

FINAL REPORT

Support to the National Malaria Programme
2008 – 2016



SuNMaP partners:

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Acronyms and abbreviations

ACSM	Advocacy, Communication and Social Mobilisation
ACT	Artemisinin Combination Therapy
AQ/AL	Amodiaquine/Artemether Lumefantrine
DHIS	District Health Information Systems
EQA	External Quality Assurance
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
HCW	Health Care Worker
IPTp	Intermittent Preventive Treatment in pregnancy
ITN	Insecticide Treated Net
LLIN	Long Lasting Insecticidal Net
M&E	Monitoring and Evaluation
M4P	Making Markets Work for the Poor
NDHS	Nigeria Demographic and Health Survey
NMCP	National Malaria Control Programme
NMEP	National Malaria Elimination Programme
NMIS	National Malaria Indicator Survey
mRDT	Malaria Rapid Diagnostic Test
OJCB	On-the-Job Capacity Building
RBM	Roll Back Malaria partnership
SDP	Service Delivery Point
SMART	Standardised Monitoring and Assessment of Relief and Transitions
SMC	Seasonal Malaria Chemoprevention
SMEP	State Malaria Elimination Programme
SP	Sulphadoxine-Pyrimethamine
SuNMaP	Support to National Malaria Programme
TWG	Technical Working Group

Executive summary

Health indicators in Nigeria are some of the worst in the world and malaria is a key factor. In 2008 malaria accounted for 60 percent of outpatient visits and was responsible for 30 percent of deaths in children under five. The disease was also a major cause of absenteeism and low productivity. Despite the availability of efficacious preventive and treatment measures for malaria, inadequate funding and weak health systems limited their roll-out at scale and significantly reduced efforts to achieve universal coverage. At the time, modest anti-malaria initiatives being implemented were also not optimised due to lack of appropriate health seeking behaviour among the Nigerian populace.

For these reasons, the UK government, through the Department for International Development (DFID), awarded GBP 89 million to implement the Support to National Malaria Programme (SuNMaP) from 2008 till 2016. Led by Malaria Consortium, with GRID Consulting and Health Partners International, the programme's purpose was to reach the general population, especially the poorest and most vulnerable, with evidence-based interventions that would help control the disease and reduce the malaria burden.

The programme focus was to support government malaria control efforts by providing technical assistance for building the National Malaria Elimination Programme (NMEP) and State Malaria Elimination Programmes (SMEPs), and building capacity of local government areas (LGAs) in service delivery and health programme management. SuNMaP would also provide antimalarial commodities to bridge commodity gaps and implement activities to increase demand for these commodities. It also fostered harmonisation of Roll Back Malaria partners' efforts, coordination of all theirs of government and sectors including private sector and support initiative aimed at growing antimalarial commodity market to be able to provide appropriate and affordable antimalarial services and commodities. SuNMaP also linked up with local and international implementing partners that had broad community-based networks to help implement demand creation activities, as well as those that supported research or commercial sector programmes. At the time of its conclusion, the programme was in 10 states: Lagos, Anambra, Kano, Niger, Ogun and Kaduna, Jigawa, Enugu, Katsina and Yobe covering 40 percent of the Nigerian population.

Using a broad based approach of supporting the achievement of the national malaria strategic targets, SuNMaP made significant strides in stemming the tide of the malaria burden in Nigeria by working with government, RBM partners and stakeholders in the country to drafting or adapting effective strategies finalised with its resources and pulling all partners resources for national wide roll-out with the aim of achieving universal coverage. For example, by the end of 2015, 100 million long lasting insecticidal nets (LLINs) had been distributed in Nigeria through campaigns with support from all partners and SuNMaP contributing technical support and over seven million LLINs.

SuNMaP routine antimalarial commodities' support approach is that of gap filling and using same to build capacity of NMEP and SMEP in procurement including quantification and planning, supply chain management including LMIS.

By the end of the project, through SuNMaP alone, over four million nets were procured and distributed in public facilities and an estimated 2.2 million nets sold through the commercial sector. In terms of antimalarial drugs, 5.6 million doses of sulphadoxine-pyrimethamine (SP) for prevention of malaria in pregnancy and 1.46 SP/amodiaquine distributed for seasonal malaria chemoprevention we distributed by project end. An estimated 2.7 million doses of artemisinin combination therapy (ACT) and 2.7 million malaria rapid diagnostic tests were procured and distributed, and SuNMaP supported the sales of over five million ACTs through the commercial sector.

To complement the supply of antimalaria commodities, the programme trained over 23,000 health care workers on appropriate malaria prevention and treatment and reached an estimated 40 percent of the Nigerian population with demand creation activities through radio programmes, television advertisements, printed materials and branded buses.

These initiatives culminated in an estimated 48,000 lives of children under five saved¹. Between 2008 and 2013, there has been encouraging improvement in key malaria indicators: households with least one LLIN increased from eight percent to 50 percent; children under five years sleeping under LLINs increased from six percent to 17 percent, and children under five with fever treated with ACTs increased from 2.4 percent to 5.9 percent. Altogether, under five mortality from all causes reduced from 157 to 128 per 1,000, according to the Demographic Health Survey for 2013.

To demonstrate its focus on outcomes and not just inputs and outputs, throughout its eight years of operation SuNMaP funded key operational research that supported existing policies on malaria or informed new ones. It also supported the 2015 National Malaria Indicator Survey.

SuNMaP has demonstrated that it is possible to use one disease control programme as an entry point to strengthen the health system without losing momentum towards achieving the direct objectives of that health programme. It is imperative that this new strengthened sector is not allowed to slip back for want of continuity in support. Dividends from SuNMaP's engagements with the commercial sector are apparent, but there remains unfinished business in this area. Roll Back Malaria partners and government will do well to leverage SuNMaP's success to develop the commercial sector further. Critical interventions whose efficacy has been proven locally through SuNMaP, such as the treatment of severe malaria with injectable artesunate and seasonal malaria chemoprevention for under fives in the Sahel should be scaled up.



LLIN mass distribution, Anambra State 2009 (photo:William Daniels)

¹ Estimated using Lives Saved Tool

Background

The Federal Republic of Nigeria, a country on the Gulf of Guinea in West Africa, is Africa's most populous nation. The country has a projected population of 185 million people² and a land area of 923,768 km² (356,669 ml²). Nigeria is Africa's largest economy³; as of 2013, the gross domestic product (GDP) was \$568.5 billion⁴. In terms of natural resources, Nigeria is arguably one of the most endowed nations in the world; it is Africa's largest producer of crude oil and seventh largest oil exporter in the world. In 2003, Nigeria became the world's biggest producer of cassava in addition to being the world's all time largest producer of yam.

However, Nigeria has some of the most *unacceptable* health indices in the world. Average life expectancy at birth is 53.2 years⁵, up from 44 years in 2008⁶. Current total fertility rate is 5.5, down from the 5.7 reported in 2003 and 2008⁷. Infant and under-five mortality rates (i.e. deaths per 1,000 live births) are: 69 (infant), and 128 (under-five). The neonatal mortality rate is 37, while post-neonatal mortality rate is 31 deaths per 1,000 live births⁸.

Although maternal mortality in Nigeria fell from 800 deaths per 100,000 live births in 2003 to 545/100,000 live births in 2008, the country currently accounts for 14 percent of global maternal deaths.

Malaria

Many of the child, maternal and other adult deaths are caused by malaria, with poor governance, sub-optimal health infrastructure, and inadequate health-seeking behaviours as underlying factors.

Also underlying is the fact that Nigeria lies in the heart of the tropics on the west coast of Africa. The country stretches from the Atlantic coast in the south to the fringes of the Sahara Desert in the north within climatic conditions that are conducive to the breeding of the malaria vector and the transmission of the disease. In the southern coastal areas and hinterland, and the central region where the rainy season ranges from 5-9 months, there is sufficient moisture for year-round transmission of malaria. In the arid north where there is a shorter rainy season, malaria is seasonal.

Malaria is a major public health problem in Nigeria; it is endemic and a major cause of morbidity and mortality, particularly, as noted above, among pregnant women and children under five. An estimated 97 percent of the population are at risk of malaria. In 2010, Nigeria accounted for 32 percent of the global estimate of 655,000 malaria deaths⁹. Annually, it is estimated that the productivity and economic losses and opportunity costs due to malaria amount to 480 billion Naira yearly¹⁰.

2 National Population Commission, 2015

3 Federal Office of Statistics, 2014

4 World Bank, 2014

5 Nigeria Demographic and Health Survey (NDHS), 2013

6 Context and an overview of the programme achievements, experiences and lessons; SuNMaP, June 2012

7 NDHS, 2013

8 Op. cit.

9 World Health Organization, 2012

10 Federal Ministry of Health (FMoH), 2012

Baseline at SuNMaP inception

Prior to the inception of the Support to National Malaria Programme (SuNMaP) in 2008, some of Nigeria’s major health indicators, particularly those related to malaria, were alarming. They include:

- Average life expectancy: 44 years
- Maternal mortality: 545 deaths per 100,000 live births
- Under-five mortality: 157 per 1,000 (NDHS 2008; 12th highest in the world)
- Deaths of children under-five years due to malaria 219,000 - 25 percent of global total
- Malaria cases: 34,096,000 (14 percent of global malaria total)¹¹
- 37 percent of all fever cases and 60 percent of outpatient visits due to malaria¹²
- Critical interventions in malaria were sub-optimal
 - Proportion of households with at least one long-lasting insecticidal nets (LLINs): 15 percent¹³
 - Proportion of children under-five who slept under LLIN: 5.5 percent (NDHS 2008)¹⁴

Within the country, there were significant inequities in access to services (figure 1), which along with the worrying indicators justified an intervention supported by the government and people of the United Kingdom (UK).

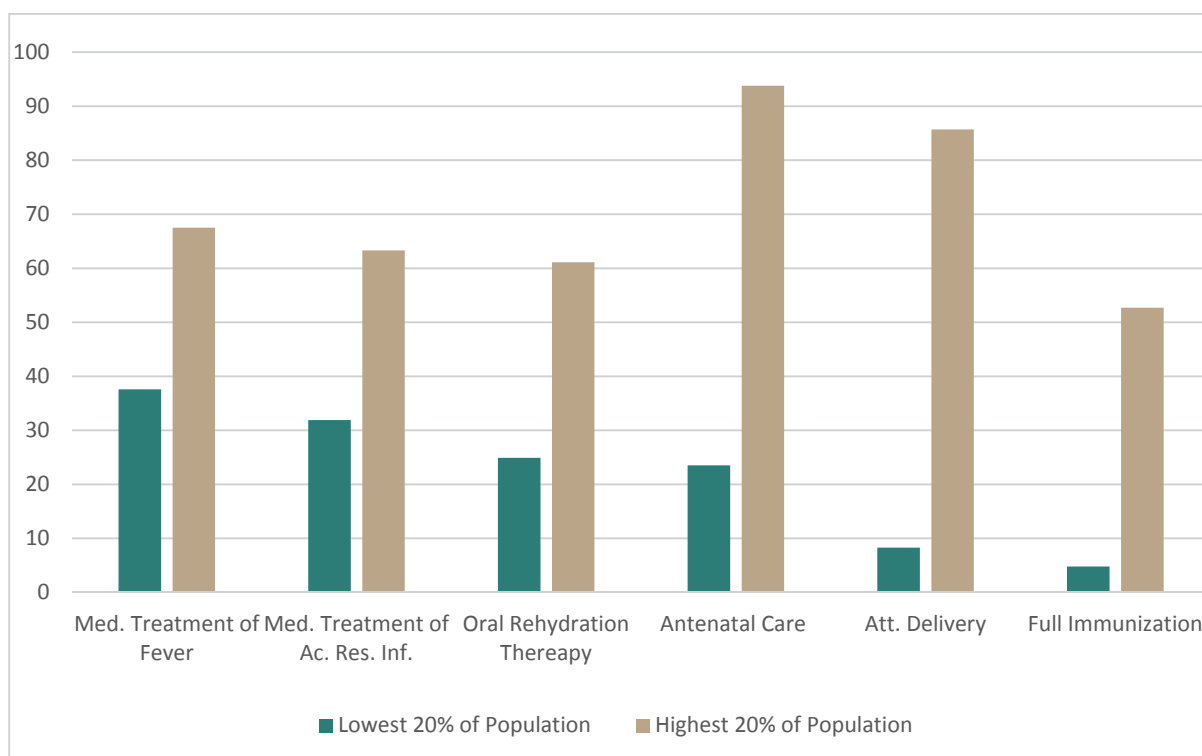


Figure 1: Inequity in the use of primary maternal and child health care services among lowest and highest wealth quintiles at programme inception

11 WMR 2008

12 Op. cit.

13 DHS 2008

14 Op. cit.

The UK government, through the Department for International Development (DFID), awarded the sum of GBP 89 million to SuNMaP partners to provide technical assistance and other forms of support to Nigeria, from 2008-2016. SuNMaP commenced operations in April 2008 simultaneously in Kano, Anambra and Lagos states and at the national level. In April 2009, the programme was expanded to cover an additional three states - Niger, Ogun and Katsina.

