



SUNMAP 2 EVALUATION LONGITUDINAL STUDY IMPLEMENTATION & LESSONS LEARNT

STUDY CLOSE-OUT REPORT

July 2021



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Cover Images (top to bottom, right to left): Child receiving a rapid diagnostic test; SuNMaP 2 longitudinal study field worker training in Kano; Distribution of insecticide treated mosquito nets to pregnant women; SuNMaP 2 longitudinal study data collection team preparing to conduct household listing in Kaduna; Community level administration of seasonal malaria chemoprevention; SuNMaP 2 longitudinal study data collection team conducting health facility record review in Kaduna. Copyright: Malaria Consortium.

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EXECUTIVE SUMMARY

The entire Nigerian population of 201 million is at risk of malaria, with 76% classified at high risk (1). Children under five years old and pregnant women are at higher risk of contracting malaria, and developing severe diseases as they have not developed immunity or their immunity has decreased due to pregnancy respectively. SuNMaP 2 was a programme funded by the United Kingdom Foreign, Commonwealth and Development Office (FCDO) that aimed to reduce Nigeria's malaria burden through more efficient and effective use of available resources. The programme was to run from 2019-2024, focusing on strengthening the government of Nigeria's malaria control programme to ensure long-term sustainability. In 2021 the SuNMaP 2 programme was terminated by FCDO due to the challenging financial climate created by the COVID-19 pandemic. This report aims to summarise the progress of the London School of Hygiene & Tropical Medicine (LSHTM) led longitudinal study on the SuNMaP 2 programme at the time of early closure of the programme and study.

LSHTM was leading a four-year longitudinal study of SuNMaP2 in two of the six SuNMaP 2 states, Kaduna and Kano. The primary objective of the longitudinal study was to assess SuNMaP 2's theory of change to inform the effectiveness of FCDO's exit strategy from bilateral malaria funding in Nigeria. The mixed method study design combined continuous surveys, programme monitoring data, and qualitative case studies.

The continuous survey consisted of quarterly cross-sectional surveys of households and the health services catering to those households, including both primary and secondary care, as well as pharmacies, private medicine vendors (PPMVs), community health workers, and the Malaria Programme Officer for the local government area (LGA). Data generated from the continuous survey was intended to be shared with the State Malaria Elimination Programmes in Kaduna and Kano on a quarterly basis, and to the National Malaria Elimination Programme on an annual basis.

The collection of programme monitoring data and health information system data was intended to complement continuous survey findings and to provide contextual information associated with implementation of the malaria control interventions. The programme monitoring work tracked key indicators of implementation context and outputs along the theory of change for SuNMaP 2 via the use of routine data, record reviews, and interviews with SuNMaP 2 theme leaders.

The qualitative assessment was planned as a series of comparative case studies. Cases were to be defined geographically, to understand heterogeneity in impact; and temporally, to understand changes over time and sustainability. The qualitative case studies were to be informed by the continuous survey and programme monitoring data, using in-depth interviews and focus group discussions to understand the underlying mechanisms underpinning the theory of change. Data collection was planned for years 3, 4, and 5/6 of the SuNMaP 2 programme to capture the transition, mentoring, and sustainability phases.

At the time of suspension of programme activities in May and closure in July 2021 the study team had made significant progress across all study components:

Continuous survey: developed the protocol; received ethics permissions; conducted pre-testing; trained the SuNMaP 2 and data collection teams on study procedures; piloted the study procedures; completed cycles 1 and 2 of the continuous survey in the randomly selected LGAs of Soba and Kano Municipal for cycle 1, and Sabon-Gari and Ungogo LGAs for cycle 2 in Kaduna and Kano respectively. Over the course of two cycles a total of 6,457 household interviews were conducted, in addition to interviewing a total of 238 service delivery sites across community health workers, primary health facilities, secondary health facilities, pharmacies and PPMVs.

Programme monitoring: developed a characterisation framework to understand and summarise programme interventions, strategies, and other activities, ongoing and planned across all SuNMaP 2 outputs. Under this framework protocol documents, annual reports and yearly log frame tracking records were provided to LSHTM by the SuNMaP 2 team for review. Taking a collaborative iterative approach, the LSHTM team met with the local implementing teams to confirm programme activities and to develop a set of 25 primary and 94 additional indicators that best reflected these activities. The first round of data collection for the programme monitoring indicators was intended to align with the annual report in April 2021 and begin the second quarter of 2021.

Qualitative case studies: workshop convened to agree research aims and plans for the qualitative case studies within the SuNMaP 2 longitudinal study. At time of suspension of SuNMaP 2 activities, recruitment for a research fellow to coordinate the qualitative case study work had been initiated and the protocol was being finalised for ethics submission.

Key learnings from implementing the SuNMaP 2 longitudinal study were:

1. Large scale assessment of an implementation programme requires the adoption of innovative measurement approaches.
2. Guideline development is needed for reconciling and enriching process and implementation findings from internal and independent evaluations.
3. The importance of early and on-going study engagement with the National and State Malaria Elimination Programmes.
4. It's critical to steer malaria programme implementation and evaluation from an equity perspective.

Despite challenging circumstances for study implementation arising from the COVID-19 pandemic, the SuNMaP 2 longitudinal study team had made significant progress across all study components up until the suspension of programme activities in May 2021 . Termination of the SuNMaP 2 programme, a £47 million commitment to malaria control in Nigeria by the UK government, mid-way through is a great loss for malaria control. As Nigeria contributes 27% of all malaria cases and 23% of all malaria deaths worldwide, there still remains a huge need for investment in malaria control in Nigeria, both nationally and globally (1). It is hoped that UK overseas development aid cuts due to the COVID-19 pandemic will be short-lived and that the UK will continue to play a pivotal role in global malaria control.

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1. Introduction

1.1. Country Context

Nigeria contributes to 27% of all malaria cases and 23% of all malaria deaths worldwide, and is one of the ten highest malaria burden countries in Africa (1). The entire Nigerian population of 200 million is at risk of malaria, with 76% classified at high risk (1). The World Health Organization (WHO) estimates that there were 61 million malaria cases and 95 802 deaths in Nigeria in 2019. This represents a 4% increase in the estimated number of malaria cases compared to the preceding year (1).

Children under five years old and pregnant women are at higher risk of contracting malaria, and developing severe diseases as they have not developed immunity or their immunity has decreased due to pregnancy respectively. Malaria associated deaths were reported in 2012 to account for up to 11% of maternal mortality, 25% of infant mortality, and 30% of under-five mortality in Nigeria (2). Although it should be noted that this is within a context of ongoing improvement in child and neonatal survival in Nigeria, with under-five mortality estimated in 2019 at 120 per 1,000 live births (3). Malaria prevention and treatment is however further exacerbated by socio-economic factors (4, 5), with higher malaria prevalence seen in the 2018 Nigeria Demographic Health Survey in children under five years in the lowest wealth quintile, and in households with mothers who have no education (6).

1.2. Support to the National Malaria Programme (SuNMaP)

Support to the National Malaria Programme (SuNMaP) in Nigeria was a United Kingdom Foreign, Commonwealth and Development Office (FCDO) funded programme that aimed to strengthen the Nigerian government’s ability to reach the poorest and most vulnerable, with evidence-based interventions to reduce the malaria burden. SuNMaP consisted of two phases, both of which were led by Malaria Consortium.

The second phase, SuNMaP 2, was intended to build on the successes of the original SuNMaP programme. SuNMaP 2 aimed to reduce Nigeria’s malaria burden through more efficient and effective use of available resources, including addressing programmatic and technical gaps in malaria control, reducing the risk of malaria resurgence, and complementing the Global Fund’s malaria efforts in Nigeria. A particular focus of SuNMaP 2 was strengthening the government of Nigeria’s malaria control programme to ensure long-term sustainability, and to enable FCDO’s eventual and responsible exit from bilateral malaria support in Nigeria.

SuNMaP 2 was divided into different stages, as described in figure 1.

