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# Quality Micro-Planning Processes - Key Strategy for Achieving High Quality LLINs Campaign: Pilot Report from Cross-River State Nigeria

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**Abstract:** Background: Nigeria is one of the two epicenters of malaria transmission across the globe and contributes to 40 percent global malaria burden. The LLINs distribution campaign is one of the significant and nationally acceptable strategic routes of delivering nets to the entire population across the country. Micro planning of the campaign has been completed in the state in readiness for LLINs 2019 distribution campaign. This study therefore tends to highlight the achievements of this concluded micro-planning processes in identifying all the campaigns needs and challenges while plan and proffer solutions to achieve the high quality campaign outcomes. Study design: This is a qualitative study involving the engagement of all RBM stakeholders. It entailed desk reviews, meetings, community engagements, development and adaptation of programme tools,

quantification, estimation of all the campaign needs using the WHO standardized estimates and inauguration of formed campaign work streams required for quality LLINs campaign implementations. Average volume of a bale of 0.14cubic meter, minimum volume of 120% of expected space considering the 20% handling area within the store facility and average access door space of >2.95sq meter) were used as standards for estimation. All variables were analyzed using Microsoft excel package and Health Mappers. Results: Comprehensive Advocacy, logistic and training plans that included and defined the roles and expectations of all the many stakeholders were developed. Micro plan population of 4,251,387 for 2019 with 2,361,882 LLINs, 6.613.3 $m^3$ and handling areas requirement of 1,322$m^3$ were estimated. A total of 11,864 personnel with their responsibilities were identified and trained including estimated costs of NGN387,143,880 at unit operational cost of NGN 166.34 for the delivery of 1 LLIN to the household. Advocacy kits with print materials for the campaign were pre-tested by health educator and identified programme challenges were highlighted. Conclusion: This study therefore underscores the importance of good micro-planning process for high quality LLINs campaign as recommended by WHO for the achievement of LLINs universal coverage.

**Keywords:** Malaria, Long-Lasting Insecticidal Nets, Microplanning, LLINs Campaign: Cross-River State: Nigeria

# 1. Introduction

Malaria is a disease caused by an infected female Anopheles mosquito [1]. Nigeria is one of the two epicenters of malaria transmission across the globe and contributes to 40 percent of global malaria burden (2). The LLINs distribution campaign initiated by Nigeria government is one of the significant and nationally acceptable strategic routes of delivering mosquito nets to the entire population across the country in order to reduce malaria burden [2-5]. The government of Nigeria, with support from the Global Fund and United States President's Malaria Initiative (PMI), through the National Malaria Elimination Programme (NMEP) and Breakthrough Action Nigeria rolled out the LLIN replacement campaign in 2019[3-5]. Similarly, PMI in conjunction with other partners are actively funding this campaign [7]. In addition, the World Health Organization is providing the needed technical assistance for quality assurance. In the same vein, PMI has procured over 2.3 million Long Lasting Insecticidal Nets (LLINs) to implement the 2019 LLIN mass campaign in Cross River State [7-8, 35].

In Cross-River State, Microplanning process is usually completed in readiness for the commencement of LLINs distribution campaign [6]. The Microplanning process remains one of the most important pre-implementation campaign activities whose deliverables provides useful campaign needs. Micro-planning therefore is a comprehensive planning approach where the community prepares development plans themselves considering the priority needs of the village [8]. Inclusion and participation of all sections of the community is central to micro-planning, thus making it an integral component of decentralized governance. For village development to be sustainable and participatory, it is imperative that the community owns its village development plans and that the community ensures that development is in consonance with its needs [9]. Decentralized planning or micro level planning is a kind of percolation of planning activities. It is therefore a process that starts from the Centre and then flows to the sub-state levels, i.e. LGAs [22-25]. Poor microplanning has been identified as a major contributor to missing out some beneficiaries of targeted health campaigns;

it has also been shown to be a useful tool in addressing gaps in delivery of health programs and contributes to high levels of programme uptake and service utilization [26-28].

