



Women receiving nets during a mass distribution campaign in Kano State

Technical brief

Achievements in insecticide treated net ownership and use in Nigeria and challenges to sustaining the gains

Nigeria has been implementing the long-lasting insecticidal net intervention approach as a core malaria prevention strategy over the past decade. In this brief, we present an overview of the achievements and challenges in the use of this strategy and some recommendations based on lessons learnt through the Support for National Malaria Programme (SuNMaP). This document aims to provide information that will prove useful to development partners and policymakers, and contribute to achievement of targets set out in the Nigeria Malaria Strategic Plan 2014-2020 within the framework of the National Integrated Vector Management strategy.

Background

Ninety-seven percent of Nigeria's population live in areas at risk of malaria transmission¹. Malaria exerts a huge burden on the health system, accounting for about 60 percent of outpatient visits and 30 percent of hospital admissions². *Plasmodium falciparum* is the dominant species³. Malaria infection prevalence was on average 42 percent in children below five years old in December 2010, and ranged between 28-50 percent in the geopolitical zones.

Nigeria has a long history of malaria control. Control efforts have been led by the National Malaria Control Programme, within the Department of Public Health of the Federal Ministry of Health. The programme was recently restructured as the National Malaria Elimination Programme (NMEP), with a new goal – to reduce malaria to pre-elimination levels by 2020.

Under the Nigeria Malaria Strategic Plan 2014-2020, at least 80 percent of targeted populations should be using appropriate malaria preventive measures by 2020. This is proposed to be achieved through integrated vector management (IVM) using:

- ▶ distribution of long-lasting insecticidal nets (LLINs) through mass campaigns and continuous distribution
- ▶ rapid scale up of indoor residual spraying and larval source management achieving at least 80 percent coverage of selected intervention areas
- ▶ other vector control strategies such as house screening and personal protection⁴.

To guide the IVM approach, national guidelines are being drafted to provide a ‘rational decision-making process for the optimal use of resources for vector control’⁵. Nigeria aims for universal access to LLINs for all populations at risk of malaria, resulting in at least one LLIN per two persons in every household. To get the nets to the end users and help achieve and maintain universal coverage, a distribution strategy including a mix of the following methods has been implemented:

Mass free distribution campaigns: This strategy involves mass LLIN replacement campaigns every three years. The aim is to replace lost or decayed nets.

‘Keep-up strategy’ for continuous distribution: The ‘keep-up strategy’ involves continuous distribution as a supplement to mass campaigns. This is implemented through multiple distribution channels including routine mechanisms, such as the expanded programme for immunisation and antenatal care; integrated maternal, newborn and child health week; community directed distribution through civil society organisations and non-governmental organisations; existing community structures; schools; and through the commercial sector, including the use of subsidised coupons.

Creation of an enabling environment for private sector involvement: A strong public-private partnership is essential for achieving universal coverage. The NMEP aims to mobilise and encourage private sector involvement to help sustain high levels of LLIN ownership and use. The private sector will use their distribution and business models to generate demand and use of LLINs, including in hotels and schools. Core actions will also include policy development to support local production of LLINs and enforcement of quality control and assurance.

Since 2009, 58 million LLINs have been distributed across the country through universal campaigns followed by net replacement campaigns. These took place in all states and resulted in the distribution of another 46 million as of March 2015. In addition, 4.6 million LLINs were distributed through various continuous distribution channels including the commercial sector. The SuNMaP programme provided comprehensive support to the implementation of the government strategy across all channels of distribution.

Achievements and progress

The National Malaria Control Strategic Plan 2009-2013 had as a target the distribution of about 63 million LLINs by the end of 2010 and to increase usage rates to at least 80 percent. Nigeria commenced LLIN mass distribution campaigns in 2009 to get nets to the population rapidly and ensure that each household in Nigeria owned at least two nets. The campaigns were implemented in batches through the collaboration of the federal

