrated vector management (IVM) and rapid and sustained scale up of LLINs, IRS, larval source management (LSM), through intensifying environmental management and larviciding where feasible;
- Scaling up diagnosis using microscopy and RDTs and treatment with effective antimalarials;
- Shifting towards social and behaviour change communication (SBCC) approach of IEC/BCC;
- Strengthening existing malaria surveillance, monitoring and evaluation systems.

Implementation of these strategies was planned to be through the decentralized implementation structures. Each level of the health care system was to implement specific activities within the framework and context of the national health sector strategic and investment plan (HSSIP) (2010/11 – 2014/15) as a basis for developing Joint Annual Malaria Activity Plans. A mid-term review (MTR) of the malaria strategic plan was planned for the third year of implementation.

The total budget proposal for the five years of the MSP was estimated at US$ 887,481,696.

The MSP envisaged rapid expansion of existing strategies within three years, with identification of targeted responses as progress was made. A malaria risk map for Uganda was to be developed to guide the tailoring of responses in line with endemicity. To ensure that the desired impact is achieved and sustained, drug and insecticide resistance was to be monitored, along with strategies for improving severe malaria case management and malaria epidemic preparedness and response.

Key priorities highlighted were:

1. Implementation of IVM;
2. Increasing coverage, utilization and compliance to parasitological diagnosis using microscopy or RDTs;
3. Universal access to effective antimalarials in the public and private sector;
4. Improving severe malaria case management at all levels;
5. Strengthening SBCC for community empowerment and participation in malaria control;
6. Strengthening malaria program monitoring and evaluation at the national and sub-national levels;
7. Using malaria control as an entry point to strengthen health systems wherever possible.

1.3 Justification and objective of the Mid Term Review (MTR)

Having implemented the 2010-2015 MSP for three years, the NMCP conducted a mid-term review (MTR) 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 and best practices, and use them to revise program implementation for better achievement of the set goals through the proposed Uganda Malaria Reduction Strategy.

Specific objectives of the MTR

1. Identify major program activities, achievements, best practices and lessons learnt;
2. Conduct a rapid strengths, weaknesses, opportunities and threats (S.W.O.T) analysis for the thematic focus areas as outlined in the NMSP 2010-2015;
3. Assess capacity, structures and systems for delivery of interventions;
4. Identify key issues, challenges and problems hindering additional progress in malaria control;
5. Develop recommendations and solution options for the challenges, bottlenecks and problems identified;
6. Recommend improvements to policies, strategies and activities to assure impact in the next 6 years (until 2020: note this is beyond the current NMSP period but is meant to align activities with the sector wide National Health Strategic Plan period).

1.4 Methodology

The MTR was conducted in a participatory and consultative manner through involvement of all stakeholders working in thematic technical working groups (TWGs). It was noted that the constituent members of the thematic working groups, typically led by the technical person responsible for the thematic area within the NMCP, were well placed to know the status and progress of activities against the MSP 2010-2015 and thus played a key role in the MTR process. Resource persons invited to participate in the TWGs included: development partners; implementing partners; representatives from academia and research institutions, districts and hospitals; civil society organizations and the private sector; representatives of other MoH programs and units such as child health and reproductive health divisions. The MTR process involved three main steps – 1) an entrance workshop facilitated by the NMCP and external facilitators, 2) a thematic desk review 3) an external validation process with external validators from the WHO/AFRO Inter-Country Support Team (WHO IST).

a) Entrance workshop (February 11 – 12, 2014)

The entrance workshop allowed the building of consensus on the terms of reference for the MTR, roles and responsibilities of the technical teams in the TWGs, expected deliverables and time lines.

b) Thematic desk review (February 17 – 21, 2014)

Members of each TWG reviewed technical and financial performance of each of the objectives (thematic areas) of the MSP using guidance provided by WHO.The constitution of TWGsensured representation from various stakeholders in each thematic area. Documents reviewed included:Health Sector and

malaria Strategic plans, Annual operational plans, Reports of annual, semi-annual and/or quarterly reviews, meetings and conference, Policies and guidelines, Funded Project proposal, reports of previous malaria program reviews and recommendations, reports on malaria surveillance, including sentinel site surveillance reports, reports on Malaria program implementation including annual program reports, malaria survey reports (MIS, UDHS, Health Facility surveys), socio-economic reports, such as UNDP Human Development Reports, malaria program research proposals and reports, published papers on malaria in the country and annual reports from partners.

In order to review the technical performance of the MSP, each TWG assessed progress made over the last three years based on the strategic direction described in the 2010–2015 MSP, the planned activities as detailed in the three year Annualized Plan 2010 – 2013 and the set of indicators designed to measure progress as outlined in the M&E plan for the MSP. Using program and activity reports and utilizing the data generated from the Health Management Information System (HMIS), progress in implementation of activities and documentation of outputs and outcomes for each objective was assessed.

To guide the process of updating and/or developing the new malaria reduction strategy, the TWGs conducted in-depth SWOT analysis of the performance of the MSP. The assessment included an analysis of the current capacity, structures and systems for delivery of interventions and the identification of the key issues, challenges and problems hindering additional progress in malaria control. The latter provided the foundation for development of suggested recommendations and solution options for the challenges, bottlenecks and problems identified and recommendations for improvements to policies, strategies and activities to assure impact in the next Uganda Malaria Reduction Strategy (UMRS) – 2014 – 2020.Additionally each TWG reviewed and critically analyzed the current business model of program implementation and evaluated how appropriate this model was for helping the NMCP achieve its stated objectives and targets in the medium and long term.

c) External validation (February 24 – 28, 2014)

The final phase of the MTR was a weeklongexternal validation led by a team of consultants from WHO/AFRO with the aim of validating the technical and financial performance of the MSP, developing a roadmap (timelines) for revising the MSP, developing the new Uganda Malaria Reduction Strategy (UMRS), getting stakeholder buy-in of the findings, conclusions and recommendations of the MTR, updating the strategicand performance framework and drafting the MTR final report.

2 Epidemiology

2.1 Epidemiology of Malaria

Table 1 below provides a summary of high level indicators that were selected in the 2010 – 2015 MSP for measuring impact of malaria on the health of the population.

Table 1: progress on high level indicators for tracking impact of malaria

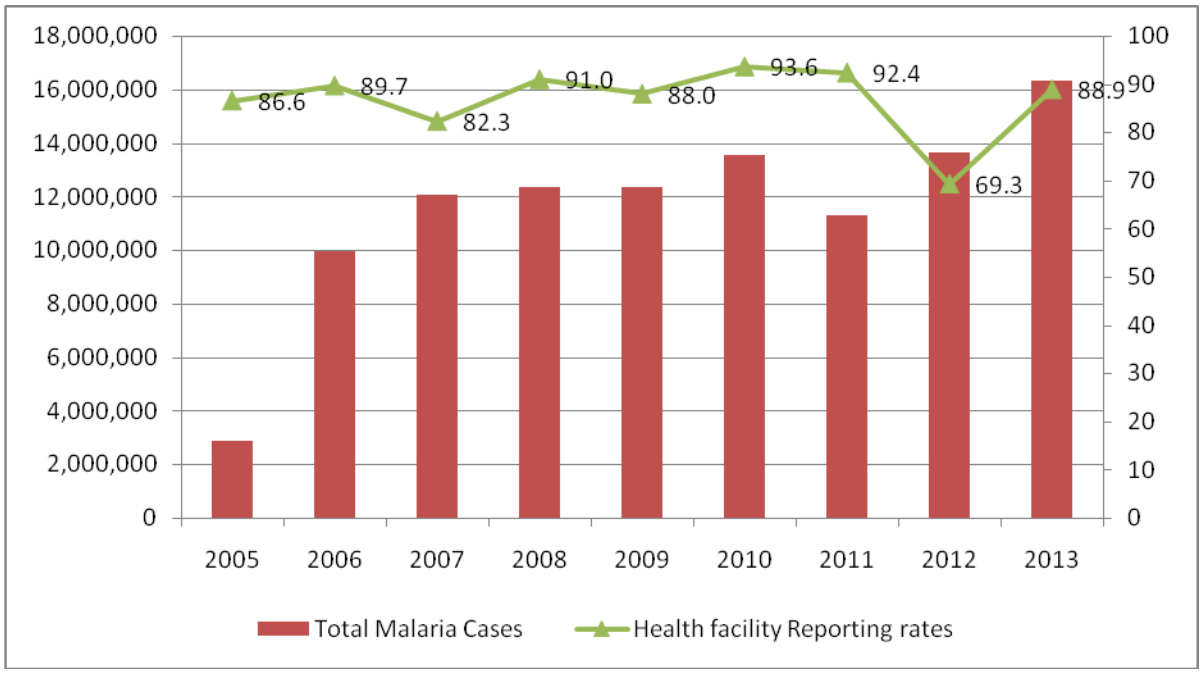
Indicators	Baseline	Year 1 – 2011	2013 Target	Comments
All-cause under-5 mortality rate (per 1000 population)	137 (UDHS, 2006)	90 (UDHS, 2011)	54	Next DHS is planned for 2015
Proportion of children under five (6 – 59 months) with malaria parasites (parasite prevalence)	44.5% (MIS, 2009)	No data	20%	Next MIS is planned for Nov 2014
Proportion of children 6 – 59 months with moderate or severe anaemia	10% (MIS, 2009)	5% (UDHS, 2011)	7%	Next MIS is planned for Nov 2014

Targets for all-cause under-5 mortality rate and proportion of children 6 – 59 months with moderate or severe anaemia have been achieved and exceeded. One explanation is probably under-targeting for these two indicators. Also, attribution of the improvement in these indicators to malaria control alone is difficult since they are influenced by several factors. Additional analysis is required to be able to determine the impact of malaria control on these two indicators.

Malaria incidence

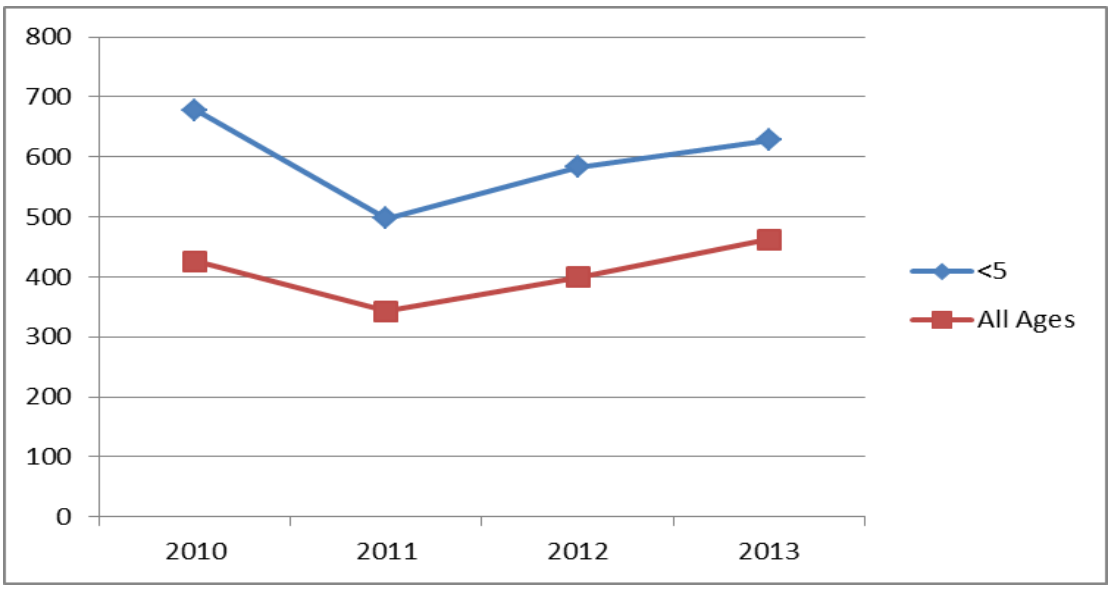
HMIS data from public and private not for profit (PNFP) facilities, demonstrated a modest decline in reported cases between 2010 and 2011.However, there was substantial under reporting in 2012 and it is not very clear whether there was a steady increase in reported malaria cases between 2011 and 2013 (Figure 1).

Figure 1: Reported malaria cases by year, and health facility completeness of reporting



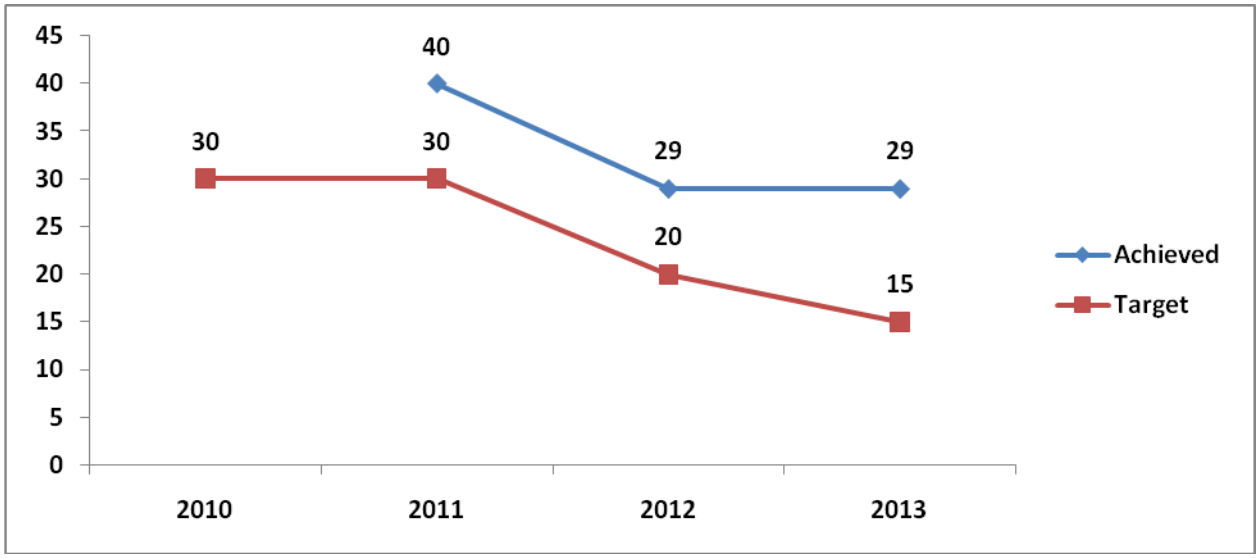
Similar trends are seen in Figure 2 below

Figure 2: Malaria Incidence (per 1,000 persons per year)



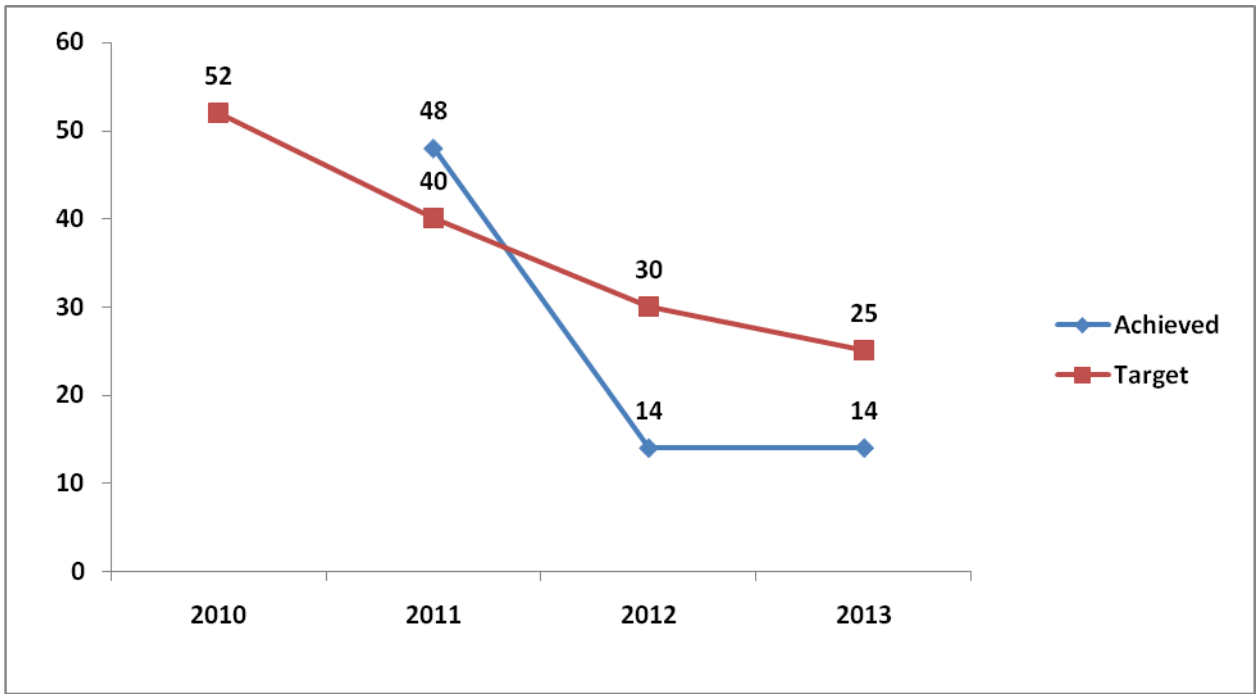
There was a decline inproportion of out-patient department (OPD) visits attributable to malaria in both under and above fives. The proportion of OPD attendance attributed to malaria in >5 declined from 40% in 2011 and stagnated at 29% in 2012 and 2013 well above the target of 15% in 2015 (Figure 3).

