

**FEDERAL MINISTRY OF HEALTH
NATIONAL MALARIA ELIMINATION PROGRAMME**

2017 ANNUAL REPORT

Foreword

The consistency in developing an annual report highlighting the activities carried out programmatically is imperative. This report provides information on implemented activities and progress made by NMEP in 2017 as outlined in the Annual Work Plan (AWP). The report also provides insight into the gaps, challenges and recommendations in the reporting year.

Annual report is one of the approaches to ensure effective Knowledge Management (KM) and track progress in the programme. It will also serve as a reference document for stakeholders.

NMEP in collaboration with partners developed 2017 Annual Report. This document presents well-articulated and conceptualized activities undertaken by NMEP towards achieving a malaria free Nigeria. I therefore urge you all to make use of this document to successfully rid our country of this deadly scourge.

Dr. Bala Audu Mohammed
National Coordinator
National Malaria Elimination Programme

Acknowledgements

The milestones achieved in the fight against malaria in Nigeria have always been collaborative efforts between NMEP and Partners.

NMEP recognizes and appreciate the vibrant contributions and support of MDAs, Partners both implementing and commercial for successful implementation of activities in the reporting year especially WHO, Global Fund, PMI, MC, Abt Associates, AFENET, UNITAID, JHPEIGO, CHAI, HC3, CRS, Chemonics and SFH.

The successes recorded in 2017 cannot be mentioned without acknowledging tremendous contributions and commitment of NMEP staff.

The Honourable Minister for Health, the Permanent Secretary, and the Director Public Health are highly appreciated for the immense support in the development of this document.

Dr. Bala Audu Mohammed
National Coordinator
National Malaria Elimination Programme

ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
ACSM	Advocacy Communication and Social Mobilization
AFENET	African Field Epidemiology Network
ACT	Artemisinin-based Combination Therapy
AA	Arthemether- Amodiaquine
AL	Arthemether Lumefantrine
ANC	Ante-Natal Care
AOP	Annual Operational Plan
ARM	Annual Review Meeting
AWPs	Annual Work Plans
BCC	Behaviour Change Communication
CCM	Country Coordination Mechanism (GFATM)
CCM	Community Case Management
CHAI	Clinton Health Access Initiative
CM	Case Management
CMA	Commodity Management Audit
CMS	Central Medical Stores
CMSC	Case Management Subcommittee
CP	Community Pharmacists
CRS	Catholic Relief Services
DHIS	District Health Information System
DoD	Department of Defence
DPH	Department of Public Health
DTET	Drug Therapeutic Efficacy Test
DQA	Data Quality Assurance
EOI	Expression of Interest
EPI	Expanded Programme on Immunization
EQA	External Quality Assurance
FCT	Federal Capital Territory
FLBs	First Line Buyers
FMOH	Federal Ministry of Health
FMS	Federal Medical Store
GF	Global Fund
GHSC	Global Health Supply Chain
GoN	Government of Nigeria
H/H	Household
HC3	Health Communication Capacity Collaborative
HCW	Health Care Worker
HMIS	Health Management Information System
iCCM	Integrated Community Case Management
IEC	Information Education Communication

IPT3	Intermittent Preventive Treatment in Pregnancy (third dose)
IPTp	Intermittent Preventive Treatment in Pregnancy
IRS	Indoor Residual Spraying
IRM	Insecticide Resistant Management
ITN	Insecticide Treated Net
IVM	Integrated Vector Management
LHD	Long Haul Distribution
LMD	Last Mile Distribution
LGA	Local Government Area
LLIN	Long Lasting Insecticidal Net
LSM	Larval Source Management
MEval	Measure Evaluation
M&E	Monitoring and Evaluation
MC	Malaria Consortium
MNCH	Maternal Newborn and Child Health
MDAs	Ministries, Departments and Agencies
MiP	Malaria in Pregnancy
MIS	Malaria Indicator Survey
MOH	Ministry of Health
MPSS	Malaria Parasite Sentinel Surveillance
MSP	Malaria Strategic Plan
NAFDAC	National Agency for Food and Drugs Administration and Control
NAPPMED	National Association of Patent Proprietary Medicine Dealers
NDHS	National Demographic Health Survey
NFELTP	Nigeria Field Epidemiology and Laboratory Training Programme (NFLTP)
NIMR	Nigerian Institute of Medical Research
NMA	Nigerian Medical Association
NMORA	National Malaria Operations Research
NMEP	National Malaria Elimination Programme
NMSP	National Malaria Strategic Plan
OJT	On-the-Job training
NPHCDA	National Primary Health Care Development Agency
NPI	National Programme on Immunization
OR	Operations Research
PCN	Pharmaceutical Council of Nigeria
PHC	Primary Health Care
PIs	Principal Investigators
PM	Programme Management
PMI	President's Malaria Initiative (US)
PPM	Pooled Procurement Mechanism
PPMs	Personal Protective Measures
PPMVs	Patent Proprietary Medicine Vendors

PPP	Public Private Partnership
PSM	Procurement Supply Chain Management
QA	Quality Assurance
QC	Quality Control
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test
SBCC	Social Behavioural Change Communication
SC	Subcommittee
SCMS	State Central Medical Store
SFH	Society for Family Health
SMC	Seasonal Malaria Chemoprevention
SMEP	State Malaria Elimination Programme
SM&E	Surveillance, Monitoring and Evaluation
SMOH	State Ministry of Health
SOML	Save One Million Lives
SOP	Standard Operating Procedures
SP	Sulphadoxine /Pyrimethamine
TIPTOP	Transforming IPTp to Optimum Pregnancy Project
TWG	Technical Working Group
UNICEF	United Nation Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WMD	World Malaria Day
3PLs	Third Party Logistic Agents

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1. INTRODUCTION

Malaria is one of the most common infectious diseases and a major public health problem globally, particularly in Sub-Saharan Africa with Nigeria contributing significantly to the malaria burden. It is estimated that 216 Million cases of malaria occurred globally in 2016 of which 90% were recorded in African Region, 3% in Asia and 2% in Mediterranean Region (1). 15 countries out of 91 reporting indigenous malaria cases in 2016 were in Sub-Saharan Africa which accounted for 80% of the Global malaria burden. Between 2010 and 2016, the incidence rate of malaria is estimated to have decreased by 18%, from 76 to 63 cases per 1000 population at risk globally. Despite this reduction between 2014 and 2016, substantial increases in case incidence occurred in region of the America's and marginally in the South-East Asia, western pacific and African regions. 15 countries, all in Sub-Saharan Africa except India accounted for 80% of global malaria death in 2016.

There was reduction in malaria deaths globally from 446,000 in 2015 to 445,000 in 2016. African region accounted for 91% of all malaria deaths followed by South-East Asian region, 6%. Reduction in mortality was recorded in all regions 2016 when compared with 2010, with exception Mediterranean region where mortality rates remained virtually unchanged the period. The highest decline occurred in the regions South-East Asian (44%), Africa (37%) and the America (27%).

Although Malaria case incidence has fallen globally, since 2010, the rate of decline has stalled and even inverted in some regions since 2014 and mortality rates have followed a similar rate. More than 54% of people at risk of malaria in South- Saharan Africa were sleeping inside insecticide-treated mosquito net which is the primary prevention method. This coverage level shows a considerable increase since 2010 but is not imminence to the universal access goal.

Indoor residual spraying (IRS) is another important prevention measure which involve spraying the inside walls of homes with insecticides. It is revealed that African Region, have not really improved in the implementation and coverage of IRS since 2010.

Prompt diagnosis and treatment is the most effective means of preventing uncomplicated case of malaria from developing into severe disease and death. In African Region, most people who seek treatment for malaria in the public health facilities receive an accurate diagnosis and effective medicines.

However, access to the public health facilities is still low. National-level surveys in the African Regions revealed that approximately 34% of children with fever are taken to health services providers (1).

The NMEP being a division in the Department of Public Health (DPH), Federal Ministry of Health (FMoH) is responsible for development of policies, guidelines, plans and coordination of all malaria control activities in Nigeria. Inline, with the mandate, the division is divided into six (6) thematic areas which include Program management (PM), Integrated Vector Management

(IVM), Case Management (CM), Procurement and Supply-Chain Management (PSM), Advocacy Communication and Social Mobilization (ACSM) and Monitoring and Evaluation (M&E).

The 2015 Nigeria Malaria Indicator Survey (NMIS) revealed a decline on malaria prevalence from 42% to 27% between 2010 and 2015 in the country. To accelerate this effort toward elimination of Malaria, the NMEP in collaboration with partners at National and Sub-National levels have implemented series of activities across all the thematic areas.

The 2017 NMEP report presents the comprehensive activities implemented and the progress across various areas such as investment in the programme, diagnosis, treatment and prevention in the fight against malaria in Nigeria.

In the reporting year NMEP successfully reviewed the strategic plan, institutionalised Knowledge Management, leveraged on World Malaria Day (WMD) to sensitize and create awareness, distributed 16,199,953 Long Lasting Insecticidal Nets (LLINs) in 7 states, conducted susceptibility/resistance tests to monitor vector resistance, empowered the Patent Proprietary Medicine Vendors (PPMVs) and Community Pharmacists (CPs) through training on Rapid Diagnostic Tests (RDTs) / appropriate treatment, Launch of Transforming Intermittent Preventive Treatment in Pregnancy (IPTp) to Optimum Pregnancy (TIPTOP) Project to support uptake of IPT, Media Chat to sensitize media organizations/journalists, training of health workers on surveillance and data managements, distribution of ACTs, RDTs and SPs to states by government of Nigeria, development & printing of the National Malaria Operations Research Agenda (NMORA) and as well launched and disseminated NMORA HMIS tools and malaria data elements.

¹ 2015 World Malaria report (December 2015) available on <http://www.who.int/malaria/publications/world-malaria-report-2015/report/en/> accessed on 26th/01/2016

² Where prevalence is >75% malaria is *holo-endemic*; where prevalence is between 51 and 75% malaria is *hyper-endemic*, where prevalence is between 11 and 50% malaria is *meso-endemic*, and where prevalence is < 10% malaria is *hypo-endemic*. Source <http://www.mara.org.za/mapsinfo.htm>

2. PROGRAMME MANAGEMENT

It is the branch responsible for coordination, oversight and information sharing within and outside NMEP. It articulates the critical steps and approaches expected of different stakeholders to take responsibility for planning, supervision, resource mobilization, Public Private Partnership, capacity development and other management arrangements for efficient utilization of resources for effective programming.