Table 1: Examples of SuNMaP support to the LLIN intervention in Nigeria

Terms of reference	Objective	Achievements
Review and implementation of national strategy for prevention of malaria through continuous distribution of LLINs	To support the NMEP in reviewing and implementing the national guidelines on continuous distribution of LLINs	<ul style="list-style-type: none"> ▶ Reviewed and printed national guidelines ▶ Supported training of malaria programme managers and state logisticians in 21 states on the use of the guidelines ▶ These activities led to introduction of new channels of continuous distribution that are state-specific as identified by State Malaria Elimination Programmes and partners in each state
Support to national rollout of LLIN mass replacement campaigns through the State Support Teams (SST) in Ogun, Anambra, Katsina and Kano states	To support the coordination of replacement campaigns through the SST	<ul style="list-style-type: none"> ▶ Coordinated replacement campaigns through which 46.2 million LLINs were distributed ▶ Approximately five million of the LLINs were procured by DFID through SuNMaP
Post-LLIN campaign audits	To monitor the accountability and transparency in the distribution of LLINs procured by DFID in three states and identify plans for the left over LLINs	<ul style="list-style-type: none"> ▶ Conducted post-LLIN campaign audits in three states. These audits served as a model which the Global Fund used to conduct audits in other states
Design and implementation of other routine channels apart from ANC for LLIN distribution in Niger and Lagos	To distribute LLINs through other promising continuous distribution channels beyond ANC	<ul style="list-style-type: none"> ▶ 30,000 LLINs were distributed through communities in Niger State ▶ 16,000 LLINs were distributed through schools in Somolu LGA of Lagos state ▶ Reports on the process and outcome of these activities were shared with the respective states and NMEP

Table 2: Trends in ITN ownership and use in Nigeria based on DHS surveys 2003-2013

Indicators	DHS 2003 ⁴	DHS 2008 ⁵	DHS 2013 ⁶
% households with any net	11.8	16.9	55.3
% households with at least one ITN	2.2	8.0	49.5
Average number of ITNs per household	-	0.1	1.0
% households with at least one ITN for every two people	-	-	22.1
% population with access to an ITN within their households	-	-	36
% population that slept under an ITN the previous night	-	-	12.9
% children <5 years who slept under any net the previous night	5.9	11.9	18.2
% children <5 years who slept under an ITN the previous night	1.2	5.5	16.6
% children <5 years who slept under an ITN the previous night in households with an ITN	-	49.8	28.4
% pregnant women who slept under any net the previous night	5.4	11.8	17.8
% pregnant women who slept under an ITN the previous night	1.3	4.8	16.4

government, state governments and partners including the World Bank, United States Agency for International Development (USAID), United Kingdom Department for International Development (UK aid), and the Global Fund to fight Tuberculosis, AIDS and Malaria. A total of 57.7 million LLINs were distributed during the campaign, which was concluded in 2013 in 36 states and in the Federal Capital Territory.

In 2013, the first phase of the LLIN replacement campaign was developed to distribute 44 million LLINs in 17 states to ensure replacement of worn-out or lost nets. The replacement campaign was designed to maintain universal coverage by reinforcing the effectiveness of continuous distribution channels. This was meant to ensure access to one net for every two people in the household to a maximum of four nets per household. A total of 46.2 million LLINs was distributed by March 2015 when the campaign was concluded.

Furthermore, to sustain the high net ownership achieved by the mass distribution campaigns, the introduction of continuous distribution channels has been rolling out to various states over the past few years. LLINs have been regularly distributed to the most vulnerable groups (children under five years old and pregnant women) in the health facilities through antenatal care and immunisation clinics. With the support of SuNMaP, approximately four million nets have been distributed using these channels during 2009-2015. Other projects in which Malaria Consortium has been involved, including the USAID-funded Malaria Action Programme for States (MAPS) project, have supported similar continuous distributions. Some states have adopted other channels including community and school-based distribution to complement the health-facility based mechanisms.

Approximately 30,000 LLINs were distributed through community channels in Niger State in 2014 by SuNMaP and 16,000 LLINs through schools in Lagos State. Another Malaria Consortium supported USAID project, NetWorks, also successfully distributed nets through

community channels in Nasarawa State and schools in Cross River State. Evidence has shown that continuous distribution channels have been promising in terms of helping to sustain net coverage.

SuNMaP was also responsible for supporting the sale of 2.2 million LLINs through the commercial sector. This strategy and the issue that arose from working on net distribution via the commercial sector have been discussed in detail in a learning paper produced by Malaria Consortium⁷.

Specific examples of the continuous technical support provided by SuNMaP to the planning, implementation, monitoring and evaluation of the LLIN intervention in Nigeria are listed in Table 1. Substantial progress in increasing the coverage and use of insecticide treated nets (ITNs) in the country has been recorded. The proportion of households with at least one ITN increased from 2.2 percent in 2003 to 49.5 percent in 2013 (Table 2).

Challenges

In spite of the success of the LLIN distribution programme, there have been challenges that should be overcome if net ownership and use is to be sustained over the coming years. Some of these are outlined below.