Figure 3: Proportion of OPD attendance attributed to malaria in >5



Proportion of OPD attendance attributed to malaria in <5 declined from 48% in 2011 and stagnated at 14% in 2012 and 2013 (Figure 4).

Figure 4: **Proportion of OPD attendance attributed to malaria in <5**



Contribution of malaria to inpatients

There was a steady increase in number of admissions due to malaria between 2010 and 2013as shown inFigure 5.However, the case fatality rate/ratio in<5 malaria admissions decreased from 3.5% in 2011 to 0.72%in 2013well below the target of 1% set for 2015 (Figure 6).

Figure 5: Malaria In-Patient cases/1,000 (Severe Malaria)

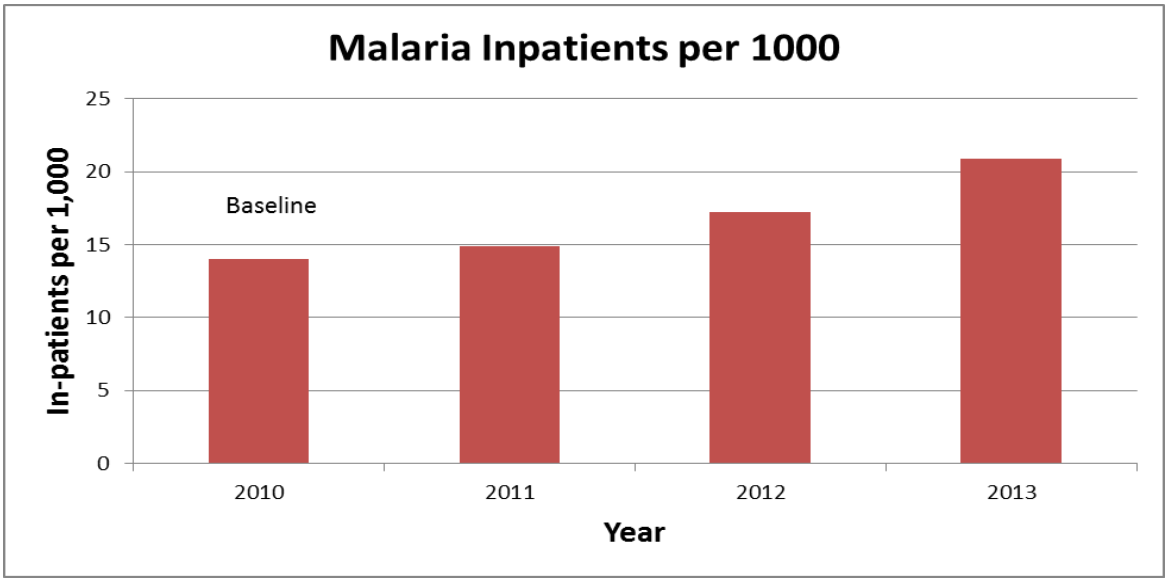
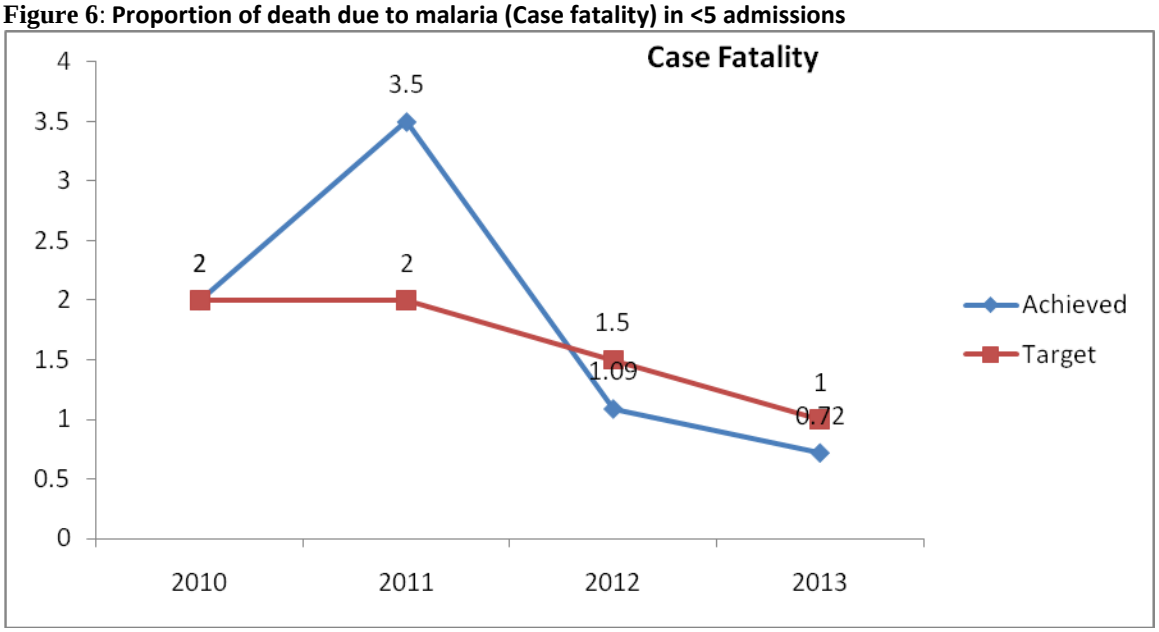
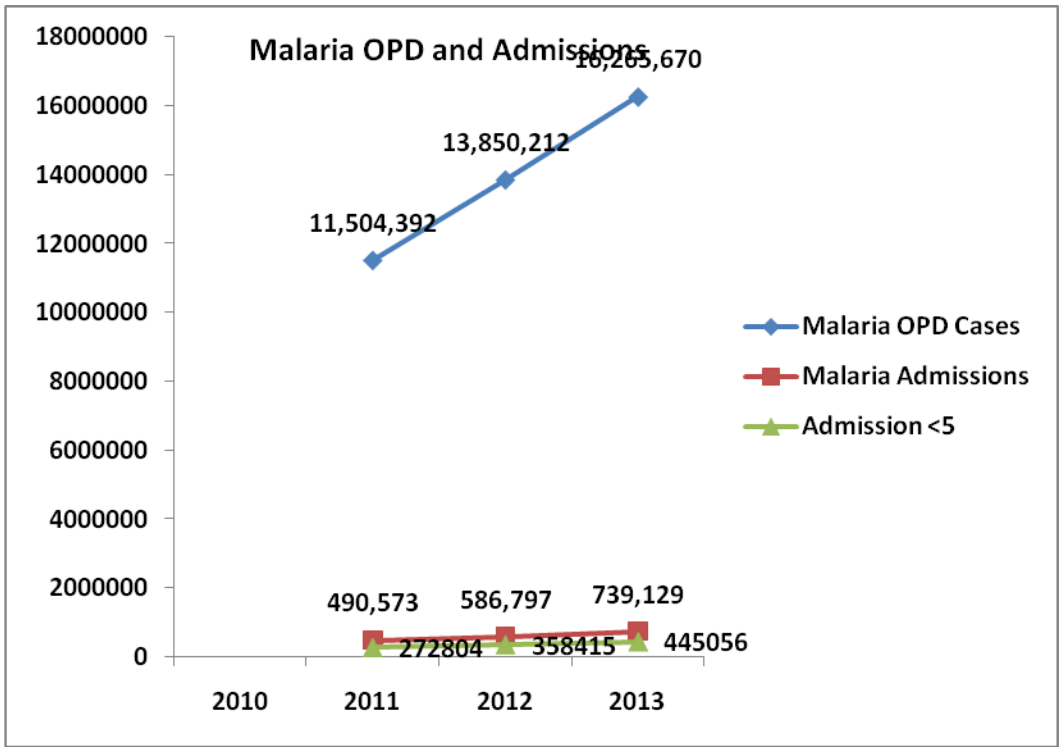


Figure 6: Proportion of death due to malaria (Case fatality) in <5 admissions



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 as seen in Figure 7below.

Figure 7: Malaria OPD attendance and Admissions



2.2 Key issues

The modest decline in malaria cases between 2010 and 2011 could have been a result of deployment of 7. 2 million nets that targeted children under-5 and pregnant women. A steady increase in malaria cases was observed between 2011 and 2013 possibly due to the delay in rolling out universal coverage with LLINs that had been planned to follow the targeted distribution to children under-5 and pregnant women.

3. Financing for Malaria control in Uganda

3.1 Sources of Funding

Financing for malaria control is through theGovernment of Uganda (GoU), Global Fund to Fight Malaria, TB and HIV/AIDS (GF) and bilateral donors such as the US President's Malaria Initiative (PMI) and the UK's Department for International Development (DFID). The 2010-2015 MSP projected a total funding need of US$ 887,481,696 for the 5 year period. ACTs, RDTs and insecticides were identifiedas the main cost drivers for malaria control. There has been a decline in GoU allocation to health as a percentage of total GoU budget (Table 2). On year by year basis, there has been a decline in donor funding for malaria control between 2011 and2013 (Table 3).

Table 2: MTEF allocation to the Health Sector from 2005/06-2012/13

Year	GOU	DONOR/ GHI	TOTAL	Per capita expenditure in Ushs	Per capita expenditure in USD	GoU allocation to health as % of total GoU allocation
2005/06	229.86	268.38	498.24	26,935	14.8	8.9
2006/07	242.63	139.23	381.86	13,518	7.8	9.3
2007/08	277.36	141.12	418.48	14,275	8.4	9
2008/09	375.46	253	628.46	20,810	10.4	8.3
2009/10	435.8	301.8	737.6	24,423	11.1	9.6
2010/11	569.56	90.44	660	20,765	9.4	8.9
2011/12	593.02	206.10	799.11	25,142	10.29	8.3
2012/13	630.77	221.43	852.2	23,756	9.0	7.4

Table 3: External sources of financing for malaria control

Year	Global Fund	PMI	DfID	Total
2011	$66,229,429	$34,930,000		$101,159,429
2012	$33,731,526	$33,500,000		$67,231,526
2013	$20,146,401	$33,781,000	$4,900,000	$58,827,401
Total	$120,107,356	$102,211,000	$4,900,000	**$227,218,356**

3.2 Flow of funds for malaria control

Funds from GoU for malaria control are mainly channeled through NMS (approx. 8-10 billion) for purchase of drugs and supplies. A modest annual contribution of UGX 97 million is provided to the NMCP for its operations. GoU also pays for all salaries of public servants at both national and sub-national levels including at the PHC facilities where majority of malaria cases are managed.

Global Fund has 2 Principal Recipients, namely: MoH through Ministry of Finance, Planning and Economic Development (MoFPED) and The AIDS Support Organization (TASO).Funds for activities are disbursed to MoFPED and transferred to the MoH NMCP operational account. Further disbursements are made to sub-Recipients such as districts and implementing partners. TASO is the fund manager for GF funds channelled to the civil society. Funds for commodities (LLINs, ACTs, and RDTs) are procured through a Voluntary Pooled Procurement system at Global Fund.

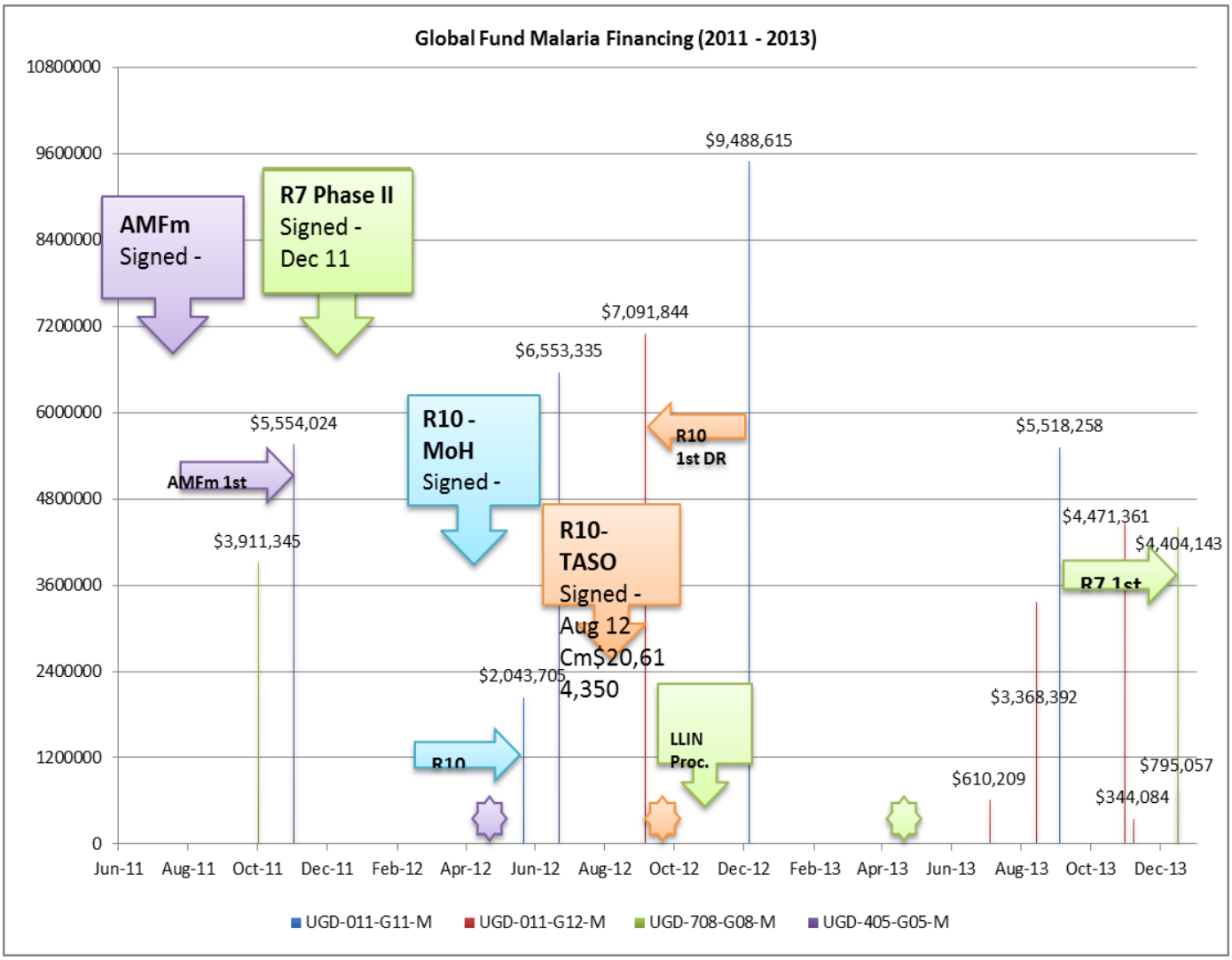
Funding from PMI for malaria activities are expended under the project funding modalities through its implementing partners such as Stop Malaria Project (SMP), Abt Associates, and Northern Uganda Health Integration project (NU-HITES).Funds for procurement of malaria commodities are disbursed to JSI Deliver.