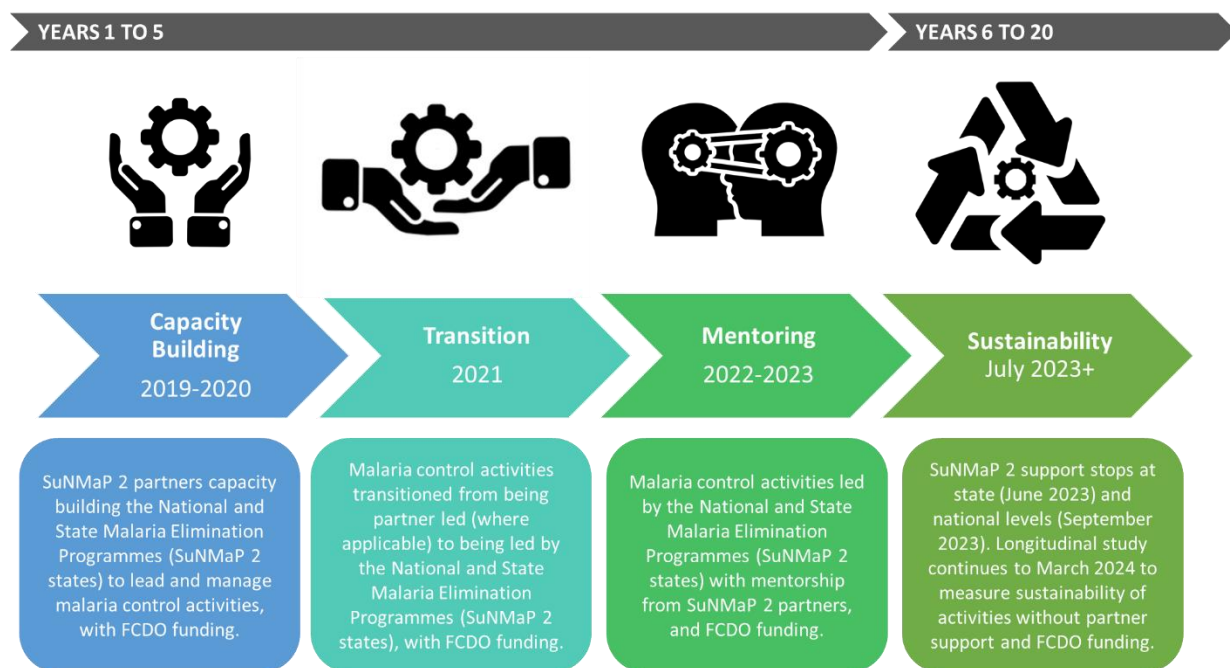


Figure 1: Stages of the SuNMaP 2 programme

1.3. Theory of change for SuNMaP 2

SuNMaP 2’s theory of change¹, shown in figure 2, presents the inferred linkages between outcomes, outputs, and interventions within the programme to achieve the anticipated programme impact, and the assumptions associated. A key assumption underpinning the theory of change is that malaria makes a major contribution to the disease burden in Nigeria and that malaria control will contribute to the achievement of universal health coverage. Furthermore, by achieving increased access and use of proven malaria interventions such as insecticide treated nets, seasonal malaria chemoprevention, intermittent preventive treatment for malaria during pregnancy (IPTp), and effective case management of clinical malaria through SuNMaP 2, this would –in conjunction with the work of other stakeholders –result in reduced morbidity, mortality, and malaria transmission, thereby affecting all-cause mortality. This impact was intended to result from the effects of outputs targeting three areas: the public sector (government and health services); the private sector (malaria-relevant commodity markets); and the population (behaviour of individuals, households and communities). SuNMaP 2 activities were also anticipated to lead to sustainable gains including lives saved beyond the programme timeline.

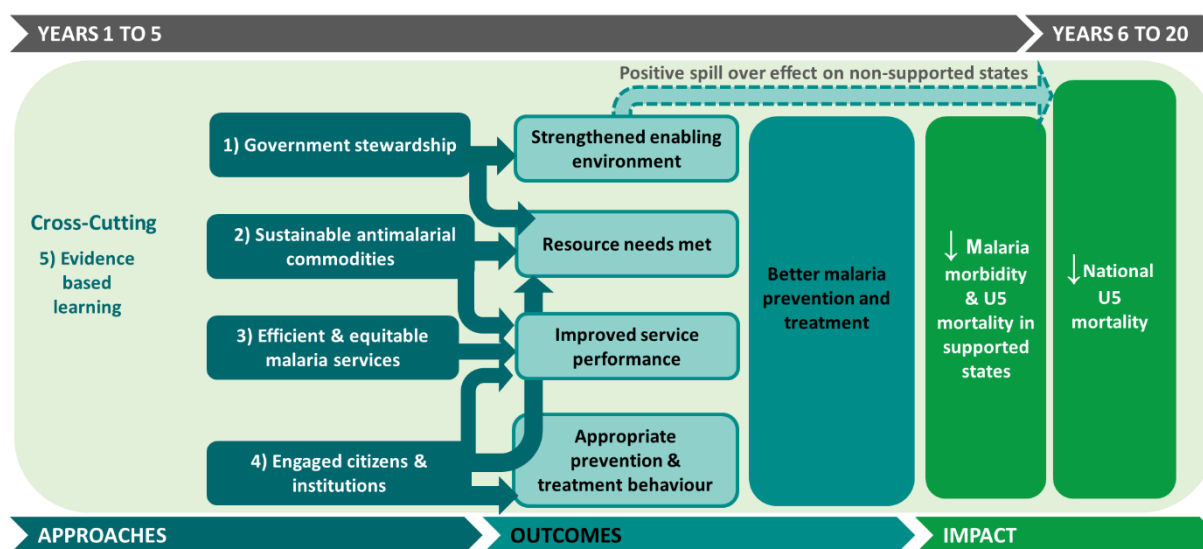


Figure 2: Theory of change for SuNMaP 2

¹A theory of change describes how a programme is expected to bring about specific long-term outcomes through a logical sequence of intermediate outcomes.

1.4. The SuNMaP 2 Longitudinal Study

London School of Hygiene & Tropical Medicine (LSHTM) was leading the four-year longitudinal study of the SuNMaP 2 programme in two of the six SuNMaP 2 states, Kaduna and Kano (see figure 3 for map). Kaduna and Kano were chosen out of the six SuNMaP 2 states as the study sites based on an assessment by the implementing partner, Malaria Consortium, and chosen due to their high malaria prevalence and wide mix of interventions. The primary objective of the longitudinal study was to assess SuNMaP 2's theory of change to inform the effectiveness of FCDO's exit strategy from bilateral malaria funding in Nigeria.

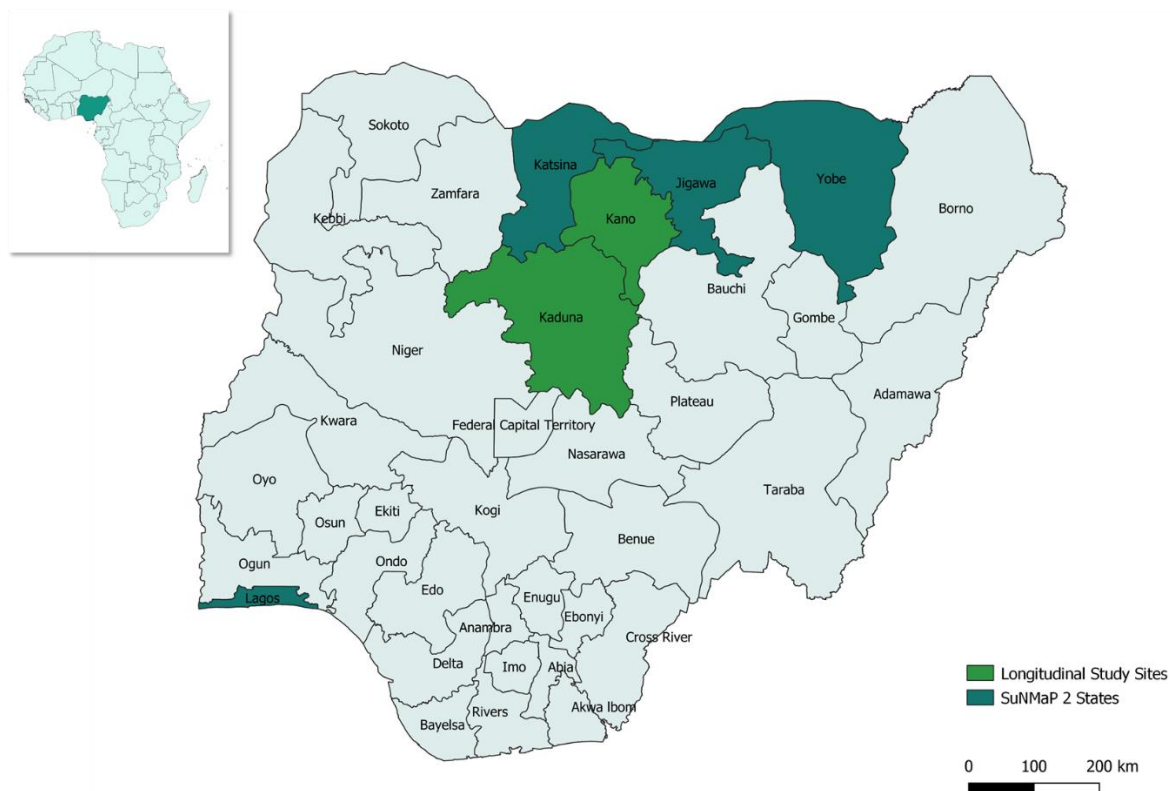


Figure 3: Map of SuNMaP 2 and Study States

The mixed method study design combined continuous surveys, programme monitoring, and qualitative case studies (figure 4). Each component is described in more detail in the following sections.

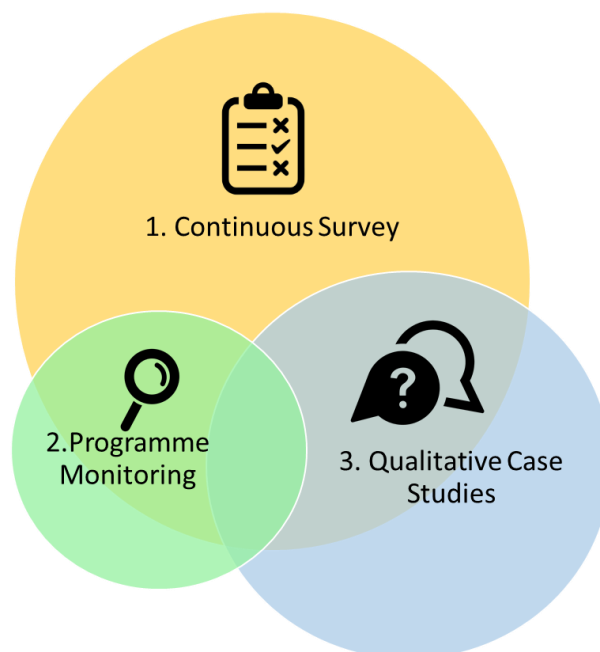


Figure 4: Components of the SuNMaP 2 longitudinal study

1.4.1. Continuous Survey

Continuous survey methodology was used to collect quantitative data to ascertain the degree to which quality and coverage of malaria control interventions were sustained as partner support to the government is reduced. This data was intended to be synthesised with programme monitoring, and qualitative case study data to assess the SuNMaP 2 programme’s theory of change (7). Continuous survey methodology was used as it provided a means to both assess the programme’s theory of change and generate high quality timely data that could drive programme improvement (8). The continuous survey consisted of quarterly cross-sectional surveys of households and the health services catering to those households, including both primary and secondary care, as well as private medicine vendors.