Importance of micro planning in LLINs campaign cannot be over emphasized [9-11]. Microplanning involves early planning at the lowest possible levels to collect critical operational information to guide campaign implementation. Micro planning specifically refine the macro plans into operational plans that reflects the local implementation context, it also finalizes operational budgets for the activities. It provides wards/facility catchment area population which is needed for mobilization of households and development of accurate route maps to cover all settlements [10-11,30]. It also provides and identifies storage spaces and means of transportation of the LLINs from State to LGAs and distribution points (DPs) –micro positioning of LLINs.

Similarly, Micro planning helps to identify human resource and material requirements for high quality LLINs campaign. It also provides opportunity for the mapping of existing opportunities for continued demand creation around promotion of LLIN hanging and use; It plans and modifies the planning for those areas that are hard-to-reach to ensure that they are included in both the household mobilization and the LLIN distribution. This study therefore tends to highlight the importance of good micro planning processes in identifying all the campaigns needs and challenges while profiling solutions to achieve the targeted campaign results.

# 2. Methodology

## 2.1. Study Area

Cross-River state is a coastal state located in the Niger Delta region, and occupies 20,156 square kilometers. It shares boundaries with Benue State to the north, Ebonyi and Abia States to the west, to the east by Cameroon Republic and to the south by Akwa-Ibom and the Atlantic Ocean [17]. Its capital is Calabar. Its major towns are Akamkpa, Biase, Calabar South, Ikom, Igede, Obubra, Odukpani, Ogoja, Bekwarra, Ugep, Obudu, Obanliku, Akpabuyo, Ofutop, Iso-bendghe, Danare, Boki, Yala, Bendeghe Ekiem, Etomi, Ukpe and

Ukelle. The State is composed of several ethnic groups, which include the Efik, the Ejagham, Yakurr, Bette, Yala, Igede, Ukelle and the Bekwarra. There are three major languages spoken in the state: Efik, Bekwarra, and Ejagham. [16-20].



**Figure 1.** *Map of Cross- River state Nigeria.*

## 2.2. Study Design

This is a qualitative study with in-depth interview and FGD component and document reviews. This design is deemed to be appropriate for this study because it engaged all the major stakeholders that will be involved in LLINs campaign in the state. Also, this design facilitates the identification and estimation of all campaign needs and challenges in order to achieve the set out campaign results. This research design was seen as being most appropriate for this study because it provided reliable and valid data from the respondents on both the in-depth interview, FGD respondents and document reviews.

## 2.3. Study Population and Sampling Procedures

All Identified RBM partners supporting malaria programmes in the state who were available were involved in the study. Selection of the study population was through stakeholders' mapping which helps to identify those helping the state in Malaria Programme at all levels. A total of twenty-five active RBM partners were identified and three out of each were conveniently selected because of the general election were near the corner. In all, a total of 75 RBM participants including government, state, local government and community representatives were involved in the process. Some of the stakeholders who were occupied due to election were visited to make their inputs to ensured holistic approach. Stakeholders mapping with special respect to area of

competences for LLINs requirements was also put into consideration while selecting them.

### 2.4. Data Collection Instruments

Micro planning in-depth interview and FGD tools developed by Partners at central levels were adapted for the study. The instrument was pre-tested before actual commencement of the study at Akwa ibom state. This pre-testing process before use in the state helped to identify gaps peculiar to the state which was corrected before being used for the study. The tool captured all aspects of pre-LLINs distribution campaign including, populations, households, store capacity estimations, LLINs received with balance, staff and expected number of Distribution points-DPs using average of 500 LLINs per day per DPs, Also, document review was used in data collection. Tools were administered to the respondents after their consents were gotten.