The DfID channels its funds through PMI and UNICEF. UNICEF supports integrated community case management of malaria (iCCM) in 34 districts. At a global level, DfID has committed funding for private sector QAACTs through the GF AMFm mechanism.

3.3 Key issues

a) Majority of funding for malaria control in Uganda is donor-dependent.
b) There usually is piecemeal disbursement of funds, typically on quarterly basis, a scenario that hinders procurement of large commodities such as insecticides for IRS and larvicides leading to delays in implementation.
c) There are many bureaucratic procedures within government structures that hinder procurement & disbursement processes. Examples include the AMFm contractual procedures for implementing partners and disbursement of funds to districts.
d) There are often long time lags between grant signing, receipt of funds and commencement of implementation of activities. Figure 8 below shows flow of funds over the last 3 years from GF. While R10 grant was signed in April 2012, to-date funds are yet to be availed for utilization by the NMCP. These time lags have led to fragmented implementation due to grants ending and loss of funding.

Figure 8: Flow of funds over the last 3 years.



The schematic above demonstrates challenges of poor flow of funds. The AMFm grant was signed in August 2011, first disbursement by GF was made in December 2011 and funds released to Ministry of Health in April 2012, a time lag of 8 months between grant signing and initial expenditure.

Round 7 phase two grant with Global Fund was signed in December 2011, LLINs were procured through the Global Fund's Voluntary Pooled Procurement (VPP) mechanism in November 2012, first release of funds was a year later in November 2013 and these funds are yet to be received by NMCP 16 months later.

4.0 Program Management

4.1 The National Malaria Control Program

The National Malaria Control Program (NMCP) currently under the National Disease Control Department (NCD) of the Ministry of Health (MOH) is the unit responsible for developing policies and programs for coordination, supervision and implementation of malaria control activities in Uganda within the overall framework of the National Health Policy, Health Sector Strategic and Investment Plan (HSSIP) and within the structure of the MOH. In this role however, the NMCP has had challenges with vertical and fragmented implementation of interventions and thereby failing to achieve national scale up of planned malaria prevention and control interventions.

A Malaria Program Review (MPR) conducted in 2011 found weak inter-sectoral collaboration underpinned by ineffective communication and poor coordination of partners. There was no integrated work plan for partners to deliver as one, although overall there was increased funding for malaria from the government of Uganda (GOU) and partners. NMCP structures were too weak to adequately scale up, sustain and monitor program interventions. The position of the NMCP within the MoH was very low resulting in restricted decision space on all matters including policy, technical direction and resource allocation, which affected the speed of program implementation. There were no functional teams at zonal levels and district malaria focal persons (MFPs) were not facilitated. The overall national health system needed strengthening in order to impact positively on achievements of the malaria program.
The 2010–2015 Uganda Malaria Strategic Plan was thus developed with an understanding that these limitations in past performance would be addressed. The development of the 2010–2015 MSP was guided by the principles of three ones “one plan, one coordination mechanism led by government and one monitoring and evaluation framework”.

To achieve this desired state, a set of strategic actions, interventions and activities were identified which would see activities managed at the national, zonal, district, health facility and community levels. The NMCP leadership and governance would be strengthened at all levels to ensure timely, efficient and equitable implementation of malaria interventions as close to the community as possible. A necessary requirement for this was the need to ensure that NMCP capacity and position at national level would be strengthened to effectively participate in decisions on policy, technical direction and resource allocation

and use in the country. Capacity of technical structures at regional, district and sub-district levels needed to be enhanced to ensure adequate micro planning and implementation of this strategic plan.

Activities implemented under programme management

Over the course of the review period, the NMCP was able to facilitate partner coordination through quarterly RBM partnership meetings. The RBM partnership meetings provided a platform for partners to share progress of their activities and information. In 2011, a round table dialogue with parliamentarians was held in which support for malaria activities was pledged by the parliamentarians. One outcome of this has been the formation of a parliamentary committee on malaria to advocate for additional resources for malaria. At the launch of the mass campaigns for distribution of LLINs, a Ministerial Press Conference was held highlighting the importance for communities to embrace and own this programme. Every year the MOH conducts commemoration of the World Malaria events on April 25. These occasions brings together different sectors – government, non-governmental organizations, private sector and communities to recognize the negative impact of malaria in the country and renew commitment to ensure malaria is controlled.

Over the review period, NMCP was able to conduct annual review and planning based on the MSP. These reviews bring together the NMCP and its stakeholders to take stock of what was implemented in the preceding year and what corrective steps need to be made in the coming year. Unfortunately participation of partners in some of the review and planning meetings was not satisfactory. The NMCP during this period updated the national malaria control policy and developed guidelines for LLIN distribution that were used during the LLIN mass campaigns. Also developed wereguidelinesfor parasite based diagnosis in Uganda. These set of guidelines are yet to be finalized and disseminated.

With regard to the performance framework for programme management, the review found that there was paucity of data for nearly all the indicators selected given that the indicators were not “SMART” – (specific, measurable, achievable, realistic and time bound) –they were ambiguous or complex and with no clear sources of data for establishing numerators and denominators for the indicators.

4.2 Summary of analysis of the strengths, weaknesses, opportunities and threats (SWOT) of program management

a) The NMCP has good policies, guidelines, and structures, however NMCP level within the MoHstructure is very low and needs elevation to enable quick decision making.
b) While the available staffs at NMCP are competent, there is gross understaffing. Thus many functions within NMCP are supported through short-term technical assistance with different salary structures. In addition, staffs are poorly remunerated and not properly motivated.
c) Funding from partners and global initiatives exist; however government allocations for malaria control remain inadequate and not matching the level of prioritization. There are still gaps in funding program management.
d) While a forum for partner coordination exists, coordination of partners and activities remains weak and the scope of stakeholders does not reflect the multi-sectoral nature of malaria.

Overall, the identified malaria prevention and control interventions are appropriate, donor interest exists,there is high political support, and availability of technical support that can be used to contribute to the reduction of malaria. However, weak health systems, mismanagement of resources, and continued attrition of staff exiting for better remuneration opportunities remain threats for the success of the program.

4.3 Action Points

a) Enhance management capacity of NMCP staff and raise profile of NCMP
b) Appoint substantive staff in all positions especially the programme manager
c) Conduct a series of workshops on Performance Improvement, Team Building and Performance Appraisal/reviews
d) Strengthen Coordination between NMCP and in-country malaria partners
e) Ensure that actions outlined in the Aide Memoire developed in February 2010 are implemented
f) Hold regular scheduled RBM Partnership Forum meetings with a standard agenda and action plans
g) Harmonize salaryschemes for technical assistance which should be targeted to specific needs
h) Institute quarterly and annual planning and review meetings to monitor progress of activities

i) Support Central and decentralized Malaria Program Management Structures

j) Restrict NMCP 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 in planning and implementation of malaria control activities

k) Strengthen and utilize RPMTs/ Zonal Malaria Coordinators and District Malaria Focal Persons to supervise and monitor activities

l) Develop evidence based Policies and Plans to guide malaria control interventions

m) Renew commitment of all malaria partners and the general population to malaria control through commemoration of International/ Regional Malaria events

5 Malaria Vector Control

5.1 Introduction

Vector control has for long been one of the mainstays of malaria control in Uganda. Specific vector control interventions that have been applied include use of indoor residual spraying (IRS), sleeping under insecticide treated mosquito nets (ITNs), more recently Long-Lasting Insecticidal nets (LLINs) and larval source management which was previously implemented in urban centers. These are in addition to other environmental control measures. However, the 2011 MPR found that implementation of these malaria prevention interventions in Uganda had not been done in an integrated manner and sometimes with irregular implementation. Thus, the previous strategic planning and implementation efforts with regard to vector control in the country had been insufficient in reducing malaria transmission. Some of the key issues identified from the MPR with regard to vector control were: limited distribution of ITNs/LLINs to pregnant women and children under 5 through the ANC and EPI services, implementation of IRS in only 10 out of 112 districts, inadequate infrastructure for effective and routine entomological monitoring on mosquito bionomics and behaviour, lack of policy guidelines for integrated vector management (IVM), limited quality assurance of malaria vector control commodities including spray pumps, public health insecticides and LLINs, and lack of universal coverage with LLINs.Activities and resources for vector control were applied and remained available at national level, with vertical implementation and inadequate distribution across the country, thereby under-utilizing the existing structures and systems at district and lower levels to support vector control.

5.2 Strategies for vector control

The 2010–2015 MSP sought to address these issues by recommending a new national IVM strategy designed to achieve rapid scale up of prevention interventions to create impact. The NMCP would refocus on implementing a combination of interventions including the scale-up of IRS alongside universal LLIN coverage. A set of activities were proposed so as to reduce malaria transmission in rural and urban areas; including:targeted scaling up of IRS coverage and increasing the use of LLINs; conducting operational research to inform implementation of larviciding and live-bait technology in the “Cattle Corridor” districts (especially Karamoja); strengthening coordination and partnership development with partners and local NGOs at national and district levels and improving district capacity to champion, monitor and evaluate malaria control activities, including insecticide resistance.

5.3 Achievements in IVM

Over the review period, NMCP and partners were able to start the programme for mass distribution campaigns of LLINs. Universal coverage was defined as 1 LLIN per 2 people. By the time of the MTR, administrative coverage was 60% of the country covered. NDA and UNBS were involved in testing of all the nets that were brought into the country for mass campaigns.

In the 10 districts of Northern Uganda where IRS is supported by PMI, all the recommended protocols for effective spraying campaign were implemented under the leadership of the NMCP entomologist. Given the insecticide being used, two rounds of spraying were conducted every year. Wall bio-assays and insecticide resistance monitoring studies to measure effectiveness and efficacy of the insecticide used for spraying was done as planned. However, no epidemiological studies have been done to assess overall epidemiological impact.

While funds for larvicing had been set aside, NMCP was not able to implement this intervention. Only small pilots in two districts are on-going and the results have not yet been released to inform further planning and expansion of larviciding as a supplementary vector control intervention in Uganda.

Most recent data on key performance indicators is obtained from UDHS, 2011 and is shown in table 4 below. The data shows some increase on key performance indicators although coverage is still below the targets.

Table 4: Key Performance indicators for vector control:

Indicator	Baseline	2011	2012	2013	2013 Target	Source
Proportion of households with at least one LLIN in the country (%)	47 (MIS, 2009)	59 (UDHS,2011)			80	MIS, UDHS
Proportion of households with at least two LLINs (%)	24 (MIS, 2009)				80	MIS
Proportion of households with universal coverage of ITNs (1 net/2 people)	No data	28 (UDHS, 2011)			60	MIS, UDHS
Proportion of children under five years old who slept under an ITN the previous night (%)	33 (MIS, 2009)	42.8 (UDHS, 2011)			80	MIS, UDHS
Proportion of pregnant women who slept under an ITN the previous night	44 (MIS, 2009)	47 (UDHS, 2011)			80	MIS, UDHS

Proportion of persons in the household who slept under an ITN the previous night	-	35 (UDHS, 2011)			50	MIS, UDHS
Proportion of people aware of malaria prevention measures (ITN, IRS, IPTp) (%)	75% (MIS, 2009)				80	MIS
Proportion of targeted houses sprayed with a residual insecticide in the last 12 months (%)	93.5 (2010)	98	99	99	85	Activity reports
Proportion of persons protected after IRS spraying (%)	99 (2010)	100	100	100	85	Activity reports

Figure 9: Number of LLINs distributed 2010 – 2013

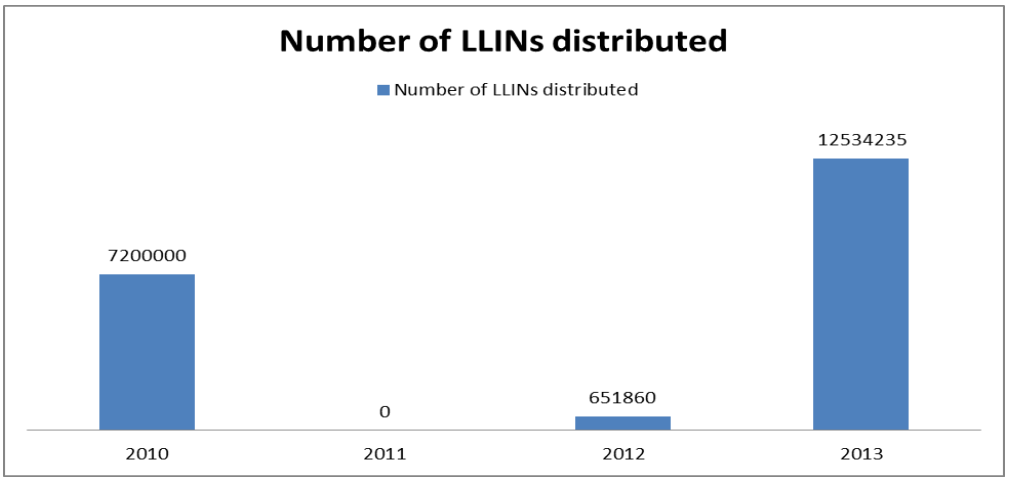
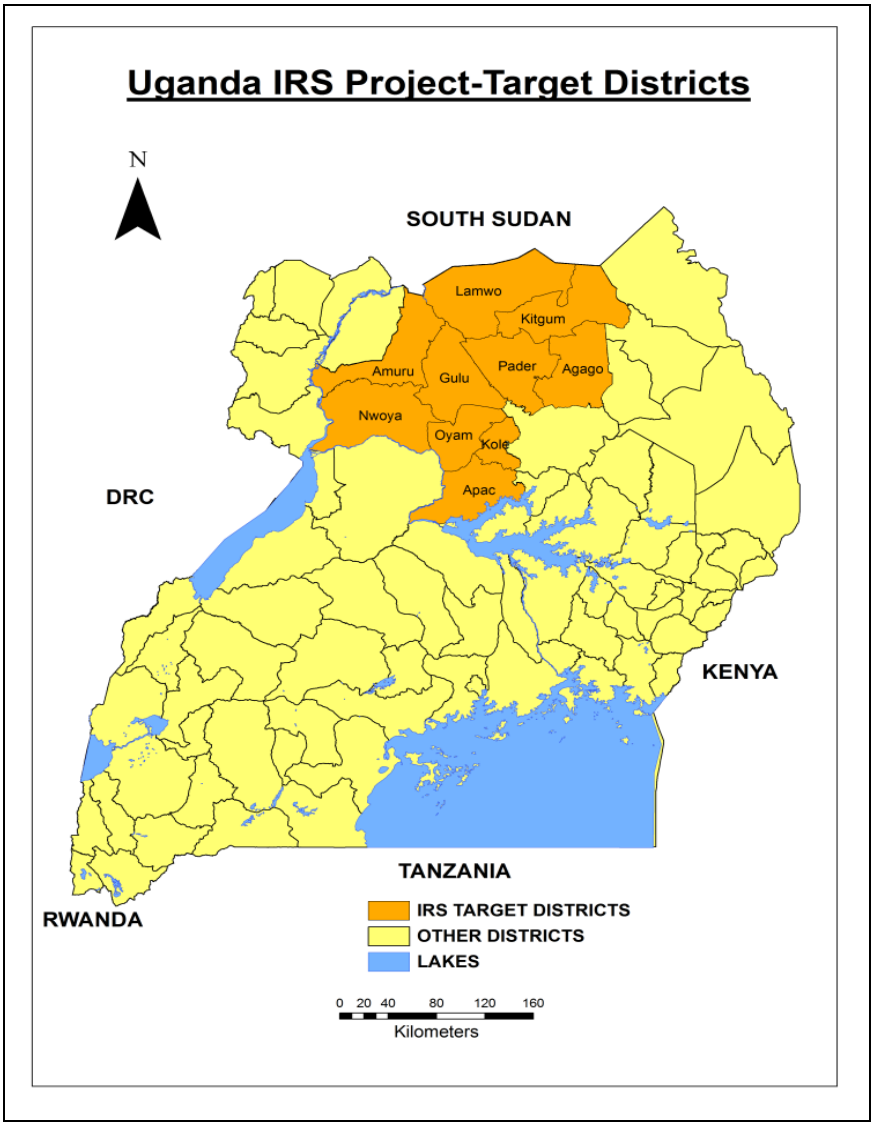