Data generated from the continuous survey was intended to assist the State Malaria Elimination Programme in Kaduna and Kano with on-going programme implementation through quarterly reports. Whereas annual reports were envisioned to support the National Malaria Elimination Programme, donors, and other partners to ascertain the degree to which quality and coverage of malaria control interventions are sustained as partner support to the government was reduced, understand the pathways of change introduced by SuNMaP 2, and inform FCDO’s exit strategy from bilateral malaria funding in Nigeria. By developing an understanding of the pathways of change

introduced by the SuNMaP 2 programme and their sustainability within the Nigerian health system, it was hoped that the National and State Malaria Elimination Programmes could better adapt and sustain the programme's investments, and that this would support the translation of SuNMaP 2's approach into new contexts.

1.4.2. Programme Monitoring

The programme monitoring component of the evaluation was intended to complement and provide context for the findings of the continuous survey and the qualitative case studies in order to assess how SuNMaP 2 potentially achieved and sustained its programme goals. This component aimed to take a practical approach with support from process and realist evaluation theory to map the intended, ongoing and completed programme elements across all 5 programme outputs and to quantitatively describe their degree of implementation and effects. The main objectives were to work collaboratively with the local implementing teams i) to characterise all SuNMaP 2 planned activities under each output, ii) to develop a set of indicators to monitor progress on these activities and their consequences and iii) to use the resulting information to inform the learnings from the wider Longitudinal Study.

1.4.3. Qualitative Case Studies

The qualitative component of the longitudinal study was led by LSHTM's partner, University College London (UCL). The qualitative case studies were intended to utilise a comparative case study approach. Cases were to be defined geographically to understand heterogeneity in impact; and temporally, to understand changes over time and sustainability. The qualitative case studies were to be informed by the continuous survey data and use in-depth interviews and focus group discussions to understand the underlying mechanisms underpinning the theory of change. The objectives of the qualitative case studies were to determine key barriers to, and facilitators of, the uptake of SuNMaP 2 supported interventions; determine key factors within SuNMaP 2 implementation that had driven positive and less positive progress in malaria control in Nigeria; ascertain the key strategies and processes introduced by SuNMaP 2 that could be sustained over a five-year period; and establish the sustainability of the SuNMaP 2 achievements at the population and health-system level after discontinuation of programme support.

Figure 5 illustrates how the different components of the SuNMaP 2 longitudinal study are being used to assess the programme's theory of change.

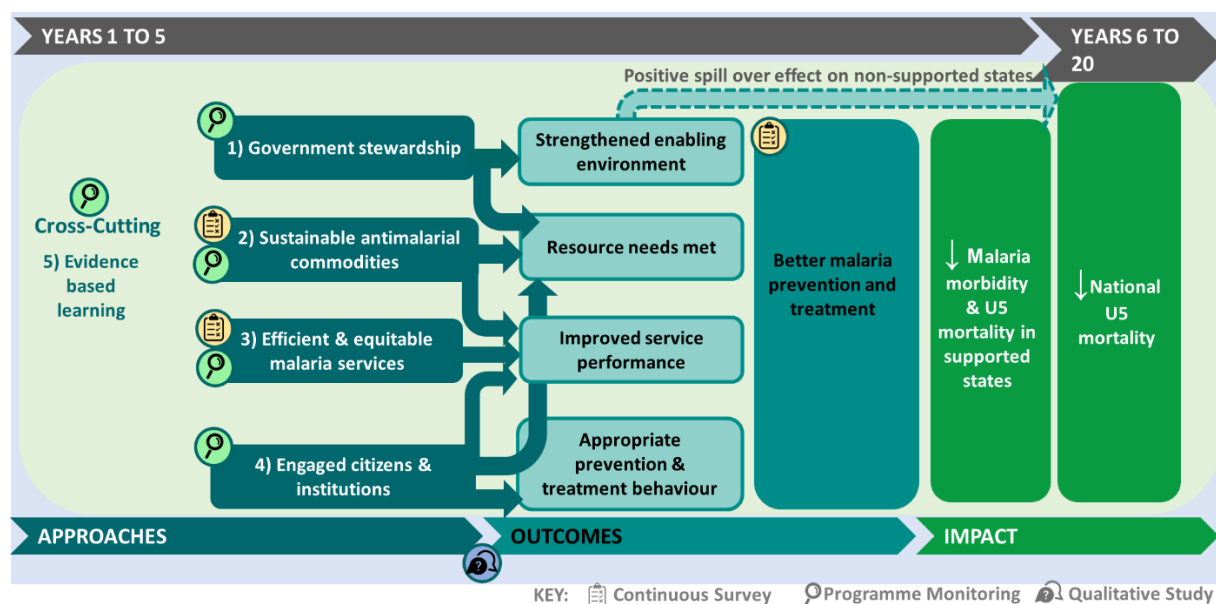


Figure 5: How the SuNMaP 2 theory of change is being assessed by different components of the longitudinal study

1.5. Termination of the SuNMaP 2 Programme

The SuNMaP 2 programme had made good progress despite ongoing implementation challenges resulting from the COVID-19 pandemic with 65% of targets met in year 1 and 63.9% of targets met in year 2 (9, 10). In May 2021, during the transition phase of the programme, SuNMaP 2 activities were halted and later terminated in July 2021 by FCDO due to the challenging financial climate created by the COVID-19 pandemic.

The longitudinal study intended to collect data on the SuNMaP 2 programme during the course of implementation, from 2020 to 2024. This report aims to summarise the work of the SuNMaP 2 longitudinal study at the time of early closure of the study. This report is intended to be shared with FCDO, study partners, the External Review Committee, and made available on the study's webpage (www.lshtm.ac.uk/research/centres-projects-groups/sunmap2-longitudinal-study).

2. Methodology

2.1. Continuous Survey

The continuous survey consisted of quarterly cross-sectional surveys of households and the health services catering to those households, including both primary and secondary care, as well as pharmacies, private medicine vendors (PPMVs), community health workers (CHWs), and the Malaria Programme Officer for the local government area (LGA). Sampling for the household surveys was conducted through a two-stage process. Random cluster sampling was conducted using a primary sampling frame of census area units from the National Population Commission of Nigeria, stratified by LGA and thirty census area units were independently selected for a different LGA in Kaduna and Kano every quarter.

Within each selected census area unit, a complete household listing of residences was conducted using census area mapping of households from the National Population Commission of Nigeria as a guide. This household listing for the census area was the second sampling frame, from which a random sample of 55 households was selected in the field.

The continuous survey concentrated on assessing anti-malarial commodity availability (output 2) and service delivery (outputs 3), and the outcomes in the theory of change. Data generated from the continuous survey was to be shared with the State Malaria Elimination Programme in Kaduna and Kano on a quarterly basis, and to the National Malaria Elimination Programme on an annual basis. The process for the continuous survey is summarised in figure 5.

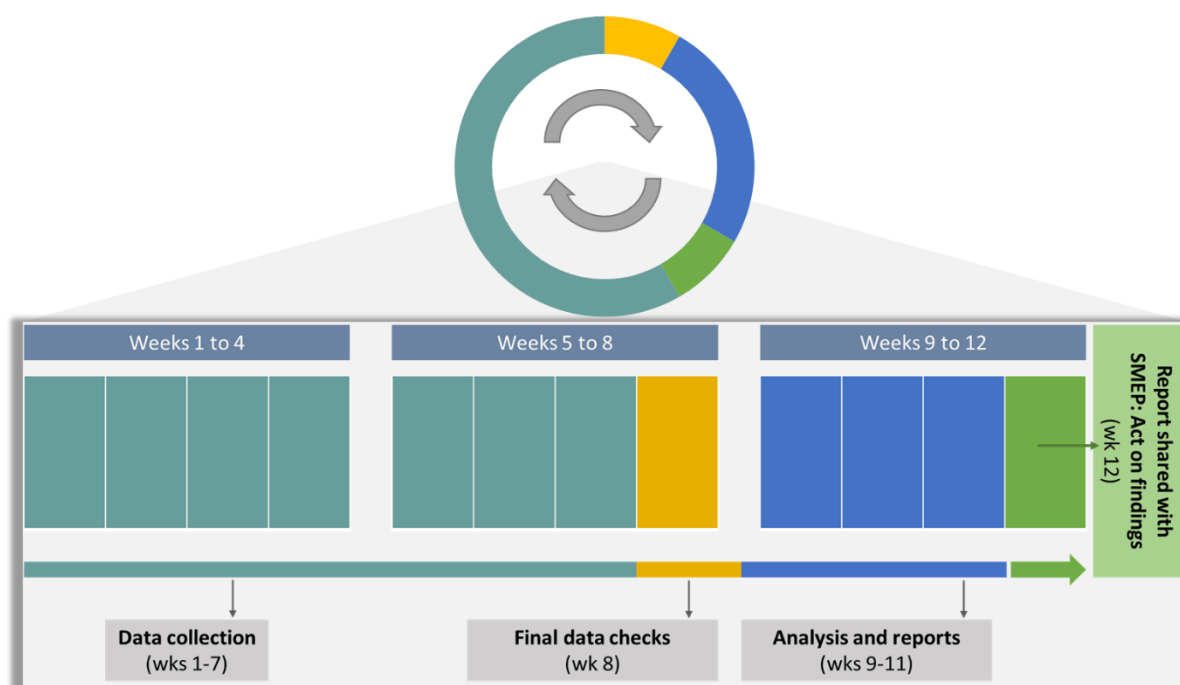


Figure 6: Summary of continuous survey procedures. During every three-month period, data was collected during the first seven weeks, with final data checks and cleaning in week 8. In weeks 9-11 the data was to be analysed and a report written summarising the results. This report was then intended to be shared with the State Malaria Elimination Programme in week 12 to promote research uptake and data to action.