### 2.5. Data Collection Procedure

All the identified stakeholders were met in groups and were later subdivided into clusters based on their area of core competences. Focused group discussions with probing questions concerning their concerns for the campaign were asked to each groups. Issues, clarifications and probing questions with specific emphasis to LLINs campaigns at all levels were asked. Areas covered were social demographic strata, previous LLINs distribution databases, malaria epidemiology, 2015 LLINs campaign records and documentation, supervisory checklists to reports available at WHO and Ministry of Health in the state as well as lessons learnt from previous campaign. Some of the information at rural settings and community who could not come due to elections were captured through tape, which was relayed to them for confirmation before being shared with team at the state level. Advocacy visits were also paid to highly placed government functionaries who could not attend meetings due to general elections and their concerned also formed part of the results.

### 2.6. Data Analysis

All variables captured from the administered micro planning templates were analyzed using NVIVO software package and Health Mappers. Qualitative content analysis was adopted for the study. Verbatim transcription of both in-depth interviews and FGD audiotapes was done for those interviewed. Inductive strategies were used to develop codes. Following removal of personal identifiers, transcripts were imported into NVIVO 11 software. Five nodes/ containers were created in both FGD/ID. Initial analyses involved performing word frequency – word cloud – word tree. In vivo coding method was used. An expert validated the coding process. Codes were categorized into big containers/themes and it was used in stating the findings from the study. Documented lessons from previous campaigns were used for gaps identification and was used for guide. All variables were summed and analyzed within the following thematic areas of LLINs implementations: advocacy including media

engagements, campaign personnel requirements, training and monitoring needs, storage capacity assessments and logistic requirements.

# 3. Result of Findings

### 3.1. Advocacies

The Demand Creation work stream successfully developed a comprehensive Advocacy plan that included and defined the roles and expectations of the many stakeholders that have been targeted.

### 3.2. Media Engagement

Breakthrough Action Nigeria supported the State to secure appointments and on-air appearances with all the radio and TV stations in Cross River State.

General information below was used for advocacy kits to all the people visited.

a) With a micro plan population of 4,251,387 for 2019, the number of LLINs required to implement the Cross River LLIN mass distribution campaign is 2,361,882

b) This leaves the gap of about 34,482 nets from the 2,327,400 procured by USAID/PMI for the campaign. However, figures from some refugee settlements are yet to be collected.

c) For the Cross River current mass campaign, a total of 973 distribution points (DPs) have been proposed with regard to proximity to beneficiaries.

d) Also, considered in the selection of DPs was proximity to beneficiary residence so as to ensure that net card redemption is not hampered by travel time to DPs.

e) There was also consideration for hard to reach areas and scattered settlements.

f) The planned budget for the campaign is NGN387,143,880 at a unit operational cost of NGN 166.34 for the delivery of 1 LLIN to the household.

g) Most of the stakeholders believe that only sustained social mobilization activities would guarantee the success of the programme. One of the stakeholder stated" The use of town announcers selected by us from our communities will be best since last campaign failed in our locality because announcers who were not known were used which made us to reject the nets". While majority believed that continuous radio announcement during and after the campaign will be helpful. One community leader said" many of us did not receive mosquito nets in 2011 because, we were not aware and neither do they fully involved us in the campaign".

### 3.3. Campaign Personnel

This is one of the most important estimates made. During the process, many of the stakeholders were happy as they were involved. One of the group leader said" You people are now serious, last time you did this programme, no person contacted us, what we saw were group of people selected by politicians hovering my communities saying they were distributing nets,

we allowed them to finish their stupidity" In this micro-planning, all the stakeholders at all levels played roles in personnel identification and selections at different levels the result shown below.

The number of personnel planned for the Cross River LLIN mass distribution campaign is 11,864.