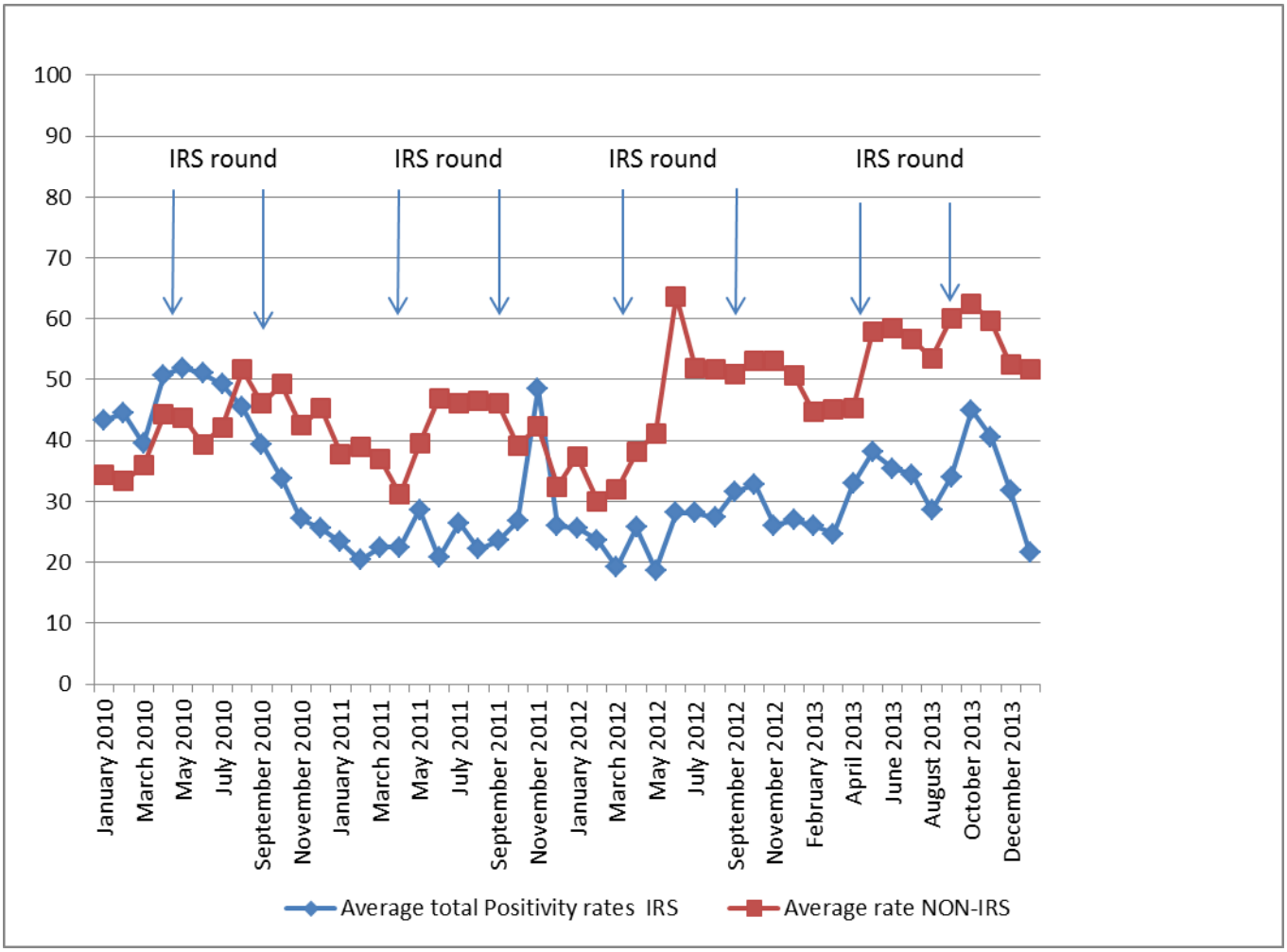
Figure 10: Map showing districts where IRS is implemented



IRS is currently implemented in 10 districts ofAgago, Amuru, Apac, Gulu, Kitgum, Kole, Lamwo, Nwoya, Oyam and Pader supported by PMI. The GoU is supposed to conduct IRS in Kumi and Ngora districts, however, spraying in these two districts has not been possible due to inadequate funds and piecemeal release of budgeted funds.

In Figure 11 below, it is observed that there was a declinein absolute levels of malaria positivity rates in districts where IRS is performed compared to neighbouring districts where spraying was not done.

Figure 11: Malaria positivity rate in IRS districts compared to neighbouring non-IRS districts (Jan 2010-Dec 2013)



Following IRS spraying malaria positivity dropped from an average of 45% to 25% in districts where IRS conducted compared to districts IRS not carried out.

Test positivity rate (TPR)is lower in IRS districts compared to non-IRS districts – as seen in both the summary of the whole series and looking across time (6 months blocks). There has been a steady increase in TPR over the last 2 years, independent of IRS. Table 5 below illustrates that the increase in TPR in non-IRS districts is steeper than in IRS districts. A before and after IRS analysis within IRS districts comparing TPR 1 month before and 2 months after each spray did not show a significant difference in TPR, before and after spray.

Table 5: Effects of IRS and time on TPR

	Mean TPR	Mean % increase in TPR	P-value
Time (unadjusted):			
Jan 2012 – June 2012 (n=84)	36.3	○ (baseline)	
Jul 2012 – Dec 2012 (n=113)	45.1	8.8 (95%CI 3.9 -13.6)	<0.001
Feb 2013 – June 2013 (n=113)	46.4	10.1 (95%CI 5.1 -15.0)	<0.001
July 2013 - Jan 2014 (n=112)	51.9	15.6 (95%CI 10.5 -20.7)	<0.001
IRS:			
IRS districts	33.9	-	
Non-IRS districts	58.5	24.5 (95%CI 21.8 – 27.2)	<0.001
Adjusted effects			
time effect adjusted for IRS	-	4.5 (95% CI 3.6 – 6.0)	<0.001
IRS effect adjusted for time	-	24.7 (95%CI 22.2- 27.1)	<0.001

Table 6: Temporal changes in TPR stratified by "IRS-presence"

	Mean TPR	Mean % increase in TPR	P-value
IRS districts			
Jan 2012 – June 2012 (n=43)	26.9	- (baseline)	-
Jul 2012 – Dec 2012 (n=60)	32.6	5.7 (95% CI 1.1-10.3)	0.015
Feb 2013 – June 2013 (n=60)	35.3	8.4 (95% CI 3.13-13.7)	0.002
July 2013 - Jan 2014 (n=60)	38.9	12.0 (95% CI 6.4-17.7)	<0.001
Non-IRS districts			
Jan 2012 – June 2012 (n=41)	46.2	- (baseline)	-
Jul 2012 – Dec 2012 (n=53)	59.2	13.0 (95% CI 7.3-18.6)	<0.001
Feb 2013 – June 2013 (n=53)	59.0	12.7 (95% CI 6.9-18.5)	<0.001
July 2013 - Jan 2014 (n=52)	66.9	20.7 (95% CI 15.6 – 25.9)	<0.001

5.4 Summary of SWOT analysis

- LLINs and IRS are priority interventions for malaria reduction programs both nationally and internationally and there is local capacity to effectively implement these interventions in the country in a partnership model.
- There is limited capacity atthe National Drug Authority (NDA)& Uganda National Bureau of Standards(UNBS) to execute their mandate of monitoring quality of public health insecticides and LLINs in the open market.
- Weak SBCC activities for LLINs distribution affect utilization which may contribute to misuse. LLINs distribution programs are not supported by BBC campaigns to promote use.

- There is irregular flow of government funds for IRS affects implementation and may contribute to public health insecticide resistance.
- The good will by both government and donors to support IRS and LLINs provides a platform for resource mobilization. For example the President of the Republic of Uganda launched LLINs distribution to kick start the universal campaign.
- The partnership between public and private sectors creates room for growth and sustainability of the interventions.
- The availability of new and novel products on the market to mitigate the effect of insecticide resistance such as synergistic LLINs and carbamates and organophosphates.There is increasing and geographical spread of insecticide resistance in malaria vectors therebyaffecting the impact of the interventions.
- Donor dependency for IVM interventions affects their sustainability due to possible changes in donor priorities.
- Based on the current IVM service outputs, there is adequate capacity to deliver IVM services in a multi-sectoral (Public and Private) partnership approach. However, the development of new technologies in entomology and changes in mosquito bionomics following intensive IVM interventions and changes in population dynamics, necessitates continuous capacity building at all levels. To deliver these IVM interventions effectively, appropriate staffing levels are necessary at the NMCP and district level.

5.5 Key issues affecting vector control

a) Inadequate funding for comprehensive implementation of IVM interventions.
b) Increasing insecticide resistance to public health insecticides used in both in LLINs and IRS.
c) Higher cost of alternative insecticides to fight insecticide resistance.
d) Weak SBCC hindering LLINs utilization.
e) Inadequate funding for comprehensive implementation of IVM interventions.
f) Increasing insecticide resistance to public health insecticides used in both LLINs and IRS as evidenced by resistance data by PMI/Abt Associates.
g) Lack of replacement strategy for LLINs after achieving universal coverage.
h) Lack of insecticide resistance management strategy.
i) Limited vector control capacity at lower levels.

j) Vector control activities are generally highly centralized and the lower structures are not being utilized.
k) Most of the districts are not funded and thus officers at district level wait for central activities.
l) Lack of consistency in spraying by GoU. Funds committed for IRS are never released in full and on time.
m) There is inadequate data to support planning and decision-making at all levels.
n) IVM activities do not involve other ministries such as environment, agriculture, private companies, etc.
o) There was reduction in level of malaria positivity in areas where IRS was implemented, however, this decline is not enough to eliminate malaria and there is need to consider IRS plus other options.

5.6 Action points

a) Mobilize adequate resources for comprehensive implementation of IVM interventions.
b) Employ evidence-based interventions for effective vector control i.e., use of a synergistic LLINs and rotational spraying for IRS for national coverage.
c) Align ASBCC activities to the planned IVM program interventions.
d) Action against insecticide resistance should be immediate and pre-emptive, not reactive, by instituting insecticide resistance management as recommended by WHO
e) Pro-actively engage the private sector to support IVM through their Corporate Social Responsibility programs - (successful models exist in Ghana and Angola).
f) Establish and operationalize sentinel sites for vector bionomics and insecticide resistance monitoring.
g) Conduct comprehensive malaria epidemiological and vector mapping.
h) Malaria positivity was based on combined data for under 5 and above 5 as data for 2010 – 2011. Malaria positivity for children <5 years in these districts should be evaluated
i) Improve data quality and completeness – use of DQAs and implementation of corrective plans post DQA.

6. Malaria Case Management

6.1 Introduction

Malaria case management, which includes prompt diagnosis and treatment with appropriate, affordable, effective, and safe antimalarials, remains a cornerstone of malaria control in Uganda. Timely and accurate laboratory results contribute significantly to the reduction of malaria related morbidity and mortality which is the ultimate goal of case management. At the inception of the NMCP in 1995 through 2002, malaria diagnosis was based mainly on clinical features. Coverage and utilization of parasite-based diagnosis therefore remained very limited until laboratory services were expanded to the HCIII level.

The 2011 MPR found that:

- There were frequent stock-outs of antimalarial medicines and supplies at health facilities and community level.
- Although the NMCP had conducted training of health workers in 21 districts on the use of RDTs, its implementation had been hampered by non-availability of RDTs.
- Integrating private sector providers into national case management programme was a challenge.
- There were weak services for management of severe malaria below HCIV level.
- There was poor laboratory personnel staffing at all levels coupled with obsolete laboratory equipment.
- There was inadequate staffing numbers, knowledge, skills and attitudes across board.
- Piecemeal and fragmented implementation of activities in the era of universal coverage (e.g. HBMF, amidst weak facility systems) persisted.
- Lack of adequate collaborative mechanism with private facilities (PF).
- There were inadequate job aids and guidelines in the health facilities.

The 2010–2015 MSP responded to these challenges by recommending that all suspected cases of malaria be confirmed with either microscopy or RDTs and be treated promptly with the recommended effective antimalarial medicines (ACTs). Also, that laboratory diagnosis by microscopy would continue to be the method of choice (gold standard) for parasite-based diagnosis and epidemiological studies. Rapid Diagnostic Tests (RDTs) would be provided at lower health units, VHTs and where laboratory services are unavailable or not functional. To complement prompt access to effective medicines for the treatment

of malaria in children at community level, Integrated Community Case Management (ICCM) strategy which is built on the Home Based Management of Fever (HBMF) strategy would be scaled up to cover all districts.