2.1 Coordination Meetings

2.1.1 Programme Management Subcommittee Meeting

Programme Management branch held two (2) subcommittee meetings last year. At the meetings updates on branch activities were reviewed especially planning for the Mid Term Review (MTR) of the National Malaria Strategic Plan (NMSP 2014 - 2020) and the commemoration of 2017 World Malaria Day. Partners were mandated to attend meetings regularly and the branch was advised to write partners to designate staff to attend subcommittee meetings, to ensure their regular participation at the meetings.

2.1.2 Departmental Meetings

Department of Public Health holds quarterly meeting and it is expected that all divisions and staff under it participate at the meetings. The meeting is to enable staff members keep abreast with the activities of the department and current trends in public health issues.

NMEP attended all the departmental meetings in the year under review as it was very crucial. At these meetings, important issues in the department were discussed including programme implementation and challenges. In addition, updates on Ministry programmes of activities and other administrative issues were also deliberated.

2.1.3 Technical Working Group Meeting

Two (2) Technical Working Group meetings (TWG-Malaria) were held in 2017. The meeting deliberated on various issues raised by subcommittees and proffered solutions to them. In addition, issues on 2018 GF proposal writing, MTR of the NMSP 2014 – 2020 and other priority issues were discussed.

2.2 Knowledge Management

The aim of establishing Knowledge Management (KM) in the programme is to support knowledge identification, generation, capture, sharing and use across NMEP and stakeholders.

In the year 2017, PM branch was mandated by the subcommittee to ensure speedy establishment of KM in the programme. Series of meetings were held with various branches in collaboration with MC to institutionalize KM.

Output from the meetings were setting up of KM core group in the programme; setting up of NMEP google drive to archive information; review of KM framework; developed report writing

template; NMEP special email addresses created for staff and PM branch to collect and collate programmatic reports, relevant information, knowledge and data.

2.2.1 Training of NMEP Staff on Knowledge Management

Training was organized in collaboration with Malaria Consortium (MC) to build capacity of NMEP staff on KM. The objectives of the training were to build capacity of staff on KM, discuss NMEP KM Framework, establish roles of staff/branches and to plan smooth take off of KM implementation. Capacity of 28 NMEP staff was built in line with KM objectives.



Cross section of participants during KM training in NMEP conference room

2.3 Mid Term Review (MTR)

The Mid-Term Review (MTR) was conducted to assess the implementation of the NMSP (2014 - 2020) half way through the duration of the operating strategic plan.

Objectives are:

- To assess the progress of the National Malaria Elimination Programme towards the epidemiological and entomological impact targets of the Malaria Strategic Plan (MSP) from 2014-2020 and make appropriate recommendations towards enhanced impact;
- To review the level of financing of the national malaria programme during the period under review and make appropriate recommendations towards optimal financing;
- To review the capacity of the national malaria control programme to implement planned activities during the period under review and make appropriate recommendations towards optimal capacity for programme implementation;
- To review the attainment of programme outcome targets during the period under review and make appropriate recommendations for optimal delivery of malaria services
- To review/set targets with a view to making it realistic and achievable

- To define the programming implications of the lessons learned in the implementation of the MSP.

MTR has 4 phases, but the programme was able to implement the first three phases successfully in the year under review which are as follows:

- Phase I- Planning - This involved development of concept note and protocol, engagement of experts, identification of internal and external validators, mobilize resources and build consensus.
- Phase II- Thematic Desk Review- aimed at creating opportunity for stakeholders to have first-hand assessment of the implementation of the NMSP, identifying implementation challenges especially in view of the broad-based collaboration adopted in the development of the NMSP. Participation was broad-based drawn from NMEP and in-country RBM partners.
- Phase III- The external validation which includes review/update of checklists, field visit to selected states and finalization of MTR Report.

2.3.1 MTR Recommendations

- Strengthen resource mobilization capacity at national and state levels from both donor and domestic sources.
- Develop and operationalize a Public-Private Partnership plan to increase the participation of private sector in malaria prevention and control.
- Strengthen State-partners forum as a platform for strengthening partner coordination at state level.
- Conduct HR Review of malaria elimination programme at Federal and State levels with the objective of improving its effectiveness, to ensure adequate and proper mix of skillset.
- NMEP and partners should advocate to the highest levels of political authority at both Federal and state levels for malaria to be prioritized and adequately funded with domestic resources, to reduce dependence on external resources to finance malaria activities.
- Government of Nigeria at both Federal and State levels need to progressively increase domestic budgetary allocation to health in general and to malaria in particular if the country is to progress on the path to malaria pre-elimination and for sustainability of all malaria interventions. Also, leverage on in-country initiative, SOML to fund routine malaria activities/cross-cutting activities (e.g. monthly LGA data validation and State HMIS meetings).
- GoN should harness the untapped potential that exists in the private sector to raise non-traditional financing for malaria to diversify the resource envelope for malaria.

- NMEP and partners need to advocate to the highest political actors at Federal and state levels for increased investment to vector control interventions in the country including filling existing gaps for LLINs replacement campaigns in the states that are overdue for replacement.
- There is urgent need to implement the insecticide resistance management plan to curtail the spread of emerging resistance to commonly used insecticide to protect current gains.
- New tools are needed to be deployed if the country is to achieve its planned targets of reducing malaria morbidity and mortality and reach pre-elimination by 2020, as well as deploy additional evidenced-based vector control intervention in prioritized ecological/epidemiological zones.
- NMEP and partners must urgently disseminate all policies and guidelines that have been developed including the private sector and to address the low confidence and poor attitude of health workers towards RDT test results if Nigeria is to meet the policy of test, treat and track. This is in addition to addressing the poor treatment practices using monotherapies (use of injection artemether and artesunate, SP, CQ, and other oral arthemisinin).
- NMEP and partners should map the country to properly identify hard to reach communities where services are absent and mobilize resources to expand iCCM to serve such communities.
- Lack of reporting from private sector facilities to the national HMIS is affecting assessment of indicators and yet majority of sick people seek care from this sector. Therefore, NMEP and relevant institutions should devise innovative mechanisms to enforce reporting by private sector and adherence to national guidelines.
- Strengthen Advocacy to policy makers at highest level both at national and state levels so that stake holders take ownership as well as prioritize funding for SBCC activities across all states. This has to be done through innovative approaches that highlight the impact of the high burden of malaria in the country.
- NMEP and partners should fully implement the action points highlighted in the Private Sector Engagement Strategy and National Malaria Advocacy Plan, so as to mobilize adequate funding to support full implementation of ACSM activities at National and state particularly on capacity building, Operational Research and IEC materials.
- Leverage on the vast and evolving landscape of the country's digital technology and availability of media organizations to expand the reach of malaria SBCC messages.
- Include additional SBCC indicators in the NMSP performance framework, M&E Plan, NDHS and MIS.

- NMEP and partners should mobilize adequate funding from donor and domestic sources for logistic management including distribution costs of commodities and construction of additional pharma grade warehouses to better serve states and facilities.
- Improve reporting through provision of tools and training and improve linkage to the DHIS 2.0 system which is already operational from the LGA level.
- Conduct training and supervision of all staff involved in PSM to strengthen capacity to manage the supply chain system efficiently at all times.
- NMEP and partners should strengthen mechanism for community and private sector data reporting through the NHMIS and DHIS 2.0.
- NMEP and partners should integrate and link non-routine data sources such as MPSS, DTET, Entomological surveillance, DM of LLIN, surveys, etc; to the national HMIS system.
- Strengthen monitoring and supervision at the state/LGA level with standardization on regular basis and data analysis and use for decision making.
- Ensure a functional malaria research expert group.

2.4 Annual Operational Plan (AOP)

NMEP 2018 AOP was developed by thirty four (34) NMEP staff which were drawn from the six technical branches and the administrative unit of the programme. This activity provides an opportunity to articulate program activities in a given year and facilitates partner support and resource mobilization.

During the workshop, all the branches reviewed implementation of planned activities in the 2017 AOP, analyzed their current situation, came up with activities for implementation in 2018 and developed budget for the activities taking into consideration NMEP's oversight role and prevailing decline in funding and issues raised in the recent MTR report.

2.5 World Malaria Day Celebration

The World Malaria Day (25th April) is a day set aside annually to commemorate and recognize global efforts to control malaria. It provides the opportunity for the global and community health to intensify their efforts in providing access to affordable, safe and effective anti-malarial combination treatments worldwide, as well as protective insecticide treated nets and other preventive measures. NMEP in collaboration with stakeholders leveraged on 2017 WMD to create awareness about the disease and the devastating impact it has on the lives of over 160 million people; advocate for policies and strategies that promote the early recognition of symptoms and treatment for all, especially in children and pregnant women and lobby government and other partners for the provision of affordable Insecticidal Treated nets for the vulnerable groups.



The theme for the 2017 WMD was “END MALARIA FOR GOOD” and the slogan was “WHAT IS YOUR ROLE”. This activity achieved an important milestone in the continental efforts at combating the disease. It also increased awareness in sensitizing and mobilizing the entire Nigerian population on the availability and access to prevention and appropriate treatment of malaria using the recommended drugs (ACT) and testing before treatment using RDT or microscopy as well as other proven interventions in the prevention of malaria. Furthermore, it encouraged collaborations among sectors in the fight against the disease e.g. Ministries of Health, Education, Information, Agriculture, Women Affairs, Water Resources and Environment; and among all tiers of government as well as NMEP implementing/commercial partners.



3.0 INTEGRATED VECTOR MANAGEMENT (IVM)

3.1 Background

The branch is responsible for planning, coordinating, providing technical support and guidance on malaria vector control interventions in the country. These interventions include distribution of Long Lasting Insecticidal Nets (LLINs) through mass campaigns and continuous/routine distribution, Indoor Residual Spraying (IRS), Larval Source Management (LSM), Personal Protective Measures (PPMs) and establishment of vector surveillance sentinel sites.

In pursuant of the IVM objectives, several activities were carried out by the branch in the year under review.

3.2 Long Lasting Insecticide Nets (LLINs) Distribution

This was achieved through both mass campaigns and routine/continuous distribution strategies to ensure universal coverage and at least 80% utilization.