2.2. Programme Monitoring

The focus of the programme monitoring study was to provide information on the implementation and change mechanisms of programme activities planned under the five outputs of SuNMaP 2: government stewardship (1); sustainable availability of antimalarial commodities (2); efficient and equitable malaria services (3); engaged citizens and institutions (4); and evidence-based learning (5).

As external evaluators, LSHTM was not involved in strategy design or implementation of SuNMaP 2; therefore, in order to develop appropriate indicators to monitor the programme the first key objective was to understand what strategies were planned for implementation. Working with the SuNMaP 2 team, we identified all relevant documents that described programme development processes, interventions, and progress reports to funders, including log frame indicators against which funding was linked. The LSHTM team reviewed the shared material in order to understand and characterise the planned programme activities. Activities were initially divided into “planned”, “started”, and “completed”. A hundred and thirty draft indicators (approximately 25 per output) were developed to track progress on implementation coverage and change mechanisms within each output. Following this, a series of online workshops were convened between LSHTM and the Nigeria-based thematic area specialists responsible for activities under each output. In each workshop, the teams reviewed our characterisation of the activities under their output and edits were made as appropriate. An additional activity status category was introduced (planned, started, completed, and **removed**). The thematic area specialists also provided input on all draft indicators and suggested additions or removals as appropriate. In subsequent weeks an iterative process continued between LSHTM and the thematic area specialists to further refine the activity summaries and indicators, and agree on collection methods and frequency. This resulted in a final list of 25 primary indicators for priority collection that crossed implementation coverage and change mechanisms in all 5 outputs, and an additional 94 secondary/additional indicators to supplement these if resources available.

The first round of programme monitoring data collection was planned for the beginning of the second quarter of 2021.

2.3. Qualitative Case Studies

The qualitative case studies were to be collected in Kano and Kaduna at state and LGA level in years 3, 4 and 5/6 of the SuNMaP 2 programme, corresponding to the transition phase (2021), mentoring phase (2022), and sustainability phase (2023 onwards) of the SuNMaP 2 programme. Based on findings from the programme monitoring work and outcomes measured in the continuous survey, four LGAs with high intervention coverage and quality were to be compared with four lower performing LGAs in each study state. Case studies were to be developed based on interviews with SuNMaP 2 staff, Ministry of Health staff, frontline workers (including private providers), and community members. Respondent were to be purposively selected based on pre-set criteria. Interviews were to explore perceptions and experiences of SuNMaP 2; delivery and uptake successes and challenges; mechanisms through which any change occurred, including the role of 'hard' support such as commodity provision and 'softer' support such as strengthening governance; perceptions of, and experiences with, sustainability; and other programmatic or contextual issues that had driven or hindered the delivery and uptake of key malaria interventions.

3. Key Activities & Achievements

Below is a summary of the key activities and achievements that have been completed as of July 2021 for the SuNMaP 2 longitudinal study.

3.1. Continuous Survey

3.1.1. Protocol Developed & Ethics Approval Received

LSHTM developed the study protocol for the continuous survey which was submitted for ethics approval both in the UK and Nigeria. Ethics approval from the continuous survey was received from LSHTM on 9th April 2020 (ref: 18052) and at national level in Nigeria from the National Health Research Ethics Committee of Nigeria (NHREC) on 2nd October 2020 (ref: NHREC/01/01/2007-02/10/2020). In addition, state level ethics approval was received in Kano on 30th June 2020 and 7th August 2020 in Kaduna.

3.1.2. Research Instruments Pre-tested & Finalised

Pre-testing of the data collection instruments was conducted between 2-5th September 2020 by the field supervisor and a data collector recruited for the continuous survey in each state. For the pre-test a 2-day training was delivered to the pre-test teams. The pre-test was conducted in Nassarawa, Dala, Ungogo, and Tarauni LGAs in Kano and Chikun and Kaduna South in Kaduna. The purpose of the pre-test was to validate and reduce measurement error in the continuous survey instruments and in total was conducted with the following respondents:

- 10 Households
- 4 LGA Malaria Programme Officers
- 4 PPMVs
- 4 Retail Pharmacies
- 4 CHWs
- 2 Health Posts
- 4 Primary Health Clinics
- 4 Primary Health Centres
- 3 Secondary Health Facilities

From the pre-test a few minor adjustments to the Hausa translations were identified. The research instruments were updated based on the findings of the pre-test and finalised. Furthermore, standard operating procedures were developed to standardise research procedures amongst the continuous survey team for the duration of the study.

3.1.3. Data Management Set-Up

Data management procedures were established for field-based activities in the continuous survey's standard operating procedures. Data collection for the survey was managed electronically via Malaria

Consortium's instance of the SurveyCTO platform, which enabled additional validation checks during the data collection process.

3.1.4. SuNMaP 2 Staff & Data Collection Teams Trained

A two-day training of trainers was delivered remotely by LSHTM on the 15-16th September 2020, which was attended by the SuNMaP 2 Senior MEAL Specialist, Data Analysis Specialist, State MEAL Officers, Field Supervisors, and the data collectors that participated in the pre-test. The training involved an overview of the research study, ethics, COVID-19 guidelines, tablet use & care, study cycle planning and preparations, study procedures, quality assurance, and how to deliver the training to the field teams.

Training of the field teams took place in Kano and Kaduna on the 22nd-24th October 2020. The training consisted of a pre-training pack which included recorded presentations by LSHTM providing an overview of the study and ethics, accompanied by a copy of the study's standard operating procedures and forms. This was followed by a three-day in person training led by the Field Supervisor and supported by the SuNMaP 2 staff. Training consisted of a pre-test followed by presentations with quizzes, role play exercises, and practicals, concluding in a post-training test. In each state 15 potential data collectors were trained and the best performing 9 data collectors were recruited for the study.

3.1.5. Study Procedures Piloted

A pilot of the continuous survey was conducted on the 25-28th October immediately after the training. The purpose of the pilot was to determine the feasibility of all study procedures in the field and was conducted in Nassarawa LGA in Kano and Chikun LGA in Kaduna. As a result of the pilot a number of bugs with the data collection app were identified and corrected; the record review of patients visiting primary and secondary health facilities was reduced from 3 months to 1 month to accommodate the length of time required to conduct the review; and additional checklists for the field team were developed to support the team in following all the research procedures.

3.1.6. Refresher Training Conducted

A one-day refresher training led by LSHTM remotely and the field supervisors in person was conducted on 19th October 2020 prior to the start of data collection to inform the field teams on the updated procedures based on the pilot findings and to have a general refresher on procedures before starting data collection for cycle 1 on 21st October 2020 in Kaduna and 24th October 2020 in Kano.

Before commencement of cycle 2 in January 2021 refresher training was conducted in both states between the 14-15th January 2021. The refresher training was led by the field supervisors, with in-person support from Malaria Consortium Nigeria and remote support provided by LSHTM.

3.1.7. Data Collected for Cycles 1 & 2

The first LGAs to be randomly selected for the continuous survey were Soba LGA in Kaduna and Kano Municipal in Kano state (figure 6). Data was collected from 30 randomly selected census area units in each LGA between 21st October to 1st December 2020. For the second cycle Sabon-Gari LGA in Kaduna and Ungogo LGA in Kano were randomly selected (figure 6). Again, data was collected from 30 randomly selected census area units. Cycle 2 data was collected between 19th January and 2nd March 2021.



Figure 6. Map showing local government areas surveyed in cycles 1 (yellow) and 2 (orange) of the continuous survey

An overview of the number of households and service delivery sites surveyed as part of the continuous survey is provided in table 1.

Table 1. Overall number of households and service delivery site surveyed by state

Result	Kaduna	Kano	Total
Households	3,212	3,245	6,457
Primary health facilities	35	35	70
Secondary health facilities	3	3	6
Community health workers	17	32	49
Pharmacy/ PPMVs	55	58	113

3.1.8. Quarterly Reports Prepared for Cycles 1 & 2

Reports summarising the data collected for cycle 1 and cycle 2 were prepared for each state. All the quarterly reports that were produced during the continuous survey can be found in [appendix 6.1](#).

3.1.9. Data Archived

The data collected from the two continuous survey cycles will be archived in anonymised format for public access on LSHTM Data Compass (<https://datacompass.lshtm.ac.uk/>) as part of the study closure process.