1. 4,824 household mobilizers
2. 5,838 distribution team members.
3. 784 personnel each as ward supervisors and Town announcers
4. 418 other statutory State and LGA health personnel for the campaign

## 3.4. Training Plan

The campaign training plan followed the National campaign guidelines and included a central level orientation for state level personnel and the series of cascades up to the ward level. The plan ensured that all the selected personnel were trained in readiness of the campaign. One of the RBM partners has this to say" I have said time without number that using untrained personnel to distribute net amount to resource waist since we encounter a lot of problems last time especially in areas of documentations and net accountability". The other community member also has this to say" " Although, I received nets, one of the workers I asked on how to use it could not tell me as such I used my nets without spreading in the shade which caused me a lot of itching, as we speak now, none of my family member can use that nets" Another said" The so called Health educators who should inform

communities what to do are bunch of illiterate who were poorly trained in communications since most of them were not trained, I am begging you not to send untrained people in the field".

## 3.5. LGA LLIN Store Assessment

The report of LGA warehouse assessment indicated that all LGAs have confirmed storage locations for their LLINs. Except for Akpabuyo, Biase, Calabar Municipal, Calabar South, Ikom, Obanleku with incomplete storage spaces. Abi and Odukpani, require some repairs while security need to be improved across all the stores. Using Average volume of a bale of 0.14cubic meter, minimum volume of 120% of expected space considering the 20% handling area within the store facility and average access door space of >2.95sq meter) as standards for estimation, the state nets volume requirements of 6.613.3 $m^3$ and handling areas requirement of 1,322$m^3$ were estimated for the expected 2,361,882 LLINs. All the warehouses have adequate average access door space of 18.3(>2.95sq meter). Estimation of volume space for the net is important this aids positioning of the nets. One stakeholder said" I went to distribution points more than three times at my village square in 2011, but the people keep on saying that they do not have net, when I asked them, they complianed that rains destroyed the nets sent to our village because they were poorly storeed due to ack of space" Another community leader said"I gave them my house to keep their nets in 2011 but non of them recognized and I promised not to assist again since they left my place disorganized".

*Table 1. Cross River microplanning outputs.*

| S/N | LGAs | # of wards | 2018 Projected Pop. | 2019 Micro plan Pop | HOUSEHOLDS | NETS 100% | Bales by 50 | Actual DP s | Actual number of HHM (adjusted to even number) | Volume Requirements using standard parameters |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Abi | 10 | 209,978 | 209,978 | 41,996 | 116,654 | 2,333 | 51 | 240 | |
| 2 | Akamkpa | 10 | 210,347 | 220,147 | 44,029 | 122,304 | 2,446 | 00 | 230 | |
| 3 | Akpabuyo | 10 | 393,552 | 393,679 | 78,796 | 218,711 | 4,374 | 89 | 442 | |
| 4 | Bakassi | 10 | 40,962 | 40,494 | 96,699 | 25,941 | 55539 | 12 | 00 | Using Average volume of a bale of 0.14 cubic meter, State nets volume requirements is 6.613.3 $m^3$ and handling areas volume is 1,322$m^3$ Estimated Average access door space is 18.3(>2.95sq meter). |
| 5 | Bokwarra | 10 | 153,453 | 154,077 | 30,815 | 85,593 | 1,712 | 34 | 174 | |
| 6 | Blasse | 11 | 245,333 | 245,333 | 49,067 | 130,296 | 2,726 | 57 | 274 | |
| 7 | Boki | 11 | 200,779 | 209,481 | 53,896 | 149,7112 | 2,934 | 62 | 306 | |
| 8 | Calabber Municipal | 10 | 260,337 | 267,047 | 53,409 | 143,359 | 2,967 | 59 | 302 | |
| 9 | Calaber South | 12 | 277,884 | 277,884 | 55,577 | 154,380 | 3,088 | 61 | 316 | |
| 10 | Etung | 10 | 166,293 | 166,183 | 23,238 | 64,549 | 1,291 | 30 | 140 | |
| 11 | Ikom | 11 | 233,473 | 241,783 | 48,357 | 134,324 | 2,636 | 55 | 274 | |
| 12 | Obanliku | 10 | 150,882 | 162,135 | 32,427 | 90,075 | 1,802 | 37 | 186 | |
| 13 | Obubra | 11 | 252,062 | 250,064 | 50,013 | 133,924 | 2,778 | 55 | 234 | |
| 14 | Obudu | 10 | 252,272 | 232,170 | 46,434 | 128,963 | 2,530 | 53 | 200 | |
| 15 | Odukpani | 13 | 279,064 | 279,064 | 55,813 | 155,036 | 3,101 | 62 | 314 | |
| 16 | Ogoja | 10 | 240,273 | 256,925 | 51,385 | 142,736 | 2,855 | 55 | 290 | |
| 17 | Yakuur | 13 | 284,873 | 321,193 | 64,239 | 178,441 | 3,569 | 73 | 360 | |
| 18 | Yala | 14 | 305,745 | 305,745 | 61,149 | 169,858 | 3,397 | 68 | 346 | |
| | TOTAL | 196 | 4,189,163 | 4,251,387 | 850,277 | 2,361,882 | 47,238 | 973 | 4,824 | |