3.2.1 LLINs Replacement Campaigns

NMEP in collaboration with partners (CRS, SFH, Chemonics and PMI/USAID) implemented replacement campaigns in Edo, Osun, Adamawa, Imo, Kwara, Ondo and Kogi states respectively. Furthermore, NMEP in partnership with PMI/USAID also carried out micro-planning in Kebbi, Nasarawa states and as well commenced replacement campaign in Sokoto which would be completed in January 2018. The States also provided enabling environment for the campaign by ensuring that the main stakeholders were mobilized for the campaign. A total of **18,415,299** LLINs were delivered in the seven states and **16,199,953** were distributed as shown in table 1

TABLE 1: LLINs DISTRIBUTED IN 2017 THROUGH REPLACEMENT CAMPAIGNS

S/N	States	Total Deliveries	LLIN No of LLINs Distributed	Balance
1	Edo	2,671,600	2,110,210	561,390
2	Osun	2,955,950	2,470,742	485,208
3	Adamawa	2,416,106	2,510,880	94,774
4	Imo	3,390,450	2,760,309	630,141
5	Kwara	1,992,400	1,699,721	292,679
6	Ondo	2,930,750	2,448,091	482,659
7	Kogi	2,058,043	2,200,000	141,957
	Total	18,415,299	16,199,953	

A Pictorial presentation of LLIN Campaign activities:



FIGURE 1- NASARAWA STATE MICRO PLANNING TRAINING



FIGURE 2- MONITORING HHM IN LOKOJA, KOGI STATE

3.2.2 Routine and Continuous LLINs Distribution

LLINs routine/continuous distribution was carried out through health facilities, school and community based channels in the country. Pregnant women receive an LLIN during Ante Natal Care (ANC) visits and children under the age of five years on completion of immunization also receive an LLIN. In addition, the routine distribution was integrated with the annual maternal newborn child health (MNCH) week in some states.

National and state level trainings on continuous distribution was successfully conducted in Zamfara, Nasarawa, Sokoto, Plateau, Bauchi, Ebony, Oyo, Cross Rivers, Benue, Kebbi and Akwa Ibom.

3.3 Engagement of Private Sectors for LLIN Production, Sales and Distribution

The Government of Nigeria in its efforts to scale up production, sales and distribution in the country, the FMOH initiated a process to support local production of LLINs through the PPP strategy. Consequently, an Expression of Interest (EOI) document was developed and advertised for the private sector to buy into this arrangement.

3.4 Durability Monitoring of LLIN

The Programme in collaboration with PMI through VectorWorks Project conducted durability monitoring studies of LLINs in three states/LGAs which included Oyo (Akinyele LGA), Ebonyi (Ishielu LGA) and Zamfara (Bakura LGA). The studies sought to assess the physical and insecticidal durability of LLINs over a three year period as well as to estimate a median LLIN survival period. The study further seeks to compare the durability of LLINs across the three locations and correlate the findings with results from adjacent entomological monitoring sites (e.f findings on resistance) and build capacity of NMEP, SMEP, Principal Investigators of entomological monitoring sites and other partners in the design, implementation, analysis and interpretation of ITN durability monitoring.

VectorWorks is a five-year (2014-19) global project that is designed to increase access to and use of long-lasting insecticidal nets (LLINs) and other proven vector control interventions for malaria prevention.

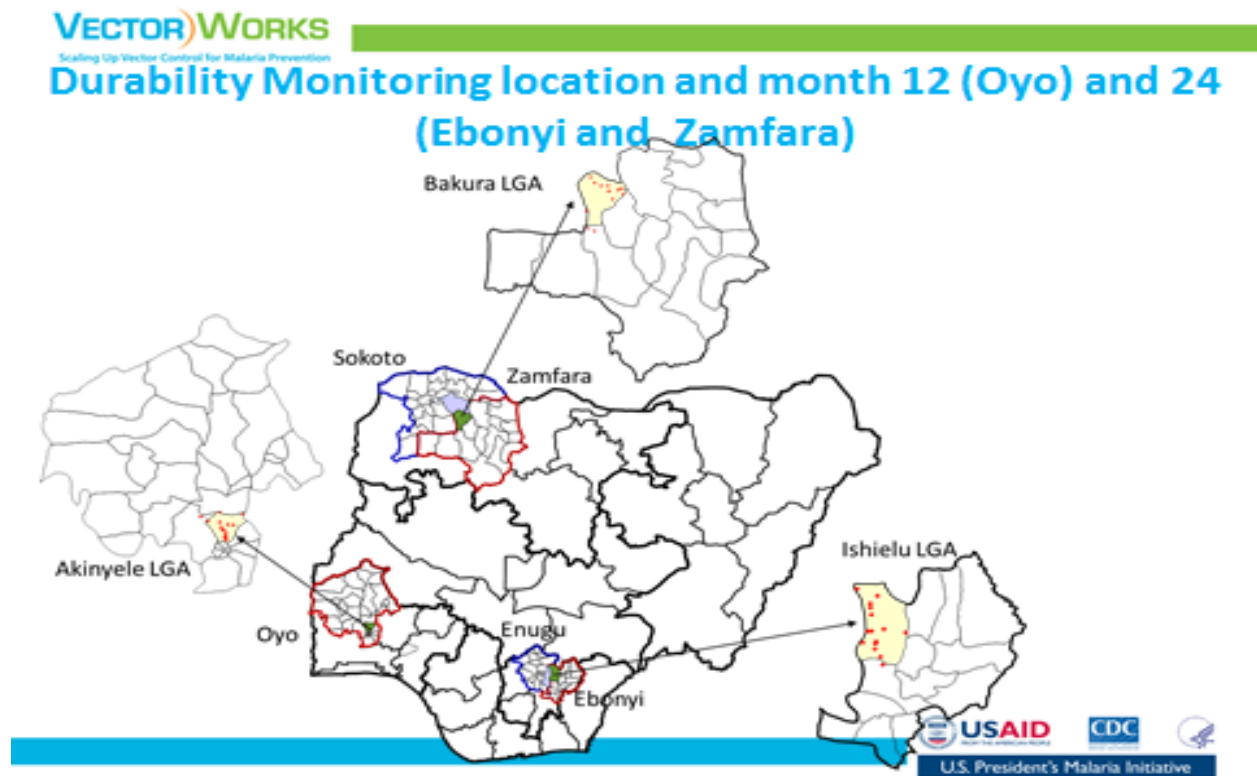


Figure 1: Site map with GPS points of selected clusters

3.5 Vector Surveillance Activities

3.5.1 Insecticide Resistance Monitoring and Management

Malaria vector surveillance activities were carried out in 6 sentinel sites (one per geopolitical zone: Bauchi (North East), Sokoto (North West), Nasarawa (North Central), Ebonyi (South East), Akwa Ibom (South South) and Oyo (South West) supported by USAID/PMI through Africa Indoor Residual Spray (AIRS Project). Results from these sites (table 3) continue to show increased spread of vector resistance to insecticides (Pyrethroids) commonly used for malaria vector control in the country.

TABLE 2: TEST RESULTS (PERCENT MORTALITY AFTER 24 HOURS) AGAINST *AN. GAMBIAE* S.L., WHO TUBE BIOASSAY METHOD

Class of Insecticides		Pyrethroid								Carbamate		
Insecticides		Lambda-cyhalothrin		Permethrin		Deltamethrin		Alpha-cypermethrin		Bendiocarb		Propox
Sentinel Site	LGA	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality
Akwa Ibom	Ikot Ekpene	100%	S	45%	R	42%	R	100%	S	100%	S	100%
	Itu	53%	R	42%	R	86%	R	51%	R	100%	S	100%
	Mpat Enin	96%	PR	72%	R	93%	PR	93%	PR	100%	S	100%
	Oron	84%	R	68%	R	80%	R	94%	PR	100%	S	100%
Bauchi	Bauchi	98%	S	78%	R	79%	R	92%	PR	100%	S	99%
	Dass	78%	R	93%	PR	88%	R	90%	PR	100%	S	100%
	Misau	77%	R	92%	PR	91%	PR	63%	R	100%	S	98%
	Shira	92%	PR	85%	R	89%	R	90%	PR	97%	PR	99%
Ebonyi	Ezza North	86%	R	30%	R	95%	PR	81%	R	100%	S	100%
	Ikwo	69%	R	63%	R	86%	R	90%	PR	100%	S	100%
	Ohazara	87%	R	62%	R	91%	PR	23%	R	100%	S	100%
	Ohaukwu	64%	R	78%	R	81%	R	89%	R	100%	S	100%
Nasarawa	Doma	73%	R	94%	PR	90%	PR	94%	PR	100%	S	98%
	Karu	98%	S	77%	R	89%	R	96%	PR	100%	S	98%
	Nasarawa	90%	PR	80%	R	95%	PR	96%	PR	99%	S	98%
	Nasarawa Eggon	98%	S	87%	R	92%	PR	96%	PR	100%	S	99%
Oyo	Afijio	16%	R	14%	R	53%	R	20%	R	93%	PR	98%
	Akinyele	26%	R	50%	R	60%	R	12%	R	100%	S	100%
	Egbeda	34%	R	6%	R	42%	R	11%	R	100%	S	95%
	Oluyole	36%	R	92%	PR	36%	R	42%	R	100%	S	75%

Sokoto	Bodingo	77%	R	76%	R	76%	R	100%	S	100%	S	100%
	Rabah	69%	R	73%	R	83%	R	80%	R	87%	R	100%
	Tambawal	79%	R	67%	R	84%	R	79%	R	100%	S	100%
	Wamakko	72%	R	100%	S	67%	R	100%	S	100%	S	100%

S = Susceptible, R = Resistant, PR = Possible Resistant

TABLE 3: TEST RESULTS AGAINST *AN. GAMBIAE* S.L., CDC BOTTLE BIOASSAY METHODS AT 30 MINUTES DIAGNOSTIC TIME (45 MINUTES FOR DDT)