After a successful mid-term review in July 2011, DFID recommended that SuNMaP should commence engagement in an additional four states, namely Jigawa, Enugu, Kaduna and Yobe. This brought the number of programme supported states to 10, which remained the number supported up to the time of close out.



A mother and child in Kano

Scope of work

Nigeria's malaria burden is the result of a climate that supports the spread of malaria and the fact that many people do not protect themselves with effective measures, such as mosquito nets, and/or do not receive proper treatment when they fall ill. Also, the availability of mosquito nets and malaria treatments were sub-optimal at the start of the project, largely because the systems to deliver such interventions to the people were weak. Underlying it all was a lack of information among Nigerian citizens on effective prevention and treatment measures. And up to date evidence to inform programme roll-out. SuNMaP's mandate was therefore to address those challenges.

Purpose

The purpose that SuNMaP set out to achieve was to support the National Malaria Control efforts lead by the NMEP (and other sub national government institutions working on malaria) to address the public health and development problems due to malaria.

The specific objectives were the following:

1. 65 percent of children under five years in supported states to sleep under an insecticide treated net (ITN) the night before supported states
2. 35 percent of women with birth in last two years to receive at least two doses of intermittent preventive treatment in pregnancy (IPTp) in supported states
3. 25 percent of children age under five years with a fever episode in last two weeks to receive treatment with ACT in supported states

The achievement of the programme's goals required SuNMaP to work closely with all relevant stakeholders in Nigeria, especially government ministries, the donor community, the commercial sector, non-profit organisations and civil society.

Outcome

The expected outcome of the programme was a reduction in the all-cause mortality of under five years, thereby contributing to Nigeria's effort at achieving the health MDGs.

Overall approach and principles

Approach

SuNMaP invests its resources to support the country to reach its national malaria control targets by increasing access to and creating a demand for quality malaria control services. It also strengthens the capacity for policy development, planning and management and harmonises malaria and health partners' efforts in practical ways at national, state and local levels. The SuNMaP programme is focused on finding Nigerian solutions, drawing on national and local experience supported by international expertise. Using a participatory needs assessment approach, the programme has developed a package of interventions to be rolled-out in an integrated and comprehensive fashion that rapidly increase malaria services coverage and address systemic issues, making the gains reached from rapid scale up interventions sustainable.

Building Capacity and Harmonisation



- Conducting needs assessments
- Development of a capacity building model for malaria
- Regular follow-up and supervision
- Development of strategic and operational plans and budgets
- Strengthening coordination and programme management functions
- Improving access to management information and performance tracking
- Development strategies, tools and plans for harmonization
- Working with other partners to implementation harmonized approaches

Malaria Prevention and treatment



- Use multiple LLIN distribution channels to achieve higher coverage (continuous, mass campaigns and commercial)
- Increase regular access to key malaria commodities
- Facilitate increase in uptake of malaria preventative of interventions by pregnant women
- Improve access to and quality of diagnosis
- Improve quality of care
- Improve access of selected malaria commodities in the retail market

Creating Demand



- Joint review of existing strategies
- Development and implementation of effective communication strategies
- Communication support to ensure community acceptance
- Behaviour Change Communication for appropriate and effective use of interventions
- Marketing support to the commercial sector that is consistent with public health messages

Research, Monitoring and Evaluation



- Development of a national operational research plan for malaria
- Implementation and dissemination of priority operational research as agreed with the National Malaria Control Programme and partners
- Guiding strategies through strong monitoring and evaluation through routine data collection and surveys
- Evaluation surveys to provide evidence demonstrate impact and Inform strategies review
- Improved surveillance and insecticide and drug efficacy monitoring

As each of the states of Nigeria has a unique socio-cultural identity and health system history, SuNMaP's approach was not to develop rigid standardised strategies, methodologies or tools, but adapt the above interventions to the context in each state where it works.

SuNMaP believed that all sectors contribute to public health but none alone can achieve a sustained and total solution. Strengthening the roles of each sector and the synergies between them were at the heart of its mixed model approach. Its work through the public sector resulted in free distribution of commodities as well as routine systems and quality of care improvement. Partnering with the civil

society sector resulted in vulnerable groups being properly targeted and creating a demand for quality malaria services, while SuNMaP’s collaboration with the commercial sector led to mass market response and development enabling lower pricing and leading to long-term sustainability.

SuNMaP outputs

The programme deliverables were:

1. National, state, and LGA capacity for planning, management and coordination improved
2. All agencies’ support for the malaria sub-sector at federal, state and local levels effectively harmonised
3. Population coverage of effective measures for the prevention of malaria increased
4. Access of the population to effective treatment for malaria improved
5. Community awareness and demand for effective malaria treatment and prevention improved
6. Operational research into key areas of prevention and treatment provided the evidence base for more effective strategies

Table 1: SuNMaP strategies for each output

S/N	Outputs	Strategic approach
1.	Capacity building	SuNMaP’s capacity building interventions were built around a people-centred, pragmatic and focused approach that went beyond training to improve the knowledge, skills and practices of programme managers and health care providers. It strengthened organisational capacity to implement effective and sustained malaria control within the health system.
2	Harmonisation	SuNMaP’s approach defined coordination as interactions involving NMEP, SMCPs and LGAs, and the commercial sector. Harmonisation referred to working with supporting partners locally and internationally (funders, technical agencies, community organisations and, to a limited extent, the international private sector). The output supported the systems and capacities of the NMEP and SMCP to coordinate and harmonise donor support better for economy, efficiency, effectiveness and equity. This included performance tracking and corporate communication. The programme approach was to promote ‘issue driven’ harmonisation of partner’s efforts that are fully aligned to the harmonisation of NMEP implementation strategies and tools. While these approaches and mechanisms are predominantly developed at national level, they were replicated and adapted in each programme supported state. The programme support for harmonisation of partners was in the form of technical support, providing a facilitator role.

3	Prevention	<p>The current national malaria prevention strategies recognised the importance of going beyond reduction in the occurrence of malaria fevers to a reduction in the reservoir of infection. To achieve these objectives, multiple intervention strategies taking cognisance of cost effectiveness of the approach, were advocated¹⁵, the scale up of LLIN ownership and use, as well as improving access to IPTp, were two areas the programme supported. The LLIN scale-up was tackled through multiple channels, combining free mass distribution campaigns and a combination of context specific continuous free distribution systems targeting certain population groups. For these, we provided technical support as well as financial support for operational costs and commodities. Our approach to increase access to LLIN through the retail market changed over the programme implementation period based on lessons learned. As a result, the programme adopted in Year 3 and commenced implementation in Year 4 a ‘making markets work for the poor’ (M4P) approach that positioned SuNMaP as a facilitator to trigger sustainable changes without distorting the market. The M4P approach supported the development of the LLIN market, which recognised that market systems can be changed to work more effectively and sustainably for the poor.</p> <p>The programme approach provided for increasing uptake of IPTp in the form of training, demand creation, supervision and commodities support.</p> <p>In March 2012, the World Health Organization released a policy brief relating to seasonal malaria chemoprevention (SMC), recommending countries within the Sahel savannah region to adopt SMC to contribute towards a reduction of malaria related morbidity and mortality. The NMEP, in consultation with stakeholders, included the intervention in national malaria policy. SuNMaP supported the scaled implementation of the intervention in two programme supported states to generate further local lessons and experience to inform SMC scale up by NMEP and partners.</p>
4	Case management	<p>The programme approach towards improving malaria case management was built around two basic principles; these included promoting improved access to malaria diagnosis and treatment services, as well as ensuring that the quality of care by service providers met minimum standards. The programme strategy paper on improving access to malaria diagnosis and treatment included continued support for human capacity development at service delivery points, with special emphasis on parasite-based malaria diagnosis, commodity and supply chain support to fill gaps, support to quality assurance of</p>

¹⁵ Chantal M Morel, 2005

		<p>parasite based diagnosis as well as improved supportive supervision / on the job capacity building. SuNMaP continued to use the M4P approach in support for the development of the ACT and RDT markets, which also enabled SuNMaP to identify gaps before moving to intervene, thereby avoiding any potential market distortions.</p>
5	Demand creation	<p>SuNMaP supported the creation of demand for malaria control services through mass media and community related and interpersonal communication channels at service delivery and community levels. With improved awareness and knowledge, it was envisaged that health-seeking practices would be improved.</p>
6	Operational research and M&E	<p>The approach was to help build up capacity of the NMEP and national research agencies for evidence generation and use. This included the following:</p> <ul style="list-style-type: none"> • Provided further encouragement and potential for evidence based decision making • Strengthened avenues for improved information sharing between related agencies within the federal ministry of health, such as the National Institute for Medical research and planning division of the federal ministry of health • Used to discuss and highlight funding opportunities for research • Provided agencies funding research with a consolidated list of priority research topics of national interest • Strengthened operational research mapping within the NMEP • Supported with capacity building for the development of policy briefs.

SuNMaP management

SuNMaP comprised a consortium of international and local organisations that came together to implement the programme using the special skills that gave each one comparative advantages. The skills set possessed was the basis of the assemblage and the assigning of partners to handle the different outputs. There were three lead partners who are reputable international organisations. These partners are Malaria Consortium, Grid Consulting and Health Partners International. Other partners were London School of Hygiene and Tropical Medicine, UK and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (JHU/CCP). Additionally there were local partners, called *programme implementing partners* with broad community-based networks that implement demand creation activities and others that supported research or commercial sector programmes.

1. Malaria Consortium, an international NGO headquartered in the UK, was the lead coordinating partner responsible for overall programme management. The organisation was also responsible for Outputs 2, 3, and 4 (Harmonisation; Prevention; and Treatment) throughout, Output 1 (malaria policy and MPR) and for Output 5 (Demand creation) and supported the commercial sector initiative.
2. Grid Consulting, specialising in financial and human resource management, as well as development programme management, supported the commercial sector component of the programme covering Outputs 3 and 4 (Treatment and Prevention).
3. Health Partners International, an international partnership of health systems and governance specialists, was responsible for Output 1 (Capacity Building).
4. Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (JHU/CCP) of Baltimore, United States, was responsible for Output 5 (Demand creation) from 2008 to August 2013, when Malaria Consortium took over responsibility.
5. The London School of Hygiene & Tropical Medicine, UK was responsible for Output 6 (M&E and operational research).