6.2 Case management strategies

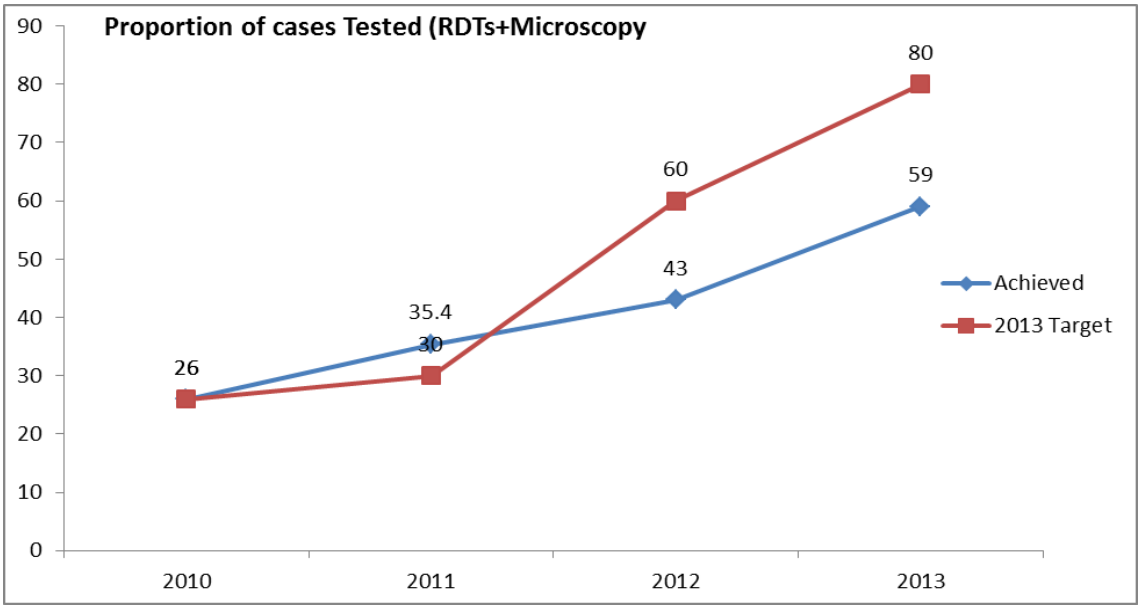
The 2010–2015 MSP articulated a series of activities that were geared at achieving rapid and national scale roll-out of access to diagnosis (microscopy and RDTs), and ACTs at both health facilities and at community level through VHTs and iCCM strategy. In addition, a strong component reaching the private sector through subsidized ACTs was supported.

6.3 Achievements

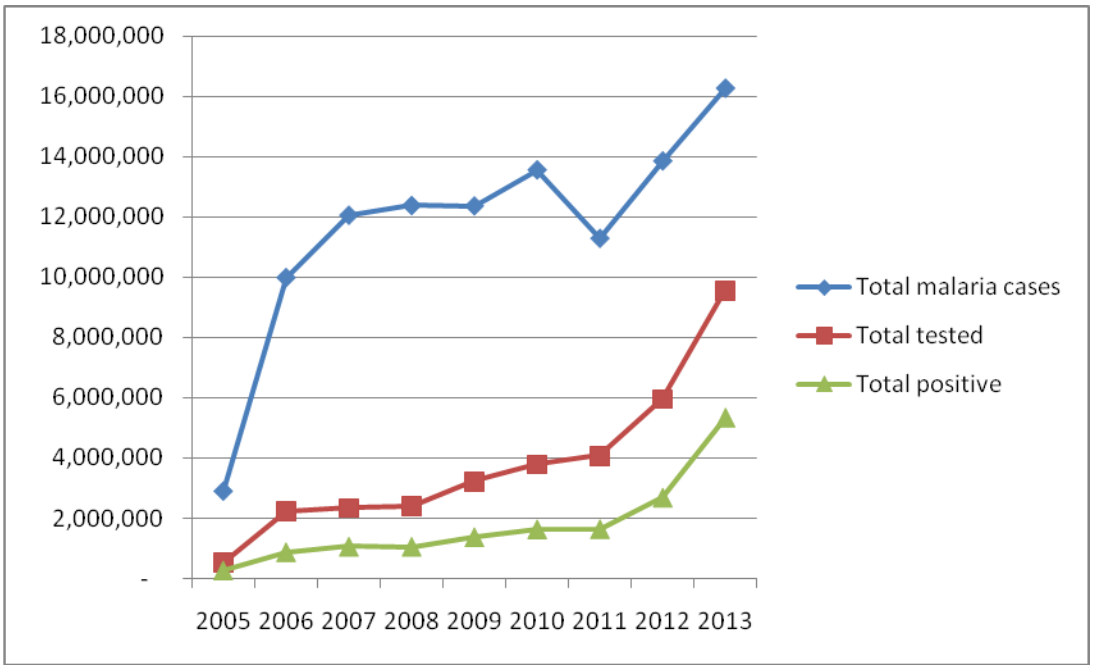
6.3.1 Malaria diagnosis

The aim was to scale-up quality parasitological diagnosis with microscopy and RDTs so as to increase the proportion of malaria cases tested by definitive parasitological diagnosis from 24% (2008/9) to 90% by 2015. To achieve this, training of health workers at all levels, including the private sector, on use of RDTs and microscopic diagnosis was performed by partners in a total of 54 districts. A quality assurance system for parasitological testing (EQA) was rolled out in 34 districts. The proportion of cases receiving parasitological diagnosis with microscopy and RDTs increased from 24% (2008/9) to 59% in 2013 which is still below the target of 90% by 2015 (Figure 12)

Figure 72: Proportion of fever cases receiving parasitological diagnosis with microscopy and RDTs



There is an increasing trend in the proportion of suspected cases tested (testing rate). The proportion of tested cases that are confirmed range between 45% and 50%.



6.3.2 Malaria case management

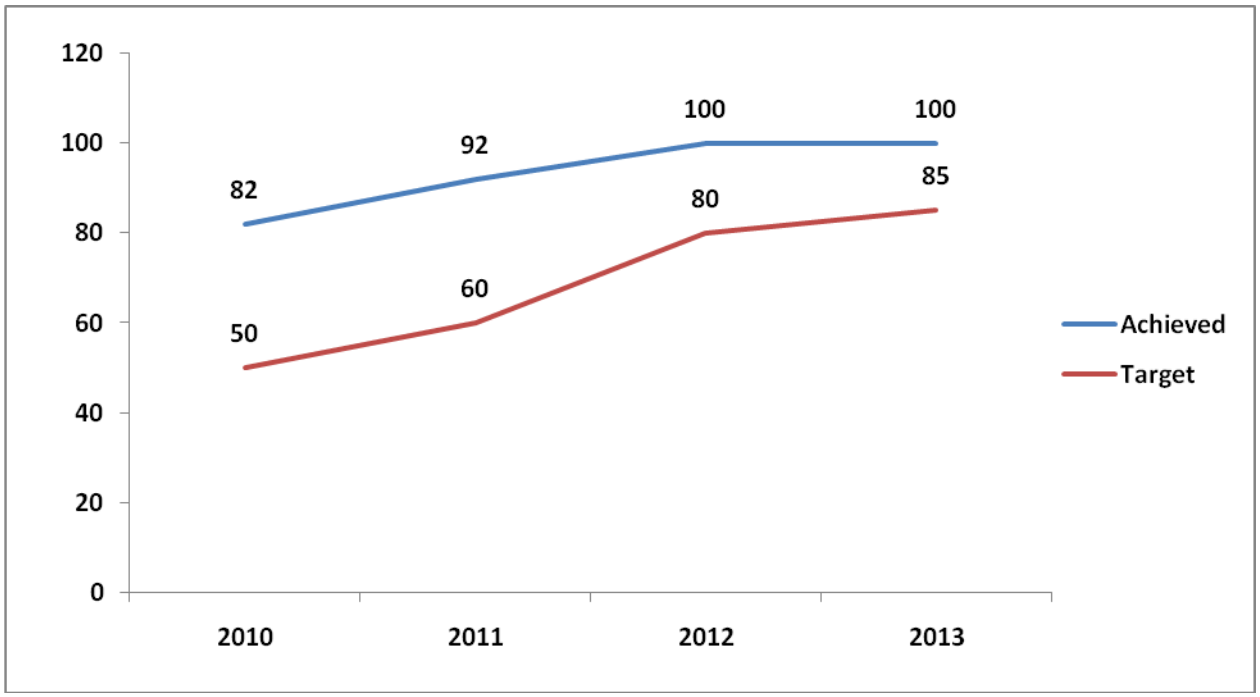
Health workers at all levels including the private sector were trained in integrated management of malaria (IMM) in 102 districts (10,500 HWs), with limited coverage of the private sector (5 districts). IMM guides& job aids were developed, printed and distributed; also, diagnosis guidelines were developed although these are still in draft form. Integrated Quarterly support supervision was done in 34 districts supported by a partner, and other districts under GF funding.

Health workers were trained on management of severe malaria and clinical audit for severe malaria management was performed in 34 districts. Also, support supervision of VHTs was done in 28 districts.

Treatment of malaria cases

While an increase in malaria cases was seen in 2013 after slight drop in 2011 (Figure 1), the proportion of malaria cases treated with effective antimalarial increased from 82% in 2010 to 100% in 2013 way above the target of 85% (Figure 13)

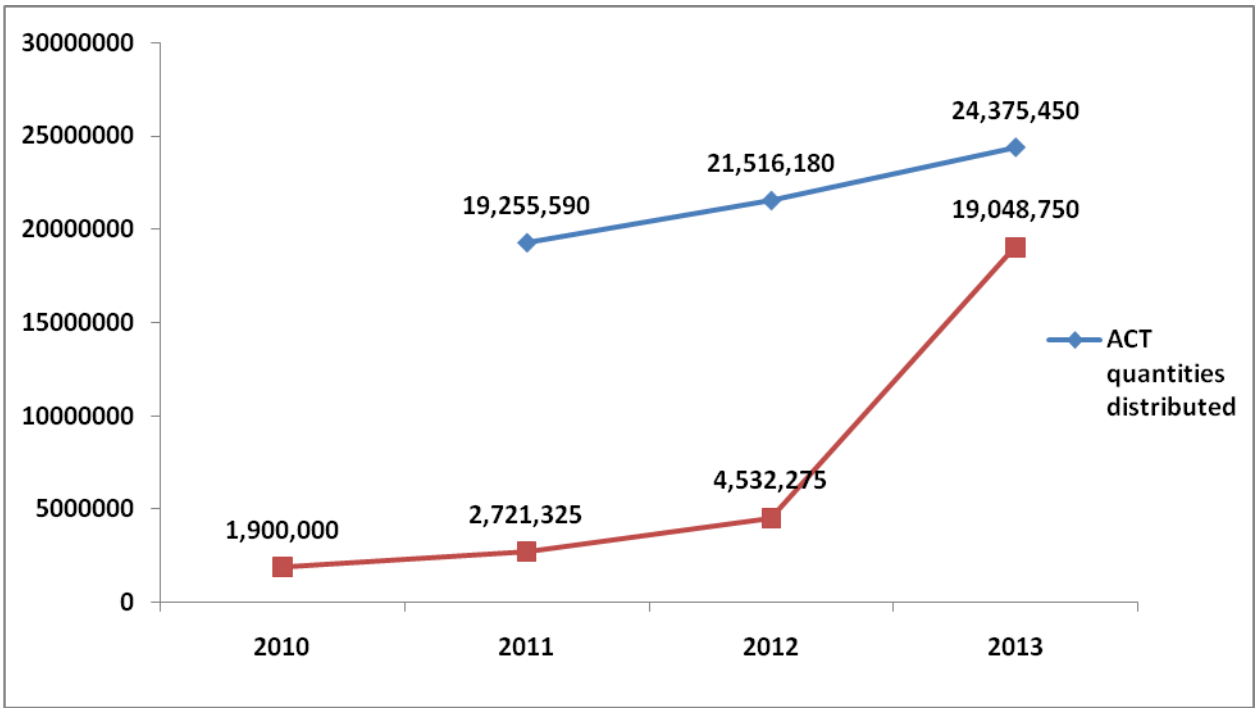
Figure 8: Proportion of malaria cases treated with effective antimalarial



6.2.4 Supply of malaria commodities

A total of 24,375,450 ACTs and 19,048750 RDTs were distributed (Figure 14)

Figure 9: ACT and RDTs distributed



There has been a steady increase in supply of ACTs and RDTs positively influencing proper diagnosis and treatment with effective medicines for malaria.

6.3 Summary of SWOT analysis for case management

a) There is still need for capacity building and support supervision of health workers for proper diagnosis and treatment especially in laboratory quality control and quality assurance.

b) There is need for increased and sustained availability of supplies and commodities (RDTs and ACTs) for case management.

c) There is need to increase availability of commodities up to grass root to realize the plan for scale up of iCCM to all villages.

d) Need for innovative and improved data management to support planning and management.

e) There is weak supply chain management with frequent stock outs at facility and VHT levels.

f) Low engagement of Private sector in ICCM activities.

g) Implementation of QI and QA is limited only to 34 districts.

h) There is strong leadership (TWGs) at Centre to support case management interventions

i) There is strong in-country RBM partnership supporting case management.

j) Strong Donor & Government commitment in funding case management exists.

k) There are appropriate policies, treatment and diagnosis guidelines.

l) There are training manuals for IMM, Diagnosis and ICCM for capacity building of health workers.

m) District structures (MFP, LFP) and now RPMTs exist across the country.

n) Availability of VHT structures and partners willing to work on iCCM (VHTs+ Bicycles + medicine Boxes + torches).

o) Active quality improvement and assurance system and M+E plan.

p) There is improved e-HMIS especially DHIS2 and mTrac to facilitate timely reporting.

6.4 Key issues

a) Well implemented, iCCM is potentially a high impact intervention and in the case of Uganda, there exists VHT structures, however, there is extremely low coverage of iCCM with no clear and well defined strategy to rapidly scale it up to all villages in the country. Substantial investment has been made to provide all VHT with bicycles, medicine boxes and torches but the system remains non-functional.

b) The limited engagement of the private sector for malaria case management activities including training, QA, data capture and use continues to hinder appropriate diagnosis and treatment for the majority (>60%) seeking treatment there. Absence of private sector data continues to underestimate the disease burden.

c) While access to parasitological testing is improving due to availability of RDTs, coverage of QA and EQA remains very low and only implemented in 34 districts. Plans to scale-it up to 56 more districts have been hindered by delay in fund disbursements and internal financial bureaucratic delays.

d) Despite increase in parasitological testing, there has not been a corresponding reduction in drug consumption as expected. Significant proportion of malaria cases are either being treated based on clinical diagnosis even when tested negative or not tested at all.

e) While there is improved availability of malaria medicines and diagnostics at the central stores, commodity distribution systems remain weak to deliver timely and according to demand based on caseloads and disease burden.

f) While capacity for case management has been built through training programs, irregular follow up and support supervision remain a serious challenge. Even when supervision is conducted, weaknesses identified are rarely addressed.

g) There is inadequate sensitization of health workers on some of the policy changes.

h) There is low coverage of iCCM, currently in only 31 districts despite VHT structures and investment – medicine boxes, bicycles.

i) Use of "push" system of drug supply leading to overstocking in some places.

j) While there is a huge amount of RDTs in the country in the short term however there is no clear plan for the medium term.

6.5 Action points

a) Build capacity of existing regional and districts structures and health workers to implement case management activities through training and dissemination of policy guidelines at all levels including the private sector and community levels.

b) Roll out ICCM to all villages across the country to leverage investments.

c) Ensure consistent and sustainable supply and access to all malaria commodities at all levels including public, community and the provision of free or highly subsidized medicines and diagnostics to the private sector.

d) Rapidly scale-up the Test, Treat and Track strategy to ensure early detection, prompt treatment with effective drugs and ensuring that a good surveillance and reporting system is available for accurate reporting of cases and measuring disease burden.

e) Strengthen scheduled support supervision and clinical audits to address issues of adherence to policies and guidelines, quality assurance for diagnostics to all districts.

f) Conduct Therapeutic Efficacy Studies to continuously monitor ACT efficacy to better manage treatment failures and drug resistance.

g) Strengthen referral systems from lower levels, community and private sector to improve management of severe malaria.