Class of Insecticides		Pyrethroid								Carbamate				Organo-phosphate		Organo-chlorine	
Insecticides		Lambda-cyhalothrin		Permethrin		Deltamethrin		Alpha-cypermethrin		Bendiocarb		Propoxur		Primiphos methyl^		DDT	
Sentinel Site	LGA	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality	Status	Percentage Mortality	Status
Akwa Ibom	Ikot Ekpene	71%	R	68%	R	68%	R	59%	R	99%	S	99%	S	98%	S	69%	R
	Itu	87%	R	64%	R	64%	R	60%	R	99%	S	100%	S	98%	S	71%	R
	Mpat Enin	61%	R	66%	R	65%	R	58%	R	99%	S	100%	S	98%	S	71%	R
	Oron	65%	R	68%	R	62%	R	55%	R	100%	S	100%	S	98%	S	57%	R
Bauchi	Bauchi	99%	S	89%	R	97%	PR	98%	S	100%	S	100%	S	100%	S	93%	PR
	Dass	95%	PR	97%	PR	100%	S	95%	PR	100%	S	100%	S	100%	S	97%	PR
	Misau	100%	S	98%	S	99%	S	99%	S	100%	S	98%	S	100%	S	98%	S
	Shira	98%	S	93%	PR	98%	S	100%	S	95%	PR	99%	S	97%	PR	96%	PR
Ebonyi	Ezza North	82%	R	58%	R	80%	R	90%	PR	99%	S	100%	S	84%	R	53%	R
	Ikwo	80%	R	56%	R	89%	R	87%	R	100%	S	100%	S	81%	R	73%	R
	Ohaozara	88%	R	58%	R	82%	R	92%	PR	100%	S	100%	S	74%	R	62%	R
	Ohaukwu	91%	PR	54%	R	90%	PR	89%	R	100%	S	100%	S	14%	R	68%	R
Nasarawa	Doma	99%	S	69%	R	98%	S	98%	S	99%	S	100%	S	53%	R	57%	R
	Karu	100%	S	63%	R	98%	S	98%	S	99%	S	100%	S	50%	R	74%	R
	Nasarawa	99%	S	88%	R	100%	S	98%	S	100%	S	99%	S	63%	R	71%	R
	Nasarawa Eggon	98%	S	82%	R	99%	S	100%	S	100%	S	100%	S	56%	R	58%	R
Oyo	Afijio	87%	R	33%	R	100%	S	100%	S	100%	S	100%	S	97%	PR	33%	R
	Akinyele	84%	R	47%	R	100%	S	50%	R	100%	S	100%	S	100%	S	62%	R

Sokoto	Egbeda	92%	PR	15%	R	100%	S	66%	R	100%	S	100%	S	36%	R	55%	R
	Oluyole	100%	S	46%	R	96%	PR	77%	R	100%	S	100%	S	100%	S	63%	R
	Bodingo	42%	R	71%	R	80%	R	100%	S	99%	S	100%	S	61%	R	47%	R
	Rabah	73%	R	62%	R	82%	R	86%	R	90%	PR	100%	S	70%	R	48%	R
	Tambawal	74%	R	79%	R	78%	R	100%	S	100%	S	100%	S	100%	S	45%	R
	Wamakko	56%	R	99%	S	79%	R	100%	S	100%	S	100%	S	83%	R	66%	R

S = Susceptible, R = Resistant, PR = Possible Resistant

3.5.2 Procurement of Equipment for Additional Sentinel Sites

Federal Ministry of Health with support from GF commenced procurement of equipment and consumables in 2017 for 3 additional Sentinel sites (Kano, Osun and Niger States) is on-going. In addition, the WHO has supported in procuring additional materials for the sentinel sites.

3.6 Coordination Meetings

10 IVM subcommittee meetings, 10 ITNs Expert Group meetings, 4 LSM and IRS/VS Expert Group meetings were held in 2017. These meetings helped to strengthen coordination and harmonization of IVM activities.

3.7 Insecticide Resistance Management (IRM) Plan

The finalized IRM plan for the country was printed (1,000 copies) in 2017 with support from WHO. Capacity was built on the operationalization of the IRM Plan for Principal Investigators and State Malaria Elimination Programme (SMEP) Managers from 7 PMI supported States.

3.8 National Framework for Larval Source Management in Nigeria

In the period under review, a zero draft of LSM implementation framework was developed in collaboration with partners.

3.9 Pilot testing of New Vector tools

NMEP in collaboration with researchers from Nasarawa State University and a private company, Inesfly Africa, manufacturers of insecticidal paint, commenced pilot testing of Inesfly insecticide paint in two (2) communities in Nasarawa State (Masaka and Gidan Zakara) to ascertain its effectiveness as a tool for the control of malaria vector.

In addition, an indigenous company called Paints and Coatings Manufacturers Nigerian PLC (PCMN), producers of Mozzi range of products, a multifunctional innovative repellent for control of malaria vector carried out a pilot study on its efficacy in collaboration with NMEP and the Nigerian Institute for Medical Research (NIMR).

4.0 CASE MANAGEMENT

4.1 Background

Case Management branch, facilitates universal access to parasitological confirmation of malaria, ensuring the effective treatment of uncomplicated and severe malaria with appropriate anti-malarial medicines by monitoring their efficacy with the periodic conduct of Drug Therapeutic Efficacy Tests (DTET). The branch's responsibility importantly includes development and updating of guidelines, manuals and all Standard Operational Procedures (SOPs), as it pertains to diagnosis and treatment of malaria as well as prevention of malaria in pregnancy and seasonal malaria chemoprevention for children under five years in sahelian region.

4.2 Coordination Meetings

4.2.1 Case Management Subcommittee Meetings

Ten (10) Case Management subcommittee (CMSC) meetings were held in the year under review. In the meetings, deliberations were on how to move the case management forward and regularly update the CMSC of the progress and challenges of the intervention areas. Other things discussed include issues on use of monotherapies among private and public health facilities, stakeholders meeting on malaria in pregnancy and deployment of artesunate suppository to secondary health facilities. Working Groups (Diagnosis working group, Malaria in Pregnancy (MIP) and Severe Malaria working group) meet as the need arise and provide updates to the CMSC.

4.2.2 Malaria in Pregnancy (MIP) working group meetings

MIP working group held 3 meetings to discuss on improvement of IPTp uptake in facilities nationwide and implementation by NMEP and partners. The members of the working group are NMEP, WHO, CRS, JHPIEGO, AFENET and others

4.2.2.1 Challenges for MIP

- There is need for HF Workers to be trained as the trained ones are retiring
- Job Aids and BCC materials should be provided and made available at the HFs
- It was reported in that there is low ANC attendance

4.2.2.2 Recommendations

- Train HFs that practice ANC on MIP
- Materials on MIP should be provided to HFs where ANC is practiced
- More awareness creation for ANC registration

4.2.3 Diagnostic Working Group Meetings

Two Diagnostic working group meeting was held in 2017 amongst the updates reported and discussed were:

- Deliberation on the selection of EQA reference centre in one of the PMI states between Akwa-Ibom and Cross River States. The public health Lab in Akwa-Ibom was recommended because it met up with the requirements.
- RDT training carried out in HC3 supported states and the main aim is to convince the PPMVs that “not all fever is malaria”
- EQA supervision was carried out in 9 PMI supported states
- A refresher training on EQA was held in March in 8 PMI states
- Plateau State has been adopted one of the PMI supported states.
- Funding model grant by GF to SFH for malaria components has been closed

4.2.3.1 Challenges from field

- High positivity rate.
- Staff attrition affected results in some states

- Poor reporting plan on RDTs
- Invalid RDTs were encountered.
- Some facilities were not archiving slides for validation

4.2.3.2 Recommendations

- The CMDs in the EQA centres where the lab result are wrong should be summoned
- States should employ more Lab. Scientists
- There is need to develop a policy on RDT retrieval.

4.3 Malaria in Pregnancy Stakeholders' Meeting in Akure

Stakeholders' meeting was held in Akure to build consensus on the implementation of Country Operational Plan for community Intermittent Preventive Treatment in pregnancy (IPTp). The status of MIP program implementation, challenges and lessons learnt, revitalization of the MIP-TWG were deliberated. Transforming IPTp for Optimal Pregnancy (TIPTOP) was also presented and discussed.



The leadership of State Ministry of Health, the HCH, Dr. Wahab Adegbenro, PS, Dr. E.T. Oni, DPH, Dr Ola Obaado, FMOH/NMEP Rep., JHPIEGO and other Partners, during MIP stakeholders' meeting in Ondo State.

4.4 Flag Off of the Integrated Polio and Malaria Campaign

FMOH/SMoH in collaboration with WHO and other local & international humanitarian agencies, flagged off the Integrated Polio and Malaria Campaign in Muna Camp in Jere LGA, Borno State. This was to combat the outbreak of diseases by supporting the treatment of malaria, which remains the major child killer disease in the North-East and to scale up integrated polio and malaria interventions in the state and the rest of the North-East devastated by the Boko Haram insurgency.



4.5 MIP Stakeholders' Meeting

NMEP in collaboration with JPHIEGO held stakeholders' meeting in Abuja for transforming IPT for optimal pregnancy where the operational guidelines was reviewed and shared. The project is proposed to run from 2017-2022, the first phase commencing with a Local Government Area in Ebonyi State and scaling up to two Local Government Areas in Niger and Ondo States respectively in the second phase.

4.6 The Launch of Transforming IPTp to Optimum Pregnancy (TIPTOP) Project

Prevention of malaria in Pregnancy through the administration of at least three doses of IPTp after quickening is a proven strategy that can protect the pregnant woman and the unborn child. Though, this strategy has been implemented in Nigeria for over ten years, the utilization by the communities has been a major challenge despite government support in provision of malaria commodities such as nets and medicines.

NMEP in collaboration with Unitaid and Jhpiego launched TIPTOP to support uptake of IPTp by implementing TIPTOP project to reach all pregnant women in Ohaukwu LGA, Ebonyi State. TIPTOP plans to develop Behavioural Change Communication (BCC) messages and provide community directed intervention approach to improve uptake and increase demand for quality assured Sulfadoxine–Pyrimethamine (SP) for IPTp and strengthen Ante-Natal Clinic (ANC) services in health facilities for IPTp.



Cross section of participants at the launch of TIPTOP, NC NMEP 2nd left, JHPIEGO representatives 3rd and 4th left

4.7 Finalization of Report of 2014/2015 Therapeutic Efficacy of Artemether-Lumefantrine (AL), Artesunate-Amodiaquine (AA), and Dihydroartemisinin Piperavaquine (DHP) for the Treatment of Uncomplicated *Plasmodiumfalciparum* Malaria in Nigerian Children

The finalization of 2015 DTET report was concluded in 2017 with the inclusion molecular analysis. The efficacy of 3-day regimens of Artemether-Lumefantrine (AL), Artesunate Amodiaquine (AA) and dihydroartemisinin-piperavaquine (DHP) were evaluated in 910 children <5 years with uncomplicated malaria from six geographical areas of Nigeria (8 sites): Ogbia, Neni, Ogwa, Numan, Ilorin, Kura, Bodinga and Ibadan in Bayelsa, Anambra, Imo, Adamawa, Kwara, Kano, Sokoto and Oyo States of Nigeria, respectively.

Overall, parasite positivity 1 day post treatment initiation was 59.5% and it was significantly higher in AL-treated children compared with AA- and DHP treated children.

Polymerase Chain Reaction (PCR)-corrected parasite positivity on day 3 was 1.3%. The risk of persistent parasitaemia till 3 days post-treatment initiation was significantly higher in AL-treated compared with DHP or AA-treated children.

Geometric mean parasite reduction ratio 1 day post-treatment initiation was significantly lower in children treated with AL compared with AA and DHP-treated children and parasite clearance was significantly faster with DHP compared to AL and AA.