3.2. Programme Monitoring

3.2.1. Indicator development workshops convened

Programme monitoring design workshops (online) took place from November 2020 to January 2021 between the LSHTM team and the Nigeria-based thematic area specialists (1 SuNMaP 2 output per workshop). Ahead of the meetings LSHTM shared a short draft summary of the programme activities as understood from previously shared documentation and a suggested list of monitoring indicators for each output. The workshops employed a collaborative approach to clarify the status and detail of SuNMaP 2 programme activities, which were then used as the basis for further design and refinement of programme monitoring indicators.

3.2.2 Finalisation of programme monitoring indicators

In January and February 2021 following the workshops, an iterative process of continued refinement of the indicators took place between LSHTM and the thematic area specialists. As part of this process data sources were identified to provide evidence of progress on each indicator, the frequency of data collection (quarterly, biannual, annual, one-off) was agreed and dates for the first update meetings set. The final list of primary and secondary monitoring indicators for the SuNMaP 2 programme is provided in the [appendix 6.2.](#) for reference.

3.2.3 Programme monitoring indicator data collection – first round

The timing of the collection of the first round of data on programme monitoring indicators was intended to coincide with the Malaria Consortium annual reporting cycle to FCDO in order to streamline the process (data collection for funding-linked log frame indicators would overlap with collection for programme monitoring indicators). This was planned for the start of the second quarter of 2021, however the project closed before these meetings could take place.

3.3. Qualitative Case Studies

3.3.1. Qualitative workshop convened

On the 18th December a workshop was convened between Malaria Consortium, UCL, and LSHTM to review and feedback on the research aims and plans for the qualitative case studies within the SuNMaP 2 longitudinal study. During the workshop definitions of high and lower performing LGAs; recruitment of study participants; hiring of the data collection team; and proposed timelines (table 2) were discussed.

Table 2: Activity plan for qualitative case studies

Time Period	Activity
2021	
1 st quarter	Recruit UCL Research Fellow
1 st quarter	Apply for UCL and in-country ethics
2 nd quarter	Develop training tools and finalise protocols
2 nd quarter	Interview SuNMaP 2 staff to understand implementation
3 rd /4 th quarter	Conduct interviews
2022	
1 st /2 nd quarter	Analysis and write-up
3 rd /4 th quarter	Repeat data collection
2023	
1 st /2 nd quarter	Analysis and write-up
3 rd /4 th quarter	Data collection with a focus on sustainability

3.3.2. Qualitative Research Fellow Recruitment Initiated

Recruitment of the Qualitative Research Fellow at UCL was underway, with shortlisting of candidates for interview, at time of suspension of SuNMaP 2 activities in May 2021 prior to programme termination.

3.3.3. Protocol for qualitative case studies drafted

The protocol for the qualitative case studies was in the process of being finalised in preparation for ethics submission at time of suspension of SuNMaP 2 activities.

3.4. Other Activities and Achievements

3.4.1. Co-Creation Workshop Held

The co-creation workshop took place on the 28th to 29th November 2019 in Abuja, Nigeria. The aim of the workshop was to discuss and finalise key aspects of the longitudinal study in collaboration with SuNMaP2 partners. Outputs from the workshop included an action plan, information to inform protocol development, and a report summarising the meeting.

3.4.2. External Review Committee Established

Outside of the specific study components, another achievement of the study was the establishment of the External Review Committee, which held its first meeting on the 9th December 2020. The purpose of the External Review Committee was to act as an advisory body to the SuNMaP 2 longitudinal study team. The committee was responsible for helping the longitudinal study team members by providing guidance and critical oversight to the research work undertaken by the study team; contextualising the study within national and international priorities; and facilitating national and international uptake of research findings. Membership of the External Review Committee comprised of representatives from the National Malaria Elimination Programme, World Health Organization, Global Fund, Ahmadu Bello University, and the UK Foreign, Commonwealth, and Development Office.

3.4.3. Communications Materials Produced

A page on the LSHTM website was created summarising the work of the longitudinal study, with links to resources produced for dissemination, including a research brief and the quarterly reports from the continuous survey. The web page can be found at:

www.lshtm.ac.uk/research/centres-projects-groups/sunmap2-longitudinal-study

4. Lessons Learnt

A number of important learnings were made during the course of implementing the theory-led SuNMaP 2 longitudinal study, the key lessons of which were:

5. **Large scale assessment of an implementation programme requires innovative measurement approaches.** To effectively assess the theory of change for the SuNMaP 2 programme, an innovative blend of different methodological approaches were adopted by the study team, including continuous survey methodology (7), programme monitoring, and qualitative comparative case studies. The study design for instance enabled malaria intervention coverage to be assessed at household level, and link coverage to the health service sites that provided for these households, and contextualise this within the data reported to the national health information system and SuNMaP 2 implementation activities.
6. **Guideline development needed for reconciling and enriching process and implementation findings from internal and independent evaluations.** Current process evaluation guidance is focused on the theoretical steps in designing and conducting an evaluation without considering whether it is being conducted by a party internal or external to project implementation (11). There is increasing demand from donors for external process evaluation, given conflicts of interest related to internal evaluation. However external evaluators face the challenge of fully understanding the programme, which can be particularly challenging for complex programmes and impair the process evaluation. To address this challenge in the SuNMaP 2 programme monitoring work, the team developed a co-creation process evaluation approach, whereby LSHTM as a party external to programme implementation worked closely with the SuNMaP 2 implementers to develop indicators to monitor programme implementation progress.
7. **Importance of early and on-going engagement of the National and State Malaria Elimination Programmes in the study.** National and State Malaria Elimination Programmes were engaged early on in the study. At state level this was useful for supporting data collection activities, and through the National Malaria Elimination Programme's involvement in the External Review Committee ensuring that the study aligned with country needs. Continuous survey methodology with quarterly reporting also showed potential as a valuable means to both provide useful data to inform National and State Malaria Elimination Programmes' project management, whilst still assessing intervention coverage and impact over time for the longitudinal study.
8. **Critical to steer malaria programme implementation and evaluation from an equity perspective.** The SuNMaP 2 longitudinal study was assessing malaria intervention coverage through a number of equity lenses, including age, gender, disability, and socio-economic status. The Global Technical Strategy for Malaria 2016–2030 highlights the need for universal coverage of malaria interventions to accelerate progress towards malaria elimination (12). Therefore, it's important for more work to be done in terms of understanding coverage of malaria interventions amongst the most vulnerable.

5. Concluding Remarks

Despite challenging circumstances for study implementation arising from the COVID-19 pandemic, the SuNMaP 2 longitudinal study team had made significant progress across all study components up until the suspension of programme activities in May 2021. The untimely ending of the longitudinal study was received with sadness by the External Review Committee as the study was seen to have great potential for contributing to global health research. Methodological developments resulting from the programme monitoring and continuous survey work were also not able to mature and reach their logical conclusion for progressing the evaluation field as a result of the closure. The research team are hoping, subject to funding, to produce two peer reviewed publications to share at least some of the lessons learnt from the longitudinal study. The team is also available if there is interest in better understanding or expanding on any of the research conducted.

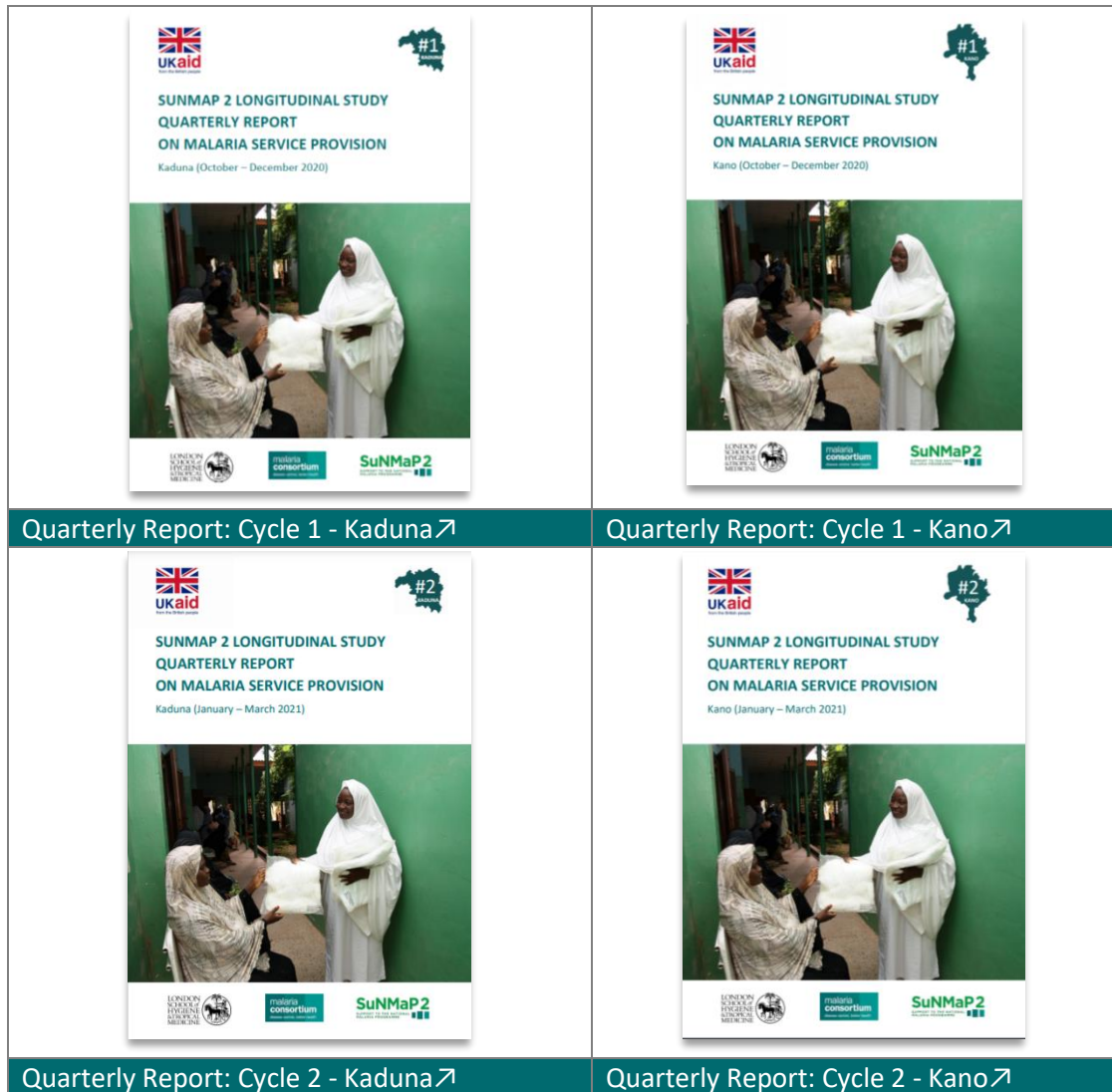
Termination of the SuNMaP 2 programme, a £47 million commitment to malaria control in Nigeria by the UK government, mid-way through is a great loss for malaria control. Further compounded by the fact that SuNMaP 2 was intended to be the last tranche of bilateral funding for malaria control to Nigeria, facilitating the UK's responsible and sustainable exit from financial support to malaria control in the country. Nigeria contributes 27% of all malaria cases and 23% of all malaria deaths worldwide, consequently there still remains a huge need for investment in malaria control in Nigeria, both nationally and globally (1). It is hoped that UK overseas development aid cuts due to the COVID-19 pandemic will be short-lived and that the UK will continue to play a pivotal role in global malaria control.

