2014 ANNUAL REPORT

NATIONAL MALARIA CONTROL PROGRAMME

JANUARY 2015

ACRONYMS AND ABBREVIATIONS

ACT	Artemisinin-Based Combination Therapy
ACSM	Advocacy Communication and Social Mobilisation
ADRs	Adverse Drug Reactions
AFRO	WHO Africa Regional Office
AGA	Anglogold Ashanti
AGAMal	Anglogold Ashanti Malaria Control Program Ltd
ANC	Antenatal Clinic
AQ	Amodiaquine
AS	Artesunate
AMDP	Antimalarial Drug Policy
AMFm	Affordable Medicines Facility-Malaria
AMTs	Artemisinin monotherapies
ANC	Antenatal Care
ARI	Acute Respiratory Infection
AS-AQ	Artesunate +Amodiaquine
AL	Artermether-Lumefantrine
CBAs	Community-Based Agents
CBO	Community-Based Organization
CCM	Country Coordinating Mechanism
CD	Continuous Distribution
CFR	Case Fatality Rate
CHAG	Christian Health Association of Ghana
CHIM	Centre for Health Information Management
CHO	Community Health Officer
CHPS	Community Health Planning Services
CFR	Case-Fatality Rate

CHQ	Chloroquine
CLU	Clinical Lab Unit
CMS	Central Medical Store
DHMT	District Health Management Team
DDT	Dichlorodiphenyltrichloroethane
DFID	Department for International Development (British)
DHAP	Dihydroartemisinin Piperaquine
DHS	Demographic and Health Survey
DRGs	Diagnosis Related Groups
DSS	Demographic Surveillance Systems
EPA	Environmental Protection Agency
EPI	Expanded Programme on Immunization
ETF	Early Treatment Failure
FDA	Food and Drugs AUTHORITY
FDC	Fixed-Dose Combination
FHD	Family Health Division
FY	Fiscal Year
GFATM	Global Fund to fight AIDs, Tuberculosis and Malaria
GF	Global Fund
GHS	Ghana Health Services
GNDP	Ghana National Drugs Programme
GoG	Government of Ghana
G6PD	Glucose-6-Phosphate Dehydrogenase Deficiency
GSS	Ghana Statistical Service
HBC	Home-Based Care
HH	Household
HIO	Health Information Officer
HIS	Health Information Systems

HIV	Human Immunodeficiency Virus
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
HMIS	Health Management Information Systems
HMM	Home Management of Malaria
IDSR	Integrated Disease Surveillance and Response
IEC	Information, Education and Communication
IMCI	Integrated Management of Childhood Illnesses
IPT	Intermittent Preventive Treatment
IPTp	Intermittent Preventive Treatment for Pregnant Women
IPTi	Intermittent Preventive Treatment for Infants
IRS	Indoor Residual Spraying
ITN	Insecticide-Treated Net
LBW	Low Birth Weight
LCF	Late Clinical Failure
LLIN	Long Lasting Insecticidal Net
LPF	Late Parasitological Failure
MaVCOC	Malaria Vector Control Oversight Committee
MDGs	Millennium Development Goals
M&E	Monitoring and Evaluation
MICS	Multiple Indicator Cluster Surveys
MIP	Malaria in Pregnancy
MIS	Malaria Indicator Survey
MOFEP	Ministry of Finance and Economic Planning
MoH	Ministry of Health
MPR	Malaria Programme Review
NGO	Non-Governmental Organization
NHIA	National Health Insurance Authority
NHIF	National Health Insurance Fund

NHIS	National Health Insurance Scheme
NMCC	National Malaria Communication sub--Committee
NMCP	National Malaria Control Programme
NMIMR	Noguchi Memorial Institute for Medical Research
OPD	Out-Patients Department
OIG	Office of the Inspector General
ORS	Oral Rehydration Salt
OTC	Over-the-counter
OTSS	Outreach Training and Support Supervision
PCR	Polymerase Chain Reaction
POW	Programme of Work
PPME	Policy Planning Monitoring and Evaluation
PR	Principal Recipient
PSD	Procurement and Supply Division
PSM	Procurement and Supply Management
Pf	Plasmodium falciparum
Pm	Plasmodium malariae
PMI	The U.S. President's Malaria Initiative
Po	Plasmodium Ovale
PPQ	Piperaquine
PQ	Primaquine
PU	Procurement Unit
P.v	Plasmodium vivax
PW	Pregnant Woman
Q	Quinine
QA	Quality Assurance
QAACT	Quality Assured Artemisinine-Based Combination Therapy

QC	Quality Control
Q+SP	Quinine + Sulfadoxine–Pyrimethamine
RBM	Roll Back Malaria
RCC	Rolling Continuation Channel
RDTs	Rapid Diagnostic Tests
RMS	Regional Medical Store
SCMP	Supply Chain Master Plan
SDP	Service Delivery Point
SMC	Seasonal Malaria Chemoprevention
SP	Sulfadoxine-Pyrimethamine
SWAP	Sector – Wide Approach
T3	Test Treat and Track
TB	Tuberculosis
TF	Total Treatment Failure
UC	Universal Coverage
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WHOPES	WHO Pesticide Evaluation Scheme

ACKNOWLEDGEMENT

The National Malaria Control Programme wishes to express its gratitude to the following persons and institutions for their diverse support during the year under review:

ADDRO

Airtel Ghana.

All health workers, public and private, who are working tirelessly to help control malaria in the country

Anglogold Ashanti

DFID

GFATM (The Global Fund to fight HIV/AIDS, TB and Malaria)

Humanities International

Malaria Care

Malaria Consortium,

Malaria No More-UK

Municipals/Metropolitan/Districts Assemblies,

Networks

Regional Coordinating Councils,

Regional Health Directorates,

Roll Back Malaria,

The Country Coordinating Mechanism (CCM)

UNICEF

USAID (PMI, ProMPT, DELIVER, FOCUS & BCS),

Vestergaard Frandsen

Voices for Malaria free Future,

WHO

World Bank

EXECUTIVE SUMMARY

Priority Areas Planned For 2014

The overall goal of the programme, to reduce the malaria morbidity and mortality by 75% (using 2012 as baseline) by the year 2020, continued to be pursued in 2014. The following areas were identified as some of the priorities for the year: Malaria Case Management under which we have Malaria in Pregnancy (MIP), Home Based Care and Diagnostics. The others include Procurement and Supply Management (PSM), and Research, Surveillance, Monitoring and Evaluation (RSM&E). Furthermore, other priority areas for the year 2014 included Advocacy, Communication and Social Mobilization (ACSM); Partnership, Planning and Resource Mobilization; National Policy and Regulatory Preparedness and Administration and Finance under which we have The New Funding Model. Activities carried out by the programme were based on these priority areas.

Key Activities Undertaken During the Year 2014

Malaria case management is made up of Diagnosis and Treatment, Malaria in Pregnancy (MIP) and integrated Community Case Management (iCCM). Most of the planned activities under malaria case management were carried out except a few, some of which are the impact study on IPTp and research into reasons for drop-out in the view of increasing IPTp doses from three (3) to five (5), among others. Commodities such as RDTs, SPs, community registers, etc., were distributed under these activities.

Categorized under Integrated Vector Control, by the Programme, are Continuous Distribution of LLINs and Continuous Distribution of LLINs. There is also the In-door Residual Spraying (IRS). Under the LLIN distribution are the continuous distribution of bed-nets in Child Welfare Clinics (CWCs) and Ante-Natal Care (ANCs) units of facilities where over 1.1 Million bednets were pushed to facilities, and over most of them were distributed to pregnant women and children under 5 years. There was also the school distribution under which over 1.3 Million bednets were distributed to school children in primaries 2 and 6 though all the ten regions of Ghana. Under the point distribution, over 2.9 Million bednets were distributed to households, using the coupon

system, in the Eastern (over 1.3 Million) and Volta regions (over 1.6 Million). There were a series of meetings held by the Malaria Vector Control Coordinating Committee MaVCOC, a multi-sectoral committee, membership of which comprises Insecticide Regulatory Bodies (FDB, EPA), Research Institutions (NMIMR, GAEC), other agencies (MOFA, MOH), Partners (PMI, WHO), Vector Control Implementing Bodies (AGA, Abt, VCC, Labiofam) and Commercial Partners (Vestergaard Frandsen and recently admitted, Bayer, Zoomlion and Calli Ghana) in the reporting year, among others.

Under the New Funding Model, activities were planned including finalizing the Programmatic and Gap Analysis, the National Strategic Plan as well as the M&E Plan. External consultants were also brought in to conduct a joint assessment of the National Strategic Plan (NSP).

There was Private Sector Copayment Mechanism (PSCM) under which the Copayment Task Force was formed and Task Force Meetings were also held. First Line Buyer Assessments were undertaken as well as Port of Entry Monitoring and FLB Spot Checks undertaken. A committee was formed to undertake Resource Mobilization, among others.

Activities carried out under the Advocacy, Communication and Social Mobilization (ACSM) where the National Communication Strategy Review was initiated. Five strategies were developed for IPTp, Case Management including HBC, LLINs, SMC, and IRS. Bahaviour Change Communication (BCC) activities were carried out during the year as well as a number of materials including data tools, manuals, policy guidelines and other IE&C materials developed, printed and distributed to all regions.

Activities were undertaken over the period under RSM&E including finalization of Revised Reporting tools Second Edition of Standard Operating Procedures for Health Information, Data Quality Audit, National Malaria Monitoring and Evaluation Plan 2014-2020 developed, Research Demographic and Health Survey (DHS 2014) participated in and a study on Feasibility and Acceptability of Use of RDTs within the Private Sector in Ghana planned and carried out in collaboration with the Dodowa Health Research Centre.

Presented in Table 0.1 below are a summary of some of the achievements chalked in the areas of Malaria Morbidity and Mortality in the Year 2014.

Table 1: Malaria Morbidity and Mortality in the Year 2014

	PATIENT CATEGORIES	NUMBER REPORTED	PROPORTION ATTRIBUTABLE TO MALARIA
OPD	All OPD Cases	27,388,250	30.9%
	All suspected Malaria Cases	8,453,557	
	Pregnant Women	224,542	2.7%*
	Under 5 years	1,331,239	15.7%*
ADMISSION	All Admissions	1,536,003	27.9%
	Admissions attributed to malaria.	429,940	
	Pregnant Women malaria cases	28,864	6.7%*
	Under 5 years malaria cases	207,913	48.4%*
DEATHS	Total deaths	30,439	7.2%
	All malaria deaths	2,200	
	Pregnant Women malaria deaths	23	1%*
	Under 5 years malaria deaths	1,060	48.2%*
UNDER 5 MALARIA CASE FATALITY RATE			0.51

NB: * proportion of cases to total malaria cases

There was a slight reduction in the number of OPD malaria cases put on ACT in 2014, representing a 5% decrease over the 2013 level. About thirty percent of all OPD cases were malaria, 73.5% of all OPD malaria cases were tested before being treated, 27.9% of all admission cases were malaria and about 7.2% of all deaths on admission were from malaria in the year under review.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

1.0 INTRODUCTION

Malaria control in Ghana is a priority development issue as malaria affects all ages and all sectors of the economy, it is therefore integrated at all levels of the health system. It relies on the health sector policy based on the participation and empowerment of the community according to the national health policy. Research data has shown changing malaria epidemiology in the country (MICS, 2011) and this has meant that control efforts are targeted to achieve maximum impact. Again, the need for countries to look inwards for financial, material and human resources in the fight against malaria has meant the reorganization of some management structures to achieve more functional efficiency and effectiveness. This chapter therefore focuses on; National Policy and Regulation, Case Management as a core and priority intervention, Surveillance, Monitoring and evaluation for improved data for decision making, improved and more efficient finance and administration systems and procedures to ensure better accountability and transparency, Partnerships, Planning and Resource Mobilization for financial sustainability and Advocay, Communication and Social Mobilization to create awareness, drive uptake of interventions and to improve implementation outcomes.

1.1 PROGRAMME OBJECTIVES

The overall programme goal is to reduce the malaria morbidity and mortality by 75% (using 2012 as baseline) by the year 2020. The specific objectives were to protect at least 80% of the population with effective malaria prevention interventions by 2020, to provide parasitological diagnosis to all suspected malaria cases and provide prompt and effective treatment to 100% of confirmed malaria cases by 2020, to strengthen and maintain the capacity for programme management, partnership and coordination to achieve malaria programmatic objectives at all levels of the health care system by 2020, to strengthen the systems for surveillance and M&E in order to ensure timely availability of quality, consistent and relevant malaria data at all levels by 2020, and to increase awareness and knowledge of the entire population on malaria prevention and control so as to improve uptake and correct use of all interventions by 2020.

1.2 PRIORITY AREAS PLANNED FOR 2014

In 2014, Malaria Case Management was prioritized with a focus on universal diagnosis of all cases in all ages before treatment and improving uptake of SP for prevention of malaria in pregnancy to at least three doses and a maximum of five doses (policy is till delivery). Evidence for decision making meant that data collection and analyses was prioritized A good procurement and logistics management ensure malaria product quality and expands access to planned interventions therefore Procurement and Supply Management (PSM) is prioritized at all times Malaria Case Management. Health Facility Case Management (public and private), Malaria in Pregnancy, Home Based Care (now Integrated Community Case Management, iCCM) and Diagnostics are the major areas of focus under case management.

1.2.1 Malaria Case Management

Comprising Malaria Case Management are Malaria in Pregnancy, Home Based Care (Integrated Community Case Management, iCCM) and Diagnostics.

1.2.1.1 Facility-based Case Management

The planned activities under facility case management included;

- Pre-service training for health training institutions
- Training of staff of public health facilities
- Revision of policy guidelines, charts and Job Aides
- Quality Assurance of Diagnostics and treatment
- Monitoring and supportive supervision
- Collaboration with key Partners such as Quasi Government agencies and Private sector

1.2.1.2 Malaria in Pregnancy (MIP)

Activities planned to be covered under Malaria in Pregnancy for 2014 included conducting bottleneck analysis and operations research to identify reasons for drop-out of IPTp and outcome of IPTp, develop strategy to improve uptake of IPT, OTSS on MIP, allocation of SP to regions and conduct pre-service training for health workers.

1.2.1.3 Home Based Care

Under Home Based Care, activities planned for 2014 included conducting supervisory visits to CDDs by CHOs, conducting quarterly review meeting for CDDs, OTSS for HBC, developing and implementing HBC uptake improvement plan and distribution of HBC logistics. The rest are advocating for funding for ARI, Diarrhoea products and paracetamol, allocating and distributing ACTs for HBC implementation, advocating for financing IE&C activities for HBC, revision of HBC manuals, inventory cards and reporting tools, aligning and coordinating all HBC activities in the country.

1.2.1.1 Diagnosis

Activities planned in 2014 for Diagnostics, included conducting RDT training for new health recruits, conducting supervisory visits for laboratories in the 3 highly endemic regions (Northern, Upper East and Upper West), undertaking regional level training for laboratory technicians, reviewing diagnostics policy documents (on RDT and Microscopy), assisting the Clinical Lab Unit (CLU) in updating and providing the lab OTSS and in developing a microscopist PT programme. The rest are conducting lessons learned workshop for regional-level laboratory OTSS supervisors, conducting MDRT TOT for regional -level laboratory OTSS supervisors, redesigning, printing and distributing malaria laboratory registers, obtaining WHO validation of the Ghana National Archives for Malaria Slides (NAMS) and developing a national-level expert microscopist accreditation programme.

1.2.2 Procurement and Supply Management (PSM)

Many activities were planned for 2014 under Procurement and Supply Management with the aim of ensuring the regular uninterrupted supply of all malaria commodities. Key among which are tracking Voluntray Pooled Procurement shipments and deliveries as well as providing feedback to storage points, carrying out monitoring and supportive supervision of service delivery points, following up on the implementation of the Supply Chain Master plan and undertaking monitoring visits to the Central Medical Stores and selected Regional Medical Stores to advise on the management of malaria commodities. Others included reviewing reports generated by the Early Warning System and activating response where applicable, coordinating the compilation of consumption data from service providers.

1.2.3 Research, Surveillance, Monitoring and Evaluation (RSM&E)

Key activities planned for 2014 included finalizing and printing SOPs for data management in all health facilities in the country, conducting data coalition meetings with the private sector, conducting consensus meetings on the harmonized forms from working groups, conducting training sessions on the revised SOP on data verification at the Regional and district level as well as providing orientation for service providers on the harmonized forms.

Research

Other activities planned for 2014 include Operations Research (IRS+LLINs vrs LLINs comparative study), providing technical support for the Demographic and Health Survey (DHS) and production of periodic reports. Others include repeating the Anaemia & Parasitemia studies in Wa West District (of the Upper West Region), Obuasi (in the Ashanti Region) and Adansi South District (of the Ashanti Region). Furthermore, other activities such as publication of quarterly bulletin, production of half year report and annual reports and completing the research on assessing the feasibility of expanding the use of RDTs within the private sector were also planned for 2014 under the RSM&E.

Monitoring and Evaluation

Other activities include conducting quarterly data review meetings as well as quarterly regional data quality audits for the regions, rolling out DQAs at district levels, undertaking public and private sector supervisory visits in each of the 10 regions, supporting the hosting of the DHIMS2 server and reporting on the Dashboard for CCM, PUDR for the Global Fund and Situation Room for WHO, among others Others also include conducting stakeholder engagements on the private sector, monitoring antimalarial drug efficacy at 10 sentinel sites around the country (including sentinel sites for Malaria Parasite Testing in additional districts).

1.2.4 Advocacy, Communication and Social Mobilization (ACSM)

Among activities planned for ACSM include providing support for NGOs advocacy and sensitizing communities on IPT, launching the AGAMal Documentary on IRS, conducting BCC campaign through the use of posters, TV, radio, community information alerts and all interventions as well as undertaking joint IRS/HBC radio sensitization programs in AGAMal Districts. Others include conducting Malaria Day advocacy which includes the commemoration of the 2014 World Malaria Day, undertaking intensive IE&C to promote compliance, use and improve provider confidence in the use of RDTs (Posters, Radio [Adverts and talk shows], TV, Print media, etc.)

and providing support for Product champions to promote the use of RDTs and increase provider confidence in the use of RDTs, printing of harmonized data collection forms for compilation of malaria data from health facilities and printing of revised SOPs and data utilization manual for health facilities.

Furthermore, other activities were also planned under ACSM. These included the printing of source documents for data capture; drug analysis book/dispensing tally booklets, CRR, laboratory register, OPD tally book, ANC register, designing, setting up and printing of IPT training manuals, Strategic Plan, and Case Management Manuals and M&E Data tools. Others included developing and printing of laminated job aids on preparation of thick and thin film for laboratories in the country, developing and printing daily malaria laboratory log book for all facilities in the country, developing and printing materials for education on SMC and reviewing of the National Communication Strategy. Finally, the orientation of Health Promotion focal persons printing of RDT policy guidelines, malaria microscopy and RDT job aids and Malaria Microscopy policy guidelines were other activities which were planned for 2014 under ACSM.

1.2.5 Partnership, Planning and Resource Mobilization

Activities geared towards forging partnership with NGOs, the private sector, etc., were planned under Partnership, Planning and Resource Mobilization for 2014. These included conducting supervisory visits to the private sector, conducting First Line Buyer Assessments of the private sector, conducting Price & Availability Survey of the private sector and conducting Port of Entry and Cohort Event Monitoring. Also planned for the year under review was the formation of a Copayment Task Force and conducting Copayment Task Force Meetings. An end-of-year review meeting with NGOs was also planned.

1.2.6 Programme Management

The key activities planned under Programme Management were the New GF Funding Model, submission of the Concept Note, conducting Financial Monitoring to public facilities, participating in International Conferences and workshops (such as WARN, among others), participating in Coordination meetings (MIACC, various committees), conducting an End-of-term review meeting at the national level, conducting Regional Malaria Review Meetings.

1.2.6.1 The New Funding Model

Activities planned under the New Funding Model included finalizing Programmatic and Financial Gap Analysis, the National Strategic Plan (NSP) and Monitoring and Evaluation (M&E) Plan. Completing the New Funding Model Concept Note template, submitting the Concept Note to CCM and following up for its approval and on-ward submission of to the GF and further following up the TRP review of the Concept Not and feedback to country were the other of the key activities of ensuring a successful Concept Note in 2014.