7.0 Malaria prevention and treatment in pregnancy

7.1 Introduction

Studies show that the risk of malaria parasitemia in pregnant women can be as high as 62.1%, associated with adverse pregnancy outcomes such as maternal anaemia, low birth weight and peri-natal mortality. Prevention and treatment of malaria in pregnancy are thus of utmost importance. Implementation of the malaria in pregnancy control strategy is relayed through the existing health care delivery structures from the national level through to the community level allowing easy access to the target groups (pregnant women) and acceptance of the intervention.

However the 2011 MPR demonstrated that:

- Routine distribution of ITNs through ANC remained limited
- Poor coordination between the Reproductive Health Division and NMCP hampered progress in the implementation of malaria in pregnancy activities
- Stock outs, and/or the non-stocking of SP in ANC services even when available in health facilities also hindered the implementation of IPT
- There was continued poor monitoring and non-documentation of the malaria in pregnancy activities
- There was persistent low MiP program coverage due to limited funding and restricted MiP activities to the public sector, leaving a sizable private sector that is moderately utilized by the target groups
- There was poor quality of ANC-MiP services at health facilities e.g. non implementation of directly observed therapy (DOTs) owing to inadequate commodities, equipment, supplies, clean water, service providers and support supervision.

Following review of these challenges, it was decided that the Reproductive Health Division at the MoH would take over planning and implementation of prevention of Malaria in Pregnancy (MiP) activities as part of the focused antenatal care implementation. NMCP would continue providing case management for MiP as well as technical support and continuous monitoring of all MiP indicators.

7.2 Achievements

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 (Figure 15). Similarly the proportion of pregnant women who slept under an ITN the previous night increased from 44% in 2010 to 47% in 2011 (Figure 16), still below the target of 80%.

Figure 10: Number of LLINS distributed through ANC/EPI services

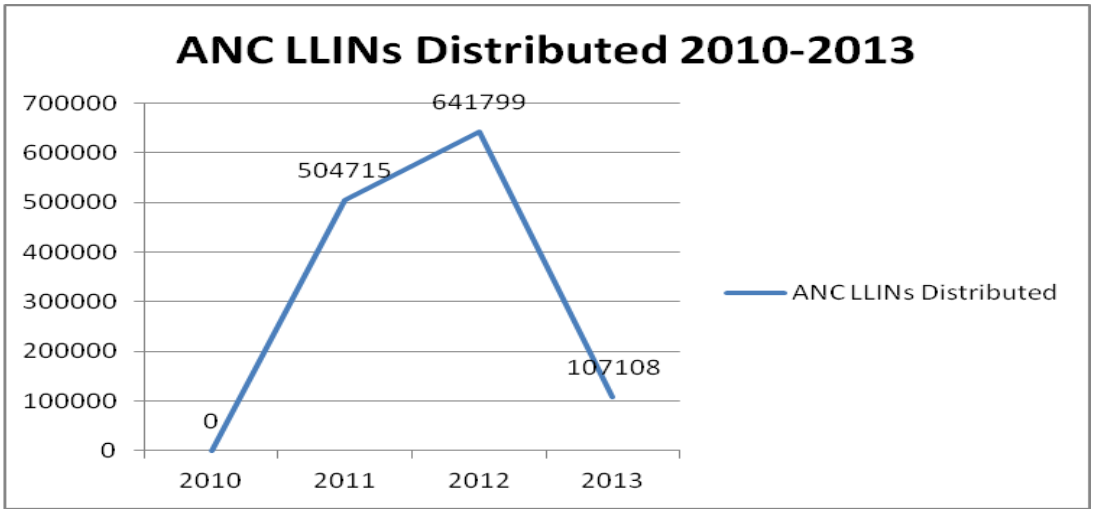
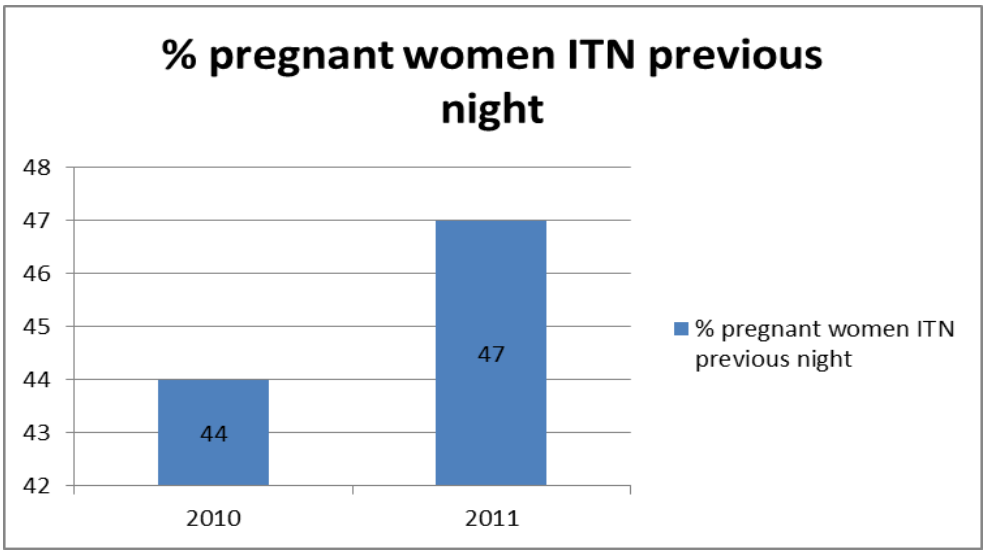


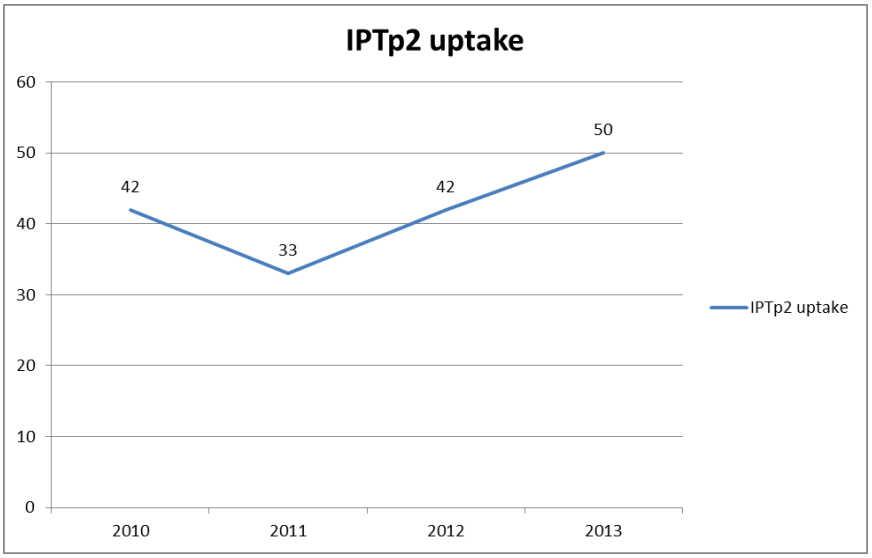
Figure 16: Proportion of pregnant women who slept under an ITN the previous night



7.3 Intermittent preventive treatment (IPTp)

According to HMIS, the proportion of pregnant women attending ANC services who have received IPTp2 increased from 33% in 2011 to 50% in 2013 (Figure 17), still below the target of 80%. Theproportion of women who gave birth in the last 2 years and received 2(+) doses of IPTp during their last pregnancy was 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 anytime during the past 3 months (public and PNFP); or during the last month was 50% (HMIS, 2010).

Figure 11: Proportion of pregnant women attending ANC services who have received IPTp2



7.4 Summary of SWOT analysis for MiP

a) There are functional health services delivery structures that can be strengthened for scaling up and improving MiP services. There is also strong technical capacity at the national, district and health facility levels.
b) There is reduced stock outs of SP in the facilities which will help in the reduction of missed opportunities.
c) There is better ANC attendance especially the 1st one that can be strengthened by encouraging mothers to report early so as to improve the numbers for 4th ANC attendance.
d) There is good collaboration between MiP partners(NMCP, SMP, MC, Jhpiego, RHD, PMI)
e) There is poor data capture, quality and reporting for MiP indicators.

f) There is inadequate supportive supervision.
g) There are irregular reviews and feedback meetings.
h) The possibility that resistance to SP exists and is not documented
i) Inadequate funding for MiP activities.

7.5 Key issues

a) NMCP not fully empowered/authorized to make malaria program related decisions since MiP activities are primarily under the Reproductive Health Division of MoH.
b) Weak coordination among NMCP, RHD and partners
c) Lack of effective partnership
d) Inadequate funding for MiP
e) Inadequate capacity for support supervision of malaria services at National and district levels
f) Lack of coordination between MiP IPs (TWG meetings etc), no action plans not monitored
g) Inadequate data management culture (inadequate data collection, compiling, analyzing and poor use of data generated by HMIS-MiP diagnosis and treatment) and non-disaggregated data and insufficient sharing activity progress reports with MiP stakeholders
h) Current differences between national IPTp guidelines and current WHO guidelines on IPTp
i) Most pregnant women attend first ANC late so never do the four visits
j) Only 41% of pregnant women deliver in health facilities
k) There is still confusion and doubts over efficacy of SP for IPTp

Overall, MiP programming is best performed through RHD using the Focused ANC model however there is weak coordination among NMCP, RHD and partners, lack of effective partnership and coordination between MiP IPs, and no MiP action plans.

7.6 Action points

a) Empower and fully authorize NMCP to make decisions in timely fashion
b) MiP focal person needs to be supported to coordinate MiP activities
c) Develop effective partnership among MiP/malaria stakeholders
d) Develop effective and efficient coordination among MiP/malaria stakeholders
e) Mobilize adequate government and partners' funding for MiP/Malaria
f) Map development partners that have MiP interventions and can support DO IPTp

g) Monitor and supervise NMS to ensure that Fansidar is one of the essential supplies to health facilities
h) M-trac should disaggregate their data to include maternal deaths due to malaria
i) NMCP should ensure that MiP indicators are validated routinely
j) Strengthen coordination between NMCP and HIV/AIDS to ensure that data on cotrimoxazole given to pregnant women is captured under IPTp
k) Conduct operational research to establish why there is low uptake of IPTp2
l) DHOs/NMCP needs to strengthen the capacity of the private sector in data management and ensure that they submit HMIS reports monthly
m) VHTs nationwide should be trained to dispense IPTp to all pregnant women and the capacity be strengthened in data management. They should also sensitize pregnant women on the importance of sleeping under an ITN during pregnancy
n) Integrate IPTp in other ongoing community outreach programs to avoid missed opportunities such Immunization and HCT outreach clinics.
o) Conduct targeted BCC on MiP reaching both men and women
p) Update current IPTp policy in line with WHO 2011 recommendation for monthly administration of SP after quickening
q) Improve coordination between NMCP and RHD and partners
r) Improve quality of data capture and reporting under HMIS
s) Supply SP to public and private health facilities with robust regulatory mechanism
t) Reintroduce user fees for clients who are able to pay (for maintenance of HFs, gap filling for services and top up of health workers pay)- pilot if not to scale

8.0 Advocacy, Social Mobilization and Behaviour Change Communication

8.1 Introduction

The importance of Information, Education and Communication for health was recognized by the Abuja Declaration of 2000 which had its progress indicators based on behaviour change at household level. Advocacy and social mobilization are very important supportive interventions to create behaviour change for malaria prevention and control at all implementation levels. They are designed to raise the profile of malaria in the political and development agenda and to foster political will, solicit for increased resources on a sustainable basis and hold authorities accountable to ensure pledges are fulfilled and results achieved.

The 2011 MPR demonstrated that:

- There was inadequate and erratic funding and poor staffing hampering BCC implementation.
- IEC materials developed were sometimes not focused and seldom in local languages.
- Operational research to guide IEC/BCC interventions was lacking.
- IEC/BCC activities were implemented on an ad hoc basis which weakens the impact of social mobilization interventions.
- There was a high cost for sustained/consistent placement of messages in the media (television, radio, newspapers).
- There was inadequate M&E for BCC interventions thus limited evidence to demonstrate impact and prioritize activities.

The 2010 – 2015 MSP therefore recognized SBCC as an essential element of malaria control efforts in the country. Also the NMCP was cognizant of the fact that both increased access and delivery of products and services require information to promote proper use. Therefore SBCC was identified to target the following behaviours:

1) Demand for malaria services and products,
2) Regular ITN use by the general population
3) Acceptance of IRS
4) Adherence to treatment regimens and IPTp during pregnancy and,

5) Promptand appropriate treatment with ACTs for children under five within 24 hours of onset of symptoms.

8.2 Achievements

According to the 2009 MIS; the proportion of people aware of malaria prevention measures was 75%. The proportion of children under 5 with fever seeking care from a recommended person within 24 hours of recognition of fever was 66.4% in 2009 MIS and increased to 81.6% in 2011, UDHS data. There were no data on other indicators such as proportion of the population routinely using at least one malaria preventive method and proportion of caregivers who know that children under five with fever should be seen by a health provider within 24 hours of fever onset. In addition there were no operational studies performed to inform or evaluate SBCC actions.

8.3 Summary of SWOT analysis for SBCC

a) A draft communication strategy is available
b) A Parliamentary Forum on Malaria exists
c) Presence of partners who are willing and able to support BCC activities
d) Inadequate coordination of BCC partners at National and district levels.
e) Delayed completion, endorsement and use of the communication strategy
f) Inadequate team work among colleagues in NMCP
g) Low prioritization of SBCC in the NMCP and yet it's an important intervention that should support all other interventions
h) Inadequate human resource for BCC activities in NMCP and the BCC Desk office not formally filled with clear terms of reference/job descriptions
i) No central repository of BCC activities at the resource centre
j) Inactive BCC TWG/Task force
k) Despite previous recommendations, the malaria champion or ambassadors for malaria advocacy have not been identified and appointed
l) Availability of tools, technology and materials in the private and business sector that can be tapped on to support BCC activities either as corporate social responsibility or partnership
m) Availability of VHTs at community level that can be utilized for BCC activities
n) Few and aging vehicles for implementation of BCC field activities
o) Poor communication within the Ministry

p) A delay in disbursement of funds affects implementation of activities.

8.4 Key issues

a) Implementing partners involved in BCC have occasionally developed materials and messages with limited participation and endorsement byNMCP
b) Due to limited capacity at NMCP, there is inadequate coordination of different implementers and BCC activities in the country
c) Low prioritization and inadequate funding for BCC activities at all levels (MOH,NMCP and district)
d) The communication strategy is in draft form, not endorsed and not in use leading to different and sometimes incoherent messaging
e) No formal focal point person at NMCP for SBCC
f) Poor selection of channels of communication such mass production of leaflets despite low literacy and poor reading culture
g) BCC activities are events rather than done before, during and after. A case in point is the universal distribution of LLINs without a robust BCC program before, during and after bed net distribution to ensure retention and use
h) Lack of data to show impact of SBCC
i) Poor utilization of existing structures for BCC at district level (DHEs) such as the VHT structure
j) Interpersonal communication not being used as it is expensive

8.5 Action Points

a) The BCC focal person positionsin the NMCP should filled urgently with adequate numbers and appropriate skills
b) As a stop gap measure, a TA should be recruited for BCC activities at NMCP
c) Need for a communication strategy, disseminated to partners for proper coordination of stakeholders
d) BCC should be prioritized and strengthened as an important supporting intervention in malaria
e) Provide appropriate funding, human and other resources for BCC
f) Revitalize the SCBCC technical task force to plan & harmonize BCC efforts in the country
g) Revitalize the SBCC technical task force to plan & harmonize BCC efforts in the country

9 Surveillance, Monitoring, evaluation and operational research

9.1 Introduction

A robust monitoring and evaluation (M&E) system is critical for any disease control program to be able to demonstrate progress and challenges. Over the last ten years, the NMCP has so far implemented two strategic plans all of which had defined indicators to measure progress towards targets. During the last review period several major milestones were made: HMIS moved from being a system processing disease and epidemic reports to one which is more inclusive (including human resource data, financial and material resources reporting). During the 2011 MPR, the following challenges were observed with regard to surveillance, monitoring, evaluation and operational research.