6. References

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7. Appendices

Appendix 7.1. Continuous Survey Quarterly Reports



Appendix 7.2. Programme Monitoring Characterisation Files

SuNMaP 2 Programme Monitoring Indicators

Indicator	Colour/appearance	Definition
Primary indicator	Bright orange	Measure of coverage of key SuNMaP 2 intervention outputs (implementation and mechanisms of action)
Secondary key indicator	Muted orange	Measure of key intervention activities (dose, quality or fidelity of implementation - collect if time/resources)
Additional indicator	No colour	Measure of other intervention activities or intervention components (collect if time/resources)
Null indicator	Crossed out	Indicators for activities or interventions which have been suspended or dropped

Output 1: Strengthened government stewardship at national level and in supported states

#	PM Indicator	State/Level	Frequency	Data source(s)	Progress
Strategy 1: Public Expenditure Review					
1.1.1	% of expected quarterly malaria expenditure tracking events conducted (by State), annually	State level	Annual	Event reports FUM	TBC
1.1.2	% States with expenditure data quality report produced using a data quality assessment plan and checklist	State level	Annual	Report produced FUM	TBC
1.1.3	Number of training sessions for staff on malaria expenditure tracking and operational plans (by State)	State level/LGA	One off	Training logs FUM	TBC
1.1.4	Number of expenditure tracking (+ data collection) core team members trained by state	State level	One off	Training logs FUM	Done
1.1.5	% of States where expenditure tracking tools reviewed and validated by core team/stakeholders	State level	One off	FUM	Done
1.1.6	Report: Listing/describing users and producers of National health accounts	National Level	One off	Document produced Follow-up meeting with TAS (FUM)	Done
Paused removed	2017 NHA/Malaria expenditure report produced (baseline exercise) — n/a In Nigeria — 40% of health expenditure is malaria (both demand and supply side)	National	One-off	Report FUM	TBC
Strategy 2: Institutional Strengthening NMEP and SMEP					
1.2.1	New/updated NMEP rolling operational plans in place which align with government cycle	National Level	Annually	FUM	Done
1.2.2	National Malaria Strategic Plan Developed	National Level	One off	Report produced FUM	Done

1.2.3	Repository for all institutional strengthening-related material produced and maintained* *defined by dates of uploaded documents which should cover life of programme	National Level	One off/annually?	Repository exists	TBC
1.2.4	Sustainability index developed and used in an end of supported phase report (index to be defined)	National Level	One off	Index created/document FUM	TBC
1.2.5	Organisational Capacity Assessment Improvement plan for the NMEP and SMEP complete – report produced	National Level	One off	OCA Report FUM	Done
1.2.6	Stakeholder meeting convened to discuss OCA report + next steps based on capacity report findings	National Level	One off	FUM	Done
1.2.7	Two Sunmap Staff embedded in NMEP	National Level	One off	FUM	Done
1.2.8	Malaria Programme performance review conducted (National)	National Level	One off	Report produced FUM	Done
Paused removed	% of States where expenditure tracking tools reviewed and validated by core team/stakeholders	State levels	mixed	Data outputs	TBC
Paused removed	% Global Fund malaria programme indicators met	All levels	mixed	Data outputs	TBC
Strategy 3: Domestic Financing					
1.3.1	Total number of partnership meetings held with legislature where requests for increase in malaria spending made (e.g. through presenting annual operational plans to legislature) <ul style="list-style-type: none"> National level State level Overall and combined 	All levels	annually	Meeting logs FUM	TBC

1.3.2	Malaria Spending Assessment report produced <ul style="list-style-type: none"> • Annually • Quarterly By <ul style="list-style-type: none"> • State • Overall 	National/State	Mixed	Report FUM	TBC
1.3.3	Perform a political economy analysis to understand stakeholder types and departments that impact malaria budget	National Level	One off	Analysis report FUM	Done
1.3.4	Number of financing advocacy visits to high level stakeholders and institutions (e.g. World Bank) relevant to malaria financing <ul style="list-style-type: none"> - Commercial - Donor - Public/government 	National/ International	End project?	of TBC FUM	TBC
1.3.5	Number of Legislative Network on universal health coverage LNU)/CSOs meetings at national/state to demand for increased resources for malaria supported by SuNMaP2	National/State	End Project?	of TBC FUM	TBC
Paused removed	Health Care Financing Technical Working Group established-LAFIYA	All levels	One-off	Workshop FUM	TBC
Strategy 4: Government Stewardship					
1.4.1	% of financial cost implication (estimated amount) in the Malaria Annual Operational Plan (National and State) that is actually allocated in Government budget (denominator= MAOP requested amount; numerator = government allocation for that year) <ul style="list-style-type: none"> • National level • State level 	National Level	Annual??	Analysis report FUM	TBC
1.4.2	% of MAOP financial budget allocation by source <ul style="list-style-type: none"> • Government/domestic • External 	National Level	Annual??	Analysis report FUM	TBC

1.4.3	Number of NMEP/SMEP/other malaria champions trained or mentored every year on transformational leadership annually By type(?) Overall	National Level	One off	Analysis report FUM	TBC
1.4.4	Medium term malaria financing strategy plan developed (NMEP SMEPs)	National/State	One off	Strategy report FUM	TBC
Paused removed	Number of partnership meetings held with Legislature at national/states to request for increase budgetary allocation for malaria annually	National	One off	Analysis report FUM	TBC
Paused removed	Number of partnership meeting held with key commercial sector players to raise domestic resources for malaria	National	One off	Analysis report FUM	TBC
Paused removed	% of HCF TWG members trained LAFIYA	All levels	One off	Training logs FUM	TBC
Strategy 5: Public- Private Philanthropic Partnerships (overlap with output two)					
1.5.1	Number of new PPPPs during life of programme, annual (and by State?) Output 1: Public-private financing agreements (NGOs, private domestic/international funders) Output 2: Private partnerships with entities providing malaria commodities Output 3: (check) Output 4: (check) Output 5: (check) <ul style="list-style-type: none"> • Established • Active* *active to be defined (activity happened in that year)	All levels	collected annually	FUM (all outputs)	TBC

1.5.2	Overarching PPPP framework document is revised - document	National Level	One off	Framework report FUM	TBC
Paused removed	% of established PPPPs active* at the end of the sustainable phase of Sunmap *Active to be defined (check with output two team)	All levels	End of programme	FUM	TBC
Strategy 6: Planning and Budgeting					
1.6.1	% of NMEP Annual operation plan activities implemented at (MC) <ul style="list-style-type: none"> National level State level 	National Level	Annual	TBC FUM	TBC
1.6.2	% of government expenditure that is specific to malaria, annually	National Level	Annual	Govt. published budget breakdown FUM	TBC
1.6.3	% of state budgets allocated to malaria funding	State	Annual	Govt. published budget breakdown FUM	TBC
1.6.4	Running total number of annual operational plans that are based on relevant malaria data analysis <ul style="list-style-type: none"> National State 	National/State	Annual	Plan contains reference to yearly malaria data FUM	TBC
1.6.5	Federal and State Annual Operational Plans for malaria (NMEP and SMEP) developed	National/State	Annual	Plan FUM	TBC
Paused removed	% of SMEP Annual operation plan targets reached at State level (MC)	State Level	Annual	TBC FUM	TBC