Source: Malaria unit, Ministry of Health, Cross-River, State.

# 4. Discussion

Micro-planning is a comprehensive planning approach where the community prepares development plans themselves considering the priority needs of the village. Inclusion and participation of all sections of the community is central to micro-planning, thus making it an integral component of decentralized governance [25]. This study identified key partners with comparative skills to be mobilized at various stages to ensure successful campaign. This process utilized stakeholders mapping approach to identify all active stakeholders who sent three persons to represent them. This was responsible for the enthusiasm with which they were prepared to support the programme. Therefore, microplanning process can be regarded as agent and promoter of programme ownership since it brings all owners of programme together to drive the programme which is required for effective sustainability. Therefore, micro planning is process where major stakeholders who are key players in net campaigns come together to provide suggestions on how best to implement LLINs campaign. Micro planning provided opportunity for bringing together these various actors, each with different capabilities to collaborate synergically for effective implementing of mass LLIN campaign as noted in malaria consortium study in Nampula and Niassa provinces in Mozambique [24]; a similar improvement in outcome of routine immunization services through better microplanning was reported in Nigeria and Nepal [26,29]. This agrees with the findings of this study since many stakeholders who were brought together performed different roles and responsibilities at different micro-planning stages in meetings where the implementation plans were developed. This formed the decision of utilizing the identified stakeholders to form part of the LCCN networks which was grouped into different technical, logistic and demand creation work streams based on their strengths and area of core competences before being inaugurated during the process.

Good microplan provides good target population estimates for programme implementation as documented in lesson learnt in 2017 for micro planning for immunization in Kaduna state Nigeria since it provides the opportunity for the line-listing of settlements and good estimation of populations. This is supported in this study since about 4,251,387 projected populations was estimated for the campaign in this process. This is very important in Nigeria especially now that target population based on projection is source of worry to programmers [22, 30]. Population estimates guide the mobilization of households and distribution of net cards which if not done properly results in missed households and low retention rates as documented in [4-5,25]. The development of accurate route maps during microplanning has been demonstrated to improve the outcomes of the campaign process [30].

Micro-planning provides training plans which is an opportunity for the health workers to learn various malaria thematic areas. Good trainings before actual implementation is very necessary for overall quality of campaigns as illustrated in panchayats (village committee) in Mewat [23]. The importance of training and capacity building among health workers and implementers cannot be over- emphasized since it reflects high quality LLINs campaign [4-5]. This process provided opportunity for the training of 11,864 personnels in the state who were not only trained on the technical issues but also on the skills of how to conduct micro-planning process not only to LLINs but also in other health interventions. Micro planning process in this regards can therefore be seen as a strategy for improving health systems. The responses from some stakeholders supported the needs to properly trained implementers of LLINs since they identified poor documentations, lack of proper information sharing on net use as well as lack of net accountabilities as issues that can be addressed by training. Most important is the issues of itching due to wrong use of nets which would have been averted if the Health Educators were properly trained how to inform the populace on the need to spread nets 24hours on the shade before use. It is also worthy of note that selection of the personnels by involving stakeholders will promote ownership of the programme. This is important since exclusion of all stakeholders in personnel selection during previous campaigns was identified as a major issue that affected 2011 campaign in the state hence corrected in by this process.