- Malaria data was inadequate, untimely and incomplete due to the weaknesses that exist in the HMIS system.
- Data on in-patient malaria admissions and deaths was not being systematically collected.
- No system existed for collecting and integrating data from the private sector, which provides services to more than 50% of the population into the HMIS.
- There was no functional malaria database within the NMCP.
- A clear research agenda to guide programmatic implementation had not been outlined.
- Malaria interventions did not appear to be having a significant impact on malaria trends
- Lack of evaluation of impact of environmental changes on transmission
- Malaria risk stratification was outdated
- There were weak linkages with other epidemiologically-important departments – e.g. Meteorology department.

The 2010–2015 MSP recognized that the national strategic direction for rapid scale up imparts more demands on M&E implementation especially regarding: (1) increasing emphasis of data collection on coverage and quality of services; (2) generating more detailed information on specific outcome and impact indicators; (3) monitoring absorption capacity and other critical service delivery support systems; (4) refining epidemic detection. This calls for use of standardized measurement instruments across all partners and levels and to strengthen linkages with the Resource Centre to enhance quality of data and its analysis across technical (e.g. IRS, case management, LLIN) and support (e.g. commodities, human resource) interventions.

The 2010-2015 MSP emphasized improving the quality of programmatic data to enhance planning and program management. Increasing staff dedicated to M&E and building capacity critical to tracking of essential indicators for the scale-up stage, especially those measuring levels of coverage, utilization and equity in access. The NMCP would work with all RBM partners to ensure that indicators and assessment tools are standardized among all partners and incorporated in the M&E plan. Additional information would be needed to monitor new approaches such as AMFm and the prices of ACTs.

Relevant information for monitoring and evaluating progress in national malaria control comes from many sources and stakeholders encompassing governmental, non-governmental, private, and international agencies. Collecting, analyzing, interpreting, and reporting quality information from various sources would therefore be a crucial part of national M&E activities.

9.2 Achievements

As part of the 2010-2015 MSP, the NMCP and partners developed the Monitoring and Evaluation Plan 2010-2015. Unfortunately, an accompanying implementation manual for this M & E plan was not developed and this plan was not widely circulated to partners, districts and health facilities. Tow staff of the NMCP were trained on data analysis and reporting to facilitate M & E of the program.

The M & E unit of the NMCP has now been linked to the Resource Centre at MOH that is the custodian of the HMIS and DHIS system for routine reporting of data from lower level facilities and districts. It is now possible to easily obtain malaria specific indicators that are captured within the DHIS.

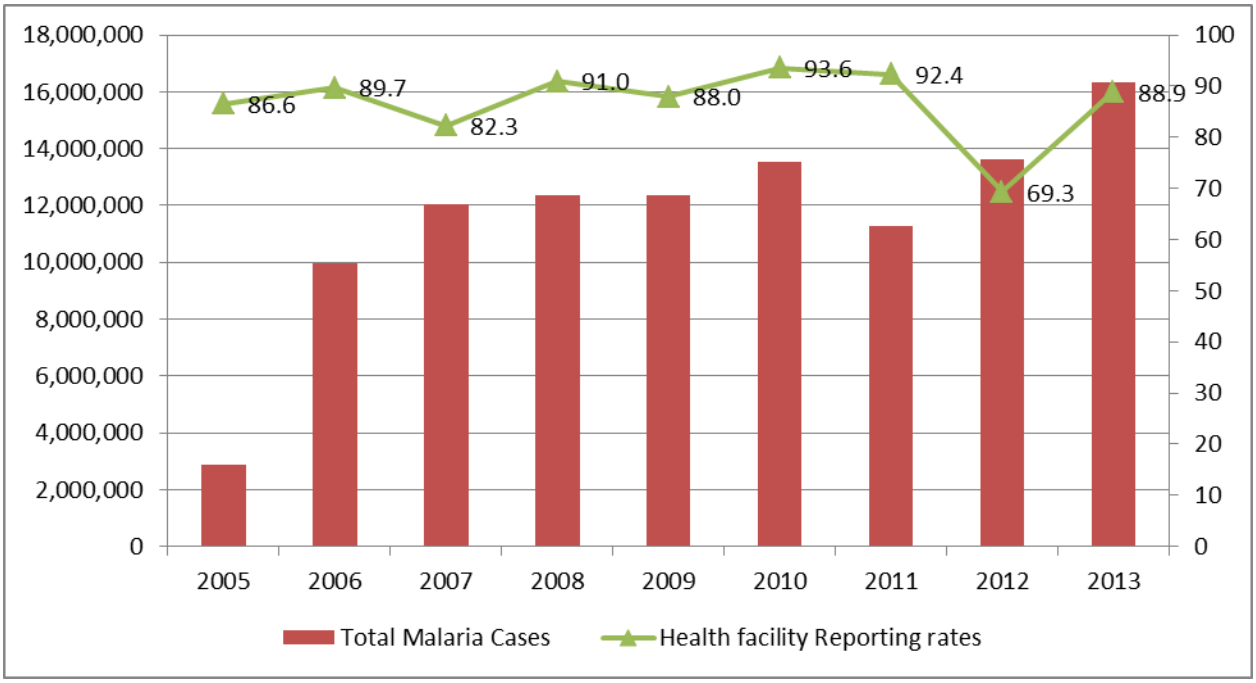
Also bi-annual supervision has been conducted in 34 districts supported by the Stop Malaria Project and in 44 districts supported under the AMFm strategy. Due to financial and human resource challenges, it has not been possible to expand this supervision to all the 112 districts in the country.

Performance of indicators relevant to M & E

Only 25% of the RBM M&E working group recommendations were implemented within the stipulated time, way below the target of 80%. Only 30% of the districts were analyzing and using malaria data to address problems that emerge in a timely manner. Data for epidemic preparedness and response (EPR) showed strengthening in 38% of the epidemic prone districts in 2012.The proportion of districts conducting surveillance and reporting according to guidelines was at 100%. Research findings from only 1 project had been disseminated in 2013, below the target of 6. Four quarterly reports/bulletins had been produced.

There was improved use of the DHIS2 data with reporting rate 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 (Figure 18)

Figure 12: Improvements in use of DHIS2



9.3 Summary of SWOT analysis for M&E

The SWOT analysis shows that a significant strength of the M&E unit is its technical competence. This however is seriously undermined by poor coordination within the unit which in turn affects performance of critical M&E tasks. In addition, this is compounded by the fact that M&E has been poorly funded in the past and outlays to M&E section are likely to decrease given the GF decision not to fund it. For example with scale up interventions, the chances of increase in malaria epidemic prone districts is high but for the last 2 years, no funds have been provided for the planned training of the entire country on malaria normal channels including the central officers. Formerly this activity was funded by PMI through WHO, however, these funds also dried up.

The biggest opportunity available to the unit and that can improve performance is the presence of DHIS2 which now includes non-facility based data like data on LLINs as well as M-trac that are increasingly making information available.

The most significant threat is the fact that there is withdrawal of funding for M&E activities. This is likely to impair adequate implementation of M&E activities that are planned.

9.4 Key issues

a) Poor coordination and Lack of M & E work plan
b) Inconsistencies in Health Facility reporting, late reporting, inaccurate reports, Poor quality data
c) Lack of a prioritized research agenda
d) Lack of comprehensive reports
e) Delay in disbursement of funds that are critical for timely and effective delivery of M&E activities.
f) Inadequate utilization of human resource at regional level (RPMTs & RRHs) impairs the conduct of M&E activities.
g) Lack of systems to facilitate sharing of information in a systematic way
h) Knowledge management within the M&E unit is inadequate. For example, sharing of information related to capacity building is not done. When staff undergo training in different aspects that are meant to improve M&E on the whole, this information is not shared with the rest of the unit members.
i) Incomplete reporting of data at all levels and inadequate use of data
j) Limited utilization of data e.g. quarterly bulletins are not widely distributed and utilized
k) Lack of unified database for all malaria interventions: LLINs, IRS, etc
l) Lack of data from the private sector and community level
m) Poor quality data due to limited data validation, lack of quality assurance system
n) Poor coordination of partners for M & E as evidenced by lack of RBM M & E working group
o) Poor quality of indicators – most of the indicators selected for the MSP are composite, without clear sources of data (Not SMART)
p) Lack of scheduled regular reviews and a template agenda for the meetings

9.5 Action points

1. The Programme manager in liaison with the M&E unit should clarify the roles and responsibilities of each officer (written and filed). This will enhance better coordination of M&E activities.
2. The M&E unit needs to develop a central repository for storage of all activity reports, research studies from internal and implementing partners, publications of the Malaria Quarterly Bulletins

and any other related documents like policies, guidelines and strategic plans (e-library). This will reduce the habit of individualizing NMCP documents and data.

3. All NMCP personnel who routinely use data for decision making and should have access to the DHIS2 and m-Trac databases.
4. The M&E unit should have routine staff meetings to enhance, update, coordinate set activities and use of data. In addition, there should be better communication channels within the program and outside.
5. The next M&E plan should have well described structure of the M&E unit and how it is linked to the NMCP structure. There should be well defined roles and responsibilities of all the HR involved in M&E.
6. The performance framework for the reduction strategy should develop “SMART” indicators for all the thematic areas, with clear indicator definitions and sources, a well-defined logical framework matrix with clear assumptions that can be used to guide reporting and decision making.
7. There should be a specific dudget and schedule for M&E activities.
8. There should be support for Malaria EPR activities country wide since Malaria Epidemics are likely to be frequent as we scale up the various malaria interventions.

Annexes

Annex 1: SWOT analysis of thematic areas

Annex 2: Meeting Agenda

Annex 3: List of participants (reviewers)

Annex 4: Validated Status of the performance indicators

Annex 5: Assessment of the business model

Annex 6: Revised/updated MSP business model

Annex 1: SWOT analysis by thematic area

Table 7: SWOT analysis of factors influencing malaria program management

Strengths	**Weaknesses**
• Availability of clear policies and guidelines. • Availability of funding for key interventions from partners. • Technically competent staff /team work • Functional Organizational Structure including TWGs. • Partner coordination forum- RBM • Availability of technology	• Lack of substantive program manager • Low position of NMCP in the MoH structures (currently a program under the National Disease Control Division – this increases the levels of bureaucracy) • Inadequate staffing – currently 13 of which 7 technical staff are supported by partners (GF, SURE, UNICEF, PMI, CHAI) • Over - dependence on TAs – Limited capacity building of the program • Lack of PSM and SBCC position/ Focal persons in the NMCP. • Irregular program meetings leading to lack of coordinated efforts • Government allocation and actual disbursement of funds –the allocation by government is insignificant for program requirements and actual disbursement to the program is unreliable. • Weakness in partner coordination leading to some duplication. • In spite of increased funding there is still a gap in malaria funding for the country. • High staff turnover especially of the Programme Manager. • Bureaucratic and inefficient procurement systems within MoH. • Poor remuneration of staff, demotivated staff.
Opportunities	**Threats**
• There are many partners supporting malaria • Malaria has been prioritized in the National Development Plan and the ruling party manifesto • Availability of malaria champions • High Donor Interest in malaria • Increased number of TAs in the programme • Increasing Government contribution for life saving commodities like ACTs • New opportunities for communication • Effective and evidence based interventions.	• Increasing global gap for malaria funding • Weakness in the health system e.g. procurement, financing, service delivery • Non empowerment of the program because of its low profile • Prioritization of malaria not matched with commensurate resources • Mismanagement of resources • Staff drifts to better remuneration opportunities. • Time limited projects yet Key positions filled by staff paid with project funds

Table 8: SWOT analysis of IVM

Strengths	**Weaknesses**
• Sufficient funding is available for LLINs ($20,500,000) to achieve universal coverage • Funding for IRS is available for PMI & DFID supported districts • There is political will to support IRS and LLINs activities • Technical competence (Entomologist and vector control officers and others) for IRS implementation and LLINs distribution is very high • Equipment and logistics for IRS available • Strong ASBCC activities for IRS • Community acceptance is very high for both IRS and LLINs • LLINs and IRS Household database has been setup. • Private sector (Pest control companies) involved in IRS were trained • MOH has set up an Insectary with support from Vestagaard	• There are human resource constraints at all levels (due to unending criminal investigations, understaffing, poor remuneration, limited training opportunities, no promotional ladder – VCD etc) • Weak ASBCC activities for LLINs • Poor infrastructure for supply chain and quality control • Failure by Regulatory bodies to monitor quality of the public health insecticides and LLINs in the open market i.e. NDA, UNBS etc • IRS and LLINs interventions are heavily donor dependent • There is low capacity for conducting entomological molecular techniques (PCR, ELISA and analysis of resistance mechanisms) • No follow up strategy for LLINs use after distribution • Irregular funding of IRS by the government
Opportunities	**Threats**
• Donor good will to support IRS and LLINs exists • New compounds for both IRS and LLINs to address insecticide resistance are coming into the market • There is rapid Private sector industry growth for malaria vector control • IRS database available at Abt Associates	• Increasing insecticide resistance to public health insecticides used in both in LLINs and IRS is key threat • High cost of alternative insecticides to fight insecticide resistance • De-campaigning IRS / LLINs programs by individuals

Table 9: SWOT analysis of case management

Strengths	**Weaknesses**
• Availability of supplies and commodities (RDT, quality ACTs) • The 2010 policy shift from clinical diagnosis to parasite-based • Presence of treatment and diagnosis guidelines • Training manuals for IMM, Diagnosis and iCCM for Capacity building of health workers • Conducted IMM training in 102 districts and diagnostics in 34 districts • Effective quality improvement and Quality assurance system • Improved e-HMIS • Good Support supervision system • Presence of district structures (MFP, LFP) • Strong leadership (TWGs) at Centre • Strong Donor & Government commitment in funding case management. • Availability of VHT structures and partners willing to work on iCCM (VHTs+ Bicycles + medicine Boxes + torches) • and M+E plan • clinical audit structure is good	• Weak reporting system (Non availability of data from Private sector) • Inadequate Human resource worsened by attrition • Supply chain management challenges including; weak distribution system, frequent facility and VHT/ICCM stock outs • Limited coverage of ICCM in the country • Low clinician compliance with test results • Limited engagement of private sector • Low coverage /uptake of rectal Art, non-utilization of district & community structures • Implementation of IMM and ICCM is mainly partner dependent and hence done in their operation areas • QI&QA limited to 34 districts • Low coverage of IMM and diagnostics trainings in the private sector, • Support supervision schedule is not timely • Mass screening and treatment has not been supported • Clinical audit done in only 34 districts
Opportunities	**Threats**
• Donor support • Political will • electronic HMIS (DHIS2) +mTrac • Available data from Private sector • iCCM • AMFm& other co-payment mechanisms • Efficient procurement systems – VPP • Subsidized ACTs • Presence of effective high quality ACTs and RDTs	• Global financial meltdown • Attrition of VHTs • Over Reliance on partners • ACT monotherapies (Resistance) • Non-WHO recommended RDTs • Categorization of training as high toxic/risk area