CHAPTER TWO

2.0 ACTIVITIES UNDERTAKEN IN 2014

2.1 MALARIA CASE MANAGEMENT

Under Malaria Case Management is Diagnosis and Treatment, Malaria in Pregnancy (MIP) and Home Based Care/ Integrated Community Case management

2.1.1 Diagnosis and Treatment

The Programme continued to pursue the Test, Treat and Track (T3) strategy to ensure all suspected malaria cases are tested either microscopically or by using Rapid Diagnostic Test (RDT) kits in conformity with WHO's recommendation to test all malaria cases before treatment. During the year under review, a number of capacity building activities aimed at improving malaria case management for that matter diagnosis were carried out. These included the following:

2.1.1.1 Training of Over the Counter Medicine Sellers (OTCMs)

In its bid to expand access to malaria diagnosis and treatment in the private sector (community pharmacies, private facilities) and sensitize health care providers on the adherence to the T3 strategy, the Programme in collaboration with Pharmacy Council with funding from USAID carried out RDT training for 8,920 Over the Counter Medicine Sellers (OTCMs) throughout the country.

2.1.1.2 In-service training of Public Health Workers

Other capacity building and sensitization activities aimed at maximizing efforts towards the T3 strategy were held for various categories of health care providers at all levels of health care delivery including, community, district, regional and teaching hospitals. This involved diverse professional categories such as doctors, nurses, pharmacists, Malaria focal Persons, Nurses, Midwives, Medical Doctors, Lab Technicians, Health Information Officers (HIO), Community Health Nurses (CHNs), Pharmacy Technicians, Over the Counter Medicine Sellers (OTMS) and some tutors from Health Training Institutions. In all, a total of 17,733 health care providers were trained.

- Training of Tutors of Health Training Institutions

Trainings were extended to some health training institutions such as Nurses and Midwifes Training Schools (NMTS) and Medical/Allied Health training institutions where tutors were trained in malaria case management. The process of incorporating the updates on malaria has begun with the Nurses and midwives Council.

The table below shows the category of professionals trained in malaria diagnosis and treatment

Table 2: Summary of Trainings Conducted on Malaria Case Management and Outputs

Training Level	Number trained	Categories
14 Regional trainings/3 Teaching hospitals	1,176	Pharmacists, Prescribers, Malaria focal Persons, Staff Nurses
Regional Symposia(Greater Accra & Ashanti Regions)	518	Medical Doctors
District trainings	5237	Prescribers, Pharmacists, Nurses, Midwives, Lab Technicians, HIO, Pharm Technicians
Nationwide Training in 10 Regions	1,788	Pharmacists
Nationwide Training in 10 Regions	8920	Over the Counter Medicine Sellers (OTMS)Tutors
Nurses and Midwives Training Schools/KRTC	94	

2.1.2 Malaria in Pregnancy (MIP)

Pregnant women by virtue of their physiological status remain one of the most vulnerable groups to malaria. Malaria has a debilitating effect on pregnancy and birth outcomes. The National Malaria Control Programme therefore considers malaria in pregnancy as priority. During the year, a total of 19,873,570 tablets of SP were procured (tables 2.2&2.3) and a total of 2,301,000 tablets distributed to the 10 regions and 3Teaching Hospitals, namely, Korle Bu, Komfo Anokye and Tamale Teaching hospitals as in the table below:

Table 3: Sulphadoxine-Pyrimethamine Supplied and Distributed in 2014

	Date	Organisation Received from	Quantity Received
1	16/01/2014	Ernest Chemist	522,900
2	20/02/2014	Remedica	1,800,000
3	10/03/2014	Remedica	2,131,200
4	03/04/2014	Ernest Chemist	161,400
5	03/04/2014	Remedica	570,660
6	08/05/2014	Ernest Chemist	308,700
7	14/05/2014	Ernest Chemist	214,200
8	09/06/2014	Ernest Chemist	1,600,200
9	30/06/2014	Guilin Pharma	2,700,000
10	14/08/2014	Remedica	2,764,320
11	14/08/2014	Remedica	3,927,000
12	27/08/2014	Ernest Chemist	413,700
13	17/11/2014	Remedica	2,764,290
TOTAL			**19,878,570**

Table 4: SP Distributed in 2014

Region	1st Actual Allocation	2nd Actual Allocation	Total
Western	50,250	171,330	221,580
Central	46,650	158,610	205,260
GAR	77,625	281,130	358,755
Volta	44,850	152,520	197,370
Eastern	55,800	190,110	245,910
Ashanti	98,250	333,360	431,610
BAR	48,900	166,590	215,490
Northern	50,475	177,480	227,955
Upper East	22,050	74,280	96,330
Upper West	14,850	49,140	63,990
Armed Forces	5,250	9,990	15,240
KBTH	3,000	4,980	7,980
KATH	4,050	6,000	10,050
TTH	0	3,480	3,480
TOTAL	**522,000**	**1,779,000**	**2,301,000**

Table 5: SP Distribution by Region

REGIONS/INSTITUTIONS	QUANTITY DISTRIBUTED
Western	221,580
Central	205,260
GAR	358,755
Volta	197,370
Eastern	245,910
Ashanti	431,610
BAR	215,490
Northern	227,955
Upper East	96,330
Upper West	63,990
Armed Forces	15,240
KBTH	7,980
KATH	10,050
TTH	3,480
TOTALS	**2,301,000**

*Total quantity of SP procured in 2014 was 19,878,570

Table 6: Planned Activities and Achievements

Planned Activities	Number planned	Number carried out	Comments
Carry out impact study on IPTp	1	0	Funds not available
Research to determine reasons for drop out in the view of increasing IPTp doses to 5	1	0	Funds not available. Objective will be integrated into the Impact Study in 2015
MiP working group meetings	4	3/4	Funds are not available
Review of Malaria in Pregnancy Guidelines	1	1	Guidelines completed and ready for printing

Malaria in Pregnancy Working Group (RBM)

International Working Group on Malaria in Pregnancy (MIP) initiative of Roll Back Malaria (RBM) initiative with Headquarters in Geneva was held in Ghana from the 15th-17th July 2014 and

Ghana gave a presentation on: *"Collaboration between Reproductive Health and Malaria Control to Improve Outcomes for MIP"*. In the presentation it was indicated that the incidence of deaths from Malaria in Pregnancy has reduced. However, routine data indicated that not much change has been seen in the rate of low birth weights (LBWs) in babies and anaemia levels in pregnant women.

JHPIEGO with input from National Malaria Control Programme (NMCP) also gave a presentation during the meeting on "Linking Communities with Health Facilities to Improve MIP Coverages under CHPS" in their STARCHiP Programme in the Western Region. In the presentation they indicated that the use of CHNs in hard to reach areas have improved and this to some extent has improved coverage of IPTp.

Activities of Ghana's Malaria in Pregnancy Working Group

During the year under review, three (3) meetings were held by the local Malaria in Pregnancy Working Group. The group met to review and finalize the MIP Guidelines and other document and tools. Changes in the Guidelines included:

Increasing IPTp dosing based on WHO recommendations from 3 to 7 doses to be taken monthly from 16 weeks till delivery from the initial 5 Ghana had agreed. This change became necessary after deliberations from the MIP working groups; both international and local. The artwork is about completed, however funds for printing were not available and therefore document was not printed. Maternal Health Record and all relevant docs and registers have also created spaces up to 5+doses

CHALLENGES

Supply chain issues:

Although SP was available and distributed, most districts were not collecting the drugs from the regions due to lack of logistics such as fuel. Districts/ regions also indicated that they had not been made aware of the availability of SP.

Lack of Dissemination of New Guidelines:

Health workers have been trained on the new guidelines but information of the change from 3 doses to 5 and then to 7 has not been adequately disseminated because the revised Malaria in Pregnancy Guidelines could not be printed.

The lesson learnt was that when drugs have been out of stock for some time and there is a restoration of supply, an intensive awareness campaign has to be carried out because health workers continue to believe that the drugs are unavailable.

2.1.3 Integrated Community Case Management/ Home-Based Care

Target for 2014

Number of uncomplicated malaria cases among under 5 years children treated with ACT by community based agents (CBAs): 129,179

Actual Attained: 105,631

Aligning all Regions/ Stakeholders Involved in HBC/iCCM

The programme realized that a number of organisations were implementing one form of iCCM in parts of the country and decided to put measures in place to aligning all of them interventions across the country. A good number of them have been contacted and are part of the iCCM coordinating committee except for Millenium Village Project (MVP) SADA region. There is also increased collaboration and better alignment of between UNICEF-supported regions and other regions.

However data generated by these other stakeholders is not put on the DHIMS2 platform. Some of these stakeholders are as follows:

- Ghana Community Health Worker (CHW) Programme
- Plan Ghana
- Millennium Village Project (Bonsaaso and SADA in Builsa)
- UNICEF
- STARCHiP Programme of JHPIEGO

With respect to data generated from UNICEF-supported regions, in exception of Northern region, Upper West and East have been submitting data.

A good number of stakeholders implementing some form of iCCM are represented on the committee. These are: Starchip (JHPIEGO), PPME, 1 Million CHW Programme, Plan Ghana, Millennium Village Project (Bonsaaso) and UNICEF. Attempts has been made to engage the Milleennium Village Project (SADA in Builsa) but this has not been successful.

Other organisations working under President's Malaria Initiative (PMI)|USAID work with the NMCP to implement their activities.

International Meeting on iCCM

An international meeting on iCCM was held in Ghana 3rd-6th March 2014. Over 300 persons were present from all over the world and different organisations. Main issues discussed included the following:

- iCCM across the world includes different package of services
- Calibre of staff rendering iCCM services differed across countries with some countries using the equivalent of Community Health Nurses for implementing the intervention.
- Some countries paid staff to implement the intervention while others made use of volunteers. It seemed that countries were using paid staff were doing better
- Innovation in the implementation such as the use of mobile technology for generating and transmitting data
- Demand creation (using BCC activities mainly)
- Acceptance of incorporation of iCCM activities into GF support

A road map of activities was drawn at the conference with one of the activities being the invitation of a consultant to give Technical Assistance in the costing of iCCM intervention. The costed intervention was incorporated into the Concept Note that was developed. This was carried out between the months of May and June 2014. The consultant returned during the Concept Note development to ensure that the intervention was adequately incorporated.

Refresher Training Programme

During the year under review, Guidelines, Manual and tools were revised. There was therefore the need to carry out refresher trainings beginning from the national level. A National facilitators' workshop was therefore held in Dodowa to:

- Make inputs on the Implementation guidelines and manual and also

- Revise and standardise presentations, incorporating the new information

This was followed by a National training of trainers' workshop in Kumasi from the 20-22 May, 2014. In all 65 persons were trained. This time about 6 persons per region were invited and included the regional malaria focal persons, the CHPS coordinator, deputy director, clinical care, deputy director, public health, regional nutrition officer, regional officer in charge of Reproductive Health.

This training has yielded a team-building spirit; especially with the involvement of the CHPS coordinator. This is because it was emphasised at the meeting that iCCM is under CHPS and therefore the CHO has oversight responsibility.

Regional trainings have also been held in 6 regions with support from MalariaCare and ADDRO (for Upper East). These regions are: Upper East, Upper West, Brong Ahafo, Ashanti, Volta and Eastern Regions.

Some district CBA trainings have also been carried out. These are in Ashanti and Eastern Regions (8 in Ashanti and 7 in Eastern)

ADDRO has also carried out refresher trainings in Upper East and in some sub-districts in districts across the country as shown in the table below:

Table 7: CBAs Trained by Sub-Districts

Region	District	Sub-district	# of Communities	# CHV/ CBA
Upper East	Bawku West	Sapeliga	29	58
Upper East	Builsa North	Chuchuliga	18	36
Northern	Karaga	Zandua	26	50
Ashanti	Bosome Freho	Nsuaem	12	24
Western	Sefwi-Wiawso	Anyabirim	25	50
Eastern	Akwapim South	Pakro	19	38
Upper West	Nadowli	Nanville	12	24
TOTAL			**141**	**280**

Other regional/ district level trainings will be held in the year 2015 with the support of organizations such as Systems for Health; who have jurisdiction over Northern, Western, Greater Accra and Central Regions.

LOGISTICS/DRUGS DISTRIBUTED FOR ICCM IN 2014

Table 8: iCCM Logistics Distributed to Regions

ITEMS	VR	AR	WR	ER	CR	GAR	BAR	NR	UER	UWR	TOTAL
COMMUNITY REGISTER	200	450	250	250	150	100	350	200	150	150	**2,250**
COUNSELING CARD	100	100	100	100	100	100	100	50	50	50	**950**
CHO SUMMARY FORM	100	200	100	100	100	100	100	50	50	50	**950**
DVD(IMCI)	5	10	10	5	5	5	10	5	5	5	**65**
FACILITATORS GUIDE	-	10	10	10	-	-					**30**
IMPLEMENTATION GUIDE	-	30	20	10	10	10	10	5	5	5	**105**

Table 9: Allocation of RDTs to Districts Implementing HBC/iCCM Activities

Regions	Total Test Kits Allocated to Region	Cartons of 800 pieces
Central	46,400	58
Ashanti	65,600	82
Eastern	62,400	78
Brong Ahafo	52,800	66
Western	52,800	66
Volta	56,000	70
Greater Accra	8,800	11
Upper West	34,400	43
Upper East	40,000	50
Northern	80,800	101
Total	**500,000**	**625**

Table 10: Artesunate Amodiaquine Distributed to Regions for iCCM from Global Fund in 2014

REGION	DISTRICTS	ART.AMOD. TABLET (25/75mg) under one yr (Sanofi Aventis)	ART.AMOD. TABLET (50/135mg) 1-5yrs (Sanofi Aventis)
Ashanti	22	42,000	136,500
Eastern	20	32,000	104,000
BAR	19	38,000	123,500
Western	18	28,000	91,000
Volta	18	30,000	97,500
GAR	3	6,000	19,500
UWR	10	20,000	65,000
UER	13	26,000	84,500
Northern	26	26,000	169,000
Central	7	14,000	45,500
TOTAL	**149**	**262,000**	**936,000**

World Vision International donated Artesunate-Amodiaquine tablets 3+3 and 6+6 to the NMCP. This was used given to regions, which had relatively high uptake with respect to iCCM. Below is a table of beneficiary regions/ districts:

Table 11: Distribution of World Vision Donated ACTs

REGION	DISTRICT	ACTUAL ALLOCATION (3+3)	ACTUAL ALLOCATION (6+6)
WESTERN REGION	Jomoro	280	280
	Ahanta West	420	420
	Prestea	220	220
	Wassa Amenfi West	380	380
	Sefwi Wiawso	400	400
	Bia	180	180
TOTAL		**1880**	**1880**
	Jaman South	1320	1320
	Wenchi Municipal	460	460
	Pru	400	400
	Sunyani West	400	400
	Asonafo North	400	400
	Asonafo South	360	360
	Nkoranza South	320	320
	Tano South	300	300
	Tain	300	300
	Asutifi North	260	260
TOTAL		**4520**	**4520**
VOLTA REGION	Krachi West	240	240
	Krachi Nchumuru	300	300
	Krachi East	460	460
	Nkwanta South	540	540
	Nkwanta North	400	400
	Biakoye	920	920
	Keta	220	220
	Akatsi South	260	260
	Akatsi North	280	280
TOTAL		**3,620**	**3,620**

Strengthening the CHPS Concept

As part of the Director-General's vision to consolidate community level activities under CHPS, attempts have been made to strengthen CHPS including their supervisory work in iCCM. Some of these activities include:

- Developing a curriculum for CHO/CHNs: A preliminary draft of the curriculum was put together in August 2014 and stakeholders from Human Resource Division of Ghana Health Service, Family Health Division and Nurses and Midwives Council participated in the workshop.
- Internship for CHNs/CHOs: CHNs/CHOs were given one week Internship to build their capacity for all their roles (including their supervisory role in iCCM). The internship program was useful in improving their skills however participants complained that the duration was limited and so could not complete the iCCM fieldwork.

CBA Onsite Training Supportive Supervision

The iCCM intervention has been fraught with a number of challenges; one of which is the weak supervision at all levels. It was therefore thought that an OTSS exercise carried out on CBA would improve output and quality of work. An OTSS tool was therefore developed using available supervision checklists. This tool was piloted in five (5) districts in the Ashanti Region.

The tool was found to be:

- Easy to administer
- Acceptable by both CBAs and CHOs
- Helpful CBAs to recap of what was learnt in the trainings

Findings from OTSS indicated that:

- CBAs doing well in assessing children
- Some CBAs concentrate only on fever and do not assess for ARI and diarrhoea
- RDT: It was difficult for some CBAs to pick blood sample using the pippette
- CBAs have difficulty in assessing respiratory rate
- Handwashing: CBAs were also not washing their hands before seeing to a patient

- Verbal referral was a common practice and CBAs were not using the referral form because health workers at facilities disregarded them.
- Some CBAs prescribed amoxyl, ORS and Zinc
- Concerns of treating older children: some CBAs were treating older children cases above them
- Record keeping was a challenge. CBAs were giving medication without recording. Registers had not been filled
- Pregnant women and neonatal care assessment: CBAs have not been trained
- Trained and untrained CBAs in the districts were found in the districts because of the high attrition rate

CHOs also expressed concern about the need for motorbikes to carry out a successful OTSS exercise.

CHALLENGES

Challenges faced under the integrated Community Case Management include

- Supply chain challenges: drugs/logistics are allocated but regions delay in collecting them from the national level. When eventually the logistics arrive at the regional the districts also do not go and pick sometimes because they have not been made aware of the availability of stocks.
- Inability to meet targets in terms of number of persons treated in the community
  - One of the reasons is that many stakeholders are generating data but this is not being reported on the DHIMS2 platform
- Continued lack of ARI and diarrhoea products; which affects the whole intervention implementation
- Dichotomy in leadership because allocation of drugs has to be divided (ACTs signed by NMCP and ARI and diarrhoea drugs sent for signing at Family Health Division(FHD) and it takes months to get the letter to be signed)

2.3.1.4 Seasonal Malaria Chemoprevention (SMC)

Participated in training of regional and districts SMC facilitators training in Wa in the Upper West Region which took place on the 4th of June 2014. A total of 74 regional and districts health staff were trained. Facilitators included the Regional Deputy Director of Public Health, Dr. Kofi Issah, a regional Deliver rep and 4 others from the NMCP. A pretest was conducted to assess knowledge on SMC before presentations were made. Pharmacist Dan Ekwan from Nawdoli District moderated the training. Presentation made comprised SMC Implementation Process, Pharmaco-vigilance, Logistics Management, Communication (BCC/Social Mobilization) and data/monitoring forms.

2.3.2 Integrated Vector Control

Considered under Vector Control are the point and continuous Distribution of LLINs and In-Door Residual Spraying (IRS).

2.3.2.1 Continuous Distribution (CD) of LLINs

The Universal Coverage of LLIN distribution was adopted by Ghana in 2009 and the country embarked on a nationwide door-to-door LLINs mass distribution and hang- up campaigns from 2010 to 2012. The mass campaigns as a catch up strategy was aimed at making up for the low LLINs access in the household to reach Universal Coverage. The country's definition of the Universal Coverage was one LLIN to 2 people in the household.

Three main channels were adopted by the country through a computer generated model to distribute LLINs free to various population groups to make sure Universal Coverage reached was maintained and sustained.

The channels adopted are the Ante Natal Clinic (ANC) to pregnant women attending ANC for the first time (Registrants), the Child Welfare Clinics (CWC) to children 18 months to 36 months due for measles booster and Primary Schools to pupils in primaries 2 and 6.

2.3.2.2 Basic Schools based Continuous Distribution

The 2014 nationwide school distribution of LLINs to both the public and private schools was conducted from the 24th of March to April 4th before schools went on their terminal holidays and

before the rains. This activity was led by NetWorks Ghana, a USAID funded project in close collaboration with the NMCP and closely implemented it with the School Health Education Program (SHEP) unit of the Ghana Education Service (GES). About one million four hundred pieces of LLINs were distributed to pupils in primaries two (2) and six (6) in all public and private schools in all the ten regions; and pupils were educated on the use and care of the nets before the distribution. A total of 1,500 circuit supervisors (CS) and D-SHEP coordinators were trained in the 10 regions prior to the distribution.