The local partners were:

1. Health Reform Foundation of Nigeria (HERFON)
2. Christian Health Association Medi-Pharm (CMP)
3. LLIN commercial sector partners
4. Pharmaceutical Manufacturers Group of the Manufacturers Association of Nigeria (PMG-MAN)
5. Center for Communication Programmes Nigeria (CCPN)
6. Federation of Muslim Women's Associations of Nigeria (FOMWAN)
7. Christian Health Association of Nigeria (CHAN)
8. University of Nigeria Enugu Campus

Table 2: SuNMaP partners and responsibilities

Output	Lead partner	Implementing partner(s)
1	Health Partners International	Health Reform Foundation of Nigeria (HERFON)
2	Malaria Consortium	
3	Malaria Consortium	Christian Health Association Medi-Pharm (CMP) LLIN commercial sector partners
4	Malaria Consortium	CMP Pharmaceutical Manufacturers Group of the Manufacturers Association of Nigeria (PMG-MAN)
5	John Hopkins Bloomberg School of Public Health / Center for Communication Programmes (JHU/CCP 2008 August 2013) Malaria Consortium (Sept 2013 – March 2016)	Center for Communication Programmes Nigeria (CCPN) Federation of Muslim Women’s Associations of Nigeria (FOMWAN) Christian Health Association of Nigeria (CHAN)
6	London School of Hygiene & Tropical Medicine	University of Nigeria Enugu Campus



A pregnant woman receives IPTp in Katsina State

SuNMaP chronology

March 2008

SuNMaP commences operations in three states - Kano, Anambra and Lagos.

April 2009

SuNMaP expands to three more states – Niger, Ogun and Katsina.

SuNMaP is nominated to chair the Programme Management and Integrated Vector Control of Malaria Technical Working Groups.

Monitoring area survey sites to monitor malaria data set up in Anambra and Kano states

July 2010

SuNMaP's total market support to reduce cost of antimalaria commodities to end users commenced.

SuNMaP supports the implementation of the National Malaria Indicator Survey 2010.

July 2011

Following a successful mid-term review, and on the basis of DFID's recommendations, SuNMaP commences engagement in an additional four states - Jigawa, Enugu, Kaduna and Yobe - bringing the total number of supported states to 10. Forty percent of the Nigerian population reside in the 10 SuNMaP states.

July 2012

SuNMaP develops NetCALC 2.0¹⁶ tool for the continuous distribution of insecticide treated mosquito nets. SuNMaP commences an M4P approach in the commercial sector.

Sentinel sites to monitor malaria data set up in all the states except Yobe.

July 2013

Result of SuNMaP study on efficacy of sulphadoxine-pyrimethamine (SP) for intermittent treatment against malaria in pregnancy published. SuNMaP commences seasonal malaria chemoprevention in Katsina State.

July 2014

Result of SuNMaP study on restricting ACT to RDT positive cases showed that there are no adverse outcome.

SuNMaP commences support to change in management of severe malaria with use of Injectable artesunate (proven efficacy for greater malaria mortality reduction- AQUAMAT study).

March 31st, 2016

SuNMaP closes out.

¹⁶ NetCALC 2.0 An Excel-based application/tool to estimate ITN coverage based on ITN distributed: <http://www.malariaconsortium.org/pages/209.htm>

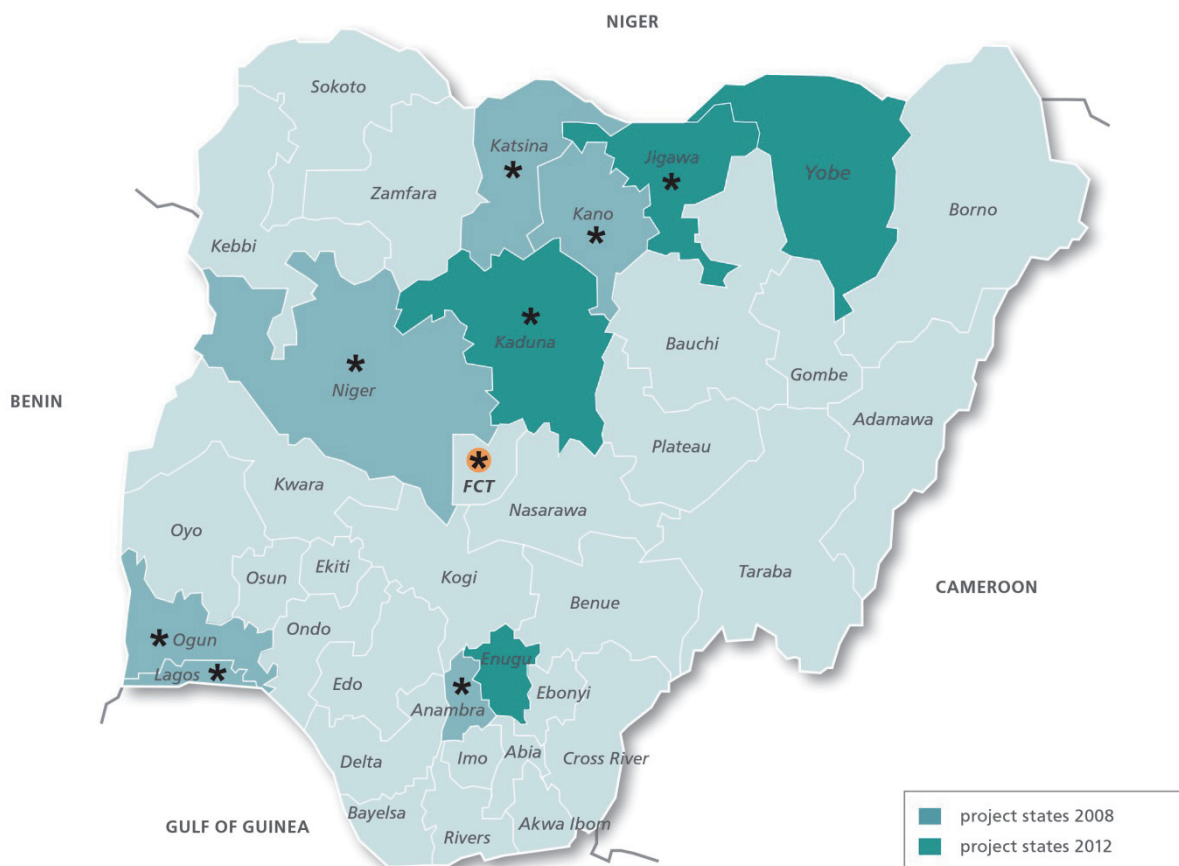


Figure 2: SuNMaP in the states

SuNMaP: inputs, outputs and results

SuNMaP worked at the federal level and in 10 states - Anambra, Kano, Katsina, Lagos, Ogun, Niger, Kaduna, Jigawa, Enugu and Yobe - where 40 percent of Nigeria's population reside. Its focus was technical and financial/operational support for key interventions scale-up through public and private/commercial sectors.

Managed by a consortium of three core partners - Malaria Consortium (lead), Health Partners International and GRID Consulting - SuNMaP worked in partnership with other international and national partners, each with a specific area of expertise supporting SuNMaP's outputs.

Evolution of malaria prevention

The SuNMaP intervention led to the evolution of true malaria prevention and control in Nigeria from 2008. Although it started operating in three states that year, results started showing in terms of inputs, outputs, and outcomes in 2009. Some of the earliest programme inputs into malaria control in 2009 were:

1. With SuNMaP's support NMCP's 2009-13 coordination framework was revised to focus on rapidly scaling up malaria control interventions (and quality assurance) towards achievement of universal coverage.
2. SuNMaP facilitated a call to action for the scale up of LLINs to achieve universal coverage, which led to the development of national LLIN campaign guidelines.
3. As a result of SuNMaP's leadership in the above areas, it was nominated to chair the Programme Management, Integrated Vector Management committees, and co-chair the M&E, and Advocacy, Communication and Social Mobilisation (ACSM) sub-committees of the national Malaria Technical Working Group (TWG).
4. Also in 2009, 249,964 doses of SP were distributed by SuNMaP, one of only two projects supplying SP for IPTp. This was as a result of observed gaps in the procurement of this drug, underscoring SuNMaP's responsiveness to needs in the health systems.

During the national LLIN distribution campaign of 2010, SuNMaP provided technical support in distributing about 40 million LLINs nationwide. What is more, SuNMaP's direct contribution of these live saving commodities reached two million nets. It was also in 2010 that SuNMaP's total market support to reduce the cost of LLIN to end-users commenced, while the year's SP distribution by the programme was 1.2 million doses, more than quadrupling what was achieved the previous year.

By the end of 2012, SuNMaP had distributed about 4.2 million doses of SP, out of which 1.1 million was distributed in 2012 alone, and it had contributed 2.7 million of the 47 million nets that had been distributed nationwide in the mass LLIN campaign. In the same year SuNMaP also supported the development of a national implementation plan for the continuous distribution of LLINs, which culminated in

- the development of NetCALC version 2.0, a tool to help malaria programmes in the management of a comprehensive ITN strategy
- subsequent distribution of about 1.35 million LLINs through continuous channels

Later that year, result from SuNMaP commercial sector market analysis led to the M4P programme. This programme was premised on the fact that the total market approach which relied more on cost-sharing and subsidies for players in antimalaria commodity value chain might not be altogether sustainable in the long run. The M4P therefore targeted the removal of market bottlenecks and enhancement of market systems for antimalaria commodities.

Early in 2013, positive preliminary results were received from a SuNMaP study to evaluate suspected SP resistance and effectiveness as drug for IPTp. The results confirmed the current policy that SP should remain the drug of choice for malaria prevention in pregnancy.

Also in 2013, the results from the National Demographic and Health Survey were published. This survey indicated that SuNMaP was on course and contributing to heartening improvements in the health situation of Nigerians. These results were that:

- The proportion of households with one LLIN increased from 8 percent to 50 percent (NDHS 2013);
- The proportion of children under five who slept under a net the night before the survey increased from 5.5 percent to 16.6 percent (NDHS 2013); and
- Under-five mortality rate decreased from 157 to 128 per 1,000 (NDHS 2013).

Towards end of 2013 and in 2014, SuNMaP continued to demonstrate its responsiveness in filling gaps in SP supply by procuring and distributing 274,057 doses of SP in supported states to strengthen IPTp. The vector control working group of the malaria TWG, which was chaired by SuNMaP, developed a revised strategy for integrated vector management. Two rounds of SMC were conducted, resulting in reduction in malaria morbidity by 50 percent (Year 1) and 68 percent (Year 2).

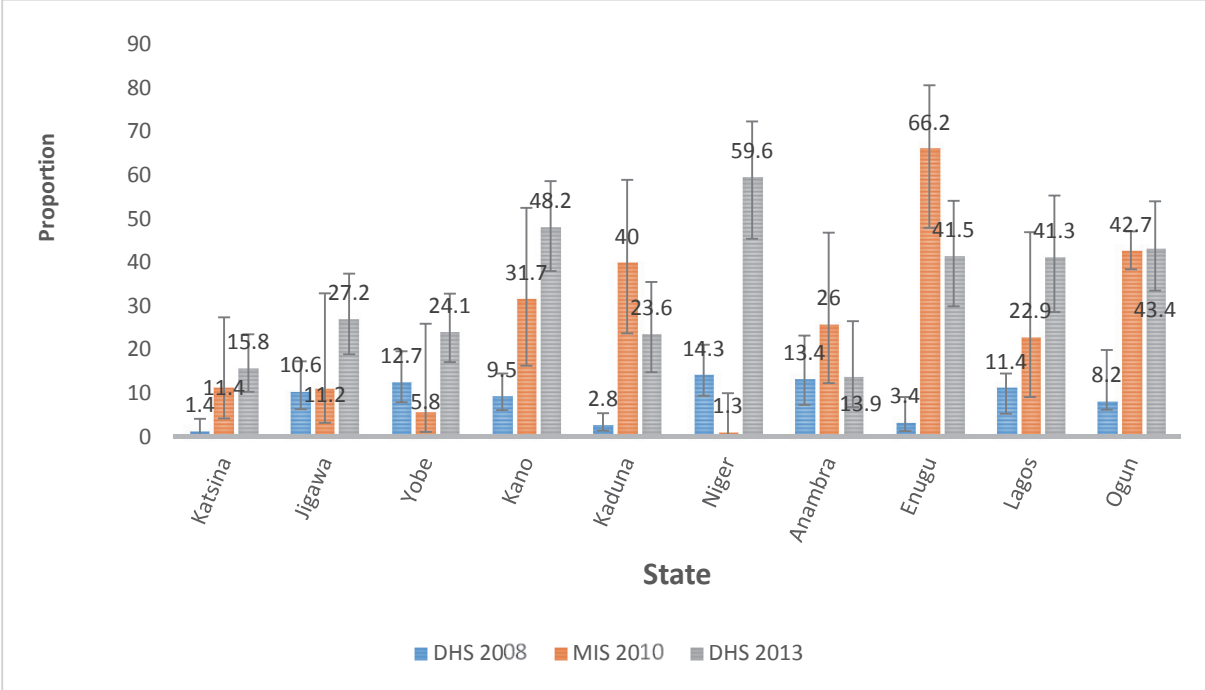


Figure 3: Proportion of women who took adequate IPTp, in the different surveys, in SuNMaP states only

Figure 3 shows that there was a significant increase between the DHS 2008 survey and the DHS 2013 survey, in the proportion of women who took adequate IPTp, in all states, except for Yobe, and Anambra. Results also demonstrate that there was significant variation in the proportion of women who took adequate IPTp between the different states in each of the survey years.