Output 2: Increased sustainable availability of antimalarial commodities

#	PM Indicator	State/Level	Frequency	Data source(s)	Progress
Strategy 1: Service Delivery Logistics Management Information System (Public Sector)					
2.1.1	Proportion of LGAs with functional* LMCU (logistic management coordinating units) * To be defined (discuss with team) - perhaps include some of the below additional indicators	Kaduna, Kano and Jigawa Change to All states??	One -off	Training logs FUM	TBC
2.1.2	Financial status of the Drug Revolving Fund (Naira/\$) check structure with team including seed money amount. <ul style="list-style-type: none"> Annual profit Annual turnover By <ul style="list-style-type: none"> State 	all	Annually	Budget report? FUM	TBC
2.1.3	Number of commodity accountability audits conducted	all	Annually	Audit report FUM	TBC
2.1.4	Supply chain landscape scoping activities report complete: <ul style="list-style-type: none"> Supply Chain scoping report Essential Drug List updated and disseminated 	all	Year 1 to 2 – done March 2020	Document produced Follow-up meeting with TAS (FUM)	Done
2.1.5	Number of state LMCUs conducting public health program commodity quantification activities – annually	all	One -off	FUM	TBC
2.1.6	Number of commodity accountability audits (triangulation with HMIS data) conducted by LMCUs annually	all	Annually	Report produced FUM	TBC
2.1.7	Proportion of annual costs for LMCUs met through state level supply chain budget or Drug Revolving Fund (by fund type and by state)	all	Annually	Training logs FUM	TBC
2.1.8	Number of LMCU supply chain officers (i.e. government officers) in role annually	all	Annually	Event reports FUM	TBC

2.1.9	Proportion of LMCUs actively using the NAVISION platform by end of supported phase	all	Annually	Report FUM	TBC
2.1.10	Rate of LMIS reports submitted on time as a proportion of number of expected reports	all	Annually	Report FUM	TBC
2.1.11	Proportion of planned malaria commodities delivered (overall and by commodity type)	Kano and Kaduna	Annually	Delivery report FUM	TBC
2.1.12	Proportion of procured malaria commodities delivered (sent to facilities - private/public)	all	Quarterly	Delivery report FUM	TBC
2.1.13	Proportion of facilities in supported states with stockouts of malaria commodities	all	Bimonthly	FUM	TBC
2.1.14	Number of supply chain staff trained and mentored in supply chain function	all	Bimonthly	FUM	TBC
2.1.15	Supervision: Number of quarterly monitoring and supervision visits that took place by LMCU staff to supported facilities	all	Quarterly	Supervision logs FUM	TBC
2.1.16	Number of LMIS reports combining data on malaria commodities and commodities for other diseases/drugs	all	Annually	Data reports FUM	TBC
2.1.17	Proportion of LMIS reports combining data on malaria commodities and commodities for other diseases/drugs	all	Annually	Data reports FUM	TBC
Removed	Number of handheld stock taking devices in use annually	all	Annually	FUM	TBC
Strategy 2: Market Development					
2.2.1	Proportion of private sector outlets (by type) with a sale point for: <ul style="list-style-type: none"> • RDTs • ACTs • LLITNs Check frequency of market surveys	All? Kano and Kaduna?	Annual	FUM	TBC

2.2.2	% of antimalarial commodities in private facilities in Kano and Kaduna meeting quality standards – i.e. with NAFDAC serial numbering on products – to confirm with team once NAFDAC partnership conformed <ul style="list-style-type: none"> • ACTs • RDTs 	Kano and Kaduna	Annual?	FUM	TBC
2.2.3	Market analysis report : Situational analysis/scoping activity for LLITNs, RDTs and Antimalarial commodity delivery systems complete	all	One off	OCA Report FUM	TBC
2.2.4	Business case for [government] investment in the retail market developed and total number of associations to which the business case was disseminated by any of the below media: <ul style="list-style-type: none"> • Brochures • Videos • Presentations • Meetings 	all	One off	FUM	TBC
2.2.5	Number of formative research-led strategies to increase market for LLITNs	all	One off	FUM	TBC
2.2.6	Average cost of ACTs - private sector outlets (and by type)	All? Kano and Kaduna?	Annual	FUM	TBC

Output 3: More efficient and equitable malaria prevention and treatment services delivery

#	PM Indicator	State/Level	Frequency	Data source(s)	Progress
Strategy 1: Capacity building for service delivery					
3.1.1	Proportion of health workers* performing according to standards on: <ul style="list-style-type: none"> - Malaria prevention - Uncomplicated malaria treatment - Pre-referral malaria treatment Define performance standards *List health worker types, include CHIPS (community based service delivery)	All States Will happen in non-LSHTM States?	Annual	Performance data collection (where? Source for log frame stats?) FUM	TBC
3.1.2	Number of LLITN distributed per state annually (e.g. as proportion of calculated desirable distribution (Netcalc): <ul style="list-style-type: none"> - Schools (two states) - Facilities (check states) - Other (check states) In accordance with Netcalc recommendations?	All States	Annual	Net distribution data/State and Netalc recommendation data FUM	TBC
3.1.3	Number of facilitators trained in SDL	All States	Annual	Training meeting minutes FUM	TBC
3.1.4	Malaria Service Delivery Worker standards document produced and disseminated – (incl NMEP, SMEPs, participating healthcare facilities and members of the Malaria Partners’ Forum)	All States	One off	Document produced Follow-up meeting with TAS (FUM)	Planned Feb 2021
3.1.5	Capacity Performance Improvement Plan (CPIP) designed and disseminated (incl. NMEP, SMEPs, participating healthcare facilities and members of the Malaria Partners’ Forum)	All States	One off	Document produced FUM	Planned Feb 2021
3.1.6	Protocols for Self-directed learning developed (malaria diagnosis for PPMVs)	All States	One off	Protocols produced FUM	TBC
3.1.7	Database of national and local malaria health worker or service delivery experts <ul style="list-style-type: none"> - Created (a) - Updated (b) 	National level	One off (a) Annual (b)	FUM	TBC

3.1.8	Health worker supervision training plans developed (for each tier of malaria elimination programme management)	All States	One off(?)	Training produced/level plans FUM	TBC
3.1.9	Health worker supervision tools produced (including checklists)	All States	One off(?)	Supervision produced tools FUM	TBC
3.1.10	Supervision: Number of supervision/review meetings held between coordinating and local SMC staff by LGA annually	All States	Annual	Training meeting records FUM	TBC
3.1.11	Number of staff trained in Netcalc: - NMEP level - SMEP level	All States	Annual	Training meeting minutes FUM	TBC
Strategy 2: Community-based service delivery					
3.2.1	% of target LGAs reporting CHIPS monthly data in a timely manner (to where?)	Kano	Annual	CHIPS data reports FUM	TBC
3.2.2	% of secondary and tertiary health facilities performing inpatient malaria case management to standards	All states	Annual	FUM	TBC
3.2.3	Total number of CHIPS agents trained in iCCM overall % of target CHIPS agents trained in iCCM overall	Kano	One off (end of supported phase)	Training logs FUM	TBC
3.2.4	% of secondary and tertiary health facilities participating in malaria microscopy EQA scheme (benchmark? What is expected. Define participation)	All states	Annual	FUM	TBC
3.2.5	% of primary health facilities participating in malaria RDT EQA scheme (benchmark? (What is expected. Define participation)	All states	Annual	FUM	TBC
3.2.6	Number of LGAs implemented the CHIPS-iCCM programme	Kano	Annual	FUM	TBC
3.2.7	Total number of CHIPS agents trained in iCCM year 1 % of target CHIPS agents trained in iCCM year 1	Kano	Year 2	Training logs FUM	TBC

3.2.8	Total number of CHIPS agents trained in iCCM year 2 % of target CHIPS agents trained in iCCM year 2	Kano	Year 3	Training logs FUM	TBC
3.2.9	Total number of CHIPS agents trained in iCCM year 3 % of target CHIPS agents trained in iCCM year 3	Kano	Year 4	Training logs FUM	TBC
3.2.10	Number of peer-review CHIPS meetings occurred annually	Kano	Annual	Meeting logs FUM	TBC
3.2.11	% CHIPS receiving supervision visits/year (including register review): <ul style="list-style-type: none"> • 1+ visit • 2+ • 3+ 	Kano	Annual	Supervision meeting logs FUM	TBC
3.2.12	% CHIPS receiving at least 1 (one) clinical mentoring visit at a health facility	Kano	Annual	FUM	TBC
Covered: strategy 1	% CHIPS performing to standards	Kano	Annual	Performance test results	TBC
Strategy 3: Seasonal Malaria Chemoprevention					
3.3.1	% of all eligible children (3-59 months) treated with SMC each year	JIGAWA	Annual	End of cycle M&E data? Annual	TBC
3.3.2	Annual number of SMC cycles combined with other health initiatives (deworming, malnutrition screening, vitamin A supplementation)	JIGAWA	Annual	FUM	TBC
3.3.3	Number of trainers trained in delivering training for the SMC activity	JIGAWA	Annual	Training logs FUM	TBC
3.3.4	Number of delivery service staff trained in SMC delivery by cadre: <ul style="list-style-type: none"> - Community Health Workers (CHWs) - LGA teams, - Ward supervisors - Health facility workers 	JIGAWA	Annual	Training logs FUM	TBC

3.3.5	Number of community leaders, religions leader, traditional leader sensitisation activities took place	JIGAWA	Annual	FUM	TBC
3.3.6	Total number of children 3-59 months of age treated with SMC in: <ul style="list-style-type: none"> - Inception phase (year 1?) - Year 2 - Year 3 - Year 4 - End of supported phase 	JIGAWA	Annual	End of cycle M&E data? Annual	TBC
3.3.7	Total number of SMC cycles successfully completed	JIGAWA	Annual	FUM	TBC
3.3.8	Number of supervision/review meetings held between coordinating staff (which level?) and SMC staff by LGA % of SMC staff receiving a supervision/review meeting with coordinating staff by LGA	JIGAWA	Annual	Supervision logs FUM	TBC