Figure 1: Nets Distribution in Primary School and Teachers' Orientation Prior to the Distribution

Over twenty one thousand public and private primary schools were reached. Table 1 gives the breakdown of nets distributed to the regions.

Table 12: Breakdown of 2014 LLINs Distributed through Schools in the Regions

Region	***No. of Circuits in District***	***Total no. of Primary SCHs***	***LLIN Distributed***
Ashanti	220	4,050	253,215
Brong Ahafo	163	2,239	143,532
Central	122	2,212	135,609
Eastern	180	2,200	139529
Greater Accra	118	2,496	153,373
Northern	182	2,254	160,183
Upper East	87	846	72,918

Upper West	70	560	49,805
Volta	153	1,918	112,979
Western	129	2,271	152,525
Grand Total	1,424	21,046	1,373,670

As part of pre-distribution activities planning meetings were organized for each region's District Directors of Education, SHEP Coordinators and the Regional Education Officers. The participants were taken through the school based LLIN distribution mechanism which forms an integral part of the National Continuous Distribution strategy.

A one day training of trainers' (TOT) workshops were organized for all District SHEP coordinators and all the Circuit Supervisors to equip them with the needed knowledge on the school based LLIN distribution. The trainees were also taken through the various levels of record keeping and the tools to be used. The Circuit Supervisors trained were charged with the responsibility of organizing circuit level orientations for primary school head teachers and school based SHEP coordinators in their individual circuits.

The school head teachers and the school based SHEP coordinators briefed teachers in their various schools especially the primaries 2 and 6 teachers on malaria and the modalities of the school based LLIN distribution.

The class teachers in turn educated the primaries 2 and 6 pupils before nets were given to them on the effects of malaria on their performance and health; and also educated them on the use of LLINs in the prevention of malaria, how to hang the LLINs in their homes and how to take very good care of their LLINs to obtain the full benefit of them.

There was active monitoring during the distribution and **r**ecommendations made included intensification of messages on the nets use and care to the pupils, appeal to partners to give more nets to also give to all teachers and involvement of PTAs in advocacy. It was also noted that the embossment of the telephone numbers of NMCP on the net packaging helped in curbing the sale of nets to pupils as pupils, siblings and parents called the office to report such activities.

Presentation of Jerseys to Primary Schools

The National Malaria Control Programme was represented by Aba Baffoe-Wilmot at a ceremony at the Sege cluster of schools in the Greater Accra Region on the 22nd of May 2014 where sets of soccer jerseys were presented to schools from Akplabanya and Goi in the Ada West District. An address was made on behalf of the programme at the ceremony. Receiving the jerseys from the Deputy Mission Director of USAID was the Deputy Director General of the Ghana Education Service (GES). USAID NetWorks Ghana Project formally presented the jerseys to GES to acknowledge and reward the effort of deserving schools that engaged and educated their communities through various art forms including drama and songs to 'Drive Malaria Away for Good Life'. Two schools in each circuit across the country that excelled in the exercise would each receive a set of soccer jerseys.

2.3.2.3 Health Facility based Continuous Distribution

Onsite orientation for the implementation of Health Facility (HF) LLINs distribution took place in the remaining five regions, namely Upper West, Ashanti, Brong Ahafo, Northern and the Greater Accra regions from January to June 2014. Health workers at ANCs and the CWCs were taken through the documentation using documentation guide lines made available to them. Service providers were made to bring out their registers, books and forms used for documentation and physically pointed out to them where they are to fill in the information on LLINs to be given out. They were also taken through messages to be given to their clients on nets.

All health facilities in the country implemented the health facility distribution of LLINs to clients who qualified to receive. The initial 5 regions (Eastern, Volta, Central, Western and Upper East) which started implementation in 2013 should have pulled their nets during the early part of the year but could no. Therefore about 1,155,100 nets were pushed to all regions again during the latter part of 2014 for the HF distribution.

Figure 2: Orientation of Health Workers in the Ashanti Region

2.3.2.4 POINT DISTRIBUTION CAMPAIGNS

The Ministry of Health through National Malaria Control Programme/Ghana Health service and partnering organizations, organized mass LLIN Point Distribution campaigns in Eastern and Volta regions in November 2014 where a total of 2,991,281 nets (VR=1,373,993 & ER=1,617,288) were distributed. Issuance of coupons to households which had been used to redeem nets on the day of distribution at static points took place before the distribution exercise. This followed the 2010 to 2012 door-to-door distribution and hang-up campaign where over 12 million nets were distributed and hanged and through which the country attained the Universal Coverage. The point distribution was a replacement campaign to sustain and maintain the coverage achieved.

Partners which supported NMCP/GHS in the 2014 point distribution campaigns were Nets for Life/ADDRO which supported with printing of coupons and monitoring; PMI-DELIVER which supported with vehicles and personnel for monitoring and JHU-ESMI supported with technical support plus monitoring.

Post distribution validation took place in the two regions in December 2014 and analysis is in progress.

Figure 3: Implementation Guideline Developed and Distribution in Progress at a Static Point

2.3.2.5 MaVCOC

Meetings and Insecticide Resistance Monitoring

MaVCOC a multi-sectoral committee, membership of which comprises Insecticide Regulatory Bodies (FDB, EPA), Research Institutions (NMIMR, GAEC), other agencies (MOFA, MOH), Partners (PMI, WHO), Vector Control Implementing Bodies (AGA, Abt, VCC, Labiofam) and Commercial Partners (Vestergaard Frandsen and recently admitted, Bayer, Zoomlion and Calli Ghana) held its four meetings in March, July, August and December during the year.

MaVCOC also held a special meeting with Inesfly Company Ltd to discuss its insecticidal paint as one of its insecticide resistance monitoring activities.

Monitoring took place in the 20 insecticide resistance monitoring sites by National Insecticide Resistance Monitoring Partnership (NIRMOP) secretariat. Thirteen out of the 20 sites were found to be doing well with special commendation to personnel manning the sites at Upper West, Western and the Greater Accra regions. A number implementation challenges including fuel cost, availability of rooms at districts to operate, inadequate support from Regional Directors, health workers expectation of higher remuneration, unavailability of larvae for tests, attrition of health personnel managing sites, lackadaisical attitude of health workers and delay in reporting were observed.

Partners Vector Control activities

Vector Control activities were undertaken in 2014 by PMI/ABT, Anglogold Ashanti Malaria Control Programme, Labiofam and ESMI. Indoor Residual Spraying were undertaken in 4 districts in the Northern region by PMI/ABT and 15 districts in Ashanti, Upper East, Northern, Western and Central regions by AGAMal. A total of 1,702,638 structures were sprayed between the two institutions with a population coverage of 97% and structural coverage of 93% and 83.8% for AGAMal and PMI/ABT respectively. PMI/ABT undertook capacity building for 153, 106 and 16 in IRS operation, M&E and Applied Entomology respectively. Entomological studies to access different parameters like species composition, distribution, biting rate, parity, indoor resting density, susceptibility test and decay rate among others have been accessed by the two institutions.

Workshop was conducted for some NMCP staff by PMI/ABT to take them through IRS tools used over the years with the intention of eventually handing them over to the NMCP.

A desk was established at the Ministry of Health for Labiofam for larval source management. Larviciding continued in the capitals towns of Greater Accra, Ashanti and the Brong Ahafo regions. M&E staff at NMCP met with the Epidemiologist of Labiofam on how to conform to data collected by the institution.

ESMI's private sector involvement in LLINs distribution was held back due to fraud detected in an East African country also being supported by DFID.

2.3.2.6 Dissemination Meetings

ESMI Stakeholders Workshop

E-Enhanced Social Marketing Initiative project (ESMI) Demand and Communication workshop for stakeholders and supported by John Hopkins Center for Communication/MEDA/ Malaria Consortium/DFID was held on the 18 and 19th of June 2014 at the Airport Wes Hotel. In attendance were a number of communication agencies in Accra, agents of net manufacturers, NMCP and Health Promotion Department personnel and Ghana Education Service officers. Stakeholders were taken through what ESMI is and where it is coming from i.e. from the e-coupon pilot. Participants made gainful inputs into demand and communication strategy needed for success of the project.

LLINs Continuous Distribution End Line Survey

Meeting on the Eastern Region LLINs CD pilot dissemination was held at the Alisa Hotel on the 27/06/14 with very revealing findings; also presented at the meeting were findings of the e-coupon pilot at Koforidua also in the Eastern Region and outdoor sleeping in two communities in the northern regions.

2.3.8.1 The New Funding Model

Activities planned under the New Funding Model included finalizing Programmatic and Financial Gap Analysis and finalizing the development of the National Strategic Plan (NSP) and Monitoring and Evaluation (M&E) costed plan as well as joint assessment of the National Strategic Plan (NSP) by external consultants.

2.4 PARTNERSHIP AND COLLABORATION

2.4.1 Introduction

The NMCP works in partnership and in collaboration with local and international private organisations as well as Non-Governmental Organizations and this continued in the year under review.

In the year under review, the Private Sector Copayment Mechanism (PSCM) of the Programme undertook activities under two main themes. These are **Private Sector Copayment Mechanism** under which the Copayment Task Force was formed and Task Force Meetings were also held. First Line Buyer Assessments were undertaken as well as Port of Entry Monitoring and FLB Spot Checks undertaken.

2.4.2 Ghana Private Sector Copayment Mechanism

The year 2014 marked the beginning of the implementation of the Private Sector Copayment Mechanism (PSCM). This replaced the Affordable Medicines Facility for Malaria (AMFm) Initiative which was implemented from 2010-2013. It had three core elements which was similar to that of AMFm:

1) Price negotiations
2) Subsidy provided directly to manufacturers
3) Supporting interventions

PSCM implementation required the setting up of a Copayment Mechanism Task force and the public advertisement, evaluation and selection of private sector ACT importers as First Line Buyers (FLBs). The Global Fund issued an Operational Policy Note (OPN) to guide the process of the implementation of the PSCM to participating countries on 16th January 2014 and on the 19th of February the PSCM Task Force was inaugurated. The Task Force was established to advice the MOH/NMCP in the implementation of the PSCM and to lead the process for the transparent advertisement for and selection of FLBs.

The Task force was constituted by the CCM and mandated to work closely with the NMCP.

Specifically;

The Task Force was given the responsibility to advice and support the MOH/GHS/NMCP on critical strategic and policy matters related to the PSCM and in arriving at implementation strategies that will help to achieve the objectives of the PSCM.
The Task Force reports directly to the CCM and consults with other committees as appropriate in developing its recommendations and advice to the MOH/GHS/NMCP.

.

Advertisement, Assessment and Slection of First Line Buyers: The Ghana Health Service procurement unit led the advertisement and evaluation process for the FLBs. Advertisements to solicit applications were placed in March and extended in April 2014 in the Daily Graphic and Ghanaian Times. Twenty One (21) firms applied and after the evaluation fifteen (15) were successful. These successful firms were officially informed by the Ministry of Health.

Port of Entry Monitoring: The NMCP with support from partners; Food and Drugs Authority and Pharmacy Council, GHS PPME conducted Port of Entry monitoring of green leaf ACTs to ascertain whether they were being smuggled out of the country in order to develop mechanisms to check such leakage. However, the monitoring at all sites showed that medicines in general and ACTs are not moving across the borders at least not though the official ports of entry and return. The ports monitored were: Aflao, Elubo and Paga

It was difficult to determine if diversion could have been through any of the many unofficial routes

Again, the NMCP in collaboration with the FDA developed a tool and used it to conduct Spot Checks on the warehouses of all FLBs. To ascertain:

- Warehouse conditions of storage of ACTs as a quality assurance measure
- Most Warehouses were satisfactory
- Required improvements communicated to FLBs

The Pharmacy Council on behalf of the GHS/ NMCP conducted a Price and Availability Survey in September-October 2014. Three Price and Availability surveys were planned for the year under review, one for each quarter beginning from the second quarter to the last. However, only one was conducted because of reprogramming of funds. Results showed that in most outlets the prices though have increased from GH¢ 1.50p they are still approximately equivalent to US$1.

- That is approximately GH¢3.50 & 4.00
- There were a few that had prices as high as GH¢ 6.00
- Approximately eleven million (11,000,000) treatments were approved and delivered in country under the PSCM in 2014.

DFID provided malaria Rapid Diagnostic Test kits for deployment in the private health sector. The NMCP then collaborated with USAID –SHOPS Project to review the training Manual for Over the Counter Medicines Sellers – OTCMS (formerly Licensed Chemical Sellers). Subsequently the OTCMS were trained (9000) in how to conduct the malaria rapid diagnostic test in their shops/outlets and supplied with RDTs provided by DFID. A monitoring system including a monitoring form was developed by the partners in order to keep track of the RDTs and their use in these private retail outlets.

2.4.3 Resource Mobilization

A Resource Mobilization and Financial Sustainability sub Committee was inaugurated in September 2014. The Committee met more than three times after inauguration because of the urgency of the activities they had to perform. The sub Committee worked with the NMCP and other partners with support from DFID to develop a draft Resource Mobilization and Financial Sustainability Plan. The draft Plan is yet to go through review and printing.

Table 3.1 below shows the proportion of activities that were undertaken as against those earmarked for the year under review:

Table 13: Private Sector Copayment Mechanism (PSCM) and Resource Mobilization

PSCM		
ACTIVITY	**EXPECTED**	**ACHIEVED**

Formation of Task Force	1/1	1/1
Task Force Meetings	4/4	2/4
First Line Buyer Assessments	1/1	1/1
Port of Entry Monitoring	1/1	1/1
Operational Research	2/2	2/2
Price and Availability	3/4	1/4
RESOURCE MOBILIZATION		
ACTIVITY	**EXPECTED**	**ACHIEVED**
RM Sub Committee Meetings	3/4	3/4
RM Plan Drafting Workshop	1/1	1/1
Epi Profile/Knowledge Gaps Workshop	1/1	1/1

2.4.4 Other Activities

Among other activities undertaken under the PSCM were the review of Over the Counter Medicine Sellers Manual, national training of more than 9000 OTCMS on RDTs held, RDTs deployed in OTCMS shops, Epidemiological Profile and subsequent knowledge Gaps workshop held, support given to Marketing Activities, among others.

2.5 INTEGRATED SUPPORT SERVICES

2.5.1 Advocacy, Communication (IE&C and BCC) and Social Mobilization (ACSM)

Behaviour Change Communication and Advocacy in Ghana is implemented in line with the National Malaria Strategic Plan and National communication strategy. Communication plays a vital role in changing/improving knowledge, creating positive attitudes and improving practice of desired health behaviours. The focus of ACSM for malaria prevention and treatment is to ensure correct and consistent use of LLINs; appropriate treatment seeking behavior for malaria; compliance with the correct treatment regimen as enshrined in the Strategic Plan; improving community participation in indoor residual spraying (IRS) campaigns; and encouraging pregnant women to seek antenatal clinic services and comply with national recommendations for treatment of malaria in pregnancy.

The following were activities implemented in line with the national objectives:

1. **National Communication Strategy Review**

The national communication strategy is in the process of being reviewed. Following the various policy recommendations by WHO, the strategy is being revised to reflect the new and current policies as reflected in the revised National Strategic Plan. A stakeholder's workshop was held from 7th to 12th of April, 2014 to review the strategy. Five strategies have been developed for IPTp, Case Management including HBC, LLINs, SMC, and IRS. Strategies for Malaria Vaccines and Environmental Management are yet to be developed. A consultant has been engaged to write out the strategies.

2.5.1.1 BCC/IEC

BCC Campaign

Bahaviour Change Communication (BCC) activities carried out during the year included

- television advertising which focused on Test, Treat and Track (T3) and was aired on 5 selected stations in English Language. In all a total of 402 spots were aired.

- radio commercial focusing on malaria confirmation and treatment with Treatment completion and compliance. This was placed on 18 selected radio stations across the country in English and 7 other local languages. A total of 23,967 spots were aired.

2.5.1.2 IE&C

1. Development and Printing of Materials

During the year under review, a number of materials including data tools, manuals, policy guidelines and other IE&C materials were developed, printed and distributed to all regions. Below were the materials:

Manuals and Data Tools

- ACT data tools-6,000
- Guideline for malaria case Management-10,000
- Anti-malarials Drug Policy-7,000
- ANC Register - 6,000
- Midwife Form A-6,000
- Monthly morbidity returns Form-6,000
- Monthly morbidity tally form-10,000
- IRS SOPs- 300
- IMCI Flow chart poster-12,000
- Case Management flow chart-20,000
- Implementation Guidelines for LLIN point Distribution -300
- Coupons for point Distribution (Eastern and Volta)-32,000
- 2015 Calendar -5000

T-Shrirts

- SMC Tshirts-5,000
- 2014 WMD Tshirts-3,500

Table 14: Allocation of Data Tools, IE&C Materials and Policy Guidelines

ALLOCATION OF MALARIA MATERILAS AND GUIDELINES											
NO	REGION	Guideline for case mgt of malaria	Flow Chart for malaria diagnosis &Treatment	IMCI Management Guideline	Monthly OPD morbidity returns form	Monthly OPD Morbidity returns Tally sheet	Medical Lab Register	OPD Register	ANC Register	Monthly Midwife Return (Form A)	Total per Region
1	ASH	1700	2800	1200	700	1350	500	1000	750	750	10750
2	BA	800	1500	1300	650	1100	350	800	650	650	7800
3	CR	700	1200	1000	500	900	250	700	500	500	6250
4	ER	1500	3000	1800	800	1400	300	1100	800	800	11500
5	GAR	1500	2500	800	800	1250	500	950	700	700	9700
6	NR	700	1500	1500	500	900	200	700	500	500	7000
7	UE	650	1200	1000	400	750	200	650	400	400	5650
8	UW	500	1000	900	350	550	150	500	350	350	4650
9	VR	800	1500	1200	650	900	300	800	650	650	7450
10	WR	800	1500	1200	650	900	250	800	700	700	7500
11	NMCP / Partners / NGOs	350	2300	100	0	0	0	0	0	0	2750
	TOTAL	10000	20000	12000	6000	10000	3000	8000	6000	6000	81000

2.5.1.3 SOCIAL /COMMUNITY MOBILIZATION

Social/Community mobilization (community participation or engagement) is an ongoing activity aimed at sensitizing the community members to accept and participate in health interventions put in place to control diseases, in this case malaria. Some community activities were implemented through NGOs, Community Based Agents (CBAs), health personnel, etc. They were empowered with funds to undertake community level sensitization through durbars, traditional & opinion leaders' orientations, market, churches/mosques one-on- one and group education. NGOs as well did house to house education of women on the need to attend Antenatal Clinics as early as they notice they are pregnant.

2.5.1.4 2014 WORLD MALARIA DAY COMMEMORATION

Ghana joined the rest of the world to commemorate the World Malaria Day on the 25th of April, 2014.The World Malaria Day was instituted by the World Health Organization (WHO) member states in 2007 as an occasion to highlight the need for continued investment and sustained political commitment for malaria prevention and control globally.

The day was marked in Ghana in Wa in the Upper West Region where the Seasonal Malaria Chemoprevention (SMC) is to be rolled out. The global theme for this year was: "Invest in the future; Defeat Malaria" and Ghana adopted the same theme for the commemoration. The day was used to launch the SMC and also showcase the achievements chalked in the malaria prevention and control by National Malaria Control Programme (NMCP) in partnership with Global Fund, WHO, the United States Agency for International Development (USAID), UK Department for International Development and UNICEF among others.

In attendance were the Deputy Upper West Regional Minister, Mr. Abu Kabiabata Kasangbata who gave the keynote address and launched the SMC, women groups, the hearing impaired group, schools, the RCC, directors from all regions, MCEs/DCE s and the general public.

Side attraction included the mounting of the largest bed net in the world measuring 12m width x 16m length x 7m in height; malaria screening by Clodix and Fio Healthcare sign interpretation of

addresses for the benefit of the hearing impaired and presentation of awards to reps schools who won the malaria quiz competition.