More results on malaria indicators were received in 2014 from the Standardized Monitoring and Assessment of Relief and Transitions (SMART) survey. These included indications that:

- The proportion of households with one LLIN increased from 50 percent (NMIS 2010) to 53 percent (SMART 2014)
- The proportion of children under-five who slept under a net the night before the SMART survey increased from 16.6 percent to 25 percent
- The proportion of children under-five who slept under a net the night before the SMART survey was 28 percent in SuNMaP-supported states, slightly greater than the national figure of 25 percent

Also in 2014, preliminary studies on SMC in Katsina State indicated a decline in the number of malaria cases.

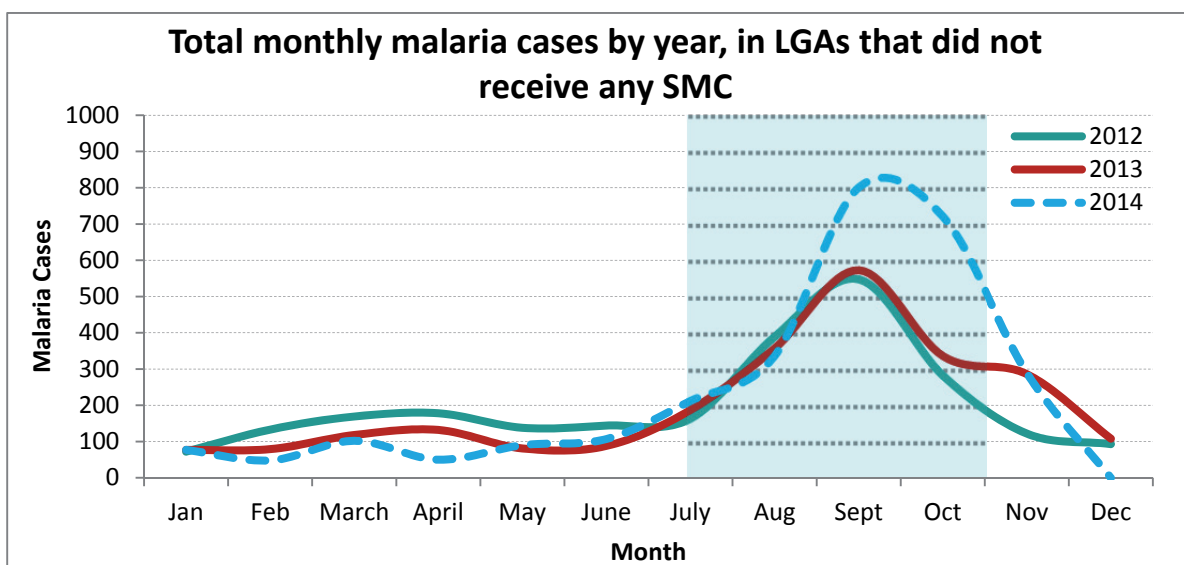
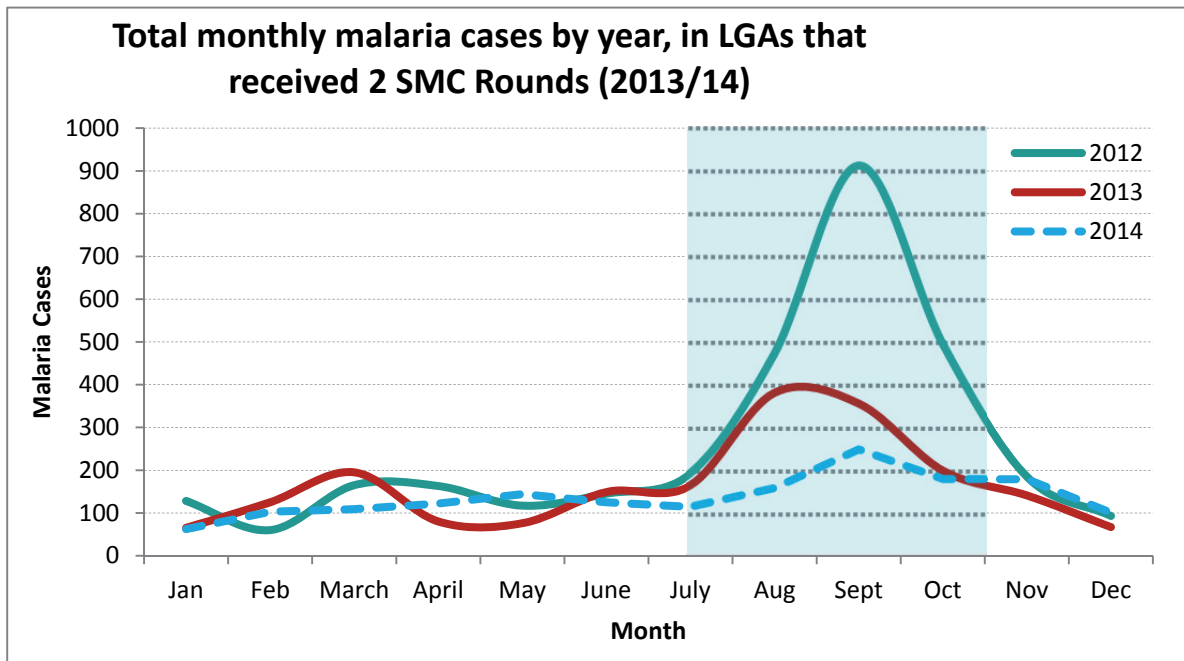


Figure 4: Total monthly malaria cases by year in LGAs that did/did not receive two SMC rounds (2013/14)

By the beginning of 2015, 100 million nets (14 percent of global total) had been distributed nationwide in Nigeria, using an approach developed by SuNMaP. Also, through SuNMaP alone:

- 5.7 million LLINs were distributed through replacement campaigns in three states, bringing the cumulative total to 7.4 million (or 7.4 percent of national total)
- A cumulative total of 4.5 million LLINs were distributed through continuous channels

- A cumulative total of 6.6 million doses of SP were distributed
- A cumulative total of 2.2 million sulfadoxine-pyrimethamine plus amodiaquine (SP-AQ) tablets were distributed during SMC
- A cumulative total of 2.2 million nets were sold through the commercial sector.

Evolution of case management

The current national policy on malaria case management dates from 2009. Although it was the first anniversary of SuNMaP, the programme had been able to make a mark on national malaria case management policy in a number of ways:

- SuNMaP supported a national initiative to revise the policy document on case management and guidelines to rollout mRDTs (revisions included a shift from presumptive diagnosis to parasite-based diagnosis)
- SuNMaP led the national communication strategic framework (to increase demand for artemisinin combination therapies (ACTs))
- SuNMaP led harmonisation of capacity-building modules for malaria case management (most partners are now using these modules)
- SuNMaP reached 3,339 service delivery points with health care worker (HCW) training using harmonised modules
- The programme supported the implementation of the first National Malaria Indicator Survey

Results from the case management interventions started manifesting in 2010. These included indications that:

- the number of children under five years with fever in the last two weeks taken for treatment within 24 hours increased from 15.2 percent to 39.4 percent (NDHS 2008, NMIS 2010)
- the number of children under five years with fever treated with ACT improved from 2.4 percent in 2008 (DHS 2008) to 5.9 percent (NMIS 2010); this was 6.5 percent in SuNMaP states (NMIS 2010).

In 2011, SuNMaP commenced integrated supportive supervision and on-the-job capacity building (OJCB) in six states. Similarly, the programme scaled up its capacity building initiative to strengthen the health workforce. By the end of the year, cumulatively, 6,062 Health Care Workers in 5,421 Service Delivery Points and 2,257 health facilities had been trained. That year, SuNMaP's operational research on knowledge and skills of health workers, showed improvement in parasite-based diagnosis, confirming that there is value for the investment in building the capacity of health workers.

To complement the knowledge and skills gained, supply of commodities had to be guaranteed. Therefore, gaps in ACT and mRDT supply by the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) led SuNMaP to procure 225,850 ACTs and 215,130 mRDTs for primary health care centres-again attesting to SuNMaP's flexibility to real health system needs.

Supporting testing before appropriate treatment in 2012

Following gaps shown by laboratory assessment, SuNMaP procured binocular microscopes for referral facilities and supported training for laboratory scientists in 2012. This was to ensure that the referral centres have the manpower and equipment to appropriately diagnose malaria. In addition, the programme distributed 197,339 doses of ACT and 211,475 mRDT kits.

Figure 5 below demonstrates that in the MIS 2010 survey, there were three states that did not test for parasitaemia in children presenting with fever (Niger, Lagos, and Ogun). However, for the 2013 survey, all three of these states had implemented testing using a finger or heel stick. The other states did not experience any significant differences between the MIS 2010 survey and the DHS 2013 survey.

In the period 2013-2014:

- A SuNMaP study on restricting ACT to mRDT-positive cases showed that there were no adverse outcomes for untreated cases that were negative, and confirmed the current policy of using ACT only on cases confirmed positive by mRDT. This study will help reduce the confusion of clinicians about what to do with febrile cases that turn negative on mRDT, and allay fears of a false negative mRDT leading to missed malaria diagnosis and treatment.
- SuNMaP distributed 2.3 million doses of ACTs and 2.4 million mRDT kits
- SuNMaP supported the development of malaria diagnostic external quality assurance (EQA) operational guidelines.