The risk of reappearance of asexual parasitaemia after initial clearance was significantly lower in children treated with DHP compared to those treated with AA and AL.

PCR uncorrected efficacy: PCR uncorrected adequate clinical and parasitological response (ACPR) on day 42 was 683 of 798 children [84.8% (95%CI 78.9 – 90.7)] and it was significantly higher in DHP –treated children compared with AA and AL-treated children.

PCR corrected efficacy: PCR corrected efficacy on day 42 was 97.4% (95%CI 92.7 – 100) and it was similar for all three treatments.

Fever clearance time: Mean fever clearance time was significantly longer in AL- compared with AA- and DHP- treated children.

Conclusion: Based on PCR corrected efficacy $\geq 96\%$, all three artemisinin-based combination treatments evaluated are efficacious treatments of uncomplicated falciparum malaria in Nigerian children < 5 years old. However, it would appear DHP is more efficacious than AA and AL.

Recommendation: Based on the findings of this study, it is recommended that DHP be deployed alongside AA and AL as first-line treatments of uncomplicated falciparum malaria in Nigerian children < 5 years of age.

4.8 Fourth Quarterly Task Force Monitoring of GF-iCCM Project in Niger and Kebbi States

The fourth quarter task force monitoring of iCCM was conducted in Niger State and Kebbi States in collaboration with Malaria Consortium implemented the Global Fund-supported integrated Community Case Management (iCCM) of childhood illnesses. The GF-ICCM project is implementing in 16 LGAs in Niger State and 21 LGAs in Kebbi State with NMEP and Catholic Relief Services as the principal recipients.

This activity is to undertake monitoring of the implementation of GF-ICCM in the designated LGAs and also provide supportive supervision of health workers at the different levels of implementation. The participants involved were in the activity were FMOH (Family Health Department and National Malaria Elimination Programme, Malaria Consortium, Catholic Relief Services, UNICEF and State Ministry of Health in both states

Advocacy visits were paid to all gate keepers at all levels from states done before proceeding for field work. 7 LGAs and 6 LGAs were in Niger and Kebbi State respectively. The participants were grouped into 2 teams and each team visited 2 communities in each LGA and provided on-the-job mentoring. The Policy Makers in each were debriefed after the field work.

Challenges

- Cups, spoons and bowls were not made available to some CORPs in this LGA
- Transcription errors were found between the sick child recording forms and the CORPs' daily register.
- CORPs routinely do not document cases if they do not have commodities to treat them.
- Some components of the daily register such as the 'followed up' and 'recovery' columns were filled routinely whether or not the child was followed up.
- Reduced stock of ACTs and amoxicilline tabs was observed
- CORPs not using their chart booklet while seeing patients leading to lots of mistakes
- Lack of sharp boxes in almost all the visited communities
- RDTs done without timing
- High malaria positivity
- The duplicates of CORPs daily register not clear and not properly filled
- Low level of community support for CORPs.

4.8.1 Recommendations

1. Communities requiring ORS mixing bowls, cups, spoons and timers should be identified and supplied.
2. The replenishment of commodities should be communicated to appropriate channel to prevent stock out of commodities by the CORPs.
3. Intensify efforts in ensuring CORPs refer to their treatment chart booklet at all times and discourage administering treatments by memory.

4. Retraining on the use of RDTs
5. CORPs are should ensure proper legibility of lettering
6. CORPs should refer danger signs and not waste time taking a history.
7. Wrong data capturing
8. CORPs need to ensure the ages of their patients are correct which may require using events to determine the ages as they may be misled by the caregivers
9. Motivation of CORPs by Communities for the sustainability of iCCM.
10. Provision of Sharp boxes to the CORPs by SMOH

4.9 Malaria Parasite Sentinel Site (MPSS) Re-orientation Meeting

Reorientation meeting of the Medical Laboratory Scientists and Chief Medical Directors (CMDs) on standard operating procedures and data capturing tools for MPSS was organized by NMEP in collaboration with WHO. The objectives were to improve data reporting, day 3 attendance of patients, understand challenges in the facilities and proffer solutions on how to overcome them.

As a result of the meeting, the programme has observed improvement in reporting from the health facilities and a few reports for day 3 attendance.

4.10 Malaria Parasite Sentinel Sites (MPSS)

MPSS is a system established across the country to continuously and systematically collect daily information from the laboratories on individuals presenting with symptoms of malaria and follow-up for all confirmed cases following the administration of anti-malarial medicines with the sites expected to report malaria activities in the sites monthly to NMEP. In 2017, the reporting sites are represented in figures 1 and 2

Fig 1: National MPSS reporting rates for 2017

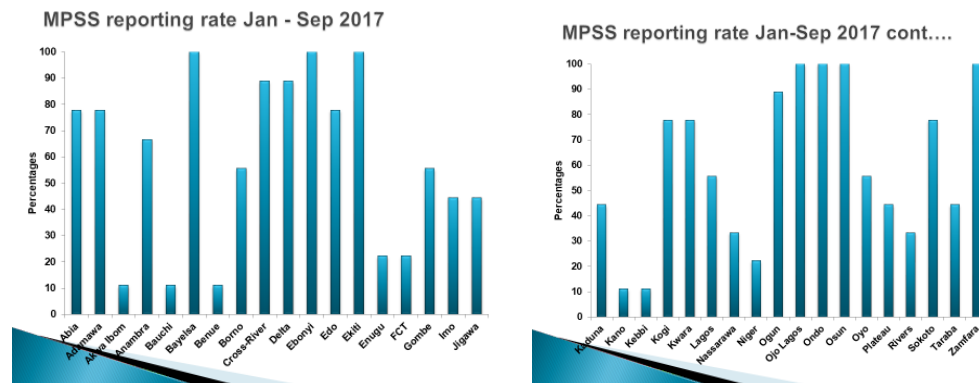


Fig 2: MPSS reported test positivity rate for microscopy and RDT

The activity was carried out to assess selected secondary health facilities in Cross River and Akwa- Ibom States and recommend one for the establishment of a Quality Control Centre for malaria diagnosis. The centre when established will serve the south-south geopolitical zone and surrounding states.

Participants were a consultant diagnostic officer for USDoD, a Medical Laboratory Scientist from NMEP and the Malaria Programme Manager of each state.

A total of 7 facilities were visited, 4 in Akwa-Ibom State and 3 in Cross River State. The facility selected was State Public Laboratory in the Akwa-Ibom State Secretariat. The rationales for choosing the reference centre are availability of four trained staff on malaria microscopy, availability of necessary equipment for malaria diagnosis and availability of enough space.

4.14 National Training of Trainers for SMC

National training of trainers on SMC guidelines and tools for Implementation during the raining season held in Sokoto and Zamfara States to retrain the national trainers. Participants include; National Trainers for SMC, Malaria Consortium, NMEP, Directors of Public Health in both states and Director of Malaria Agency in Sokoto State.

Lessons learnt from the previous years were discussed. All the tools used for SMC were reviewed for implementation in 2018 and trainers were reacquainted with the guidelines for implementation.

4.15 Annual National Severe Malaria Stakeholders' Meeting

NMEP in collaboration with Partners held a stakeholders' meeting in Abuja. In the meeting, achievements and progress reports were reviewed, sustainability plans for severe malaria treatment (GF, states and partners) and Commodities Logistics Management for 2018 deliberated upon. Challenges from implementation of severe malaria were highlighted and recommendations made.

4.16 Empowering Community Pharmacists and PPMV on use of RDT and Monitoring

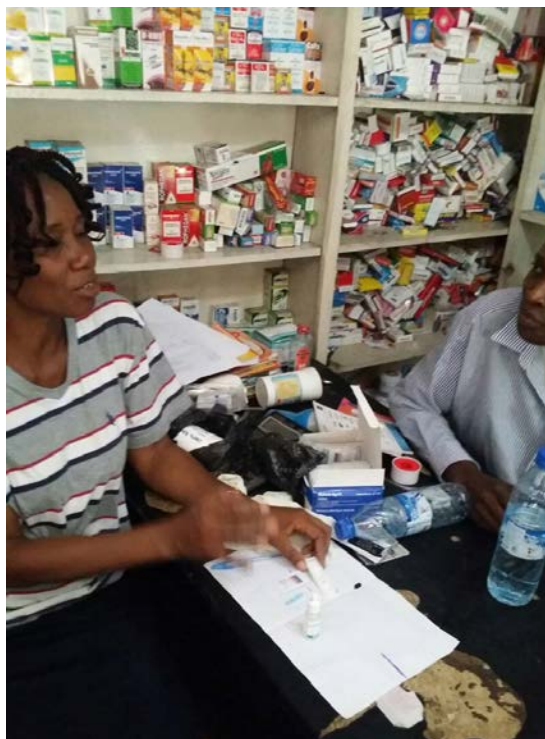
NMEP in collaboration with the Pharmacists Council of Nigeria (PCN) conducted monitoring and supportive supervision for Community Pharmacists (CPs) and Patent Proprietary Medicine Vendors (PPMVs) in 21 Global Fund supported states. Staff of the State Ministry of Health, the State Chapter of Association of Community Pharmacists of Nigeria (ACPN), State Chapter of National Association of Patent Proprietary Medicine Dealers (NAPPMED), representatives of State PCN and LGA Malaria Focal Persons from 5 LGAs per state were trained on the importance of conducting a parasitological test using RDT before dispensing ACT, as well as the ban on monotherapies for treatment of uncomplicated malaria.

1,575 PPMVs/CPs from 105 LGAs in the 21 states were visited. All the facilities accepted the use of RDTs but were skeptical of the cost of RDTs in the market. The team enlightened the PPMVs/CPs that "not all fever is malaria", hence, discouraged presumptive treatment.

With the success recorded in this activity, there is need to ensure availability of high quality RDTs at a subsidized rate to the Pharmacy and PMVs in view of their readiness and interest to comply to the policy and the guidelines on testing and treatment. There is also need to train and retain more PPMVs/CPs on malaria case management and emphasize on proper management of RDT wastes. In addition, enforcing law that forbids the use and production of monotherapies and creation of good distribution channels and necessary logistics to make RDTs and other malaria commodities available to the PPMVs.



Demonstration of how to use RDTs



Orientation of PPMV on how to use RDT

5. PROCUREMENT AND SUPPLY CHAIN MANAGEMENT (PSM)

The PSM branch has the responsibility of ensuring timely availability of appropriate anti-malaria medicines and commodities required for prevention and treatment of malaria in Nigeria wherever they are needed. This can be achieved by having the right malaria commodities, in the right quantities, in the right condition, delivered to the right place, at the right time, for the right cost. The branch also supports NMEP in procurement of quality-assured medicines and other health products in sufficient quantities to reduce cost, inefficiencies to ensure the reliability and security of the distribution system. It also aims to ensure the rational use of antimalarial medicines when they eventually get to the users as providers or patients.