Figure 4: World Malaria day, April 25th 2014, celebration at Wa, Upper West Region

Pre-2014 World Malaria Day activities had included a press briefing at the Civil Servant's Hall on the 16/06/14 chaired by the Deputy Director General, Dr Gloria Quansah-Asare, where Mr. James Frimpong made a presentation on the Theme, Invest in the Future, Defeat Malaria" and another press briefing on the 23rd of April in Wa for the press in the Upper West Region.

2.5.1.5 WORLD HEALTH DAY

World Health which annually falls on the 7th of April was commemorated by Ghana on the 12th of April 2014 at the premises of the Ghana Health Service. The theme was 'Vector-borne diseases' and the slogan was 'Small bite, Big threat'. Vector borne diseases account for 17% of the estimated global burden of all infectious diseases. Global trade, rapid international travel, and environmental changes such as climate change and urbanization are causing vectors and vector-borne diseases to spread beyond borders.

In attendance were the Hon Minister of Health, WHO Country Representative, health directors including the Director General Ghana Health Service, members of the Ghana Pharmaceutical Society and the Tema Station Market traders. Key note address was given by the Minister of Health and the function chaired by Dr Erasmus Agongo of the GHS.

Address on vector borne diseases, yellow fever, dengue, Chagas disease, leishmaniasis, lymphatic filariasis, Trypanosomiasis and onchocerciasis were given by the programme manager of Neglected Tropical Diseases, Dr Birutum.

A detailed presentation on Malaria, singled out as an important vector-borne disease in the country was given by Aba Baffoe-Wilmot.

The general public was screened for Lymphatic Filariasis by NTD officers and on malaria by Clodix and Fio In-cooperated.

2.6 RESEARCH, SURVEILLANCE, MONITORING AND EVALUATION (RSM&E)

2.6.1 Routine Monitoring

Among activities undertaken over the period under RSM&E are finalization of Revised Reporting tools Second Edition of Standard Operating Procedures for Health Information, Data Quality Audit, National Malaria Monitoring and Evaluation Plan 2014-2020 developed, Research Demographic and Health Survey (DHS 2014) participated in and a study on Feasibility and Acceptability of Use of RDTs within the Private Sector in Ghana planned.

2.6.1.1 Finalization of Revised Reporting tools

To improve surveillance and monitoring of malaria control interventions in health facilities, the revision of malaria reporting tools were finalized during the first quarter of 2014. The tools were also printed and distributed to all health facilities. The reporting tools and registers distributed include; Monthly OPD Morbidity Return, Monthly OPD Morbidity Sheet, Monthly Returns for Anti-Malaria, Midwife Form A and ANC Register.

2.6.1.2 Second Edition of Standard Operating Procedures for Health Information

In addition, the Standard Operating Procedures (SOPs) for health information in Ghana Health Service which contains definitions of all malaria variables and indicators, timeliness and completeness of reporting was revised. The purpose of the SOP is to improve on quality of information that is needed for making critical health decisions. Training on the revised SOP was conducted for data managers in the health service. Copy of SOP can be downloaded from the resource section of DHIMS.

2.6.1.3 Data Quality Audit

In the last quarter of the year, NMCP in collaboration with Swiss Tropical and Public Health Institute conducted data quality audit in health facilities and schools in the country. The purpose of this Data Quality Audit (DQA) was to verify the accuracy of reported data and to assess the quality of the data recording and reporting system, in relation to the current Global Fund grant. The following are summary preliminary findings from the audit;

- The recording and reporting system for indicators is well defined and basically robust.
- The implementation of the recording system has been found to be challenging in several sites. The provision of ACTs is not being properly recorded
- Data Validation Meetings held but still significant discrepancies. Encourage OTSS and monitoring at the facility level and District Director Endorsement
- There is no record of how discrepancies were resolved both paper-based and DHIMS.
- Recording of the provision of LLINs in different types of documents (including the standard source documents)
- Lack of guidelines on how to complete the source documents or the reporting formats (however, reporting is done consistently)
- LLINs distributed among pregnant women reported in two different forms (risk of double counting)

The regions and services delivery sites audited as well as indicators selected for 2014 data quality audit as indicated in the table below.

Table 15: Indicators and Sites Selected for Data Quality Audit.

Indicator	Region	Districts	Service Delivery Sites
Number of reported uncomplicated malaria cases (both suspected and confirmed) treated with Artemisinin Combination Therapy (ACT) at health facilities	Central	AAK	Abakrampa Health Centre
			Ayeldu CHPS Zone
			Amosima CHPS Zone
		Cape Coast	Central Regional Hospital
			Efutu Health Centre
			Cape Coast Metropolitan Hospital
	Northern	Nanumba North	Bimbilla District Hospital
			Makayili Health Centre

			Chamba Health Centre
		Zabzugu	Kukpaligu Health Centre
			Zabzugu District Hospital
			Kuntumbiyili CHPS
Total number of Long Lasting Insecticidal Nets (LLINs) distributed to pupils, pregnant women and children under five years	Central	AAK	Abakrampa Health Centre
			Ayeldu CHPS Zone
			Abura Dunkwa Methodist B School
		Cape Coast	Central Regional Hospital
			Efutu Health Centre
			St. Monic Angelic School
	Northern	Nanumba South	Lungi CHPS
			Wulensi Health Centre
			Saba DA Primary School
		Zabzugu	Kukpaligu Health Centre
			Zabzugu District Hospital
			Rajia Primary School

The final DQA report will be submitted in 2015.

2.6.1.4 National Malaria Monitoring and Evaluation Plan 2014-2020

National Malaria M&E Plan was developed and Finalized alongside the development of National Malaria Strategic Plan 2014-2020. The current M&E Plan improves on weakness of the previous system and lessons strategies

2.6.2 Research

Key among research activities that were conducted in the year under review are participation in the Demographic and Health Survey (DHS 2014) and Feasibility and Acceptability of Use of RDTs within the Private Sector in Ghana There were also Operational Research on RDTs, Price and Availability Surveys.

2.6.2.1 Demographic and Health Survey (DHS 2014)

Research continues to be an integral part of malaria control activities in Ghana. The major research undertaken or partaken in by NMCP was the Demographic and Health Survey (DHS 2014) undertaken by Ghana Statistical Service. This was undertaken support from USAID, MEASURE DHS, UNICEF and UNFPA. In addition to data collected in previous DHS research, data on malaria parasite prevalence, based on rapid diagnostic testing (RDTs) and microscopy, are

incorporated as part of the new components in the DHS 2014. These data provide a unique nationwide snapshot of peak-season malaria point-prevalence in children aged 6-59 months. The NMCP sponsored the Malaria component of the survey, partook in the review of questionnaire, training of field workers (interviewers and biomarkers) and undertook monitoring of field data collection activities nation-wide. Data management and report writing is underway.

2.6.2.2 Feasibility and Acceptability of Use of RDTs within the Private Sector in Ghana

There is currently little or no strategy for promoting diagnosis in private pharmacies and LCS in Ghana despite the fact that the majority of patients, about 60% (SPS, 2008) seek malaria treatment from these outlets. As such, many people are receiving anti-malarials from private shops without the benefit of parasitological testing. For this reason, the NMCP and Dodowa Health Research Centre undertook an operational research to examine the feasibility of expanding RDT use in pharmacies and License Chemical shops. This study which examined the role of rapid diagnostic tests for malaria for the targeting of ACTs at community level aims at assessing the feasibility and acceptability of expanding RDT use among chemical sellers (LCS) in rural, urban and peri-urban settings in Ghana. Results from the study shows that,

- It is possible to introduce RDTs into chemical shops and easy to train chemical sellers to carry out the tests. Community members welcomed the test and the testing was acceptable to chemical sellers.
- Chemical sellers can carry out the test safely and accurately and they generally adhere strictly to the guidelines for carrying out tests and what to do with test negative patients.
- Chemical sellers largely referred test negative patients unless patients absolutely refused to go to the health facility.
- Providing RDTs in the private retail sector significantly reduced dispensing of antimalarials by chemical sellers to patients with fever who tested negative by RDT, did not reduce dispensing of antimalarials to those who tested positive and appeared safe. RDTs should be considered for the informal private sector.

2.6.2.3 Malaria Vaccine

The Malaria Vaccines Technical Working Group was set up in 2009 by the Director General of the Ghana Health Services on a decision making framework to introduce a future malaria vaccine as soon as endorsed by WHO. This process has been supported by a collaboration between PATH/MVI, WHO and the MOH to identify gaps in information required and the necessary systems and processes to put in place to inform country decision on adopting the most advanced malaria vaccine under trials (the RTS,S) should it be recommended by WHO. Ghana is one of the countries hosting two trial sites in Agogo and Kintampo. Last year a technical working group stakeholders' meeting for Central and West Africa was held in Ghana from 24th to 26th June. This meeting was to map policy decision making processes at country-level, identify needs and gaps in country level RTS,S decision making ,share and update priority activities and technical assistance needs for malaria vaccine decision making and to promote sharing of TWG experience in West and Central Africa. The meeting was chaired by Prof. Isabella Quakyi, chairperson of the Ghana TWG. At the opening, Dr. Magda Robalo, the World Health Organization (WHO) representative in Ghana, delivered WHO's perspective on key factors in the decision to adopt the RTS,S vaccine such as the safety, protective efficacy, added public health value, impact on severe malaria, product presentation, cost and sustainable financing among others and indicated WHO's interest in continuing the discussion beyond this meeting. The Malaria Control Program Manager, Dr Constance Bart-Plange gave a progress update on the Ghana TWG as well as the next steps. The results of 18-month follow up clinical trial of the RTS,S was shared as well as planning around vaccine implementation communications and recent experience of new vaccine introduction and discuss implications for evidence-based decision making at country levels.

CHAPTER THREE

3.0 PROGRESS, ACHIEVEMENTS AND CHALLENGES

3.1 Introduction

Over the reporting period, the number of health facilities reporting in the DHIMs2 also increased in 2013, from over 5000 to 6869 facilities in 2014. Similar to what pertained in 2013, the increase in the number of facilities such as CHPS compounds, as well as private service providers submitting reports on their services led to an increase in the volume of information but made it difficult to compare and show trends among these facilities since the number of facilities reporting are not the same, However since it is still one nation comparison of figures across the years for the entire nation was possible.

In the four years preceding the reporting period, the number of OPD malaria cases increased consistently (from 2010 to 2013). However, 2014 saw a sharp drop from about 11 million cases in 2013 to 8.4 million cases (Fig. 6) with the proportion of OPD cases attributable to malaria dropping from 43.7% in 2013 to 30.9% in 2014 (Fig. 8). It is important to note that, clinical or presumptive diagnosis and treatment still persist even though the current policy is to test all suspected malaria cases before treatment though it's improved in 2014. There continues to be a general decline however in institutional deaths due to malaria. This could be attributable to improved management in malaria cases.

3.2 Malaria Case Burden

3.2.1 Outpatient Malaria Cases

In 2014, the country recorded about 8.4 million cases of OPD malaria, which is a decline over the 11.4 million cases recorded in 2013, representing about 23.6% decrease. This translates into approximately 23,299 cases seen per day in 2014 in all health facilities, compared to an average of approximately 30,300 of such cases seen each day in the country's health facilities in 2013. Whereas the OPD malaria cases per 1000 population in 2013 was 340, there was a drop to about 253 per 1000 population in 2014 for the country (Fig. 5). Malaria parasite prevalence also declined marginally from 27.5% in 2011 to 26.7% in 2014 (Table 17).

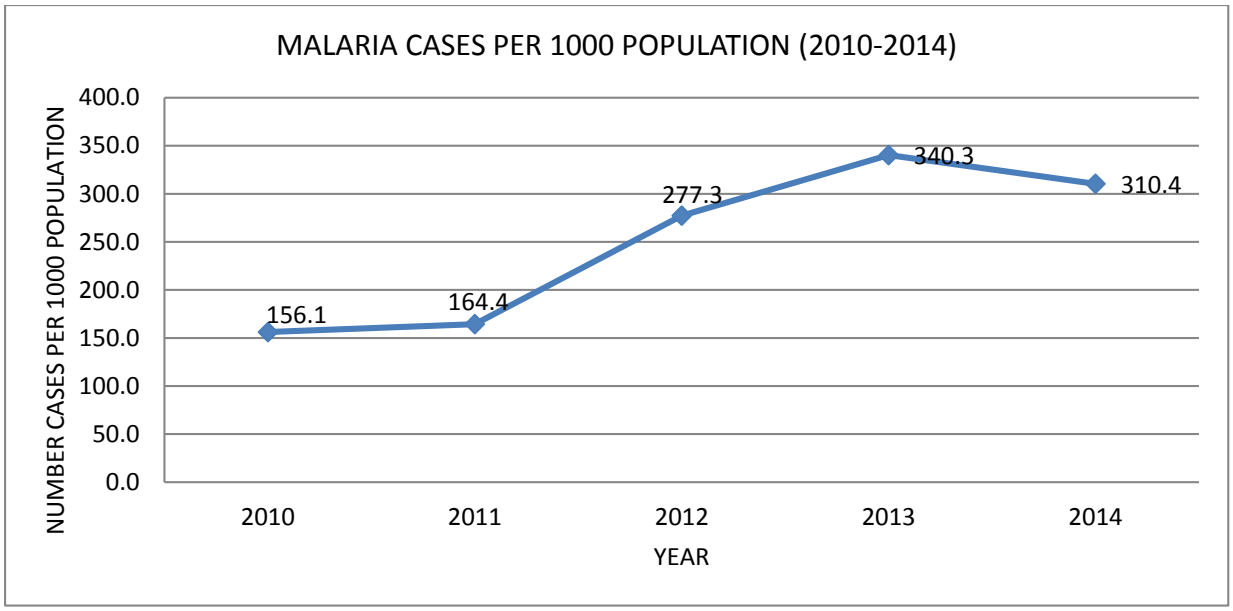


Figure 5: Malaria Cases per 1000 Population, 2010-2014

In 2014, the total number of OPD malaria cases reported in health facilities in the country (8,453,557)was generally lower than that in 2013 (11,059,393) and that runs through eight out of the ten regions (Fig. 6).

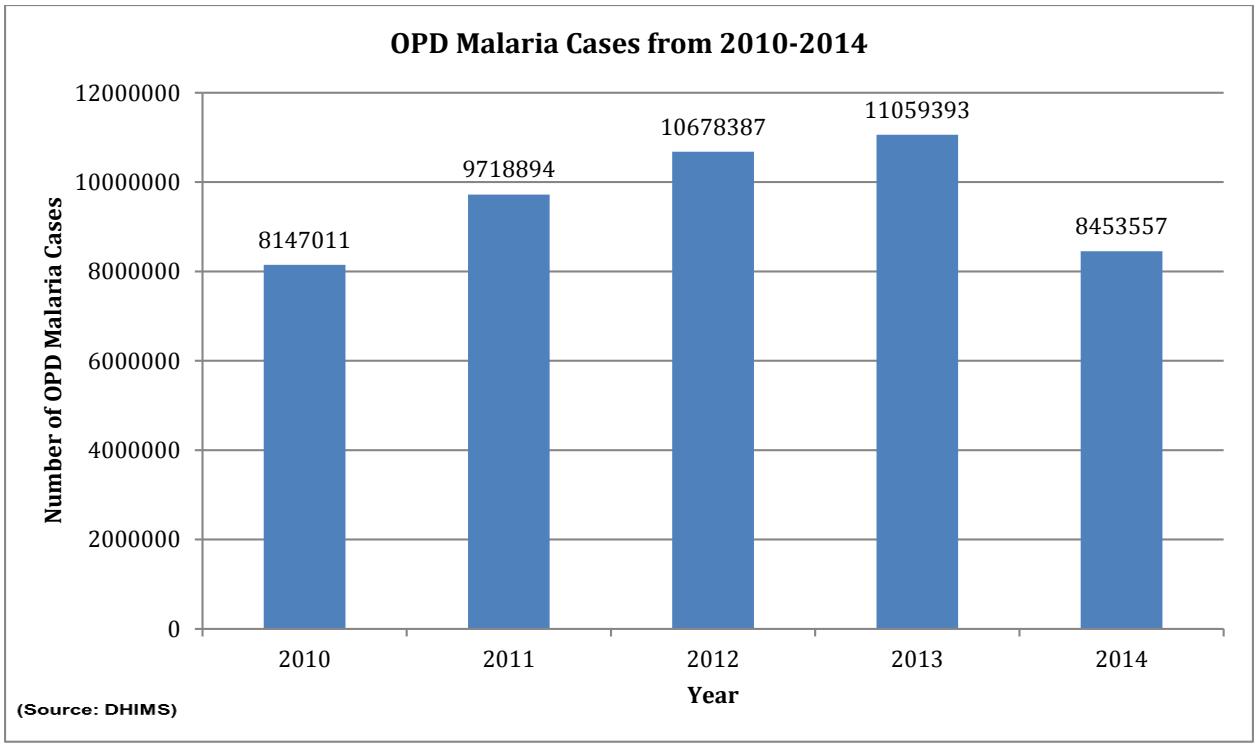


Figure 6: OPD Malaria Cases from 2010 to 2014

Upper West region recorded the least number of OPD malaria cases (374,851) followed by Upper East region (398,311). (Fig.7). The Brong Ahafo (1,243,886) Volta (903,419) and Western (800,177) regions reported highest malaria cases in 2014.

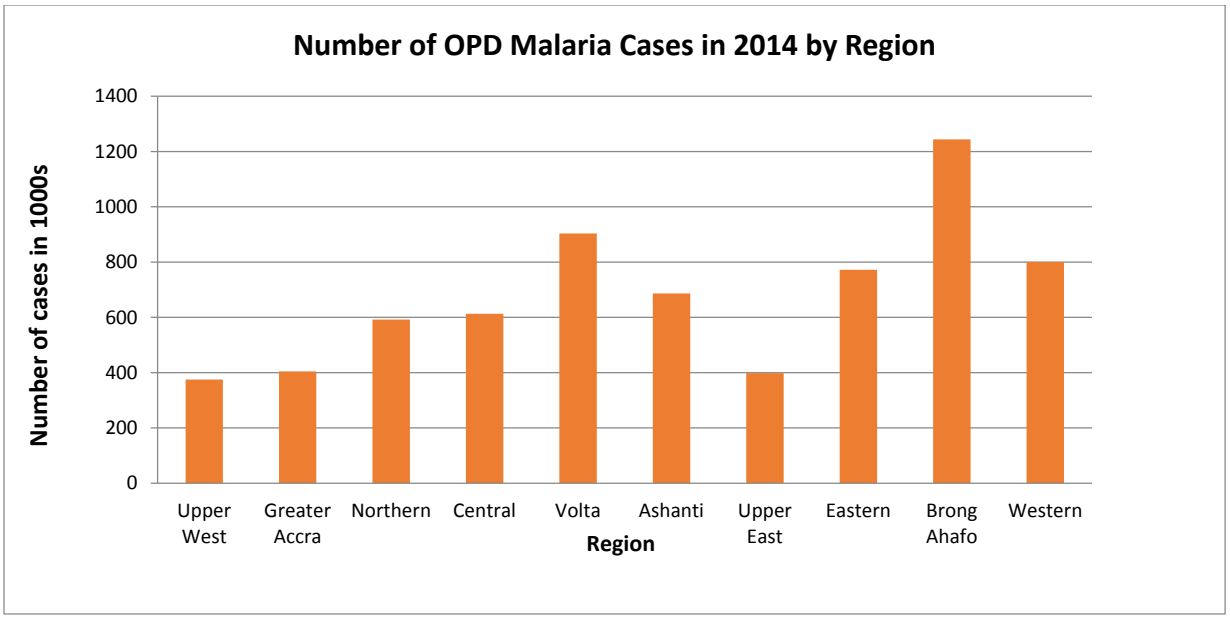


Figure 7: Number of OPD Malaria Cases in 2014 by Region

The proportion of total OPD cases attributable to malaria saw a decrease from 43.7% in 2013 to 30.9% in 2014, (See Fig. 8 below). On regional basis, Greater Accra recorded the least proportion of 22.0%, implying that 22% of all OPD cases recorded in health facilities in the Greater Accra Region in 2014 were as a result of malaria. However, Upper West region (50.7%), followed closely by the Upper East region (36.5%) which is also closely followed by the Northern region (36.1) were the three worst performing regions as far as proportion of OPD cases attributable to malaria is concerned (Fig. 9).