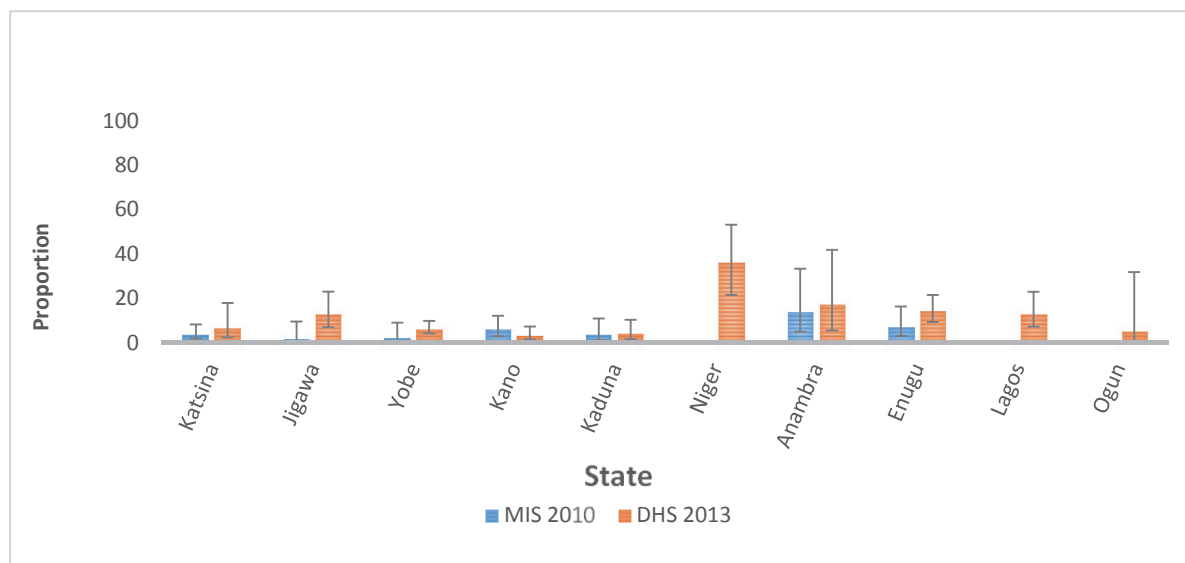


Figure 5: Proportion of under-fives who reported a fever in the past two weeks who received a blood test for the different SuNMaP states and survey years

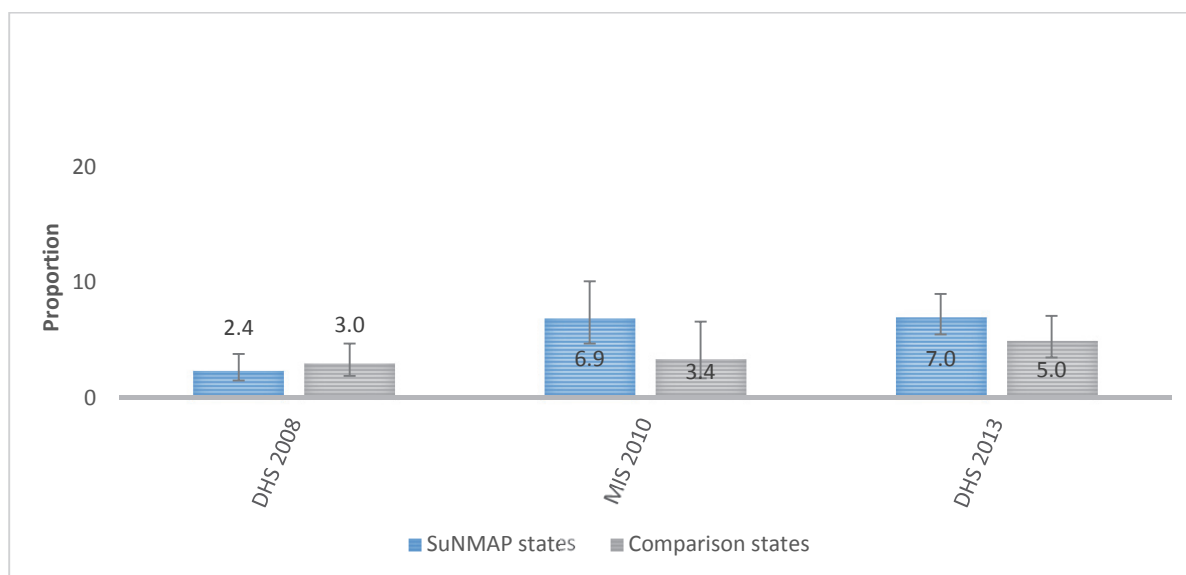


Figure 6: Proportion of under-fives, who had a fever and who took artemisinin combination therapy, for the different surveys, and for the different intervention areas

Results demonstrate that there was a significant increase in the proportion of children who presented with a fever and who also took artemisinin in SuNMaP and non-SuNMaP states between 2008 and 2013.

Appropriate treatment: ACTs and injectable artesunate

In 2014, SuNMaP trained 182 HCWs in the use of injectable artesunate, following which 66,000 vials of injectable artesunate were supplied. This training and commodity procurement was informed by the results from the AQUAMAT study which showed greater efficacy of injectable artesunate in reducing mortality from severe malaria. SuNMaP also supported drug therapeutic and efficacy testing involving Amodiaquine/Artemether Lumefantrine (AQ/AL). The test showed AQ/AL efficacy of over 96 percent and the study was published in the *American Journal of Tropical Medicine*¹⁷.

Reduced out-patient cases of malaria

SuNMaP collaborated with SMEPs to randomly select nine sites (3 secondary and 6 PHC) from the updated list of all health facilities (PHCs and secondary) in each of the 9 SuNMaP supported states. The facilities were selected to cover the different endemicity regions in the state. The main aim of setting up these sites was to support data management systems especially the HMIS in the states and collect routine data for monitoring and managing of malaria interventions. The data was collected monthly LGA M&E officers in collaboration with SuNMaP. Data collected included outpatient cases of malaria.

Evidence from Kano and Ogun sentinel sites shows a decline in the number of out-patient cases reported to be malaria cases (among children under five years of age) from 35 percent in 2012 to below 10 percent in 2015 and from 85 percent in 2012 to below 30 percent in 2015 for Kano and Ogun respectively.

¹⁷ September 22, 2014; <http://ajtmh.org/cgi/doi/10.4269/ajtmh.13-0248>

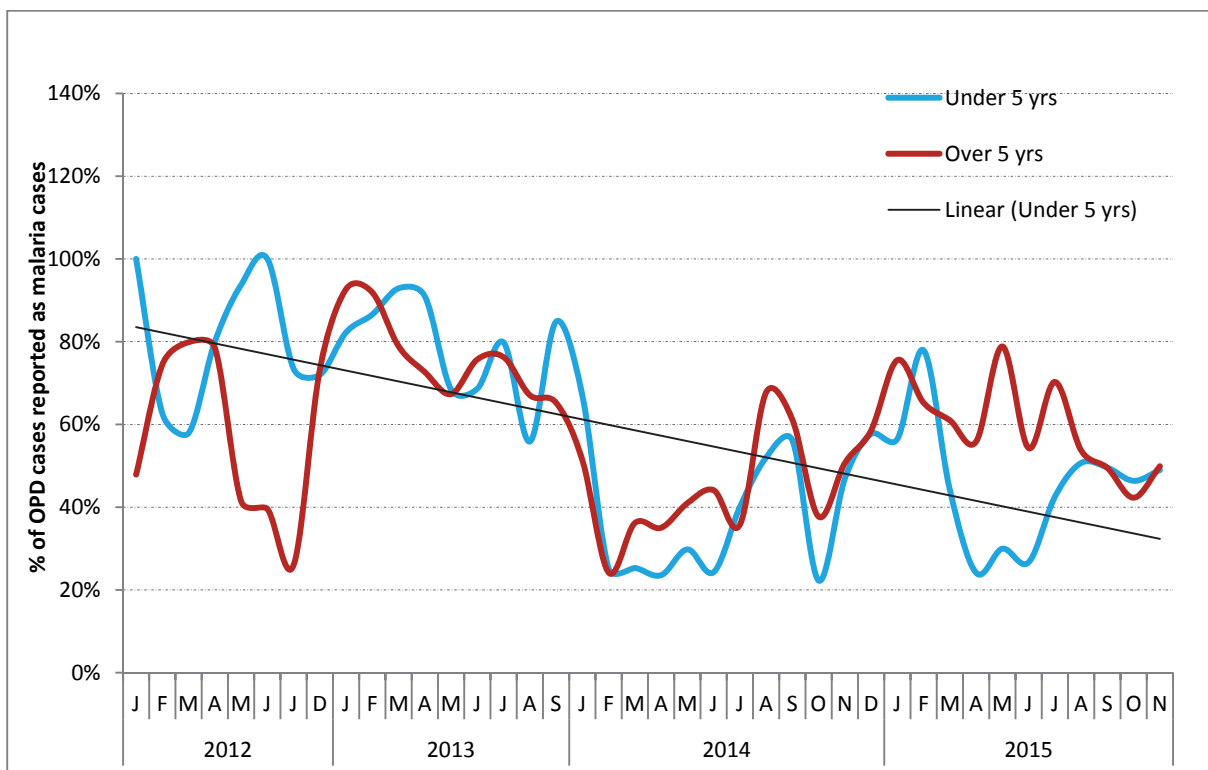
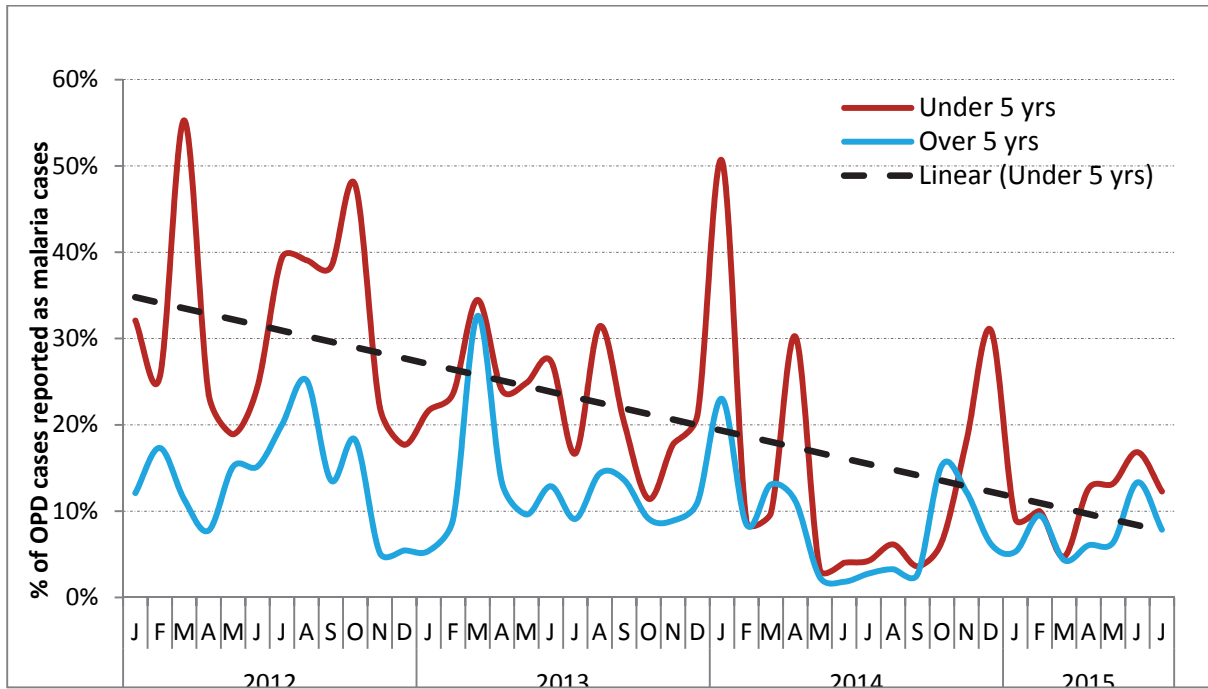


Figure 7: SuNMaP’s sentinel sites in Kano and Ogun showing a decline in outpatient cases of malaria

By August 2015, SuNMaP had been responsible for the distribution of:

- A cumulative total of 4.5 million ACTs
- A cumulative total of 5.1 million mRDTs
- A cumulative total of 5.1 million ACTs sold in the commercial sector.