Micro planning provided opportunity for commodity estimates as well as assessment of identified storage facilities to reduce net decay. In the state, a total of 2,361,882 bed nets were estimated to be stored in 6.613.3 m$^3$ stores. However, local government stores are yet to be identified hence this process recommended for the LGAs to identify best storage and transport facilities if quality LLINs campaign is to be guaranteed. Storage is critical since some stakeholders in this studies linked it to net stock-outs which resulted in low net access during last campaign. It was also linked to increase net decays during implementations due to poor handling from poor storage. In this regards, micro plans identify gaps and proffers timely solutions on how best to deal with it to ensure quality implementations.

Advocacy, Sensitization and Communication remains a powerful strategy that supports end user distribution and this study identified and sensitized all stakeholders on forthcoming campaign through advocacy and communication, media approach and Inter-personal communication strategy. It also afforded the state the opportunity of pre testing printed materials by health educators that will improve the coverage and utilization of LLINs. Also, distribution point identification banners printed which will enable the populace to identify where to redeem their net cards was noted in this study to be very important. Phone-in programme conducted in all radio/TV stations in Calabar during this period also added value to the preparation for quality campaign. The problem of mosquito nets is not only access but utilization at community levels as noted in work done in Enugu state Nigeria [31]. However, Pregnant women who listened to mass media campaigns were more likely to adopt strategies to protect themselves from malaria. Therefore, behavior change

communication messages that are aimed at promoting net use and antenatal attendance are necessary in combating malaria as documented in [32]. Some stakeholders noted that many of them did not receive mosquito nets in 2011 because they were not aware and also not involved in the campaign" This finding from the research study justified the detailed and elaborate advocacy and sensitization done during this micro planning process in the state.

### 4.1. Constraints

i   Concerns about LGA with inadequate stores and those with issues remains threat.
ii  All LLINs yet to be received by state.
iii Knowledge gaps among key staff possess threat.
iv  Political interferences due to forthcoming 2019 elections possess threat.
v   Lack of financial commitment and budgets from the state due to forthcoming election.
vi  Campaign materials yet to be produced.
vii All the 18 LGAs yet to be informed of the forthcoming campaign since 40% of the interviewed are yet unaware of the details until now.

### 4.2. Conclusions

This study has demonstrated that quality Microplanning processes provide useful information, needs and requirements for the implementation of high quality LLINs campaign. It not only provided useful information concerning local peculiarities but also identified critical issues at various levels and pointed out possible factors that could pose threat to the campaign. Most importantly, micro planning has provided all the required information which will definitely assist in household mobilizations. It is worthy of note that two weeks is not enough to carry out effective micro-planning process and suggests three weeks rather. Experience from this study also considers timing of this process critical and should be avoided during election periods in future to ensure that all stakeholders participate in this important process. Another comparative study focusing at different timings that involved all the stakeholders in socio-demographic settings different from the study area herein should be done to under-study the effect of timing and extension of period to three weeks. Despite all the challenges to this study, it has been demonstrated that micro planning process is an important veritable tools in achieving high quality LLINs campaign and therefore should be meticulously implemented if a universal net ownership is to be actualized especially in high malaria hyper-endemic transmission country like Nigeria with documented low net ownership and utilization.

### 4.3. Recommendations

i   State should follow up with the LGAs with inadequate storage facilities and those with issues.
ii  Plans to be finalized to receive the remaining nets.
iii Finalization of campaign budget as a matter urgency.
iv  Production of campaign materials is highly needed now.

v   Follow up with State support to identified gaps in operational costs.
vi  Constitute a strong state malaria ACSM core group to support the LLIN distribution and malaria activities beyond the campaign.
vii Meeting with 18 LGA SMOs to discuss the upcoming campaign and their specific roles in the campaign.

## Acknowledgements

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