- ▶ LLIN procurement and distribution are donor-driven and the intervention may therefore suffer a set-back when donors withdraw or reduce their support. SuNMaP carried out work to increase the role of the commercial sector⁸ to help mitigate this risk.
- ▶ Continuous distribution channels have not been sufficiently exploited.
- ▶ Household contributions are very minimal and LLIN distribution is considered by many as government's responsibility only.
- ▶ High costs of imported nets and lack of local production is a concern.

- ▶ Poor antenatal care (ANC) attendance, especially in the rural areas, has resulted in making this channel of net distribution inadequate.
- ▶ There have been issues with the synchronisation of campaign and continuous roll-out activities and scheduling of nation-wide roll out.
- ▶ Leakage of LLINs into the commercial sector needs to be prevented.
- ▶ Low use rate of LLINs has been observed in some areas.
- ▶ State and local government ownership of the replacement campaigns and other IVM interventions must be improved. Resources, according to requirements of different epidemiological settings, need to be committed for advocacy to achieve this.
- ▶ The present strategy for initial and follow-on campaigns should be critically reviewed to cut down expenses and avoid inefficiencies and to elicit lessons learnt. Distribution through other channels should also make use of established structures. The option of rolling out a campaign in a smaller number of states at a time, with a view to cover all states within three years, could be explored as one outcome of the strategy review.

Way forward

Some of the areas of focus to improve and build on efforts to sustain LLIN coverage and use in Nigeria and to address some of the challenges above are listed below.

- ▶ Government budget allocation to malaria control should be substantially improved. This could be achieved by ensuring that State Malaria Elimination Programmes develop their malaria control annual operational plans early enough to ensure they feed into the state annual budget and, through follow-up strategic meetings with state governors, to ensure release of budgeted funds. Over its years of operation, SuNMaP has been able to build the legacy of annual operational plan development in the 10 supported states.
- ▶ Public-private partnerships should be encouraged and involvement of the commercial sector strengthened through support for the retail sector.
- ▶ Exploring local production of ITNs is under way and, if found cost-efficient, appropriate government policies will be required to facilitate the work of the private sector.
- ▶ Close collaboration is required between the reproductive health and malaria control units at all levels to improve LLIN distribution to pregnant women in ANC clinics.
- ▶ Improved promotion of net use is required through extensive and focused behaviour change communication campaigns using culture-compliant multiple media.

Notes

- 1 PMI Malaria Operational Plan for Nigeria 2015: www.pmi.gov/docs/default-source/default-document-library/malaria-operational-plans/fy-15/fy-2015-nigeria-malaria-operational-plan.pdf?sfvrsn=6
- 2 National Malaria Strategic Plan 2014-2020, National Malaria Elimination Programme. Federal Ministry of Health, Abuja, Nigeria.
- 3 National Population Commission (NPC) [Nigeria], National Malaria Control Programme [Nigeria], and ICF International. 2012. Nigeria Malaria Indicator Survey 2010. Abuja, Nigeria: NPC, NMCP, and ICF International.
- 4 National Population Commission (NPC) [Nigeria] and ORC Macro. 2004. Nigeria Demographic and Health Survey 2003. Calverton, Maryland: National Population Commission and ORC Macro.
- 5 National Population Commission (NPC) [Nigeria] and ICF Macro. 2009. Nigeria Demographic and Health Survey 2008. Abuja, Nigeria: National Population Commission and ICF Macro.
- 6 National Population Commission (NPC) [Nigeria] and ICF International. 2014. Nigeria Demographic and Health Survey 2013. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF International.
- 7 George S., Olayinka F., Okeowo B., Kolawole M. (2014). Developing a long lasting insecticidal net retail market in Nigeria. Malaria Consortium Learning Paper series: www.malariaconsortium.org/learningpapers.
- 8 George S., Olayinka F., Okeowo B., Kolawole M. (2014). Developing a long lasting insecticidal net retail market in Nigeria. Malaria Consortium Learning Paper series: www.malariaconsortium.org/learningpapers.

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 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

SuNMaP partners:



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Malaria Consortium Nigeria

3rd Floor, Abia House, Off Ahmadu Bello Way Central Business District, Abuja. F.C.T

Malaria Consortium

Development House 56-64 Leonard Street, London EC2A 4LT, United Kingdom

UK Registered Charity No: 1099776 info@malariaconsortium.org / www.malariaconsortium.org