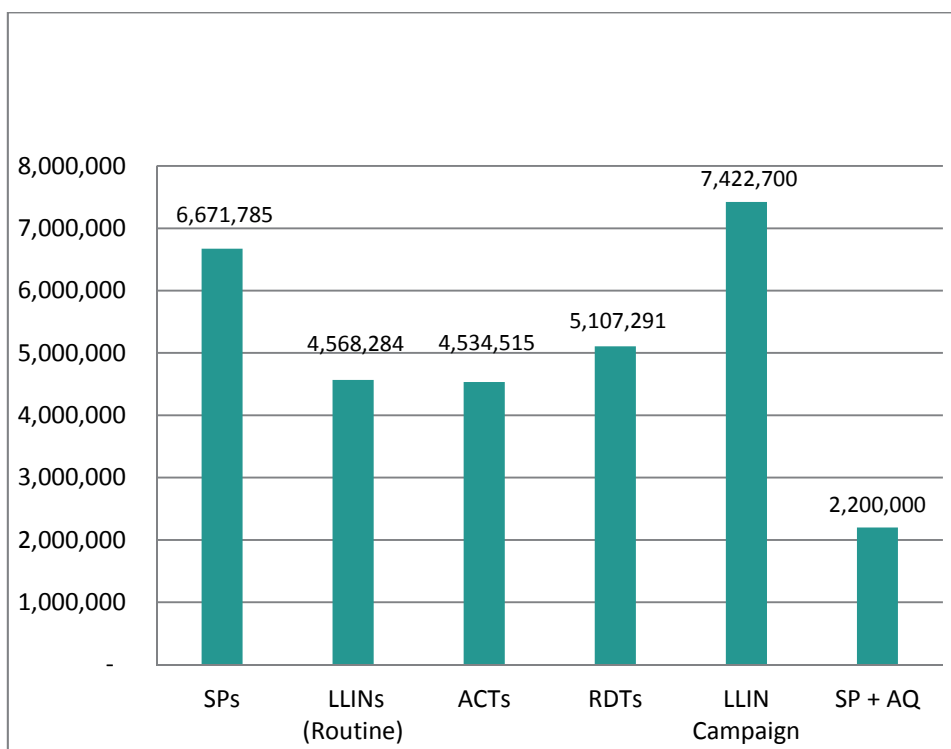


Figure 8: SuNMaP’s contribution to commodity procurement and distribution as at February 2016

Being a programme that focuses on outcome and impact of programmes rather than just inputs and outputs, the SuNMaP contributed significantly to the National Malaria Indicator survey that was conducted towards the end of 2015. The awaited results from this survey will therefore confirm the suggestions of an impactful contribution of the SuNMaP from proxy indicators above.

Strengthening the Health Management Information System

Health Management Information System (HMIS) in Nigeria has registered significant improvements over time with tools harmonisation, capacity building, and quality improvement. Migration from paper based to the electronic platform (DHIS2) underway and has received considerable acceptance by all stakeholders. SuNMaP has been a key partner in HMIS strengthening and supported processes such as capacity building, national and state/LGA level M&E coordination and tools provision. The programme also supported the states through well-coordinated monthly LGA malaria focal persons and quarterly Health Management Information System officers meeting aimed at harmonisation of the data collection, use and quality.

With SuNMaP contribution, analysis of the reporting rate from the 10 supported states show markedly improvement over the years from less than five percent in 2011 to over 70 percent in 2014 and this is well above the national reporting rates (Figure 9).

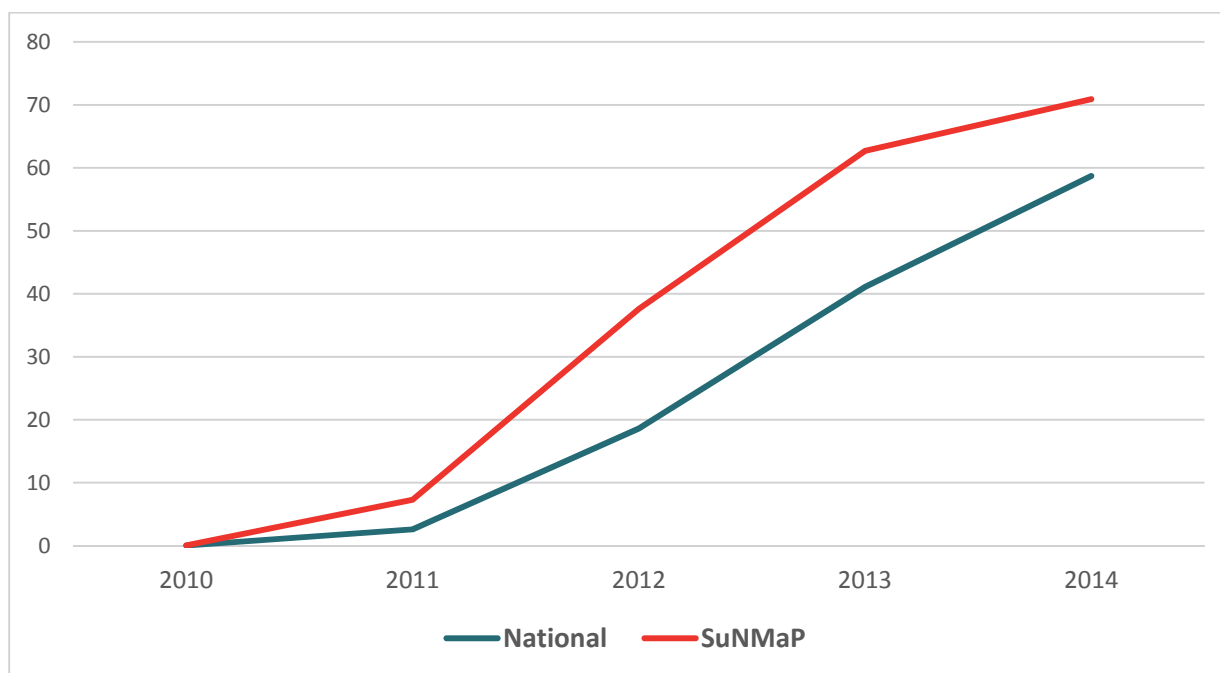


Figure 9: Trends in NHMIS reporting rates (percent): national versus SuNMaP supported states

A monitoring area survey was carried out in the four sites in Kano and Anambra which (Doguwa and Makoda in Kano, Nibo and Omor in Anambra) which represent different malaria epidemiology, to provide standard indicator estimates at more frequent intervals than national surveys. The data collection at baseline was timed annually at off-peak transmission season and thereafter at peak transmission season. The data called was to allow the project to evaluate some local-level outcomes of Malaria Control efforts such as LLIN and ACT use and changes in treatment-seeking behaviour measured at both household and health facility levels.

Primary purpose of the monitoring areas was to establish the level of implementation and coverage for: universal coverage with ITN, prevention of malaria in pregnancy with IPTp and universal parasitological diagnosis of clinical malaria and treatment with ACT.

The four impact indicators used to assess progress in child health in general and malaria control in particular were:

- Prevalence of malaria parasitaemia in children 6-59 months of age
- Prevalence and severity of anaemia in children 6-59 months of age
- Growth-retardation (stunting) in children 6-59 months of age
- All-cause under-five mortality rate

The map below shows the monitoring area survey sites and their location in the transmission intensity.

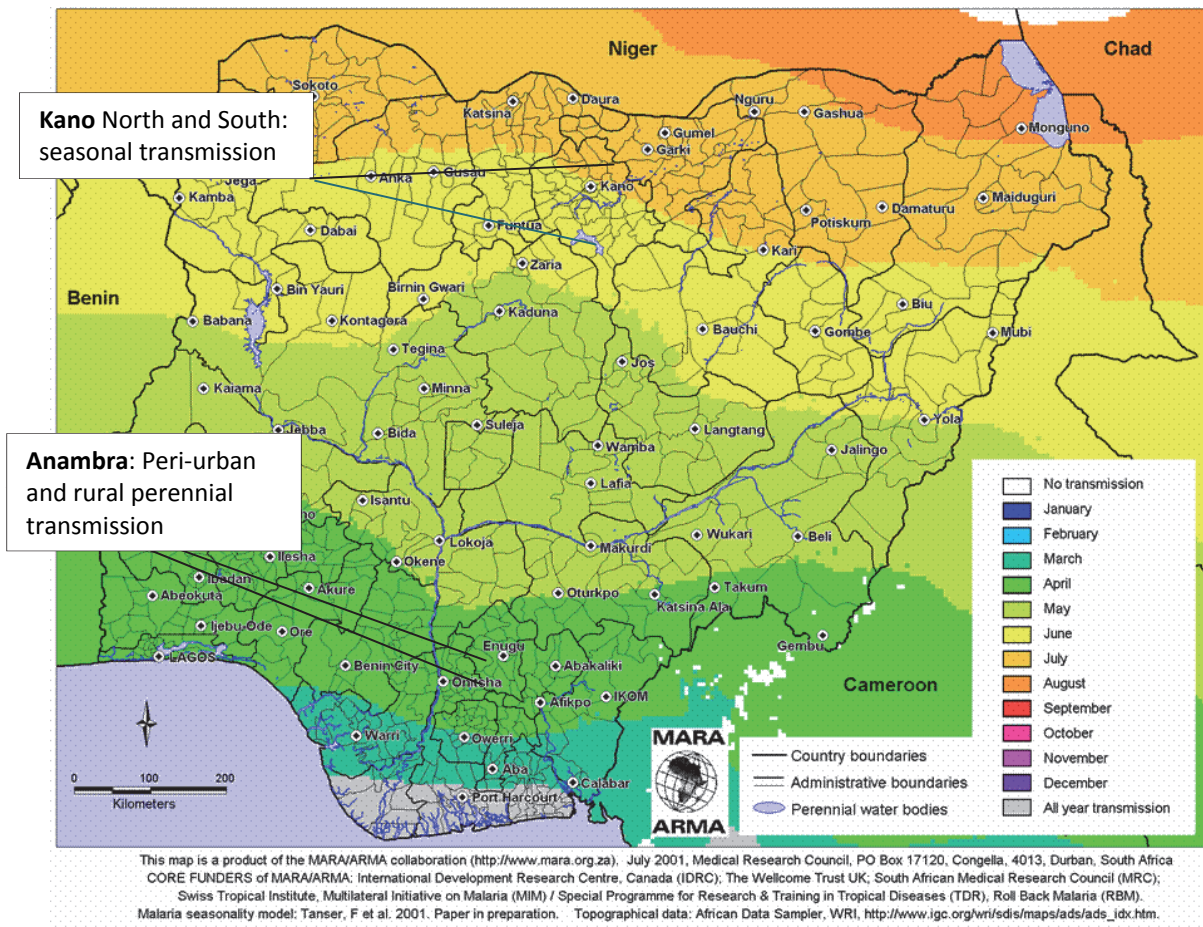


Figure 10: Nigeria: first month of the malaria transmission season

Malaria parasitaemia

Results from these surveys show improvement in the proportion of households with any insecticide treated nets in the two LGAs, at over 80 percent over the six year period. Similarly, there have been reductions in malaria prevalence in all the four sites and more markedly in Omor LGA (Anambra) with a reduction from 20 percent in 2010 to less than two percent 2014 while in Doguwa LGA (Kano) with a reduction from 20 percent in 2010 to less than five percent 2014.