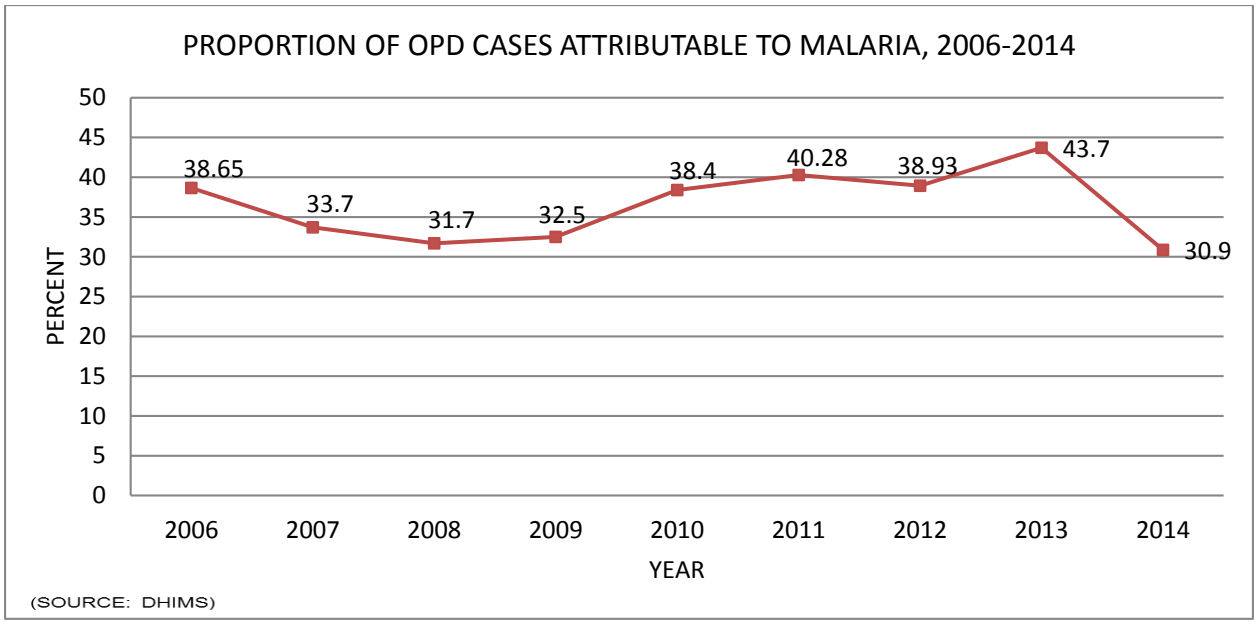


Figure 8: Proportion of OPD Cases Attributable To Malaria From 2006 To 2014

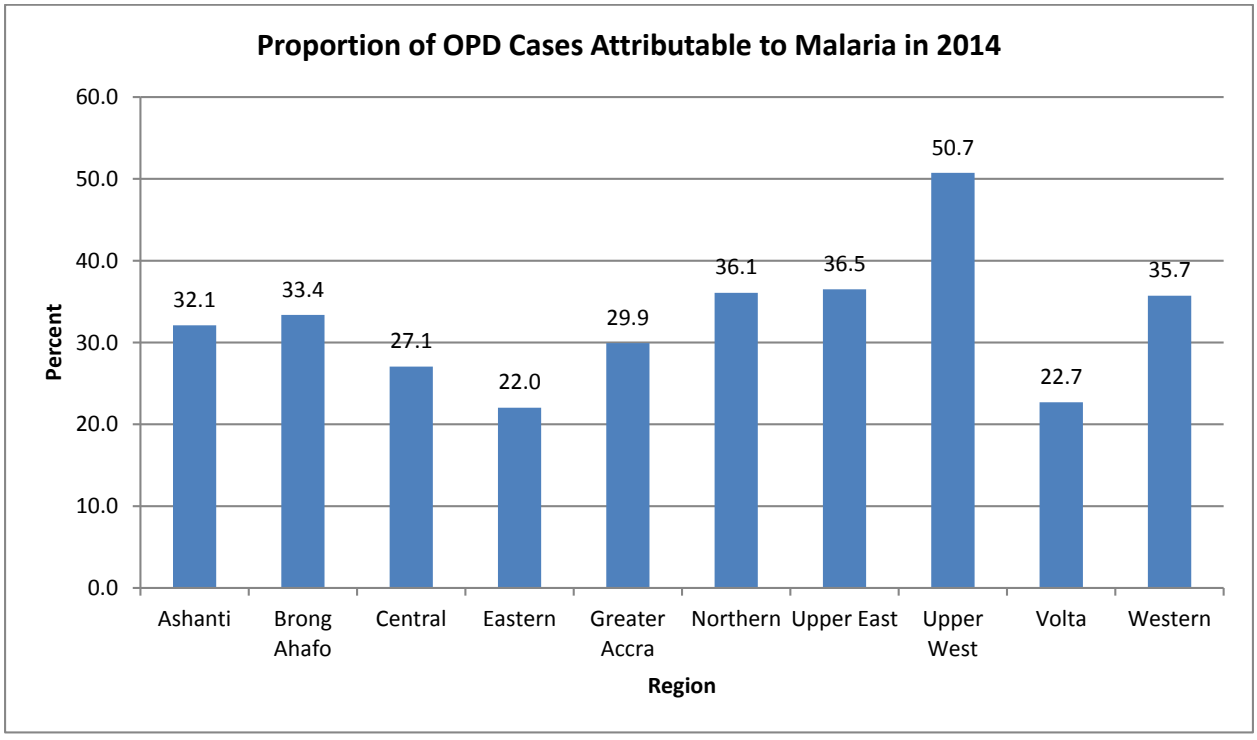


Figure 9: Proportion of OPD Cases Attributable to Malaria in 2014

There was a rise in the proportion of OPD malaria cases which were tested by microscopy or RDT from 48% in 2013 to 73.5% in 2014, representing a 53% increase over the 2013 figure. This performance happens to be the best over the past four years (Figure 10).

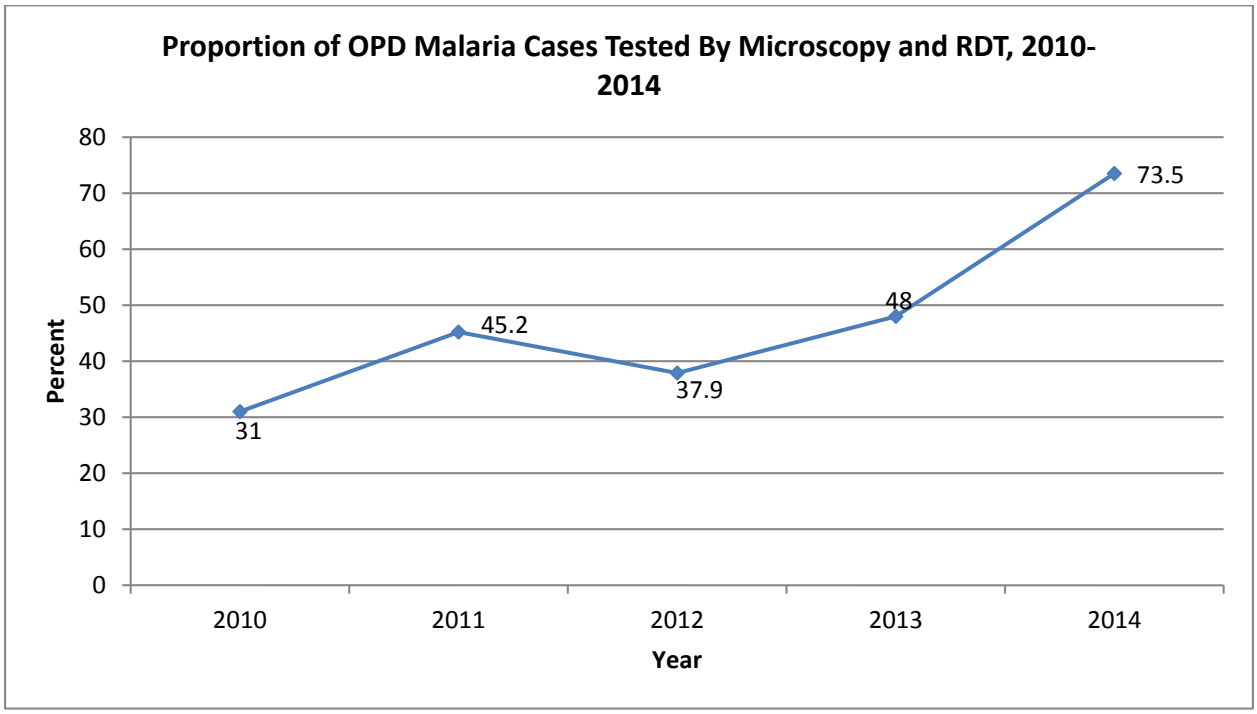
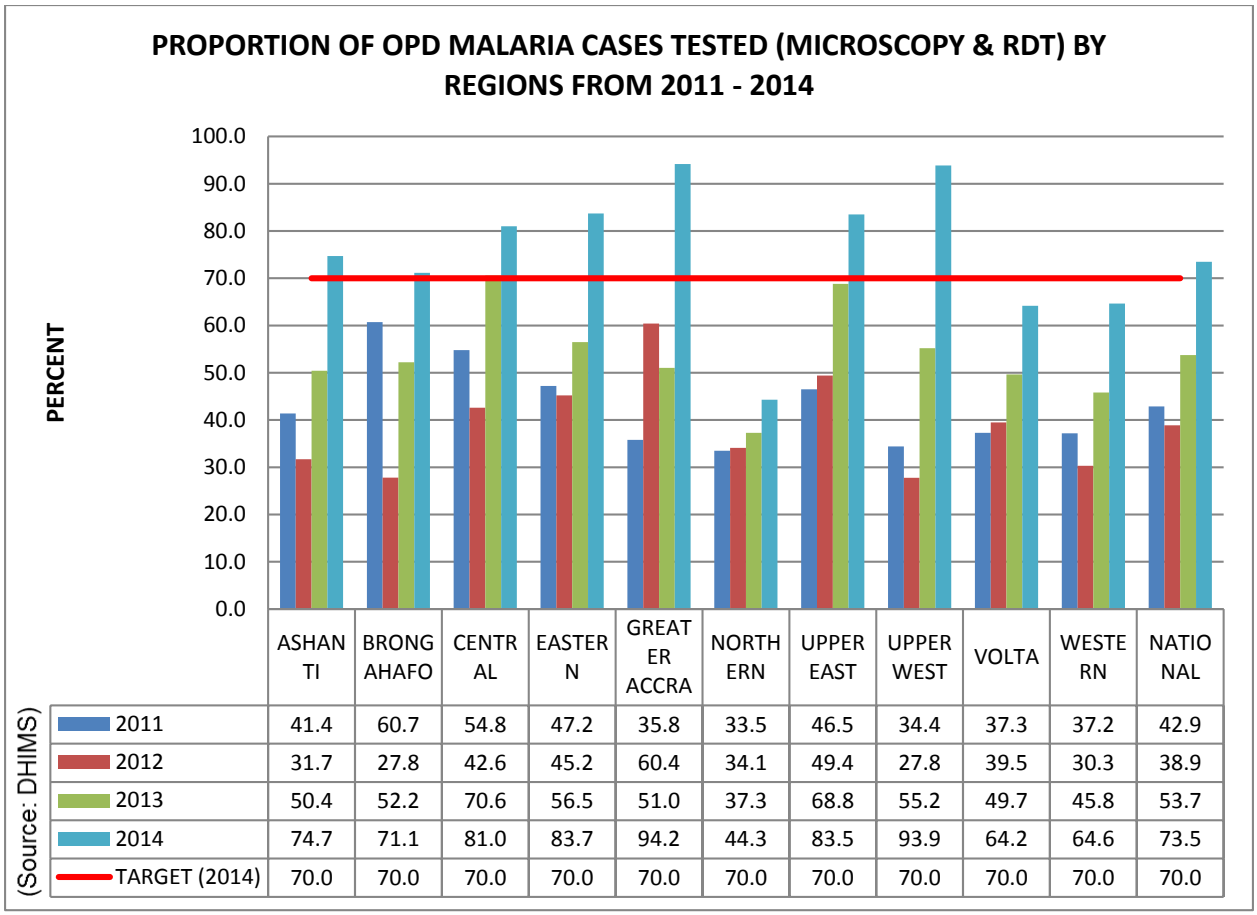


Figure 10: Proportion of OPD Malaria Cases Tested, 2010- 2014

The focus of the country programme has been the pursuance of the Test, Treat and Track policy. However, not all the suspected cases in all facilities were tested in the year under review and that is not peculiar to year 2014. The proportion of malaria cases targeted to have been parasitically tested in 2014 was 70% and the country achieved 73.5%, a little above the national target for the year (Figure 11 below). However the proportion of malaria cases parasitically tested in 2014 by the regions varied. In the same figure, all the 10 regions in the country, except the Northern, Volta and Western regions, achieved this target. All the regions and the nation as a whole performed in 2014 better than in the three years before 2014.



	ASHANTI	BRONG AHAFO	CENTRAL	EASTERN	GREATER ACCRA	NORTHERN	UPPER EAST	UPPER WEST	VOLTA	WESTERN	NATIONAL
2011	41.4	60.7	54.8	47.2	35.8	33.5	46.5	34.4	37.3	37.2	42.9
2012	31.7	27.8	42.6	45.2	60.4	34.1	49.4	27.8	39.5	30.3	38.9
2013	50.4	52.2	70.6	56.5	51.0	37.3	68.8	55.2	49.7	45.8	53.7
2014	74.7	71.1	81.0	83.7	94.2	44.3	83.5	93.9	64.2	64.6	73.5
TARGET (2014)	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0

Figure 11: Proportion of OPD Malaria Cases Tested by Regions, 2011-2014.

Service providers continue to accept the need to test before treatment. In 2014, the malaria test positivity rate for both RDTs and microscopy nationally were 61.8% and 48.8% respectively and collectively, it was 55.5% in 2014 which was lower than 66% in 2013. The Greater Accra region continues to have the lowest test positivity rate of 24.3% (Fig. 12).

Meanwhile, results from 2014 Ghana Demographic and Health Survey (GDHS) indicates a national parasite prevalence rate of 36.4% and 26.7% for RDT and microscopy respectively. Figure 13 shows malaria prevalence among children age 6-59 months by regions.

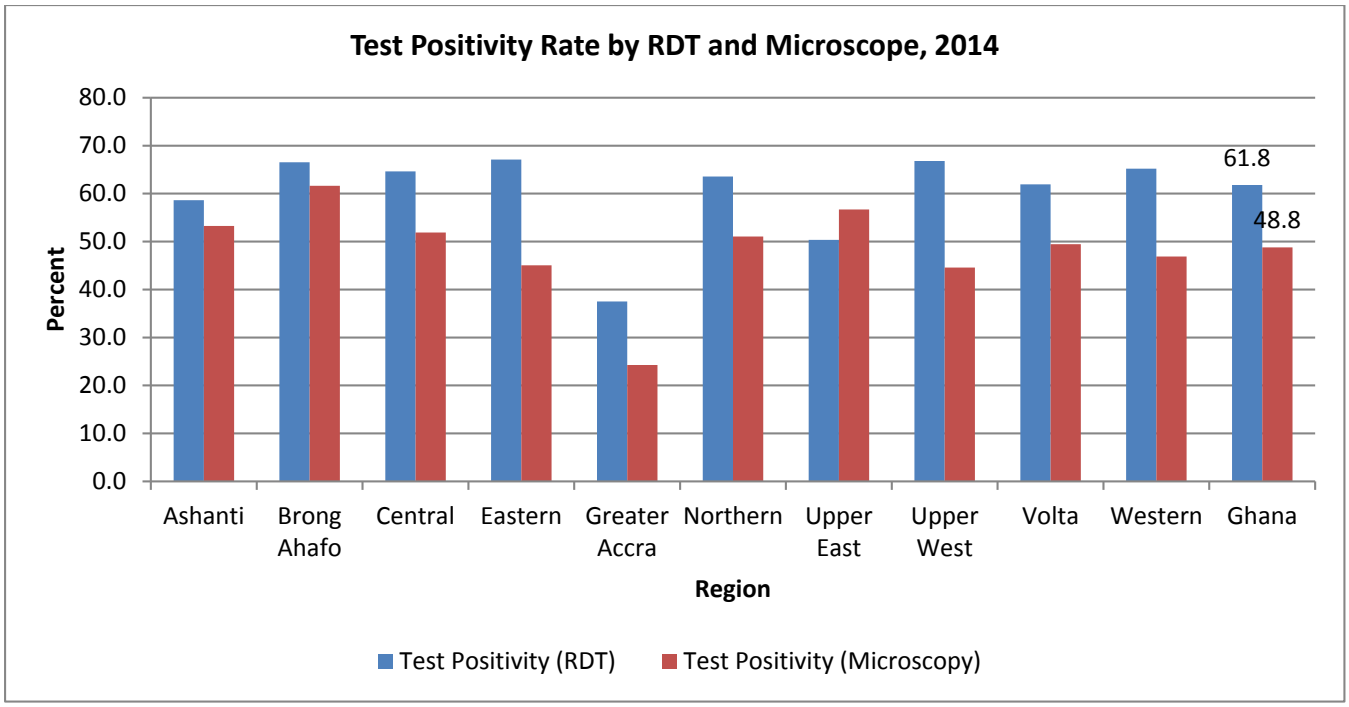
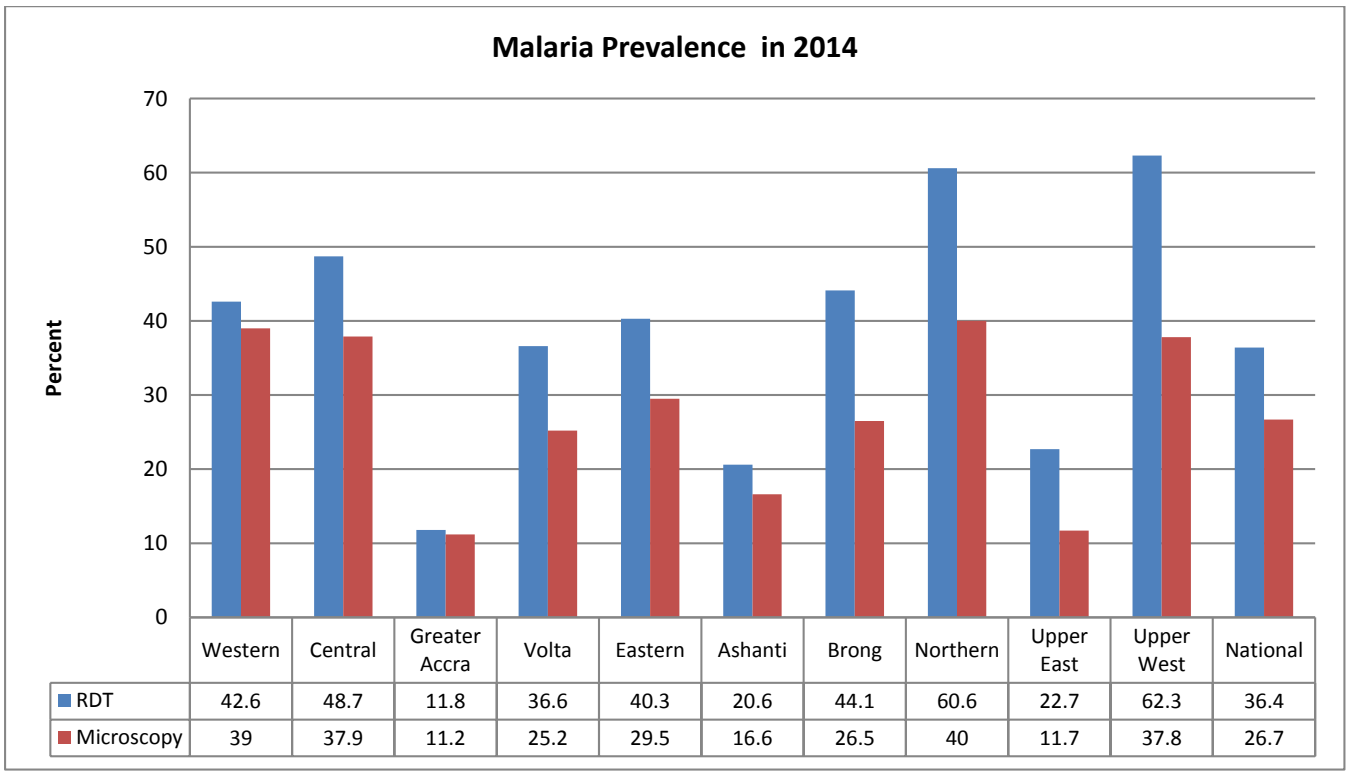


Figure 12: Test Positivity Rates for RDT and Microscopy in 2014



	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong	Northern	Upper East	Upper West	National
RDT	42.6	48.7	11.8	36.6	40.3	20.6	44.1	60.6	22.7	62.3	36.4
Microscopy	39	37.9	11.2	25.2	29.5	16.6	26.5	40	11.7	37.8	26.7

(Source: GDHS 2014)

Figure 13: Malaria Prevalence from 2014 GDHS

The use of ACTs to treat uncomplicated malaria cases was adopted in 2004. Since then it has been of interest to track its use in both public and private health sectors. The proportion of OPD malaria cases treated with an ACTs has been increasing.