A) SUMMARY OF IMPLEMENTED ACTIVITIES

The following are the PSM implemented activities in the reporting year;

5.1 PROCUREMENT

NMEP in collaboration with partners procured 16,373,650 Long Lasting Insecticidal Nets (LLINs) for Replacement Campaigns in 6 states through the Pooled Procurement Mechanism (PPM). PSM branch ensured that the LLINs received at state medical stores or other identified warehouses were in good condition and meets standard storage condition. The LLINs Replacement Campaign took place in Adamawa, Imo, Ondo, Edo, Osun and Kwara in 2017. Table 4 shows the quantities of LLINs procured and distributed to the states.

Table 4: Quantities of LLINs procured and distributed to States

States	Quantity Procured and Allocated Nets
Edo	2,671,600
Kwara	1,992,400
Imo	3,390,450
Ondo	2,927,150
Osun	2,955,950
Adamawa	2,436,100
TOTAL	16,373,650

5.2 Distribution

To ensure an efficient and effective distribution of antimalarial commodities, NMEP provided oversight on the distribution of malaria commodities through GHSC-PSM (Chemonics) for both Long Haul Distribution (LHD) to state central medical stores and Last Mile Distribution (LMD) of malaria commodities across the supply chain to the health facilities. States without partners support were covered by the government of Nigeria (table 5). This distribution model promotes timely accessibility of safe, effective and quality antimalarial medicines and commodities at all levels of health care delivery.

Table 5: Quantity of ACTs, RDTs, SPs and Artesunate Injection provided by GoN to States

S/NO	STATE	AL4(doses)	AA3(doses)	SP(doses)	RDT(tests)
1	ABIA	22,060	5,000	30,000	20,000
2	ADAMAWA	25,234	9,944	58,282	0
3	BAYELSA	13,105	5,884	34,562	35,000
4	BORNO	34,908	12,979	77,985	0
5	DELTA	33,867	10,545	75,435	55,000
6	EBONYI	19,009	8,347	49,029	17,500
7	ENUGU	16,841	7,443	43,717	15,000
8	FCT	26,209	11,351	66,672	11,413
9	GOMBE	19,028	8,355	49,076	12,923
10	NASARAWA	14,565	6,493	38,139	14,837
11	PLATEAU	24,865	9,790	63,378	26,250

12	TARABA	18,052	7,948	46,683	11,077
13	YOBE	19,257	8451	49637	0
	TOTAL	300,000	125,150	735,100	219,000

Adamawa, Borno and Yobe states with zero allocation of RDTs was as a result of the states having adequate stock at the time of distribution.

5.3 Strengthening Capacity of NMEP Staff on Supply Chain

In an effort to strengthen the capacity of NMEP staff on Supply Chain, thirteen (13) NMEP staff from different branches were trained on supply chain management with support from GHSC-PSM. Staff capacity was built on procurement processes, quantification, warehousing and distribution of malaria commodities.

6. MONITORING AND EVALUATION

6.1 Background

The branch collects, collates and analyses malaria data as well as develop new knowledge through operations research (OR) to generate evidence upon which policy decisions are made in relation to options for programme implementation. The branch also work in synergy with other branches in the NMEP to ensure there is adequate collaboration to deliver on the Malaria Control/Elimination goal. It also works with partners and other government agencies to strengthen Malaria routine reporting and the monitoring and evaluation system in both the public and private sector.

6.2 Data Management (Health Information System/Routine Reporting)

6.2.1. TRAINING ON SURVEILLANCE AND DATA MANAGEMENT:

The M&E branch in collaboration with Measure Evaluation (MEval), with support from USAID/PMI conducted a two weeks training workshop on Surveillance, Monitoring and Evaluation (SM&E) for state malaria programme managers and state M&E officers. In all, thirty participants were trained (3 from NMEP, 22 from PMI supported & 5 from non-PMI supported States). Four technical officers from NMEP/M&E served as facilitators which also included facilitators from mEval, AFENET and 2 university lecturers. The main objective was to build capacity of officers particularly at sub-national level on surveillance, monitoring & evaluation. Their capacity was also build on generation and use of data for decision making and programme implementation. The training was conducted between September 25th and 6th October 2017, in Akwanga, Nasarawa State.



Participants, Facilitators, and support staff for the SME workshop held at Kini Guess Inn, Akwanga, Nasarawa State.

6.2.2 REVIEW OF HMIS TOOLS AND MALARIA DATA ELEMENTS

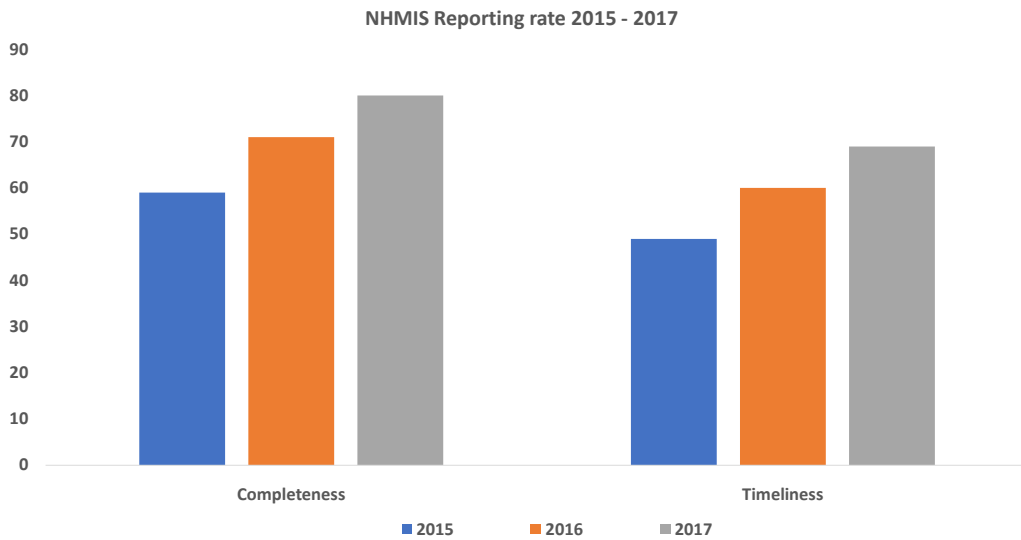
The branch participated in the series of meeting coordinated by the DPRS to review the harmonized NHMIS data elements and data capturing tools, and also held meetings with partners to finalize the review of the severe malaria and IPTp3 data elements and indicators for inclusion in the revised HMIS tools.

6.2.3 ANALYSIS OF DATA FROM ROUTINE REPORTING:

The M&E branch carries out monthly analysis of routine data reported from the sub-national levels unto the DHIS v2 and provides quarterly feedback of the key findings from the analysis of key malaria indicators in the DHIS to States Honourable Commissioners of Health and malaria programme managers to update them on their status of performance in terms of data reporting and also to provide them with data for decision-making and programme improvement.

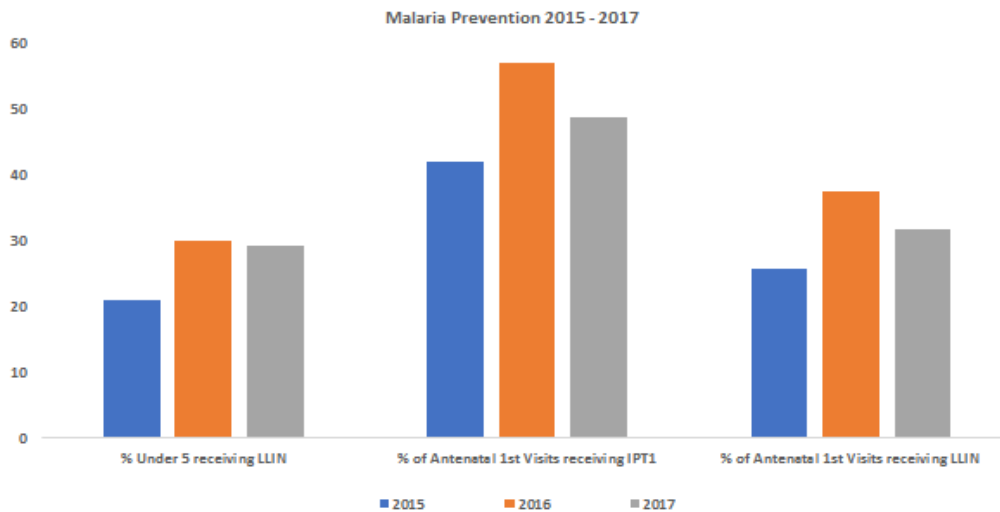
Some of the key findings from the analysis of DHIS data from 2015-2107 are as shown below:

- A) **Reporting Rate:** The chart below shows that there has been a consistent increase in reporting rate (completeness and timeliness of reporting on the DHIS) over the years. For instance, completeness of reporting increased from 59% in 2015 to 71% in 2016 and 80% in 2017 nationally. Similarly, timeliness of reporting increased from 49% in 2015 to 60% and 69% in 2016 and 2017 respectively. The objective of the current Malaria Strategic Plan is to ensure that at least 80% of health facilities in all LGAs report routinely on malaria by 2020, progress is measured, and evidence is used for programme improvement.