Legend: **TAS** – Malaria Consortium thematic area specialist; **TBC** – to be confirmed; **FUM** – follow-up meeting with TAS; **NMEP** – National malaria Elimination Programme, Nigeria; **SMEP** – State Malaria Elimination Programme, Nigeria; **LGA** – Local Government Area; **SMC** – Seasonal malaria chemoprevention; **PPMV** – private or proprietary medicine vendor; **SDL** – self-directed learning; **CPIP** – Capacity Performance Improvement Plan; **CHIPS** – Community Health Influencers, Promoters and Services; **SMC** – Seasonal Malaria Chemoprevention

Output 4: Better engaged citizens and institutions in the country's malaria response

#	PM Indicator	State/Level	Frequency	Data source(s)	Progress
Strategy 1: Social accountability and behaviour change					
4.1.1	Number of organisations having meetings/events at which scorecard targets are on the agenda (communities, civil society groups) annually <ul style="list-style-type: none"> - National - State - LGA Check which groups use scorecards; content of score cards how widely used; how	All levels	Annual	Scorecards – how is this tracked? FUM	
4.1.2	% of LGAs with at least one scorecard completed* in the last year by state -Community (LGA) level *to define fully State level or national level scorecards?	All States	Annual	Scorecards FUM	TBC
4.1.3	Number of mentions of malaria in mainstream and social media, by medium <ul style="list-style-type: none"> - Radio (Kaduna, Kano, Katsina Jigawa and Yobe) - Social media (whatsapp/twitter/etc) And by type: <ul style="list-style-type: none"> - Any messages - RDTs - ACTs - LLITNS - SMC *Perhaps change to an exposure period e.g. in last 3 months, annually *Discuss with TAS: more specific quantitative indicator – content analysis of twitter/facebook/Instagram/whatsapp page, monitoring of radio messages	All States	Annual	FUM	TBC
4.1.4	Number and type of high-level advocacy events. Including but not limited to: <ul style="list-style-type: none"> - Malaria Summit flagship event, attended by civil society/ government organisations 	National	Annually Overall	FUM – not feasible - discuss	TBC

	Public dialogue events, attended by NMEP, civil society/local and national government organisations				
4.1.5	Number of public figures (from music, arts, politics etc) annually contributing to NMEP/SunMaP-driven malaria messaging via any medium New indicator - Is this feasible	National	Annually	FUM	TBC
4.1.6	Formative research study on malaria advocacy complete	National	One off	Document produced Follow-up meeting with TAS (FUM)	complete
4.1.7	Social behaviour change interventions chosen as part of this output are informed by the formative research study	National	One off	FUM mapping exercise	TBC
4.1.8	Number of Ward Development Committees (WDC) and Facility Health Committees (FHC) trained in Sunmap II's social accountability strategy Per LGA overall	State/LGA	Annually	Training logs FUM	TBC
4.1.9	Number of civil society and government organisations* trained specifically in malaria messaging	National	Annually	Training logs FUM	TBC
4.1.10	Number of programme reports from civil society/government organisations that indicate that malaria is on their agenda. Most likely report types: - Monthly reports (CSO-level WDC) - Quarterly meeting reports/minutes (PHCAC) - Other	National	Annually	Reports FUM	TBC
4.1.11	Total number of available malaria advocacy tools in use. Including: - scorecards - budget commodity tracking tool - social and mass media-related tools - mystery clients	State?	End of supported phase	FUM	TBC
4.1.12	Number of malaria-specific advocacy/lobbying social media groups Number of active members per malaria-specific advocacy/lobbying social media groups	All States	Annual	FUM	TBC
4.1.13	Number of community/village meetings where malaria was on the agenda by LGA	All States	Annual	Meeting records FUM	TBC

4.1.14	Number of state led accountability mechanisms (SLAMs groups) trained in any of policy analysis, monitoring, budget tracking, strategic advocacy for malaria.	All States	One off	Training logs FUM	TBC
4.1.15	Number of mystery client audits conducted at health facilities by facility level type [is this related to accountability/satisfaction on demand side (ACSM/Behaviour Change Output 4)]	All States	Annual	Audit report FUM	TBC

Output 5: An evidence based learning environment embedded in National Malaria Elimination Programme and supported states

#	PM Indicator	State/Level	Frequency	Data source(s)	Progress
Strategy 1: Surveillance and Response					
5.1.1	% of LGAs timely reporting* malaria monitoring data (by State) *defined as containing data for all facilities in LGA at time of report, each month *or just reporting as the HMIS reporting at facility level – to check HMIS (monthly)	All States	Annually	Data shared FUM	TBC
5.1.2	% LGAs received feedback* on their monitoring report from the State/National level - HMIS *to be defined https://www.malariaconsortium.org/blog/data-and-surveillance-for-malaria-in-nigeria-qa-with-oluwatosin-ajibade/	All States	Annually	Feedback report? Feedback visits? FUM	TBC
5.1.3	Number of quarters (max 4) in which reporting of malaria monitoring data to State has resulted in feedback/action taken* - Continuous survey (sunmap 2) *use “health system blocks” framework to track feedback loop	Kano and Kaduna	Annually	Framework analysis Sunmap 2 team/FUM	TBC
5.1.4	% of sites producing annual/periodic reports* using data from entomological surveillance systems in supported states *clarify how site data is used and reported on	All States?	Annual	Reports produced FUM	TBC
5.1.5	Number of social media messages posted annually on the NMEP: - Facebook account - Twitter account Output 4?	All States	Annual	Training meeting minutes FUM	TBC
5.1.6	Number of “data control rooms” conducted per State annually	All States	quarterly	Protocols produced FUM	TBC
5.1.7	Number of private hospitals using the DHIS2 (by State) by end of project	All States	One off	Document produced FUM	Planned Feb 2021

5.1.8	Number of entomological site staff trained data management, by State	All States	One-off	Training meeting minutes FUM	TBC
5.1.9	An entomological surveillance site active in at least on State by end of project (Jigawa? On hold?) (active = data collection)	National level	One off	FUM	TBC
5.1.10	- Technical Workshop convened to review needs and capacity for entomological surveillance in Nigeria	All States	One off(?)	Training plans produced/level FUM	TBC
5.1.11	Formative research to understand malaria data status and decision-making process at the state and national levels to inform Data-Informed Decision Making (DIDM) strategy complete	All States	One off	Report produced Follow-up meeting with TAS (FUM)	Done
Paused removed	Study published on the efficacy of Pyramax ACT in supported States	All States	Annual	Training meeting records FUM	TBC
Strategy 2: Use of evidence to inform programme decisions					
5.2.1	Malaria Knowledge Hub actively used* - Web analytics (footfall, downloads, etc) - Updated (new materials/content/replacement of content) * Check feasibility of these measurements	National level	Annual	Hub metrics FUM	TBC
5.2.2	Capacity needs assessment review for NMEP malaria data analysis conducted - report produced (with output 1)	National level	One off	OCAT document FUM	Done
5.2.3	Evidence and Learning framework developed and implemented	National level	One off	Framework document FUM	TBC
5.2.4	Malaria Knowledge Hub on NMEP website created	National level	One off	Hub on website FUM	TBC
5.2.5	Staff identified to lead learning activities at National level	National level	One off	Staff names and roles FUM	TBC
5.2.6	Number of staff trained in the leading of SuNMap 2 learning activities at State and National levels [<i>need indicator on feedback loop?</i>]	National/State	One off	Training logs FUM	TBC

5.2.7	Number of strategic relationships between NMEP(?) and other learning/knowledge-based institutions (e.g. universities) established during the life of programme (e.g University of Nigeria)	National level	One off	FUM	TBC
Strategy 3: Operations research and research uptake (mostly paused/removed)					
5.3.1 Paused removed	Total number of research studies developed and completed -study reports produced (across States) -publications in peer-reviewed journals	Specific	Annual	Study reports/papers FUM	TBC
5.3.2	Number of staff trained in operational research in NMEP and by State	National/State	One off	Training logs FUM	TBC
5.3.3	Needs assessment conducted for operational health research capacity - reports produced (State level)	National level	One off	Training logs FUM	Done
5.3.4	Number of States with a focal research person in place by end of year 3	State level	Year 3	Training logs FUM	TBC
5.3.5	% States held a Research Priority Setting Symposium	State level	One off	Symposium meeting minutes FUM	TBC
5.3.6	% States developed an overarching Research Agenda (document)	State level	One off	Document - Agenda Annual	TBC
Paused removed	Meta-analysis workshop held with NMEP and SMEP to answer programmatic questions – using NDHS/MIS data	National/State	One-off	Workshop log FUM	TBC

Legend: TAS – Malaria Consortium thematic area specialist; TBC – to be confirmed; FUM – follow-up meeting with TAS; NMEP – National malaria Elimination Programme, Nigeria; SMEP – State Malaria Elimination Programme, Nigeria; LGA – Local Government Area; SMC – Seasonal malaria chemoprevention; PPMV – private or proprietary medicine vendor; SDL – self-directed learning; CPIP – Capacity Performance Improvement Plan; CHIPS – Community Health Influencers, Promoters and Services; SMC – Seasonal Malaria Chemoprevention

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