Table 10: SWOT analysis for MiP

Strengths	**Weaknesses**
• Policy for MiP exists • Guidelines and manuals exist • Technical capacity exists • Existing health service delivery structure • Availability of SP	• Facility level - access to HF-distance, cost, culture, - supplies (SP, commodities, private vs public, ban on SP importation/restricted SP importation - HWs (skills, attitudes, absenteeism, motivation (salary, accommodation, equipment, career, attrition) - Management (long waiting time, clinic processes, missed opportunities, inadequate ANC services at HFs, inadequate staff, scheduling, supervision, SP not stored in ANC clinics, SP used for other purposes e.g sickle cell clinic) - Poor data capture, quality and reporting • Community level - Malaria not seen as danger to pregnancy - Chemoprophylaxis not appreciated - Lack of community support system, - Social norms • Clients - Late reporting - Inadequate awareness and practice to demand for services • Governance (NMCP and District) - Inadequate supportive supervision - Inadequate dissemination of policies and guidelines - Irregular review and feedback meetings - Ineffective coordination among players (NMCP, RH, District, partners) - Inadequate government funding • Donors/partners - Donor driven agenda that may not be aligned with immediate priorities - Incomprehensive support Inadequate donor coordination
Opportunities	**Threats**
• Political will • Good ANC attendance • Functional collaborating departments (RHD&NMCP) andhaving clearly defined OR). • Donors support • Roadmap to revitalize MIP-task force that meets weekly to plan-rolled out in districts and will have a focal person in all districts)	• Less motivated staff • Possible SP Resistance • Inadequate funding for MIP activities

Table 11: SWOT analysis of SBCC

Strengths	**Weaknesses**
• Availability of a draft Communication strategy but needs to be approved/endorsed • Presence of an advocacy Parliamentary Forum on Malaria • High awareness (75%) among the general population of malaria and its causes. • Good will from Implementing partners to support and be involved in MOH led SBCC activities • Availability of partners willing and able to provide technical assistance • Presence of a BCC Desk office in NMCP structure	• Delayed completion, endorsement and use of the communication strategy • Lengthy and Unclear processes of requesting and approval of funds to implement SBCC activities. • inadequate funding for SBCC activities for malaria control both at the Hqs and Districts) • Lack of team work among the BCC members and NMCP colleagues • Inadequate coordination of BCC partners at National and district levels. • Complex MOH procurement procedures for BCC activities • Inadequate human resource for BCC activities in NMCP • There was no formal handover of BCC activities when the office fell vacant, hence the replacement officer was not formally inducted and introduced to the programme • Low prioritization of SBCC in the NMCP and yet it's an important intervention that should support all other interventions • HMIS does not capture BCC activities of the programme and partners • Despite the MPR (2009) recommending selection of malaria champions/ambassadors, this very important resolution has not been effected • BCC desk officer fell vacant and there is no formal replacement with clear terms of reference
Opportunities	**Threats**
• Presence of partners involved in BCC eg PACE, UHMG • Availability of funding opportunities that can support IEC/BCC activities for malaria like Global fund, PMI, DFID etc • Availability of tools, channels and materials in the private sector that can be tapped in the spirit of partnership • Political will at all levels • Fairly literate community(70%) that can	• Old motor vehicles for BCC • Poor communication within the Ministry • Lack of positive feedback from the relevant powers • Absence of specific budget line for SBCC activities • Slow financial accounting systems that delay disbursement of funds from partners

read printed materials • Availability of free LLINs to all households • Presence of VHTs in a number of districts that is a resource for BCC activities • Availability of samples/prototypes/best practices from other programmes and countries • Presence of a Health promotion and Education Division in the Ministry of Health that can be utilized to support BCC activities in Malaria	

Table 12: SWOT analysis for M&E

Strengths	Weaknesses
• New human resources with expertise in M&E (2 M&E officers and 1 epidemiologist) • Central database (DHIS2) where most of indicators on Malaria interventions are routinely reported. -Updated HMIS tools • Presence of an M&E Unit that is headed by a coordinator supported by 3 specialists. • Reliable funders (GATM and PMI) • Functional RBM partnership that has created a for a forum active participation in coordination of malaria control interventions. • Regular progress update through the quarterly malaria bulletin that enhances evidence based decision making and programming. • The mTrac platform is providing weekly status reports on malaria indicators and is also providing consumption based data in regard to supplies related to malaria control (ACTs&RDTs). • Presence of EPR training manual important in early detection and containment of malaria Epidemics	• No central repository for reports, minutes (activity reports) etc. • Lack of funding for implementing some activities (Supervision activities by the centre dropped by the GF) • Old fleet of vehicles (broken down and some in very poor conditions) affect supervision at district level. • Lack of office space, furniture, shelves, stationary and electronic equipment like printers and photocopiers. • Poor coordination (flow of information, aligning all M&E activities like support supervision and Data Quality Assessments) within the M&E unit. For example there is poor definition of the objectives and expected outputs of support supervision exercise. There are no plans for consolidating support supervision reports for the various districts and hence, recommendations and actions are not acted upon. • Data quality assessments for both the DHIS II and mTrac are irregular and this poses a challenge in the interpretation. • There is poor alignment of the activities by partners with the priorities of NMCP. For example some partners conduct evaluations of some interventions without the involvement of NMCP. • Not everyone involved in M&E within NMCP have access to the DHIS II. Hence, use of the data is limited. • Minimal Malaria EPR integration in IDSR • Minimum Malaria EPR integration with Metrological department
Opportunities	**Threats**
• Global fund committed funds for 2 officers (Epidemiologist and database administrator) • LLIN module in DHIS 2 which is a springboard for routine reporting for LLINs (including ANC and EPI) • The server that has been obtained for LLIN module could also be used as a central	• Partner supported officers who would not stay after the project has ended. Hence, sustainability of the gains made from the added value remains in balance. • Withdrawal of partners from funding the interventions. For example, the GF changed their funding priorities from program support activities like capacity

repository for evidence and other work done. • MTRAC which allows districts to easily transmit data through the Mobile telephone platform and use it. • New funding model of global fund (predictability is greater and the funding is aligned to strategic plan) • Malaria is high on the policy agenda since GOU (MoFPED) is interested. • Under GF, 12 RPMTs have just been established. This will help in data quality improvement, timely report and use at the district level. • Willingness of the metrological department to partner with NMCP to carry EPR activities.	building and support supervision to commodities. Hence, M&E related activities were negatively affected (funding was withdrawn without identifying alternative sources). • Power shortages in many districts that affects timely reporting by districts and health facilities into the DHIS II database. Hence, completeness of the data being used is low. • Stability of internet connectivity especially at district is very poor and hence the rate of data entry and updates is poor. • Inadequate prioritization of Malaria EPR activities by partners

Annex 2: Meeting Agenda

Week long plan for thematic groups for MTR in Entebbe February 17 – 21, 2014

Time	Activity	Responsible
8.30	Registration	NMCP Secretary
8.45 – 9.00	Recap of previous day	Consultant
9.00 – 11.00	TWG group work	TWG Chairs
11.00 – 11.30	BREAK	Hotel
11.30 – 1.00	TWG group work	TWG group work
1.00 – 2.00	LUNCH	Hotel
2.00 – 4.00	TWG report out to plenary	Consultant and TWG chairs
4.00 – 4.30	Plan for next day	Consultant

Key deliverables

Day 1 - Complete the performance framework for the MTR period

Key deliverable – Complete the performance framework for the MTR period for the high level as well as thematic area specific indicators.

Day 2 – Complete the SWOT analysis

Key deliverable – Complete the SWOT analysis and review of appropriateness of the business model

Day 3 – Complete the draft thematic report per TWG

Key deliverable – Generate thematic area report as per the guide below.

Day 4 and 5 – Draft MTR report compilation

Key deliverable - Collation and compilation of the overall MTR report and presentation to plenary on Day 5

Annex 3: List of participants (reviewers)

Table 13: List of participants (reviewers)

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Annex 4: Validated Status of the performance indicators

Table 14 below shows progress made on the 5 key objectives of the MSP

Table 14: Progress on the main objectives of the 2010 – 2015 MSP

Key Indicator and target	Progress to date	Comments at Mid-Point
To reduce malaria prevalence by at least 75% of 2010 levels by 2015	No data	Expect to measure prevalence during the planned MIS in 2014
To increase to 90% by 2015 the proportion of malaria cases parasitologically confirmed and treated with effective antimalarials	59% of cases are parasitologically confirmed with 100% receiving ACTs	Positive progress is being made on this indicator as a result of increased availability of RDTs and ACTs in-country
To achieve by 2015, 80% of the population consistently using at least one malaria preventive method together with appropriate treatment seeking behaviours	42.8% of children under-5 use LLINs and in 81.6% of children with fever, treatment was sought within 24 hours of fever recognition	This is a compound indicator measuring both use of prevention methods and treatment seeking behaviors
To strengthen M&E systems to assess progress towards set targets, informing refinement and decision making during implementation	No data	This is a very complex indicator and it was not possible to tease out progress for this indicator during the MTR
To strengthen 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.	No data	This is indicator was too complex and it was not possible to tease out progress on this indicator during the MTR

Table 15: **Progress on indicators as per performance framework**

Indicator	Baseline and Target Values	Year 1 - 2011	Year 2 - 2012	Year 3 – 2013	2013 Target	Sources
Malaria cases (per 1,000 persons per year)	403	349.26	405.79	460.04	320	HMIS
Confirmed malaria cases (microscopy or RDT) per 1,000 persons per year	210	49.6	78.3	150.5	180	HMIS
Malaria test positivity rate. i.e. Proportion of malaria suspected cases confirmed to be positive among children below 5 years (Malaria Test positivity rate)		44.30%	58.20%	44.20%		HMIS
Inpatient malaria cases (per 1,000 persons per year)	14	14.89	17.19	20.9	5	HMIS
Proportion of children 6–59 months old with moderate or severe anaemia	10%	5.00%			7%	MIS
Malaria incidence among the specified population (Under 5 years)	150 (2010)		318	627	50	HMIS
Percentage of OPD visits (Public & PNFP) attributed to malaria (Proportion of patients suspected of having malaria) Under 5 years	51.7% (2010)	48.40%	14.38%	13.71%	25%	HMIS
Percentage of OPD visits (Public & PNFP) attributed to malaria (Proportion of patients suspected of having malaria) 5 years and above	30% (2010)	40.10%	28.97%	29.28%	15%	HMIS
Malaria Case fatality rate	2% (2010)	3.50%	1.09%	0.72%	1	HMIS

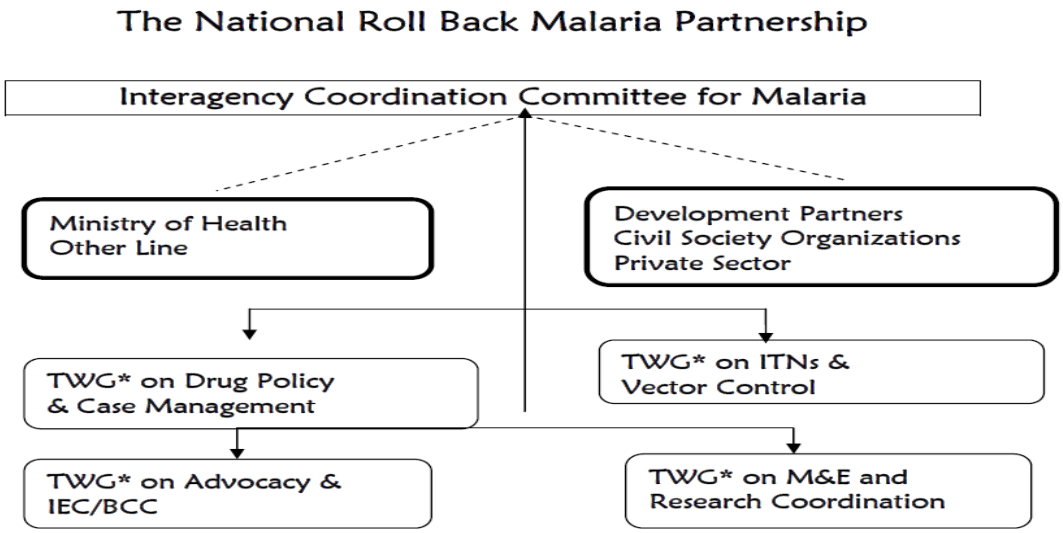
Proportion of suspected outpatient malaria cases with a laboratory confirmation in children under 5 yrs at the health facility. (Test Ratio)	-	44.30%	54.80%	44.97%		HMIS
Proportion of clinical malaria cases that are confirmed by microscopy/RDT at health facility level (%)		35.40%	43.01%	58.80%	80	HMIS
Number of admissions of children under five due to malaria	tbd	272,804	358,415	445,056	tbd	HMIS
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 (HMIS)	50					Support supervision and /or HMIS
Proportion of outpatient malaria cases that received an appropriate antimalarial treatment according to national policy	-		64.5	64.5	85	HMIS
Proportion of children under five years old with fever in the last two weeks who received treatment with ACTs according to national policy within 24 hours of onset of fever	14	42.50%	42.50%	42.50%	60	MIS, UDHS
Proportion of children under 5 with malaria/fever receiving appropriate treatment within 24 hours at community level	-				80	MIS, UDHS

Proportion of health facilities with no reported stock outs of the nationally recommended anti-malarial drugs lasting more than 1 week at any time during the past 3 months (public and PNFP); or during the last month (HMIS)	50 (2010)				60	HMIS
Proportion of children under 5 with fever seeking care from a recommended person within 24 hours of recognition of fever (%)	?	80.10%	80.10%	80.10%	80	MIS, HMIS, VHT reports
Proportion of people aware of the correct treatment for malaria	-				60	MIS, UDHS
Proportion of caregivers who know that children under five with fever should be seen by a health provider within 24 hours of fever onset	-				60	MIS, UDHS
Percentage of suspected malaria cases tested using microscopy or RDT in private and public sector	26	42	43.00%	58.80%	80	HMIS reports/HF SURVEY
Proportion of malaria cases treated with effective anti-malarials	50		100	100	85	MIS, HMIS, NMCP reports
Proportion of children <5 years with malaria who received an appropriate antimalarial treatment within 24 hrs of onset of symptoms from a VHT	24				80	HMIS
Proportion of children with fever in the last 2 weeks who sought treatment from trained providers		64.5	64.5	64.5		MIS, UDHS
Number of studies conducted to monitoring the availability, price and quality of ACTs in the private sector	0	1	1	1		Study report

Annex 6: Assessment of the current business model

Assessment of the current NMCP business model (below) demonstrated that it is inadequate to implement the malaria reduction strategy. The MRS needs to be implemented through a broad collaborative nationwide coalition as indicated in the proposed business model whereby all stakeholders participate by playing an advisory role in policy implementation and program management at various levels, mobilizing, pooling resources and creating linkages and amongst partners, with good partnership coordination and financial accountability systems, for effective program management.

Current NMCP business model



TWG*-Technical Working Group

Annex 7: Revised/updated MSP business model