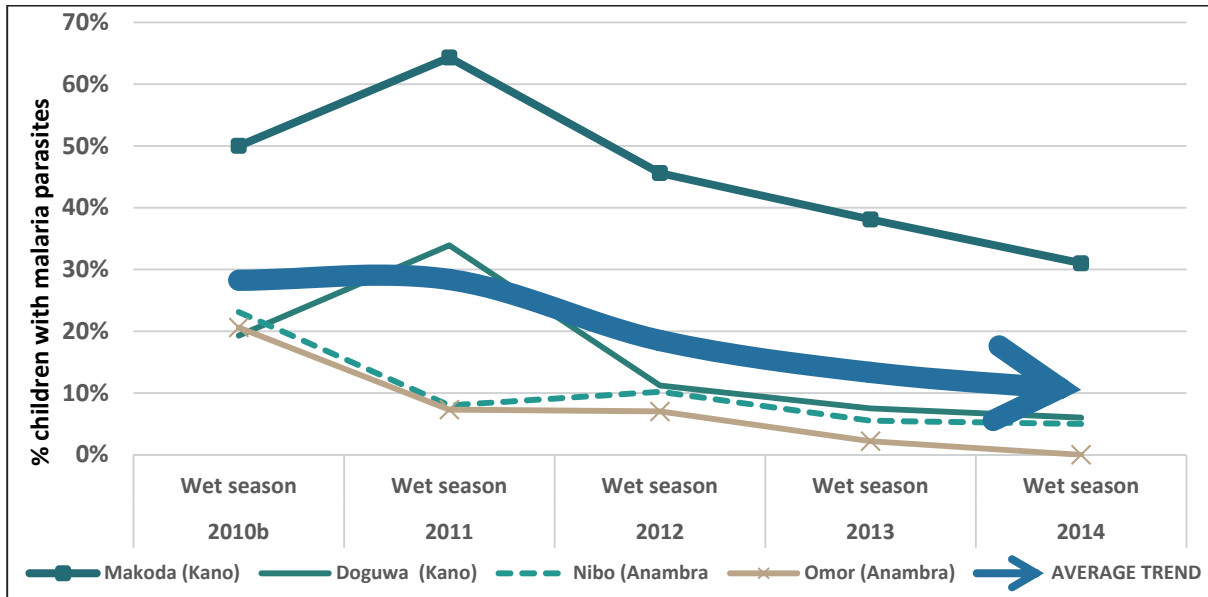


Figure 11: Percentage of children with malaria parasites

ITN ownership

At the baseline survey, 3.4 percent of households in the two Kano sites had any mosquito nets and 1.2 percent had any ITN, while for Anambra these figures were 40.8 percent and 25.3 percent respectively. Following the campaign, the ownership coverage of at least one ITN increased to 86.5 percent and 89.9 percent in Kano and Anambra respectively, and stayed at a similarly high level throughout the follow-up of 26 and 28 months. The proportion of households with at least two LLINs, the aim of the campaigns, was also very high but slightly higher in Anambra with 81-85 percent compared to Kano with 67-76 percent. This was due to two main factors: a) the lower registration rate during the campaign which was 71 percent in Kano and 80 percent in Anambra, and b) the lower number of LLINs received per household at the distribution point, which was 1.7 in Kano and 2.1 in Anambra. On average, ITN ownership over the years remained relatively high at above 75 percent.

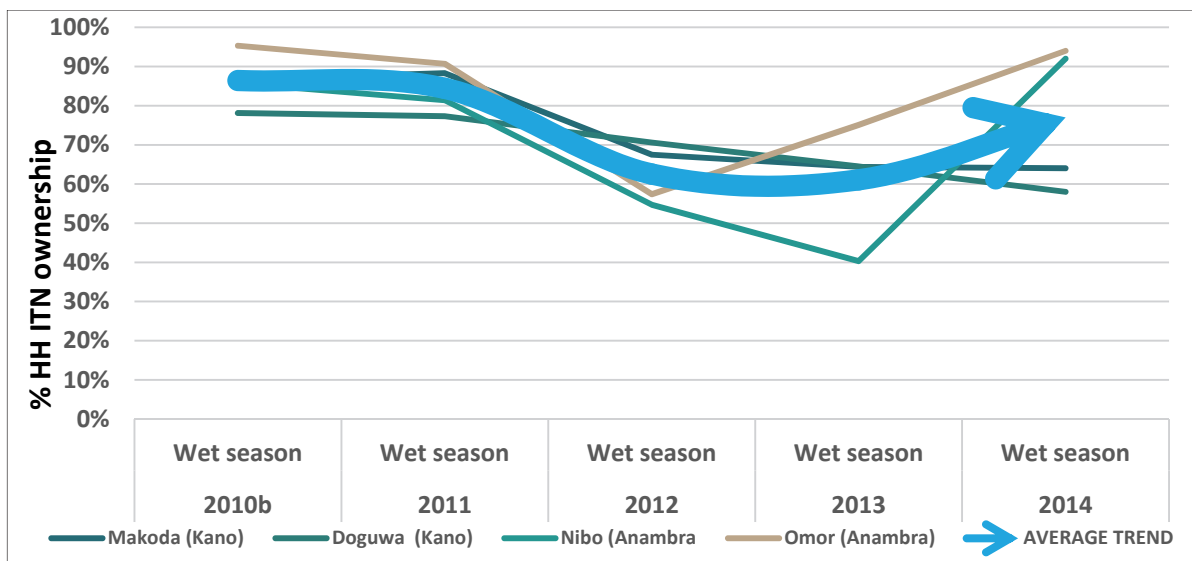


Figure 12: Proportion of households with at least one ITN (from 2010 to 2014)

In order to explore to which extent the observed ITN coverage rate 26-28 months after the campaign deviated from the expected picture if no continuous distribution had taken place at all, a simulation was run using the NetCALC 2.0 tool. Using the average characteristics of the overall population in the monitoring areas it was assumed that the initial campaign had reached a 95 percent coverage at the time of the campaign and then the decline of the ITN ownership coverage was estimated with an average net survival of three or four years. Results are shown in Figure 13 and demonstrate that the results seen in survey 4 were clearly higher than could be expected even with an average four year net survival. This is strong evidence that a level of continuous distribution of LLIN had taken place that was not sufficient to increase the proportion of households with enough nets, but managed to prevent a decline of the ownership coverage. Interestingly, the confidence interval of the 2011 ITN coverage estimate (survey 4) was much smaller and because the sample size was essentially the same this was due to a lower design effect which reduced from 8.0 to 1.7, indicating that there was less difference between clusters. This also suggests that some level of between household and between village re-distribution of ITN could have taken place.

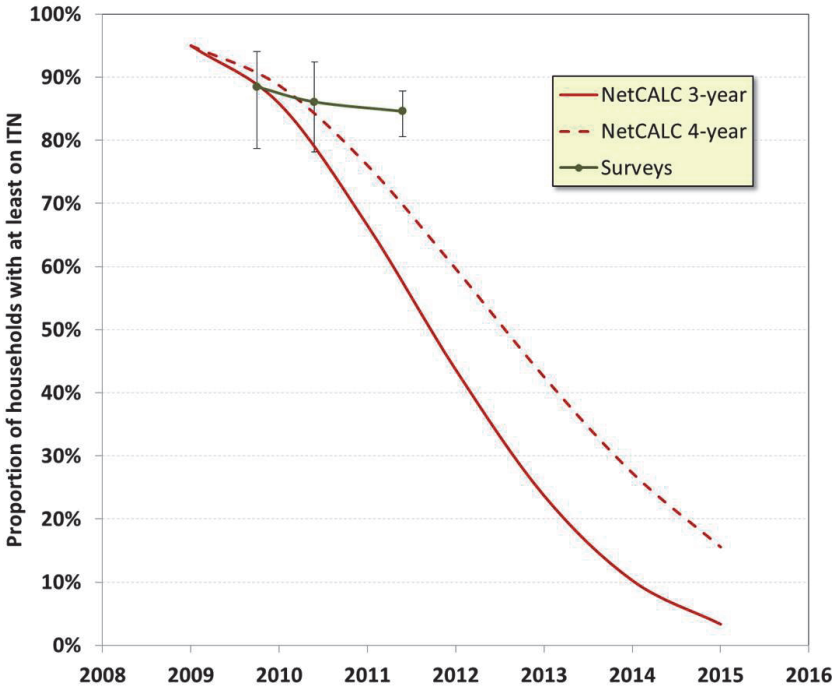


Figure 13: Observed and estimated ITN ownership coverage

Malaria prevention in pregnancy

Considering women with a birth in the last two years there was an increase of the proportion of women receiving at least two doses from 45 percent to 80 percent on average across the four sites.

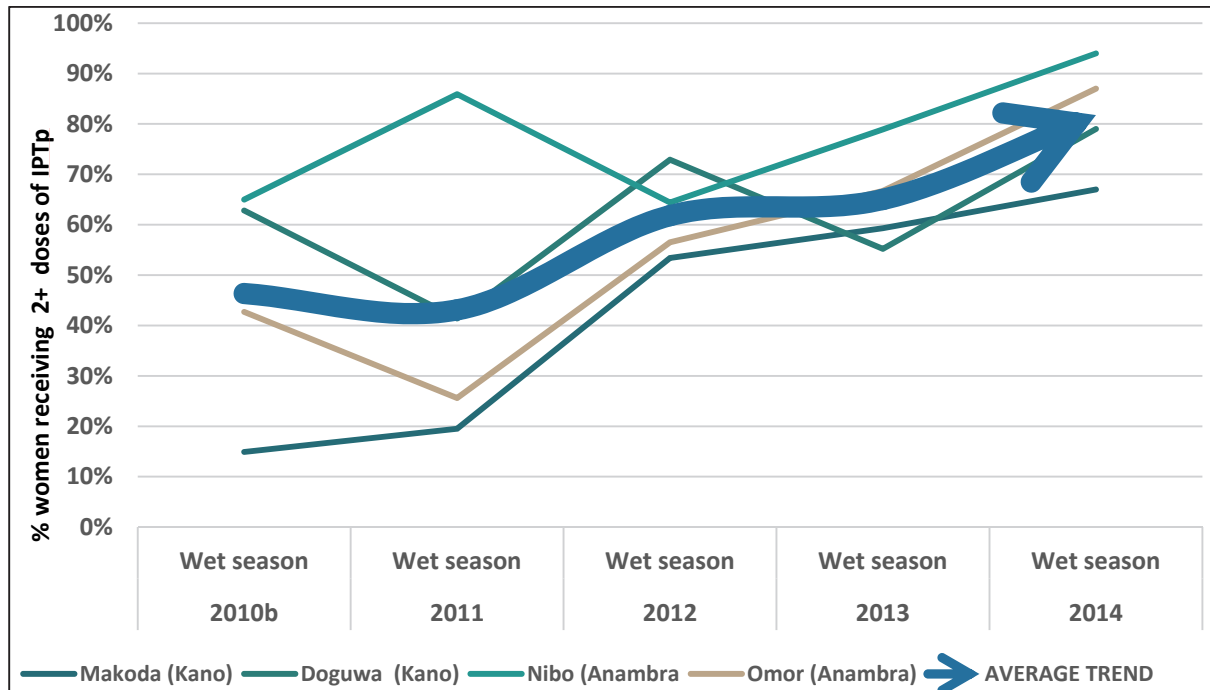


Figure 14: Percentage of women receiving two or more doses of IPTp during the wet season



Pregnant mothers receive free nets at ANC, Yobe

Challenges and lessons learnt

One of the most significant lessons from the implementation of the SuNMaP programme is that one intervention can be so catalytic as to aid the transformation of an entire sector. SuNMaP has been a good example of using one disease programme as an entry point for broader health systems strengthening. The programme was established to help in malaria control but ended up strengthening the health sector in intervention states such that the results are helping service provision across the entire health sector.

Some of the specific challenges and lessons learnt under each of the SuNMaP outputs are outlined below.

CAPACITY BUILDING

- 1. Capacity building interventions are generally well received and accepted by participants.** Feedback from trainees regarding the standard of materials developed through SuNMaP's participative approach was overwhelmingly positive. The use of group work, discussion and 'learning by doing' principles was seen as a benefit to the training sessions, engendering a greater sense of ownership among participants.
- 2. Capacity building interventions are good value for money.** The approach of expanding and adapting existing materials (in the case of service delivery modules) proved to be cost-effective. By training trainers, who cascaded their learning to health workers, large numbers of people were reached at a low cost. The 'cluster approach', whereby training groups are organised by type or location, was found to save time and human resources.
- 3. Partners using the same tools reduces costs.** Using one tool and sharing between all partners means that they spend less on development costs and the time required for roll out. Training partners to roll out shared tools also allows for faster attainment of universal coverage.
- 4. Capacity building in malaria prevention and treatment has beneficial consequences for other areas of healthcare.** Capacity building activities (and the increased availability of antimalaria commodities) not only led to increased prevention and treatment of malaria, but also saw a rise in antenatal attendance by women – leading to improved maternal and child health. In addition, programme tools developed for malaria had wider application and could be adapted to other areas of healthcare.
- 5. Practical barriers limiting capacity building interventions.** A number of factors can delay or interfere with capacity building activities. Some authorities may not view capacity building as a priority and hence not allocate funds, especially at the LGA level. It was also a challenge to get a variety of stakeholders and partners – each with their own capacity building objectives – to agree on a common approach.