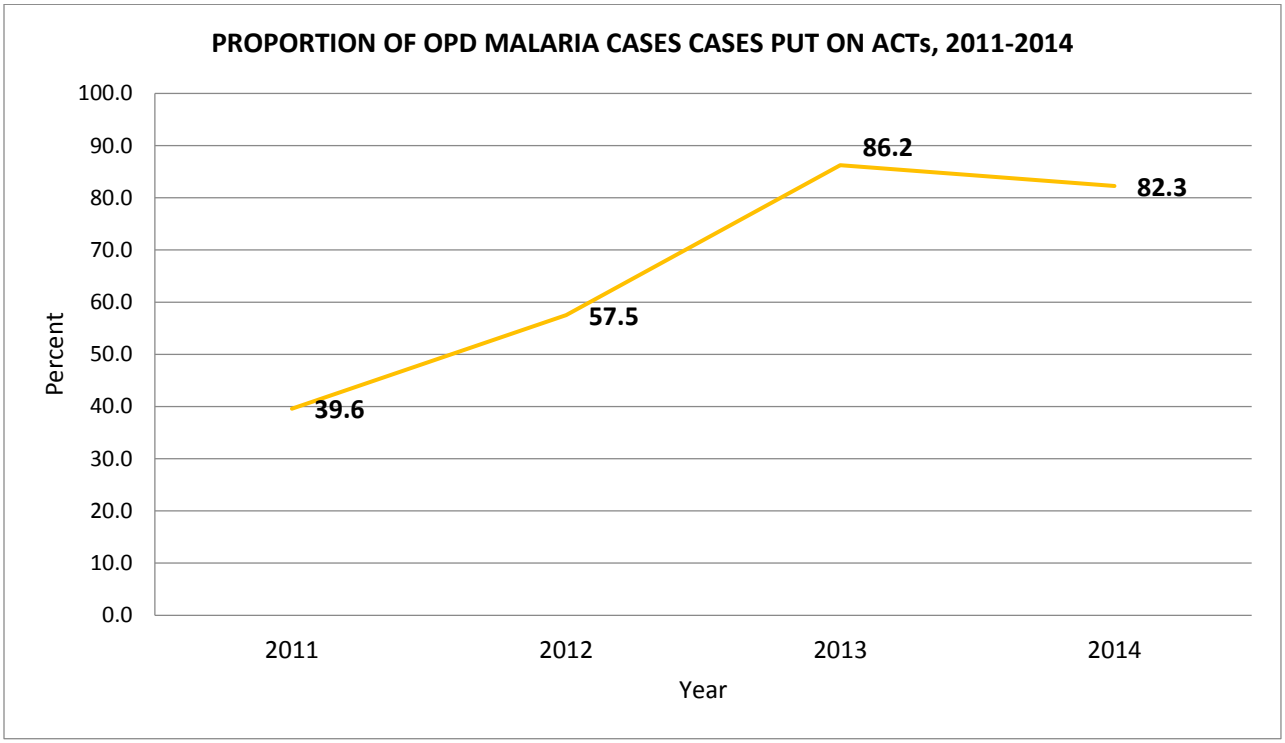


Figure 14: Proportion of OPD Malaria Cases Put on ACTs, 2011-2014

There had been consistent increase in the proportion of OPD malaria cases put on ACTs from 39.6% in 2011 to 86.3% in 2013; in 2014, there was a slight drop from 86.2% in 2013 to 82.3% in 2014.

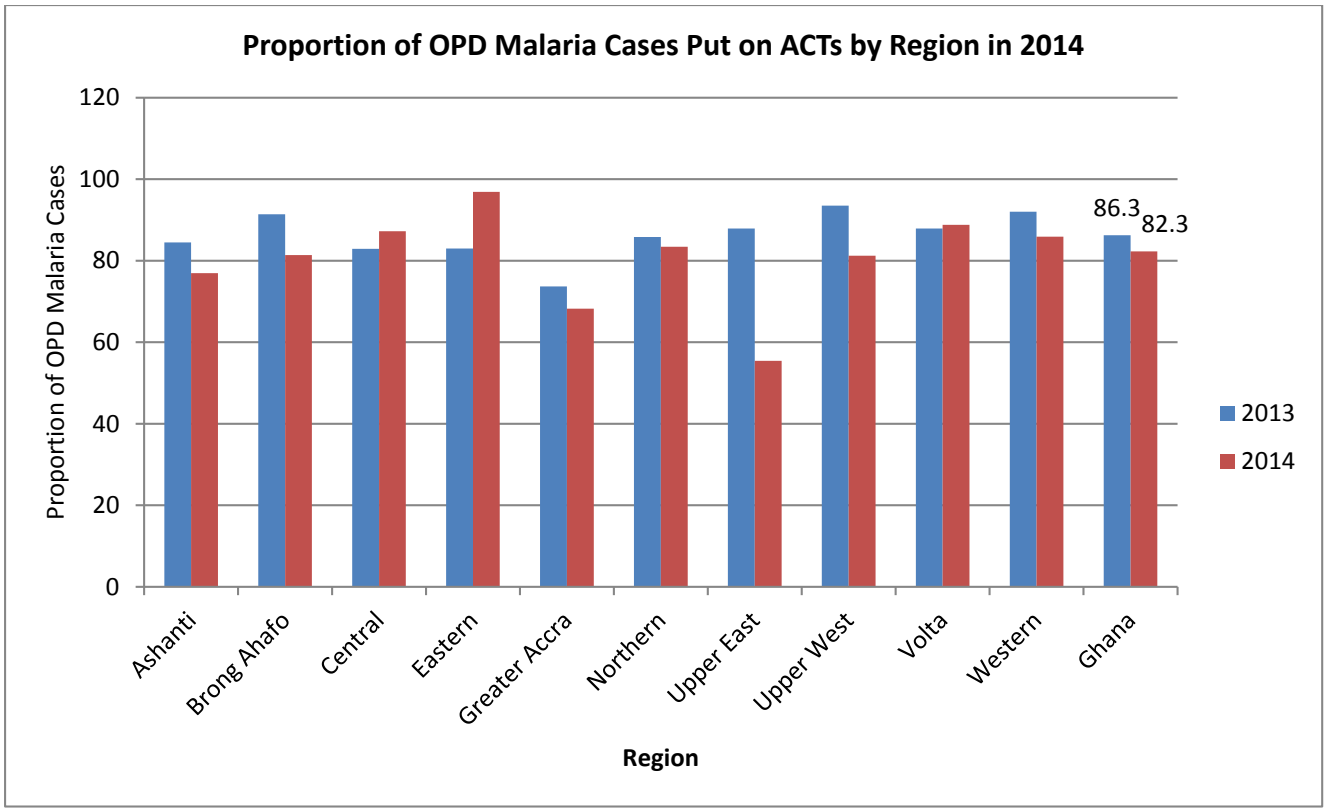


Figure 15: Proportion of OPD Malaria Cases Put on ACTs by Regions in 2014 and 2014

The Eastern region treated the largest proportion (96.9%) of all suspected malaria cases with ACTs, followed by the Volta region (88.8%) while the greater Accra region was the least (68.2%) in 2014.

3.2.2 Malaria in Pregnancy

Among pregnant women, malaria cases recorded at OPD in 2014 was 197,017 as against 217,000 in 2013. The 2014 figure represents a reduction of 9.2% over the 2013 recorded number of malaria cases among pregnant women. The top three regions with the highest number of malaria in pregnancy cases in 2014 were the Western region (30,892 cases), followed closely by the Ashanti region (29,772 cases) and the Volta region (23,445 cases). The region with the least number of malaria in pregnancy cases happens to have been the Upper East Region (11,024 cases).

3.2.3 Malaria Admissions

Admissions for malaria increased from 428,000 in 2012 to 451,000 in 2013 and further decreased to 429,940 in 2014, translating into 1,177 admissions per day. In 2013, there were approximately 1,235 malaria admissions a day. Among children under five years, 207,913 admitted due to malaria in Ghana in 2014. Of that number, 42,741 (representing 20.6% of the total number of cases nationwide) occurred in the Ashanti region, followed by 41,123 (19.8%) in the Northern region. The least number of 5,908 (2.8%) occurred in the Greater Accra region.

On regional distribution of admissions due to malaria in 2014, Ashanti regions turned out to have had the highest number of admissions (93,015) followed by the Northern and Brong Ahafo regions with 72,728 and 65,040 admissions respectively. The Upper West (19,838), Greater Accra (16,971) and the Upper East (14,140) regions were the regions with the lowest numbers of malaria admissions, in descending order, in 2014 (Fig. 16).

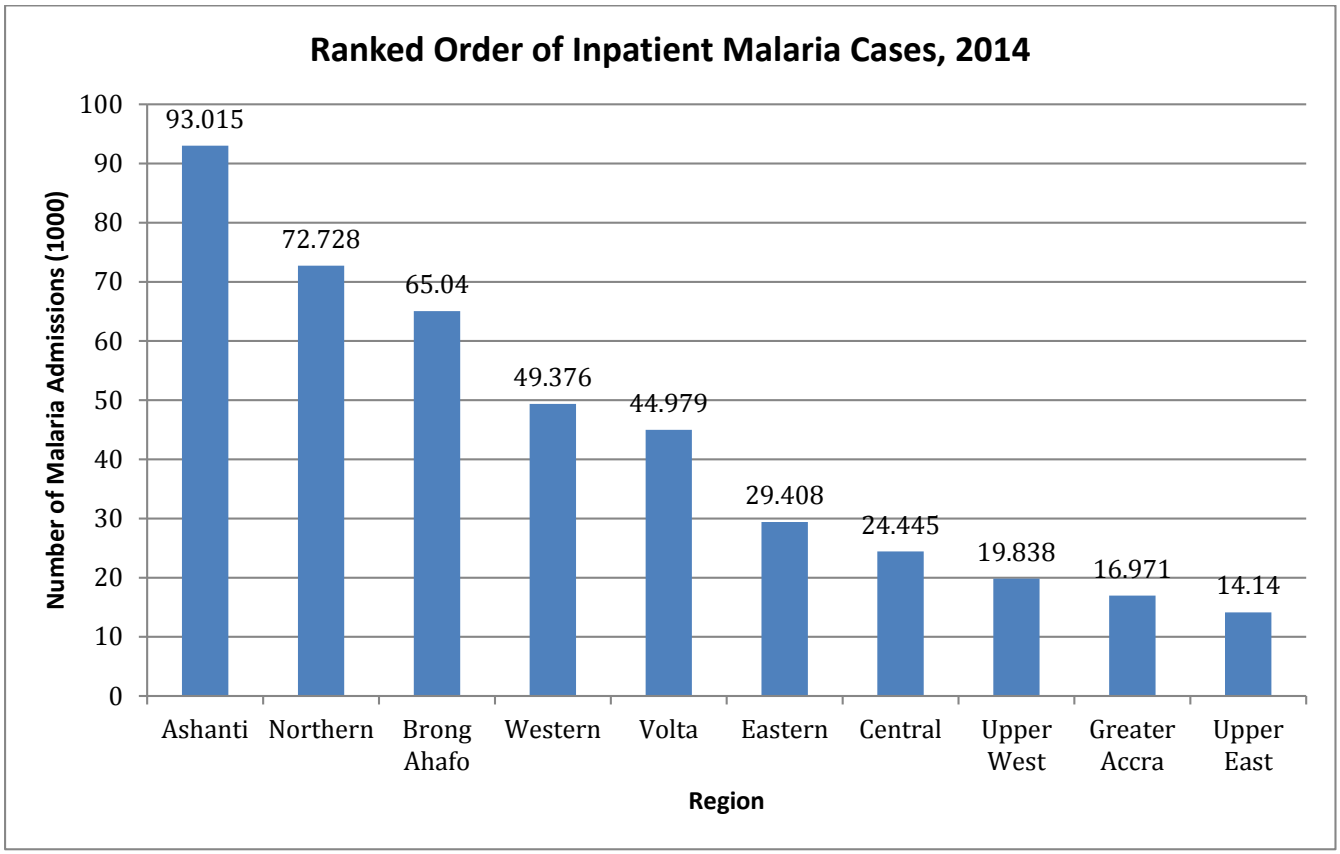


Figure 16: Ranked Order of Inpatients Malaria Cases in 2014 by Regions

3.2.4 Malaria-Related Deaths

The total number of deaths attributable to malaria in 2014 was 2,200 representing a reduction of about 26% to the 2013 figure. Out of these malaria deaths, 1,060 occurred among children-under-5-years in 2014, compared to 1,348 in 2013, Table 3.1.

The trend of in-patient malaria deaths from year 2000 to 2014 is presented in Table 16.and a section of it in Figure 17 showing a decreasing number of malaria deaths over the period, despite the fact that total deaths on admission has been on the increase from 2011. It is also observed that in the nine years preceeding the year under review, malaria related deaths in children-under-five years were less than that in persons five-years-and-above.

Table 16: In-patients Malaria Deaths, 2000-2014

In-patient Malaria Deaths - 2000 – 2014			
Years	In-patient malaria Death	< 5 malaria Deaths	5years and Above malaria Deaths
2000	6,054	3,952	2,102
2001	4,158	2,717	1,441
2002	4,274	2,914	1,360
2003	3,571	2,195	1,376
2004	2,734	1,380	1,354
2005	5,948	2,026	3,922
2006	4,434	973	3,461
2007	4,579	1,241	3,338
2008	3,760	1,697	2,063
2009	3,352	1,505	1,847
2010	3,882	1,812	2,070
2011	3,197	1,539	1,658
2012	2,799	1,129	1670
2013	2,985	1,348	1,637
2014	2,200	1,060	1,140

It is also worth noting that the country has been recording a systematic reduction in the proportion of death due to malaria, as recorded at the In-Patient Departments of facilities in the country, and that there was a sharp reduction in the proportion of deaths attributable to malaria in 2014 (6.6%) compared to the 2013 figure of 12.5% (Fig. 17).

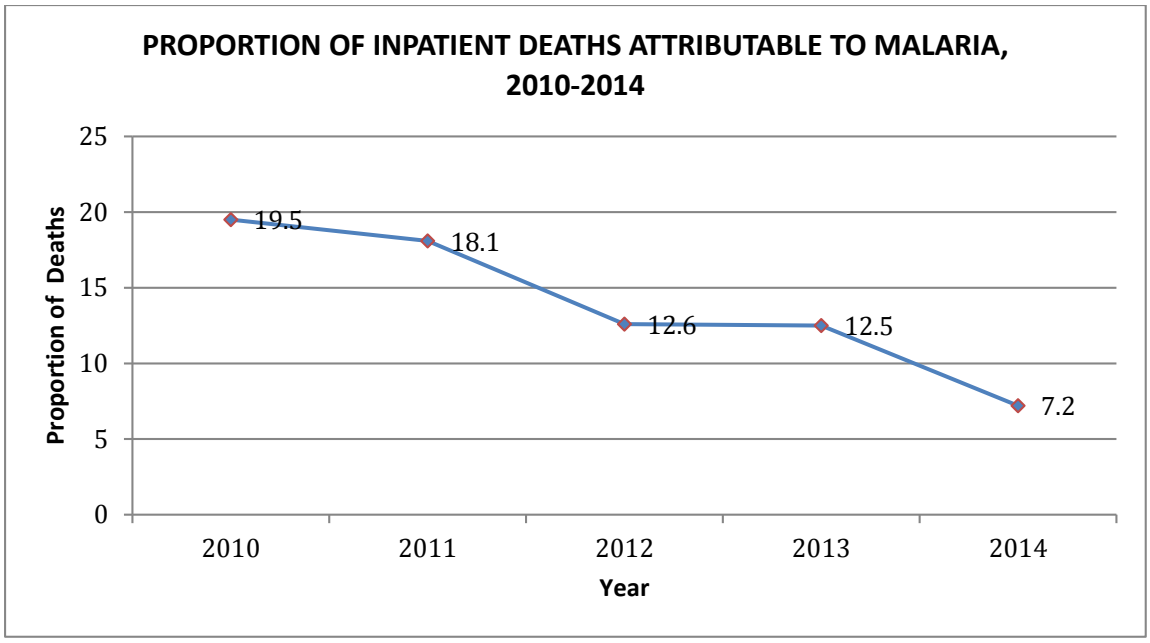


Figure 17: Inpatient Malaria Deaths, 2010-2014

At the regional level, the Northern region recorded the highest number of deaths due to malaria (672) followed by the Central region (281) while the Eastern region recorded the lowest number of deaths due to malaria (77) in 2014 (Fig. 18).