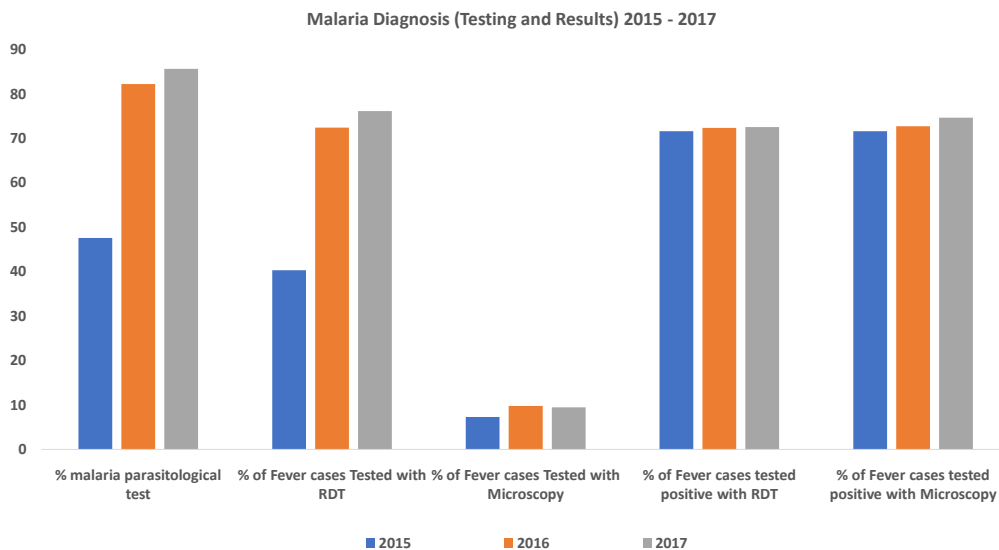
Source: DHISv2 (<https://dhis2nigeria.org.ng>)

B) **Malaria Prevention:** From the chart below, the percentage of children Under5 who received LLINs in 2017 was 29.1%, slightly down from 30.1% recorded in 2016, although this showed some improvement from the 21.1% recorded in 2015. The percentage of pregnant women who received IPT1 on their first ANC visit increased from 41.9% in 2015 to 56.9% in 2016, but decreased to 48.8% in 2017. Similarly, the percentage of pregnant women who received LLINs on their first visit increased from 25.8% in 2015 to 37.4% in 2016, but again decreased to 31.8% in 2017. These figures fall short of the NMSP target which is to ensure that at least 80% of targeted population utilizes appropriate malaria preventive measures by 2020.



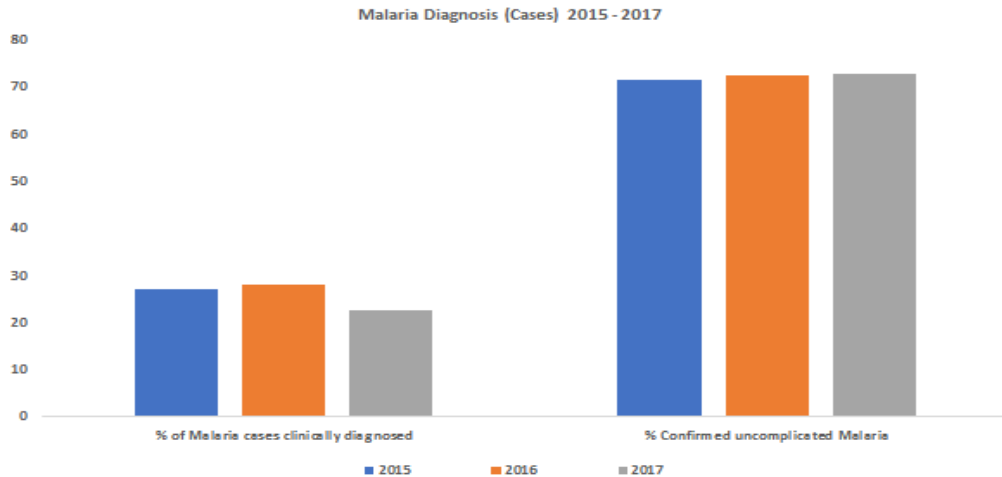
Source: DHISv2 (<https://dhis2nigeria.org.ng>)

C) **Malaria Diagnosis (Testing and results):** As seen from the chart below, malaria diagnosis recorded a marginal increase in 2017. The percentage of malaria parasitological tests carried out increased from 47.6% in 2015 to 82.2% in 2016 and to 85.6% in 2017. Of these, the percentage of fever cases tested with RDT increased from 40.3% in 2015 to 72.4% in 2016 and to 76.1% in 2017, while the percentage of fever cases tested with microscopy increased from 7.3% in 2015 to 9.8% in 2016 but decreased to 9.5% in 2017. In terms of malaria test positivity, the percentage of fever cases tested positive with RDT increased slightly from 71.6% in 2015 to 72.3% (2016) and to 72.5% in 2017. Similarly, the percentage of fever cases tested positive with microscopy increased slightly from 71.6% in 2015 to 72.7% in 2016 and to 74.6% in 2017. The objective of the malaria strategic plan is to test all care-seeking persons with suspected malaria using RDT or microscopy by 2020.

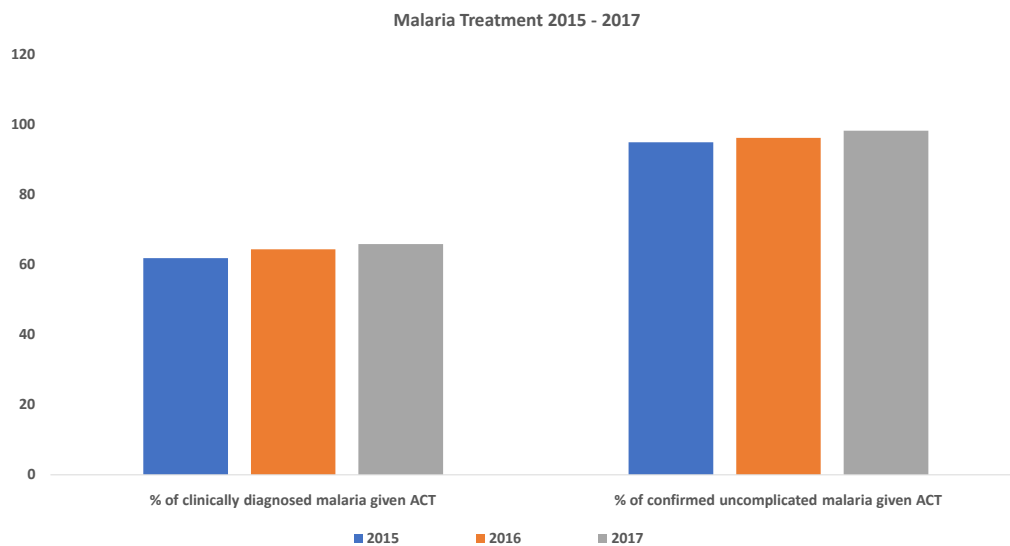


Source: DHISv2 (<https://dhis2nigeria.org.ng>)

D) **Malaria cases:** The chart below shows that the percentage of malaria cases clinically diagnosed increased minimally from 27.2% in 2015 to 28.2% in 2016 but decreased to 22.7% in 2017. The percentage of confirmed (by parasitological testing) uncomplicated malaria increased slightly from 71.6% in 2015 to 72.4% in 2016 and to 72.7% in 2017. The goal of NMEP as outlined in the NMSP is to test all care-seeking persons with suspected malaria using RDT or microscopy. To this end the programme will continue to work towards significant declines in the percentage of clinically diagnosed malaria cases while ensuring parasitological confirmation of all suspected cases before treatment.



E) **Malaria Treatment:** From the chart below, the percentage of patients with confirmed uncomplicated malaria given ACT increased from 94.8% in 2015 to 96.1% in 2016 and to 98.1% in 2017. This shows programme improvement in ensuring that all confirmed malaria seen in public and private health facilities are treated with effective antimalarials in line with the third objective of the NMSP. However, there was also a slight increase in percentage of clinically diagnosed patients given ACTs. While 61.8% of clinically diagnosed patients were given ACT in 2015, 64.3% were received ACT in 2016 and 65.8% in 2017.



Source: DHISv2 (<https://dhis2nigeria.org.ng>)

6.3 Programs and Data Quality

6.3.1 Data Quality Assessment (DQA) and Supportive Supervisory visits

Data quality assessments and supportive supervisory/on-the-job mentoring visits are expected to be carried out on a quarterly basis to the states. The visits affords the programme the opportunity to assess State and LGA levels programme administration and management of malaria control activities, take stock of malaria commodities and other supplies at the states' stores and assess malaria records and data management, among others. The visit is also used to advocate for increased funding commitment by State and LGA policy makers to malaria control activities. In spite of daunting challenges faced by the branch mostly due to funding constraints, the branch was able to carry out DQA visits to six out of the 36 states plus FCT in 2017, namely Kaduna, Enugu, Cross Rivers, Imo and Benue State between April/June 2017.

Key findings from the DQA was that the percentage of data availability in the states' LGAs and health facilities visited was approximately 80%, percentage data consistency was approximately 94% while percentage data validity ranged between 41% - 92% (for Bauchi, Cross Rivers, Imo, Benue). Percentage data consistency was approximately 68% while percentage data validity range between 40% - 45% (for Kaduna & Enugu).

Significantly, the visit revealed the level of progress made so far in programme implementation, identified the gaps and challenges and provided opportunity to proffer solutions to these issues.

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6.4 OPERATIONS RESEARCH

6.4.1 DEVELOPMENT & PRINTING OF THE NATIONAL MALARIA OPERATIONS RESEARCH AGENDA (NMORA) AND LAUNCH & DISSEMINATION OF NMORA

The National Malaria Elimination Programme with support from the Nigeria Field Epidemiology and Laboratory Training Programme (NFELTP)/African Field Epidemiology Network (AFENET) and World Health Organization (WHO) held a workshop for the launch and dissemination of the National Malaria Operations Research Agenda (NMORA) (2017-2020). The occasion also served as a platform for the presentation of findings from recent malaria operations researches undertaken by graduates and residents of NFELTP. The workshop was held at Barcelona Hotel, Abuja on the 17 October 2017.

The development of the NMORA was done by NMEP, in collaboration with malaria stakeholders that included technical and funding partners such as WHO, PMI/USAID, AFENET, NFELTP, as well as researchers from research institutions across the country and SMEP officers. The NMORA was developed to guide the implementation and monitoring of malaria-related OR in Nigeria as well as provide a robust and well articulated list of malaria operations research questions which when answered would guide policy direction in malaria control in Nigeria.



Highlights of the launching of NMORA by the Director Public Health, representing the Hon. Minister of Health.

6.4.2 Landscape analysis of malaria surveillance in Nigeria

In 2017, the branch carried out an assessment of the state of malaria surveillance in six selected states in Nigeria, in collaboration with WHO and Clinton Health Access Initiative (CHAI). The purpose was to identify bottlenecks, strengths and weaknesses in the existing surveillance system at all levels of the health system and provide recommendations to improve the surveillance system's infrastructure, implementation, and use to make strategic policy decisions towards malaria elimination in line with the third pillar of the World Health Organization (WHO)'s Global Technical Strategy for Malaria 2016-2030 (WHO, 2015). The draft report of the assessment showed that while data and reporting from states has improved, there is existing gap in human resource for surveillance across all levels particularly at sub-national levels. In addition, there is lack of proper documentation and analysis of reported data for decision making and programme improvement. The report is being finalization for dissemination to stakeholders.