HARMONISATION

- 1. Learn to accommodate individual partners' yearly programming cycles.** One of the key challenges in harmonisation was that each partner had its own yearly programme, governing planning, implementation, review and financing. Careful forward planning proved to be useful in creating a framework for harmonisation which takes account the progress of each partner in their annual cycle.

2. **It is important to address the challenges of working with disparate partners.** Encouraging partners to adopt best practices was challenging. Some partners were reluctant to adapt their working practices to become more evidence-based. Others were protective of their territory and were reluctant to share resources. Simple practical issues, such as bringing large numbers of partners together for group meetings, were difficult to overcome. Practicing good planning and communication skills is, therefore, essential. It is also important to be patient and allow for practice and results over time.
3. **Demonstrating achievements can be a challenge.** The benefits of harmonisation may be difficult to demonstrate, especially as it involves a range of outputs from different partners and agencies. Progress must be measured by an increase in scope, depth and breadth, and cover large geographical areas. Performance tracking at national level is good both for reporting on progress and for engaging partners in harmonisation, because every partner wants to know what is happening within its own programme and how that fits into the national context.

PREVENTION

1. **Improving the commercial LLIN sector sales requires a long-term strategy.** While M4P advocates for a flexible and hands-off approach, the complexity of the LLIN retail market space arising from heavy engagement of donors and government means the programme has to adopt a much more hands-on approach at times in order to bring players together and demonstrate a business opportunity. The programme worked continuously to bring market players together, as an educator and mediator, through high level dialogue, consultative workshops, and cross-sector training and promotional events. This role can be intensive and requires more time and resources than were probably committed
2. **Need for evidence based selection of effective prevention interventions at the sub national level:** the selection of the interventions should be based on ecological stratification and preparedness of the local authorities. Nigeria with five ecological transmission zones each with unique attributes. These attributes determines the choice of prevention and management of malaria.

IMPROVED TREATMENT AND DIAGNOSIS

1. **Supporting the drug supply systems at the subnational level to accommodate malaria and non-malaria commodities:** while gains have been recorded in logistics management system for malaria commodities and other commodities at national level, there is a need to focal on the subnational level for not only malaria but also other commodities to limit stock-outs.
2. **Building capacity for integrated Community Case Management (iCCM) roll-out:** Evidence from surveys and risk mapping has shown that malaria cases are on the decline which possess challenges in management of non-malaria fevers hence a need to integrate management of malaria with other childhood illness like pneumonia, diarrhoea and malnutrition using exiting community structures.
3. **Health Providers and community members' confidence in diagnosis:** Underlying the persistent suspicion among clinicians is the fact that malaria cases are on the decline. Proportion of fever cases that are malaria is falling, but this apparently has not being disseminated sufficiently to clinicians who continue to suspect malaria even when mRDT is negative. This becomes a problem for facilities that have access to both mRDT and microscopy. A false positive result on microscopy in the face of a negative mRDT result further erodes confidence in the testing kits.

DEMAND CREATION

- 1. Base communication campaigns on evidence.** Formative research influenced the development of materials as well as the selection of communication channels. Evidence should also be used to explore new methods of communication.
- 2. Capacity to design and roll-out communication activities using innovative approaches and new platforms like social media:** change in epidemiology of malaria calls for doing things differently targeting specific area or zone. This requires innovating ways of communication to the populace for impactful behavioural change.

OPERATIONAL RESEARCH

- 1. Harmonisation between outcome of research and roll-out of policy.**
- 2. Exploring innovative methodology for research to make the outcome relevant to stakeholders and policy makers.**

Overarching lessons

Many other lessons were learnt, but those listed below are the key overarching lessons from which future programmes can learn:

- The assumption that meeting output level indicators will translate to results at outcome and goal level is not necessarily true.
- The length of a programme is important in realizing programme objectives as complexities in health systems mean a gradual response to programme inputs. In the case of the SuNMaP the extension period was utilized to optimized gains from the first 4 years.
- Adherence to testing before treatment, and use of ACT may require a strong demand-side inputs such as empowerment of citizens to hold service providers accountable.
- OJCB and other clinical mentoring approaches need to be intensified to change the mind-set of service providers towards parasite-based diagnosis.
- Although not yet perfect, it is evident that the M4P as an approach that could enhance the attainment of sustainable universal coverage of antimalaria commodities

Recommendations

Capacity building

SuNMaP interventions in capacity building have led to knowledge and practice gains in the health systems of its 10 focal states and beyond, but a great deal remains to be done throughout the rest of Nigeria. The NMEP has taken on responsibility for leading this process and will lead states in introducing capacity building initiatives going forward. As new malaria prevention and treatment technologies arrive in Nigeria, such as the relatively recent introduction of mRDT kits and ACTs, new training protocols will need to be developed and rolled out. Capacity building is therefore a fluid process, and will require constant attention and action by the NMEP and its state and local partners to keep pace with new developments for tackling malaria.

Harmonisation

SuNMaP has taken the lead in building the NMEP's capacity to harmonise all partners and coordinate all tiers of government and stakeholders engaged in malaria control activities. According to the Organisation for Economic Co-operation and Development aid effectiveness framework, harmonisation is the first step towards achieving ownership. It involves better tracking and sharing of results and mutual accountability between the NMEP and partners. To take harmonisation forward, the NMEP will need to:

- **Review the lessons learnt from previous harmonisation efforts and adjust and reform where necessary, with focus on strengthening harmonisation at the sub-national levels.** This will include better synchronisation between the multi-year intervention roll-out planning processes with that of annual operational plans.
- **Continue to build the NMEP's internal coordination capacity for better efficiency and performance management.** This means maintaining or increasing the current level of funding for malaria control by donors and governments and recognising the usual donor fatigue that comes with a reduction of the malaria burden. As a result, the demand for results and accountability from the NMEP will increase. This will be achieved by review of the processes and systems within NMEP and SMEPs and by working with them to put in place institutions that fit for this new role.
- **Link with partners and programmes supporting health systems and governance to address wider reform issues.** The burden of malaria is declining in Nigeria, and there is a need to address broader health systems issues in order to achieve the pre-elimination target of the NMEP. The current coordination platform which focuses on partners in the malaria sector also needs to be reviewed in order to identify lessons and explore how to include wider health systems partners.
- **Share lessons globally and learn from others.**

The sustainability that every programme seeks to achieve is tied to the involvement of partners and government, working in tandem to specific goals and objectives. Lasting success can only be achieved when partners collaborate and harmonise their efforts.

Demand creation, commodity supply and the role of the private sector

In light of the lessons learnt, the following strategic actions are recommended for donors, the federal stakeholders in Nigeria and for practitioners adopting the market system approach for malaria control and elimination:

1. **Adopt the market systems approach as an overall programmatic approach rather than a component of the programme.** This requires a holistic market systems analysis to document the roles and capacity of the public, private and civil society actors in malaria control and prevention. The analysis should then lead to a harmonised approach that involves a set of public, private and civil society interventions to sustain the long term gains from programme interventions.
2. **For the market systems approach to be effective, all RBM partners should be supported to understand the context and application of the approach.** A programme adopting the market systems approach for malaria control and elimination can only be effective if it is embraced by all RBM partners working on malaria control and elimination. A programme in isolation will not be able to deliver systemic change, since other programmes that adopt a more hands-on approach could distort gains by reducing incentives of both public and private sector actors to work together on addressing systemic challenges. It is essential that RBM partners are engaged in discussion of the context and application of the market systems approach for malaria control and elimination.
3. **Invest in development of professionals.** It is recommended that government of Nigeria and donors invest in developing professionals to support adoption of the market systems approach for health programmes. This should include training and capacity building on market systems analysis, partnership with public and private sector actors, facilitation for market systems change, and harmonisation of public and private sector strategies for health interventions.
4. **Invest in systematic documentation and publication of results.** SuNMaP adopted the Donor Committee for Enterprise Development standard for the documentation of results achieved through the commercial sector interventions. The standard is currently widely adopted by market systems projects around the world. Experience suggests that the standard should be adopted for the whole programme rather than a component. This is due to the fact that the standard calls for a resource intensive approach to measure results

Improved diagnosis and treatment

1. **There is a need to improve access at delivery points to quality parasite-based diagnosis and treatment with ACT.** One of the ways to ensure this is to increase training in logistic information management systems in order to maximize available resources for commodities at federal and state level. However, ultimately state government needs to commit more money to commodity procurement. Investment in training more health workers in the use of mRDT and microscopy will also improve adherence to policy and therefore quality service delivery.
2. **Paradigm shift in the training of clinician is urgently needed.** Capacity building of clinicians is often premised on the assumption that they lack the knowledge of current policy. However there is evidence that providers' preference for antimalaria treatment is not informed by what they know but by what they prefer. To this end, creative ways of capacity building in

malaria diagnosis and treatment needs to be developed. One such way is replacing overly didactic trainings with those that will be more participatory and evidence-based (including evidence on reducing burden of malaria and efficacy of mRDT). Medical doctors especially may need to be convinced rather than informed about policy that run counter to their clinical conviction. Some of the difficulty in convincing clinicians is because of the fact that pre-service trainings are not infused with enough public health courses. In order to improve adherence to policy in the long run, it is recommended that pre-service training on a public health approach to malaria diagnosis and treatment for students of medical, nursing and midwifery schools be explored.

3. **States should avail and implement a framework for quality assurance in order to improve trust and reliance on mRDT.** The process of domesticating national quality assurance frameworks in states needs to be intensified and quality assurance systems fully developed. This will eradicate confusion around mRDT and improve adherence to policy.
4. **Paramedics diagnosing malaria with mRDT must be adequately supported with treatment algorithms.** The introduction of mRDTs to primary health care centres that may not have medical doctors has implications for training health workers who need not just to know how to use these kits but what to do if the test turns negative. If a patient has a non-malaria fever, what happens then? How can they be treated? Training of paramedics working in primary health care centres must be tailored towards providing answers to these questions and comprehensive treatment algorithms must be provided.



Health facility in Niger State

Sustainability

SuNMaP was built around strengthening national structures and systems to maximise sustainability. The following outlines some of the issues of sustainability undertaken by the programme during its eight years of implementation.

Capacity building of SuNMaP was ultimately aimed at empowering recipient stakeholders to mobilise resources, take charge, own and drive their fight against malaria. Some of the recurring themes in the programme's capacity building strategy included contextualisation, stakeholder involvement/participation and ownership. These themes were deliberately adopted from the onset of the strategies to engender sustainability. Over the years, the programme has worked with stakeholders across the implementation areas, strengthening the capacity of those who will be responsible for rolling-out interventions in their states. In addition, the programme has created a large body of qualified national and state-based consultants/facilitators, creating a resource which NMEP and SMEPs can call upon if required.

Development of policies and plans. Working with RBM partners, SuNMaP supported the development of several key policies, guidelines, plans/multi-year plans and frameworks both at national and state levels. These will serve as guide for future implementation of malaria control and elimination activities.

SuNMaP partners: The implementing partners, especially Malaria Consortium, are still key players in malaria control and elimination activities in the country and will continue to provide technical and other support as required.

About SuNMaP

Support to National Malaria Programme (SuNMaP) is an £89 million UK aid funded project that works with the government and people of Nigeria to strengthen the national effort to control malaria. The programme began in April 2008 and ends in March 2016.

Led by Malaria Consortium, SuNMaP was jointly managed by a consortium, including lead partners Health Partners International and GRID Consulting, with nine other implementing partners. SuNMaP was implemented in 10 states across Nigeria, including Anambra, Kano, Niger, Katsina, Ogun, Lagos, Jigawa, Enugu, Kaduna and Yobe.

SuNMaP worked with the Nigerian government's National Malaria Elimination Programme (NMEP) to harmonise donor efforts and funding agencies around national policies and plans for malaria control. Project targets were aligned with the National Malaria Strategic Plan and Global Malaria Action Plan. The project aimed to improve national, state and local government level capacity for the prevention and treatment of malaria.

www.malariaconsortium.org/sunmap

This work has been funded by UK aid from the UK government. However, the views expressed do not necessarily reflect the UK government's official policies.

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