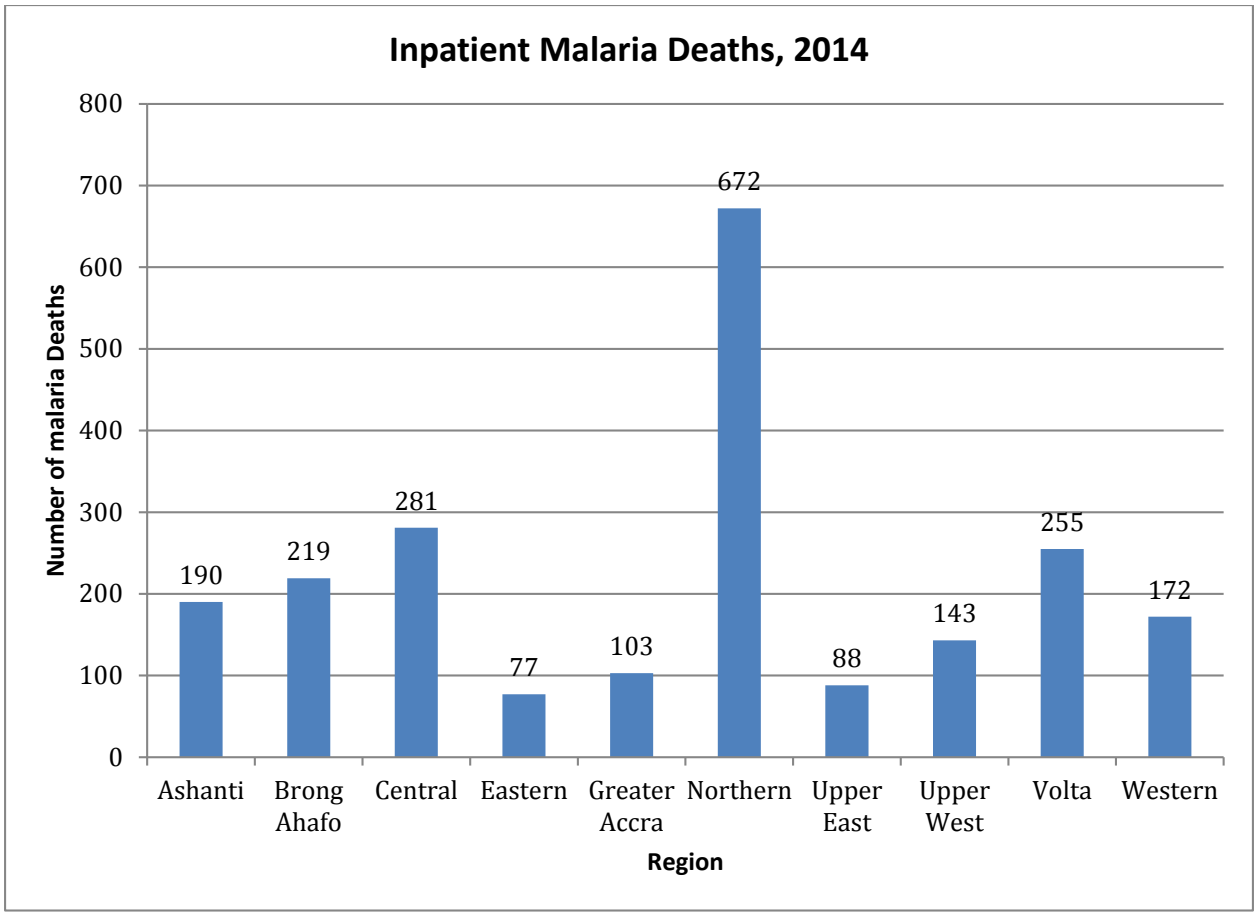


Figure 18: Inpatient Malaria Deaths by Region in 2014

There was a reduction in the Case Fatality Rate recorded from about 0.6 in 2013 to less than 0.51 in 2014, Figure 19. This is reflected in all the ten regions. The Greater Accra region (0.52), followed by the Upper West region (0.44) and the Upper East region (0.40) were the regions which recorded the highest reduction in the CFR in 2014 over their respective 2013 figures of 0.92, 0.76 and 0.69.

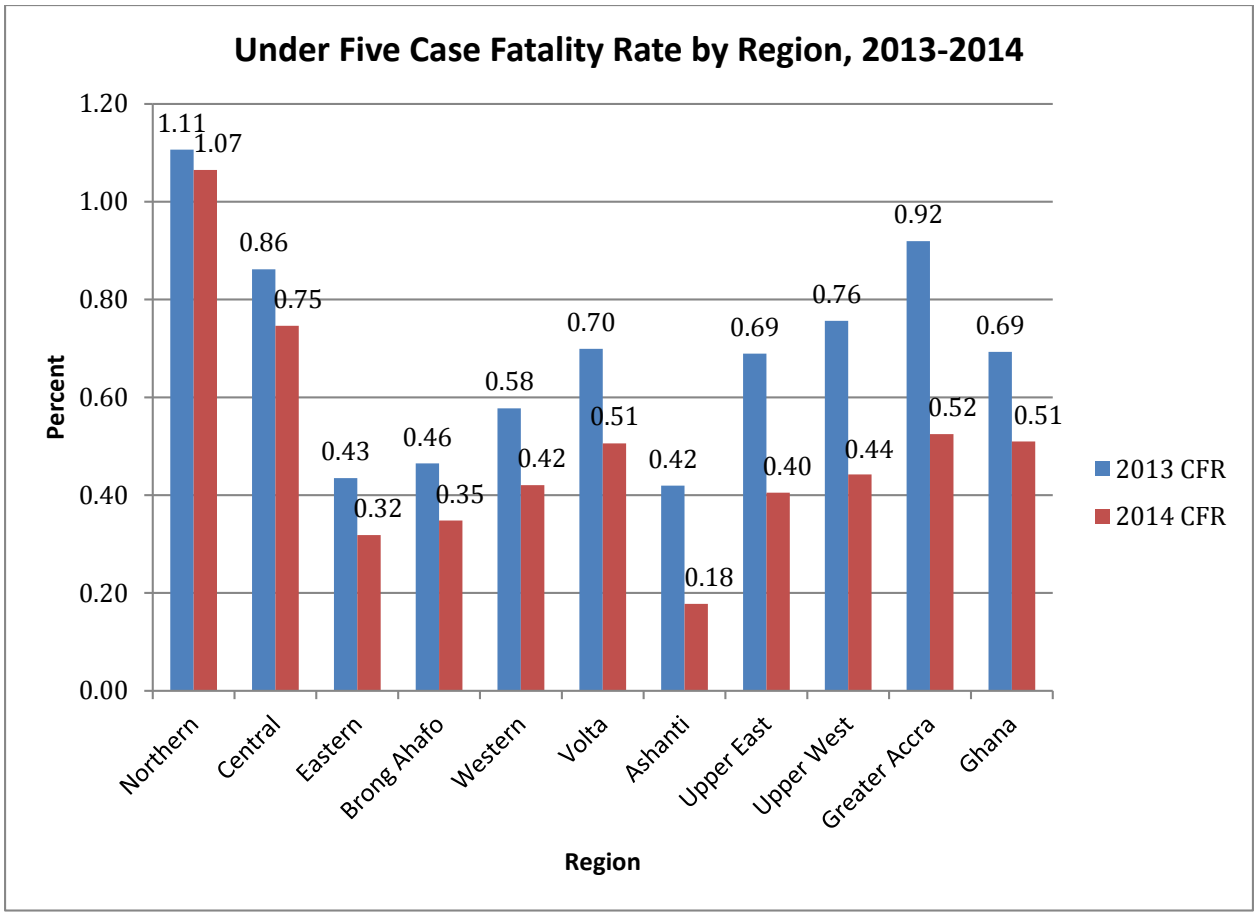


Figure 19: Case Fatality Rate by Region for 2013 and 2014

3.3 Intermittent Preventive Treatment in Pregnancy (IPTp)

The use of Sulphadoxine Pyrimethamine for preventing malaria during pregnancy is one of the interventions being pursued by the country under Intermittent Preventive Treatment of malaria in pregnancy (IPTp). In 2014 a total of 960,745 pregnant women were registered, out of which 519,916 (54.1%) received IPT1 compared to 560,306 (63.6%) who received IPT1 in 2013. This represents a reduction in IPTp1 uptake in 2014 over the 2013 figure. For IPT2 the figures were 372,331 (38.7%) in 2014 compared to 468,437 (53.2 %) in 2013 and for IPTp3, 236,392 (24.6%) were recorded in 2014 compared to 342,192 (38.9%) in 2013. The general uptake of IPTp plummeted further in the year under review. This represents the second year running when IPTp hit a downward path since 2012.

In the year under review, IPTp4 and IPTp5 were introduced. 39,882 pregnant women (4.2%) took up IPTp4 and over 11,270 (1.2%) took up IPTp5. The trend for the years is shown Figure 20 below.

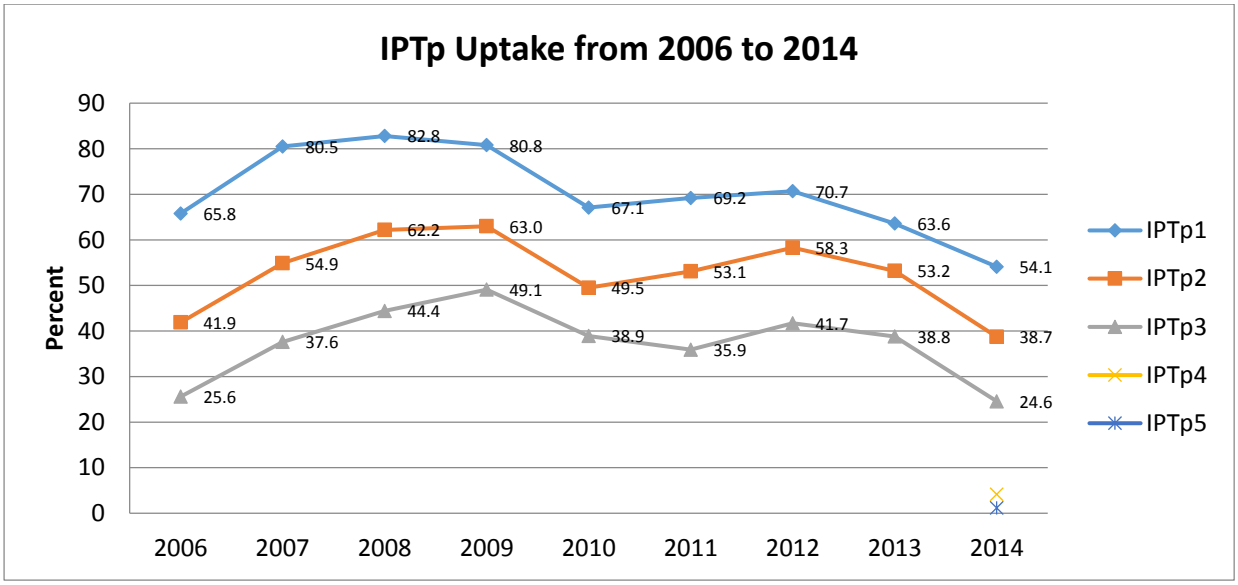


Figure 20: Proportion of Pregnant Women who took up IPTp from 2006-2013

Contrary to the reduction in IPTp from health facility reports over the past few years, result from population surveys conducted between 2011 and 2014 indicates increase from 64.4% (MICS 2011) and 67.5% (2014 GDHS) as shown in Table 17.

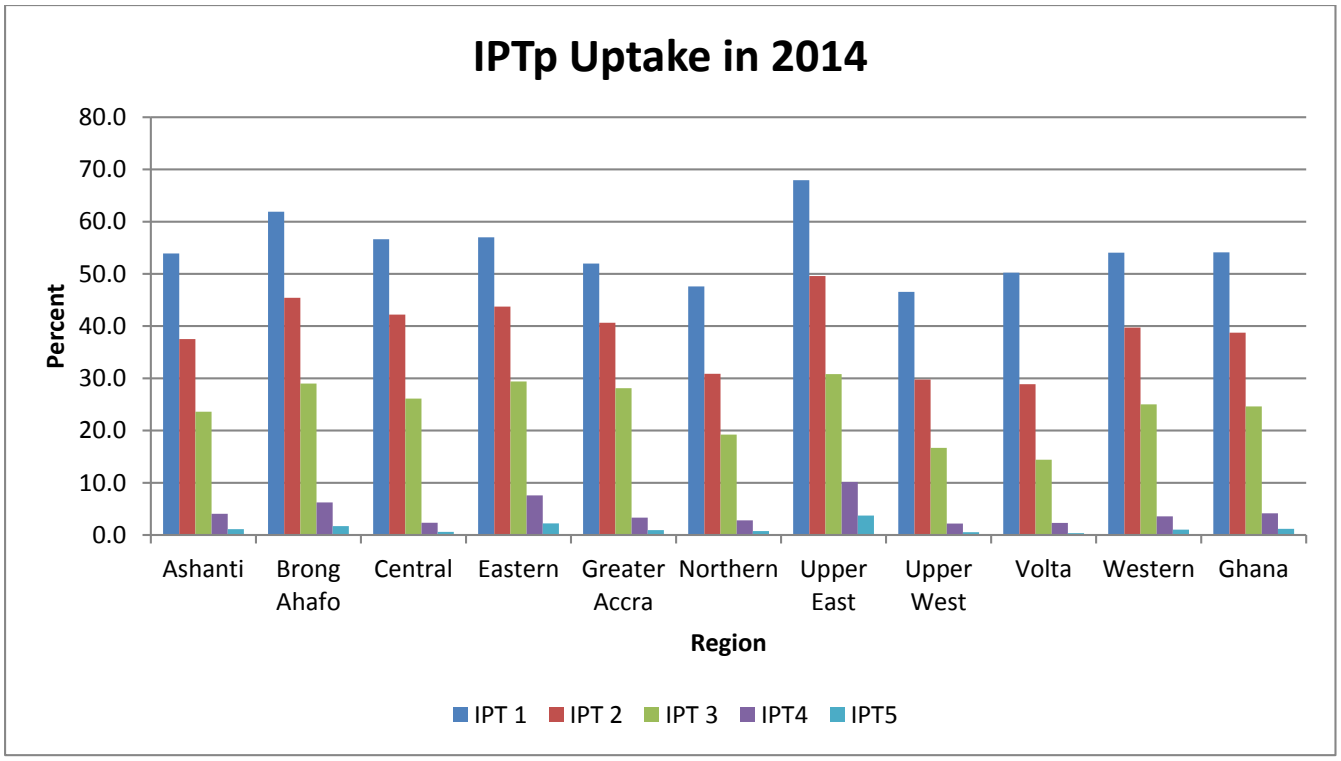


Figure 21: IPTp Uptake in 2014 by Pregnant Women

Regarding the regional distribution of IPTp uptake in 2014, the Upper East region was the region with the highest proportion of pregnant women taking up IPTp1, IPTp2, IPTp3, IPTp4 and IPTp5 and that happens to have been above the national figures, as can be seen in Figure 3.16 . The Upper West region recorded the lowest figures in IPTp uptake in 2014 (Fig. 21).

Table 17: Key Results from Health Facilities and Surveys, 2000-2014

Health Facility Report							
Indicators/Years	**2015 Targets**	**2000**	**2011**	**2012**	**2013**	**2014**	**Remarks**
Deaths Associated with Malaria	-	6054	3197	2799	2985	2200	About 65% reduction in malaria deaths by 2014
Under five Malaria Case Fatality Rate (From Malaria Admissions)	1.0%	14.4%	1.2%	0.6%	0.6%	0.5%	over 96% reduction in under-five malaria CFR by 2014
Survey Results							
Indicators/Years	**2015 Targets**	**2003 GDHS**	**2008 GDHS**	**2011 MICS**	**2012* KAP BY SPH**	**2014 GDHS**	**Remarks**
LLINs/ITNs							
Percentage of Households with at least one insecticide treated nets (LLINs).	80%	5.2%	32.6%	48.9%	97.7%	68.3%	Two third of all households in the country are protected from malaria
Proportion of children under 5 sleeping under insecticide treated nets (LLINs).	80%	4.0%	53.9%	39.0%	77.6%	58.8%	Now 3 out of every 5 children under 5 years sleep under LLINs
Proportion of Pregnant women slept under ITN(LLINs) the previous night	80%	2.7%	50.4%	32.6%	59.7%	54.6%	More than half of Pregnant Women Sleep under LLINs
IPTp (SP)							
Proportion of Women who received at least2 doses of SP/Fansidar during their last pregnancy.	80%	0.80%	43.7%	64.4%		67.50%	Two third of all Pregnant women in the country are protected from malaria during pregnancy.
Malaria Parasite Prevalence							
Parasite Prevalence (among 6 to 59month)	-	75%	-	27.50 %	-	26.7	Over 60% drop in parasite prevalence by 2014

3.4 Financial Support

The Malaria control efforts' in the country is supported by the government and local and international partners. The Global Fund continues to be the major international funding agent supplementing the Government of Ghana in the fight against malaria in the country. Other funding agents include; PMI/USAID, UNICEF, WHO, DFID, etc. in the year under review.

As at 1st January, 2014, balance on account stood at US$1,522,950.00 However, during the year, an amount of US$6,240,964.11 was received from the Global fund. This was also followed with three direct transfers for the payment of commodities as shown in detail below. In addition to the above, the programme also received funds from the following institutions for some ear marked activities.

Table 18: Funding Sources

Institution name	Purpose
GUILIN	Support for ToT for case management Lab technicians
WHO	Support for MIP / iCCM/Concept Note Development working Group Meeting
UNICEF	Support for review of communication strategic plan and MIP panning meeting
ZOOMLION	Support for MAVCOC meeting
DFID	Operationalisation of malaria parasite prevalence sentinel sites, technical support for resources mobilization and engagement of epidemiologist.
GLOBAL FUND	Accelerating Access to Prevention, Treatment, and Home Based Care for Malaria and Increasing the Access to Affordable ACTs in the Private Sector
GOV(Country level)	Staff Salaries and other associated HR costs, Infrastructure, Equipments

Table 19: Table Showing Transfer to Purchase Malaria Drugs and Commodities

Date	Commodity	Amount disbursed (USD)
September 2014	ACTs	145,435.50
October 2014	RDTs	5,584,070.77

November 2014	ACTs	253,050.73

Table 20: Table Showing NMCP Budget and Expenditure in 2014. All amounts are US$(National level and partners, excluding GoG)

cost category	Budget	Expenditure	Variance
Human Resources	703,306.61	616,075.76	87,230.85
Technical Assistance	0	0	0.00
Training	98,437.00	61,265.54	37,171.46
Health Products health and Health Equipments	20,270,007.93	5,584,070.77	14,685,937.16
Medicines and Pharmaceutical Products	31,902,460.48	398,486.23	31,503,974.25
Procurement and Supply Management cost	5,632,241.95	1,494,302.20	4,137,939.75
Infrastructure and Other equipments	366,927.54	355,768.95	11,158.59
Communication	1,624,205.54	315,683.8	1,308,521.63
Monitoring and Evaluation	1,914,213.55	770,570.93	486,117.62
Planning and Administration	1,932,949.89	1,681,432.02	251,517.87
Overheads	28,962.63	12,727.93	16,234.70
Other	2,686,804.09	85,595.57	2,601,208.52
Total	**64,952,156.00**	**11,323,738.70**	**53,628,417.30**

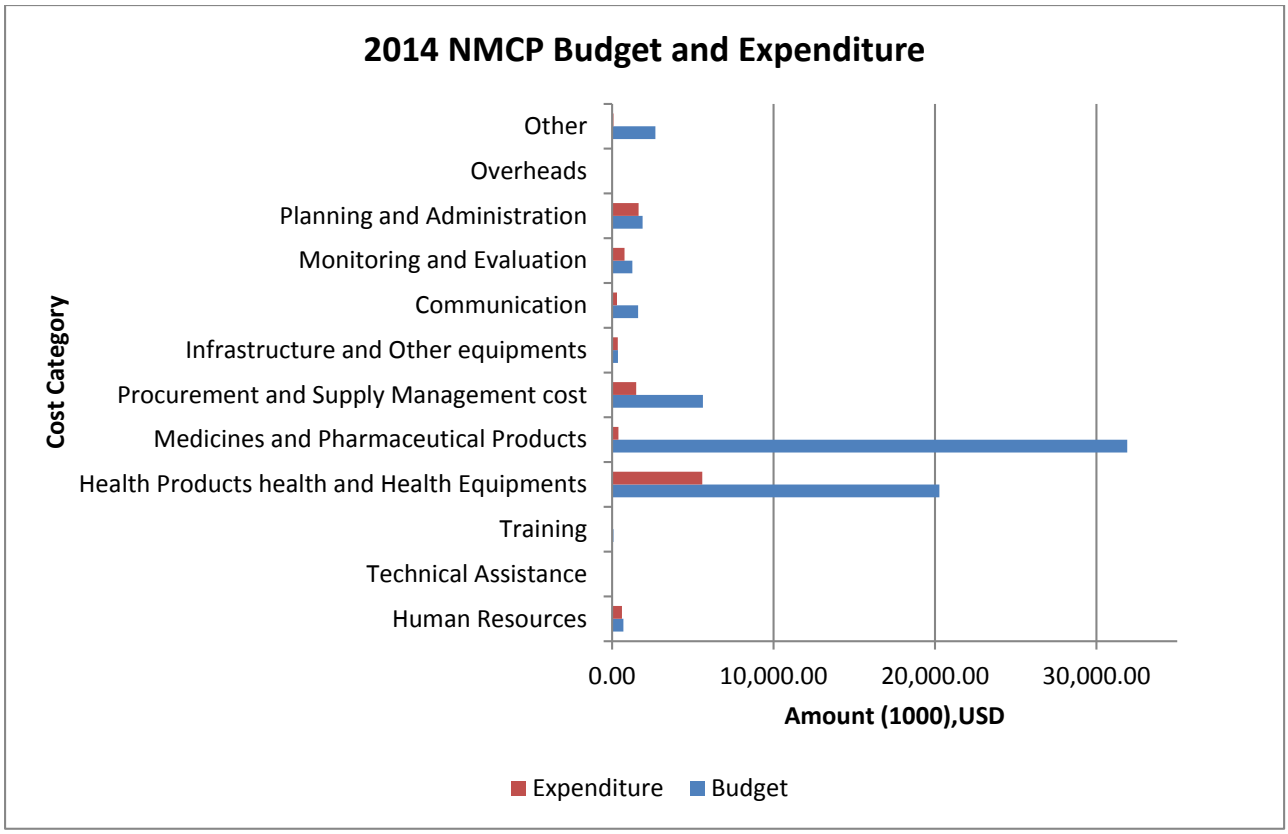


Figure 22: NMCP Budget and Expenditure in 2014

3.5 Programme Management

3.5.1 Planning, Administration and Programme Management

The multi sectoral approach to malaria control activities necessitates that a number of planning meetings are held among stakeholders in order to develop an appropriate and acceptable work plan for each calendar year. During the year a number of planning meetings were held, notable among them was a series of meetings held between the Programme, the Global Fund, external and internal resource persons including members from the Malaria Inter-Agency Coordinating Committee (MICC) to sort out issues related to the Grant signing.