6.4.3 Review and dissemination of Malaria Epidemiological Profile for Nigeria

In 2017, the branch undertook the Phase 2 review of the Nigeria malaria epidemiological profile, with technical support from the London School of Hygiene and Tropical Medicine and WHO-AFRO. The review also included workshop on use of data by NMEP programme managers for decision making. The updated profile was presented to stakeholders at a national dissemination workshop held in November 2018.

6.4.4 RE-ESTABLISHMENT OF LAGOS STATE MALARIA BURDEN.

FOLLOWING THE NEED TO RE-ESTABLISH THE CURRENT MALARIA BURDEN IN LAGOS STATE, AS A OUTCOME OF THE 2015 MIS RESULTS FOR THE STATE WHICH SHOWED NEAR ZERO PREVALENCE, GF COMMENCED THE PROCESS OF ENGAGEMENT OF A CONSULTANCY FIRM IN COLLABORATION WITH NMEP TO CARRY OUT A MALARIA BURDEN ESTIMATES FOR THE STATE. UNFORTUNATELY, THE PLAN WAS SHELVED DUE TO THE CLOSE OUT OF GF GRANT EXTENSION.

6.5 COORDINATION MEETINGS

In order to ensure effective coordination within the branch and with stakeholders, several coordination meetings were held including: Eight M&E Subcommittee meetings were M&E related issues are deliberated on and action points agreed on by NMEP and partners to resolve them. There were also specialist meetings such as meetings of Data Management Expert Group (DMEG), meeting with London School of Hygiene and Tropical Medicine (LSHTM) on the Link project to review the country's malaria epidemiological profile, Bi-annual Zonal Malaria Data Review Meeting in four geo-political zones (SW, SE, NW, SS), meeting with Stakeholders on secondary analysis of 2015 NMIS data and meeting with M&E sub-group to review technical review panel comments (TRP) for the 2018-2020 global fund(GF) malaria grant, the branch also participated in held workshops for the midterm review of the NMSP as well as in three Quarterly programmatic review meetings on the malaria GF grant implementation by GF Country team and NMEP, CRS and other partners.

7.0 ADVOCACY COMMUNICATION AND SOCIAL MOBILISATION (ACSM)

Advocacy Communication and Social Mobilization (ACSM) is a crosscutting branch of NMEP that coordinates NMEP's advocacy efforts for increased malaria funding, and developing strategies for improving utilization of malaria interventions and services across Nigeria. The branch also uses communication and social mobilization to provide adequate information to all Nigerians on appropriate malaria prevention and treatment measures. This is achieved through Social and Behavioral Change Communication (SBCC) innovative activities delivered through several platforms targeting the general public.

A number of activities were carried out Under Advocacy, Communication and Social Mobilization as stated below.

7.1 ADVOCACY

The focus of the NMEP's advocacy strategy is to improve domestic funding for malaria interventions and ensuring enabling environment for the implementation of malaria

interventions through public and private sector. Consequently, the branch in collaboration with CRS carried out advocacy visits to eight (8) states Government to solicit for Support as well as buy-in on Malaria Interventions such as continuous procurement and distribution of malaria commodities to sustain the progress made so far. The meeting created an opportunity for useful interactions between the national and various states to ensure ownership and stronger collaboration. However, the advocacy visit could not be achieved in some States due to officialdom issues at the state level. There were concerns on how to ensure continuous advocacy visits to states and follow up.



Cross section of the NMEP/Government officials with Hon. Commissioner for Health during Lagos advocacy visit



Cross section of the participants with Permanent Secretary/DPH during Niger Advocacy visit.

7.3 COMMUNICATION

The vast and evolving landscape of the country's digital technology and availability of media organizations provided an opportunity to expand the reach of malaria SBC messages during the World Malaria Day. A four day online discussion with different audiences on ending malaria for good was organized. This discussion increased NMEP online followership by approximately 21% leading to increased visibility of NMEP's twitter account by 1,067 profile visits and a viral malaria campaign message which **936,584** persons accessed in Nigeria.



Snapshot of the Headtalker Campaign

7.3.1 Capacity Building for ACSM Staff

The branch in collaboration with HC3 carried out a social media workshop for NMEP staff and partners that facilitated the development of harmonized messages for a social media campaign during the world malaria day.

7.3.1 Media Chat

The branch carried out three media chats in collaboration with HC3 and these helped to provide answers to the media on emerging questions within the Nigerian Malaria Landscape. Over 51 news links were generated from these events to increase malaria awareness within the media and public domain.



Cross-section of NMEP/Partners officials during Media Chat

7.4 SOCIAL MOBILIZATION

Social mobilization is one of the key strategies employed by ACSM to enhance community involvement in malaria elimination activities.

7.4.1 Sensitization (August Meeting)

The August meeting is an annual event which is famous for a massive homecoming of the women from the South East and part of the South-South zones. The branch leveraged on the event to sensitize women on the importance of hanging and sleeping inside LLINs every night. They were also sensitized on the need to seek early diagnosis for all fever cases as well as prompt treatment for malaria. Over 2,367 women were reached.



Cross-section of participants during August Meeting in Akwa Ibom State



Cross-section of participants during the August Meeting in Imo State

7.4.2 Social Mobilization Manual and User's Guide for ACSM Guideline Workshop

The branch in collaboration with HC3 organized a workshop with other partners and SMEP to finalize the ACSM Users' Guide and the social mobilization training manual. The materials were reviewed successful and finalized.

7.4.3 Support to State ACSM Core Groups

The ACSM/NMEP visited four States (Oyo, Kebbi, Benue and Akwa Ibom) to Support and strengthen the capacity of these States to adequately conduct ACSM core group meetings and ensure adherence to National ACSM guideline. The meeting created an avenue for useful interactions between ACSM/NMEP and ACSM/SMEP where vital issues were deliberated.



Cross section of members of the Oyo State ACSM core group during the meeting.



Cross section of the Kebbi State ACSM core group members during the meeting.



Cross section of the Benue State ACSM core group members during the meeting.



Cross section of Akwa Ibom State core group members during the meeting.

7.5 Best Malaria Content Award Night

A malaria content award was held in Abuja. The event recognized and rewarded media houses and media practitioners who developed and presented malaria programs with correct content.



DPH, NMEP, HC3 officials During Best Malaria Content Award

7.6 Post LLIN SBCC Campaign Activities

The branch in collaboration with CRS carried out post LLIN campaign activities in Kwara, Osun and Edo States respectively in 2017. The Post Campaign SBCC activities which took place a few months after the LLINs Replacement Campaign in the three states assessed the rate of LLINs utilization, supported LLIN hanging and use by the community members.

7.7 Coordination

The ACSM subcommittee, Working Groups and content design team, monitors and coordinates partners' activities at the National and sub-national levels. The branch carried out about 9 subcommittee meetings, visited 4 States out of the 19 functional ACSM state core groups to provide oversight and ensure adherence to ACSM guidelines. In collaboration with partners, the branch reviewed and prioritized SBCC malaria indicators for inclusion in the upcoming 2018 NDHS which contributed to the successes achieved in creating awareness on malaria

interventions. Conversely, inadequacy of technical expertise and staff attrition are barriers to effective coordination of national and sub-national activities. Hence, the need to strengthen capacity at all levels.

7.8 Conclusion

In consideration to the 2017 AOP and in pursuit of ACSM objectives, a total of six (6) activities were planned with sub-activities under four (4) ACSM objective areas to be implemented in 2017. In overall implementation, 33.3% of the total planned activities were completed, 50% were commenced but not completely implemented while 16.7% were not commenced. The implementation performance rate for ACSM activities 2017 was 83.3%.

The facilitating factors to the performance implementation of activities included adequate planning, average availability of funds from supporting partners and some skilled personnel from the State/National.

The ACSM activities implementation performance underscore the need for NMEP/GF/CRS/SFH/other partners to take into consideration the challenges and recommendations for possible actions to improve, scale up and sustain ACSM/SBCC activities which will contribute greatly towards achieving the goal in the fight against malaria in Nigeria.

8.0 SUCCESS STORIES, CHALLENGES AND RECOMMENDATION

8.1 Success Stories

1. The programme successfully launched the National Malaria Operations Research Agenda (NMORA) and also carried out first quarter DQA in six states supported by WHO and GF).
2. A total of **16,199,953** LLINs were distributed in seven States namely: Adamawa, Edo, Imo, Kwara, Osun, Kogi and Ondo
3. The first three phases of Mid Term Review of 2014-2020 was successfully carried out
4. Empowering of PPMVs and CPs on use of RDTs and appropriate treatment

8.2 Challenges

- I. Diagnosis before treatment is still low
- II. Low identification of true malaria parasites
- III. Low reporting rate on Day 3 in MPSS sites

- IV. Inadequate funding to carry out malaria control activities at both national and sub national levels /delay in release of funds
- V. Inadequate capacity of personnel at national and sub national level
- VI. Weak synergy/coordination between NMEP and most Partners in programme implementation
- VII. Weak LLIN Routine and Continuous Distribution
- VIII. Limited Malaria Vector Surveillance Sites
- IX. Inadequate support in 12 states plus FCT by government and partners
- X. Inadequate reports on consumption data from health facilities, LGAs and states resulting in other methods being used for quantification, forecasting and supply planning
- XI. Inability to significantly improve reporting of malaria data particularly severe malaria data from secondary and tertiary health facilities (HFs) and the private sector malaria data unto the DHIS
- XII. Inadequate data capturing tools in the health facilities
- XIII. Limited coverage of on-the-job mentoring of PPMVs/CPs on RDTs and appropriate treatment for uncomplicated malaria.

8.3 Recommendation

- I. More emphasis to be laid on diagnosis before treatment so as to safe from resistance
- II. Training of Laboratory Scientists on malaria microscopy in MPSS sites
- III. The Laboratory Scientists and CMDs in charge of MPSS to be motivated
- IV. High level advocacy to GoN, Partners and Private sector for support at all levels as well as adequate provision and prompt disbursement of funds for programme implementation
- V. Strengthen capacity of personnel at national and sub national levels on malaria control activities
- VI. Strengthen synergy between NMEP, SMEP and Partners implementing malaria activities in the country
- VII. Provision of adequate Vector Control commodities
- VIII. Establishment of more Malaria Vector Surveillance Sites
- IX. Encourage Partners/Government support to 12 states plus FCT
- X. Ensure monthly and bi-monthly review meetings at the state level to ensure effective reporting
- XI. Engagement of dedicated record officers/data clerk in health facilities especially those with patient high turnover
- XII. Provision of adequate data capturing tools to health facilities and training personnel on the use of tools
- XIII. Increase coverage of on-the-job mentoring of PPMVs/CPs on RDTs and appropriate treatment for uncomplicated malaria.