In March 2014, following the announcement of Ghana's allocation, the Country Coordinating Mechanism (CCM) met and approved the Global Fund's proposed disease split. Discussions around Willingness to Pay, and development of overall and disease specific roadmaps and disease New Funding Model (NFM) roadmap development were also commenced. The Country

Coordinating Mechanism (CCM) formally began its identification of key constituencies and planned to ensure their involvement in the process of Concept Note development.

The Concept Note development process, which started in May 2014, commenced with a meeting of stakeholders, including CCM members and other relevant parties, to discuss high-level priorities for funding. Reselection of the 2 existing Principal Recipients (rated A2 and B1), taking into account the agreed priorities, was agreed by consensus at a meeting on 15 May 2014.

The writing team then produced 4 iterations of the Concept Note between May and July 2014, each of which was sent to CCM members and other relevant parties for review and comments. In total, 4 meetings of the CCM and other stakeholders were held over said period, prior to the submission of the concept note. The writing team also attended several workshops to assist with the development of the Concept Note (including mock TRP workshops in Kenya and Uganda, iCCM conference in Ghana).

The finalization of the current National Strategic Plan (NSP) also went through programme-stakeholder engagement during which the draft plan was shared for inputs. The document went through a process of joint assessment (JANS) and review by various external and internal resource persons including WHO consultants.

There were also other planning meetings that were conducted between the Programme and the US-PMI implementing partners, USAID, WHO, UNICEF and other partners towards the implementation of integrated vector control activities.

Under Resource Mobilization (RM),

Sub Committee Meetings and RM Plan Drafting Workshop were held, and a draft RM Plan was DEVELOPED. An Epidemiological Profile and RBM Knowledge Gaps Workshop were also held.

As part of the planning process, the Programme Manager participated in the GHS Directors' Weekly meetings as well as that of the Public Health Directorate.

Some members of staff represented the Programme on a number of Planning Committees including that of Expanded Program on Immunization (EPI), World Health Day, World Malaria Day and Weekly Public Health Technical meetings.

At the Programme level, weekly staff meetings were held to review programme activities.

3.6 Meetings and Conferences

Capacity building and staff development is a major component for effective programme implementation. To this end, management supported some technical staff to attend meetings, workshops, conferences, and short courses / trainings during the period under review.

Table 21: International Conferences Attended by Technical Staff in 2014

Names of Participants	Main Purpose / Venue /Date
Dr. Constance Bart Plange	• Meeting to Formulate policies on malaria vectors. In Geneva. • ESAC3: member of committee that evaluates researches on innovations for Malaria vector control. Meeting in Geneva • RBM Board meeting, member of Task Force that evaluated RBM Board. In Geneva • Meeting to Review Global Malaria Strategic Plan for 2015-2020 in Harare • ASTMH. In New Orleans. • Economics of malaria in London.
Mr. James Frimpong	• February 26th : Integration of traditional Medicine into Malaria Control - Ouagadougou, Burkina Faso • March 7th workshop on LMIS Ouagadougou , Burkina Faso • March 25th : Communication Strategy for Malaria vaccine - Dakar, Senegal • June 1st to 10th Science of Eradication of Malaria workshop Basil, Switzerland • June 24th to July 29th Workshop on Deployment of Artesunate Injection Shanghai, China

	• November 22nd to 29th WARN meeting Niamey, Niger
Dr. Felicia Amo Sakyi	• Workshop on innovative approaches to safety monitoring held from 7-9th October 2014 at WHO-UNAIDS building in Geneva • Workshop on peer review of National Malaria Strategic plan held at Sarova Stanely Hotel in Nairobi, Kenya from 11-14th March 2014.
Dr. Constance Bart-Plange/Mr. Francis Ocloo	• Conference to validate the Strategic Plan For the Elimination of Malaria in ECOWAS organized by WAHO at ERATA Hotel in Accra from 29th – 30th May, 2014

3.7 Challenges

Among the challenges faced by the Programme in the activitites carried out in the reporting year are;

- Sale of RDT to clients in some facilities resulting in refusal by clients to undergo test before treatment
- Poor documentation of RDT supplies and use
- Inadequate supplies of case management guidelines to training health institutions and teaching hospitals
- Delay in collection and allocation of malaria commodities to districts and facilities leading to artificial stock outs of malaria commodities such as RDT and SP.
- Inadequate coordination of NHIA with NMCP in addressing diagnosis and management of uncomplicated and severe malaria
- Persistent reliance on clinical diagnosis only (i.e. treatment without testing or adherence to test result) by some prescribers resulting in over use of ACTs.
- Limited supervision at subnational levels.

CHAPTER FOUR

CONCLUSION AND THE WAY FORWARD

4.1 Summary of objectives and key outcome

Table 22 summarizes objectives, key indicators and achievement in 2014.

Table 22: Summary of objectives and key results for 2014

Goal/Objectives	Indicator Description	Baseline (if applicable)		Year of Target	Intended Target (%)	Actual Result (%)	% achievement
		Value	Year				
Goal: To reduce the malaria morbidity and mortality burden by 75% (using 2012 as baseline) by the year 2020	Parasitemia prevalence: children aged 6–59 months with malaria infection (by microscopy) (percentage)	27.5%	2011	2014	24.5	26.7	91.0
	Under five Case fatality rate	0.6%	2012	2014	0.55	0.51	107.3
	All-cause under 5 mortality rate	82/1000 LB	2011	2014	70/1000 LB	60/1000 LB	114.3
	Confirmed malaria cases (microscopy and RDT) per 1000 population per year	186	2013	2014	166	138	116.9
Objective 1: To protect at least 80% of the population with effective malaria prevention interventions by 2020	Percentage of pregnant women on Intermittent preventive treatment (at least two doses of SP) according to national policy	64.4%	2011	2014	65.5%	67.50%	103.1
	Percentage of Households with at least one insecticide treated nets (LLINs).	33.7%	2011	2014	66.0%	68.30%	103.5
	Percentage of children under 5 years old who slept under an insecticide-treated net the previous night	39.0%	2011	2014	53.0%	58.8%	110.9

	Percentage of pregnant women who slept under an insecticide-treated net the previous night	32.6%	2011	2014	48.0%	54.6%	113.8
	Number and percentage of structures in targeted districts sprayed by indoor residual spraying in the last 12 months	98.5% (43993 7/446752)	2012	2014	85% (2168183/25 50804)	90.5% (2886513/3188 838)	106.5
Objective 2: To provide parasitological diagnosis to all suspected malaria cases and provide prompt and effective treatment to 100% of confirmed malaria cases by 2020	Percentage of reported suspected malaria cases that received a parasitological test(RDTs or microscopy)	37.9%	2012	2014	70.0	74.3%	106.1
	Percentage of reported uncomplicated malaria cases (both suspected and confirmed) treated with ACT at health facilities.	83%	2012	2014	90.0	82.6	91.8
	Number and percentage of uncomplicated malaria cases (tested positive) treated with ACT at health facilities.	100%	2012	2014	100% (3086102)	100% (3515912)	100.0
	Number of uncomplicated malaria cases among under 5 year children treated with ACT by community based health workers (CBA).	747615	2012	2014	129179	105631	81.8
Objective 3: To strengthen and maintain the capacity for programmer management, partnership and coordination to achieve malaria programmatic objectives at all levels of the health care system by 2020	Number of service providers from targeted public and private health facilities given refresher training on malaria control (case management etc.)	23250	2011	2014	24000	17733	73.9
	Number of meetings held by MICC and its subcommittee/working groups	21	2012	2014	21	19	90.5
Objective 4: To strengthen the systems for surveillance and M&E in order to ensure	Number of Districts with functional M&E unit with data quality improvement teams.	10	2012	2014	100	150	150.0

timely availability of quality, consistent and relevant malaria data at all levels by 2020	Percentage (%) of health facilities submitting timely and complete reports(on malaria) to regional level	13.2%	2012	2014	65.0%	78.0%	120.0
	Promotion of research that informs the programmer in terms of policy and operational issues	2	2012	2014	6	2	33.3
	Number of sentinel sites established and functioning for epidemiological and insecticide monitoring	21	2011	2014	26	30	115.4
Objective 5: To increase awareness and knowledge of the entire population on malaria prevention and control so as to improve uptake and correct use of all interventions by 2020	Quantities of ACSM materials(Manuals, posters, radio/TV spots, etc.) produced	12000	2012	2014	30000	50500	168.3
	Percentage of people who know the cause of, symptoms of, treatment for or preventive measures	96%	2011	2014	96.70%	N/A	N/A
	Number of mass media spots promoting key messages on malaria case management	6533	2011	2014	21052	24369	115.8

4.2 THE WAY FORWARD

1. Monitoring and Supportive supervision

- Undertake quarterly supportive supervisory visit to all regions
- Harmonize OTSS check-list/monitoring tool of Malaria Care and NMCP on case management.
- Develop observation chart to monitor cases of severe malaria at referral points
- Conduct biannual Outreach Training and Supportive supervision for health workers at all levels

2. Capacity building and development of guideline and Job Aides

- Build capacity on malaria case management for Formal Traditional Medicine practitioners and Providers in Private and Quasi government health facilities
- Build capacity for malaria case management for Tutors in health training institutions (Medical and Allied schools)
- Organize 2-day meeting with Facilitators from all regions on Malaria Case Management
- Build infrastructure and capacity for management of severe malaria at referral points
- Support the finalization of MIP, ICCM and Lab Diagnostics guidelines and job aides revision
- Collaborate with Guilin to finalize Job Aide for Artesunate injection use
- Collaborate with training institutions to update curriculum and arrange for pre-service training opportunities in all medical and allied schools for update in MCM

3. Innovations

- Create 3 Task Teams: Procurement/transportation of drugs and logistics; Training and Monitoring and evaluation of SMC implementation and ACSM activities to facilitate full implementation of Seasonal Malaria Chemoprevention
- Strengthen T3 initiative at all levels of care during Health Professional body meeting
- Facilitate the discussion with NHIA on diagnosis of severe malaria and decoupling of laboratory service and other service delivery
- Launch Case Management guidelines in addition to other policy documents

4.3 ACTIVITIES PLANNED FOR 2015

4.3.1 Administration and Finance

Planned for 2015 under Administration and Finance are NMCP End of year review and planning meetings, conducing Financial Monitoring on public facilities, conducting Coordination meetings (MIACC, various committees), conducting End of term review meeting at the national level, Participating in regional annual review meetings, producing half year report and annual reports and conducting internal and external audits.

4.3.2 National Policy and Regulatory Preparedness

Under National Policy and Regulatory Preparedness for 2015, the programme has planned to conduct cohort event monitoring studies to assess safety and quality of ACTs and Work with the Task Force to prevent leakages of co-paid ACTs.

4.3.3 Partnership, Planning and Resource Mobilization

The Programme has planned, in 2015, Finalization of Resource Mobilization (RM) Plan with RM Sub Committee and other stakeholders, lobbying the Presidency to get the President to make a firm commitment to assign domestic funds to malaria control activities, meeting with the Parliamentary Select Committee on Health and Finance on the need to get Cabinet and the Presidency to act on getting domestic financing for malaria activities and also for Parliamentarians to advocate at various for a/avenues to get funding to support malaria control activities in their constituencies and setting up a Malaria Fund with the support of professional Fundraisers and Event Organizers to support NMCP and its partners.

4.3.4 Malaria Case Management

Under Malaria Case Management, in 2015, the Programme has planned to conduct Case management trainings for Tutors in pre-service health institutions, conduct Case Management for severe malaria cases at Referral points, conduct a meeting with Providers in Quasi government health Facilities, conduct Private sector health facility supervisory visits half yearly, conduct On-Site Training and supportive supervision (OTSS) half yearly in public health facilities, and conduct training for Providers in Private and Quasi Government on case management. Other activities planned for 2015 under Malaria Case Management are developing observation chart to monitor cases of severe malaria at referral points, providing CMEs for physicians, pharmacists and nurses, collaborating with Partners

to develop job Aide for Injection Artesunate use in health facilities, revising monitoring tools/OTSS to capture emergency response and management of complications due to severe malaria, conducting a 2-day facilitators training on malaria case management/emergency response and organizing meetings with providers from Quasi government facilities. The rest are to Collaborate with training institutions to update curriculum and arrange for pre-service training opportunities in all medical and allied schools for update in MCM and Coordinate with NHIA to address concerns raised on issues of diagnosis and treatment of malaria.

4.3.5 Malaria in Pregnancy

The Programme has planned, in 2015 under Malaria in Pregnancy, to conduct OTSS on MIP (as part of Case Management), Stakeholders' meeting on Folic Acid Formulation, Quarterly text messaging, phone calls and monitoring data, IPTp assessment study/operation research to identify reasons for drop out of IPTp and outcome of IPTp, Quarterly MIP Working Group Meeting, Develop Job Aid for MIP and Conduct in-service training for health workers.

4.3.6 Integrated Community Case Management (iCCM)

In 2015, the Programme has planned under ICCM to Roll out of CBA OTSS across the country, hold sessions of Refresher training for CHOs, hold CBAs peer review meetings (half yearly), post Quarterly text message/call reminders to disseminate information, Revise the quantification of iCCM products to serve as advocacy tools (for both local and international partners), advocate for funds for printing of HBC manuals and reporting tools and hold Quarterly iCCM coordinating committee meetings.

4.3.7 Diagnostics

Sentinel sites studies for Parasite prevalence tracking, Conduct MDRT TOT for regional -level laboratory OTSS supervisors, Conduct MDRT in each region for district -level laboratory OTSS supervisors -level laboratory OTSS supervisors, Conduct Malaria Diagnostic Refresher Training for facilities, Conduct lessons learned workshop for regional-level laboratory OTSS supervisors, Hold in-service training for lab assistants and Development of GHS quality assurance plan and standard protocol for RDTs are some of the activities planned by the Programme under Diagnostics for 2015. The rest are to implement the laboratory quality assurance protocol, Complete the WHO NAMS validation process and Work with laboratory training institutions to update malaria diagnostics pre-service training based on revised national guidelines for malaria diagnosis and treatment.

4.3.8 Vector Control

Under Vector Control for 2015, the Programme has planned to Work with laboratory training institutions to update malaria diagnostics pre-service training based on revised national guidelines for malaria diagnosis and treatment, distribute LLINs through point distribution in WR; regional informative meeting, volunteer& health worker trainings, distribution exercise, distribute LLINs through point distribution in CR; regional informative meeting, volunteer& health worker trainings, distribution exercise, distribute LLINs through point distribution in AR; regional informative meeting, volunteer& health worker trainings and distribute LLINs through point distribution in Non-IRS districts in NR; regional informative meeting, volunteer& health worker trainings, distribution exercise.

Also planned for 2015 under Vector Control are to distribute LLINs through point distribution in UER; regional informative meeting, volunteer& health worker trainings, distribution exercise, distribute (to be determined) LLINs through point distribution in rural GAR; regional informative meeting, volunteer& health worker trainings, distribution exercise, Monitoring and supervision of LLIN Point distribution in all implementing regions and Conduct Post Point Distribution validation in BAR, WR, CR, AR, some districts in NR, UER and GAR. The rest are to Distribute LLINs through ANCs & CWCs in all regions and to monitor and supervise distribution of LLINs through ANC and CWCs.

4.3.9 Vector Control Coordinating Meetings

Under Vector Control Coordinating Meetings, the NMCP plans to hold quarterly MAVCOC meetings, coordinate and monitor insecticide resistance management sentinel sites activities, Review the IVM Policy and conduct Insecticide Resistance Monitoring through sentinel sites.

4.3.10 Indoor Residual Spraying

In 2015 under Indoor Residual Spraying, the NMCP plans to monitor IRS activities in Northern Region (Abt-IRS) and Upper West Regions (AGAMAL), review susceptibility reports to inform the selection of appropriate insecticide for IRS spraying in consultation with partners (MOH/NMCP, AGAMAL and PMI), facilitate Entomology training for GHS/NMCP technicians including participation from partners, conduct Entomological surveillance at all established sites (Both AGAMAL, and PMI/ABT sentinel sites including Bunpkurugu Yunyo) and conduct post-IRS evaluation workshop/meeting.

4.3.11 Procurement and Supply Management (PSM)

Under PSM, the Ptogramme plans to Procure for continuous distribution and LLINs mass campaign, Procurement And Supply Management (Psm), Procure RDTs, pursue Private sector co-payment mechanism, Support Integration and Harmonization of LMIS and conduct Physical Stock checks at central and regional medical stores in 2015.

4.3.12 Research, Surveillance, Monitoring and Evaluation

The NMCP, under Research, Surveillance, Monitoring and Evaluation in 2015, plans to conduct Surveillance, Monitoring and Evaluation Technical Working Group Meetings (quarterly), produce periodic reports, report on the PUDR for the Global Fund (GF), the Dashboard for the CCM, RBM Roadmap Updates, and WMR for the WHO. Others are produce reports to other partner and stakeholders, develop and produce of Malaria Bulletins and conduct On-site Training and Supportive Supervision (OTSS). Also planned for 2015 to be conducted under Research, Surveillance, Monitoring and Evaluation are Public and Private supervisory visits, support the GSS with the DHS report writing, Documentation of Best Practices, Conduct routine data quality audits, Conduct Periodic Data Review (in 10 Regions) Semi-annual seminars to disseminate research findings and investigate factors that influence adherance to test results and treatment policy.

Other activities planned under RSM&E for 2015 are to conduct a Research into repellants, coils and other products reducing vector human contact, investigate the Threat of surface mining and artisan mining on malaria control, Identify reasons for low uptake of HBC, Stratify of malaria endemicity to cover districts and Develop national and district specific thresholds for malaria surveillance.

4.3.12 Advocacy, Communication And Social Mobilization (ACSM)

One key are of the Programme's activities for 2015 is Advocacy, Communication and Social Mobilization and under this, has planned to conduct Malaria day advocacy; including commemoration of world malaria day, conduct Quarterly Communication Sub Committee meetings, produce and air both TV and Radio adverts on LLINs and ACTs, Liaise with Health Promotion to undertake intensive BCC to promote test treat and track : compliance, use and improve provider confidence in the use of RDTs and SP (TV Adverts), develop and print material for education on SMC and finalize ,design, print and deserminate National Communication Strategy. Others are to Support for NGOs advocacy and sensitise community on IPT for the coalition of NGOs in malaria, Train and orientate journalists

including newsroom editors on malaria control interventions, Review malaria educational materials on malaria interventions in line with current communication strategies(ITNs, SMC, SP, ACTS, RDTs, ICCM), Print MIP Guidelines, Print Mass LLIN Point Distribution Campaign Coupons for Brong Ahafo, Western, Central, Ashanti, Northern Region, Upper East and Greater Accra Regions, Design & Print disseminate IMCI Documents and educational Materials and Revise, Print and disseminate material for education on SMC. The rest are to develop and print malaria microscopy job aids, develop and print daily malaria log book for all facilities, print IPT Guidelines, National Strategic plan & M&E Plan, develop materials for community mobilsation on iCCM and print iCCM tools (when funds available).