

## **Follow-up of LLIN's soon after a mass distribution campaign in two urban districts in Malabo, Equatorial Guinea**

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The Bioko Island Malaria Control Project (BIMCP) uses bed nets as the primary vector control strategy on Bioko Island. As recommended by WHO, every three years the BIMCP, in partnership with the National Malaria Control Program (NMCP) of Equatorial Guinea, conducts mass distribution campaigns of long-lasting insecticide treated bed nets (LLINs) on Bioko Island. As well as distributes LLINs through routine keep-up campaigns in primary schools, high-risk communities, and Antenatal Care (ANC) clinics. However, results from annual malaria indicator surveys (MIS) have been highlighting the inadequate use of bed nets. Field workers providing anecdotal evidence suggest that the population has complained about the odor, the color, and adverse effects related to the nets (itchiness) in previous campaigns. To assess bed nets utilization and apprehension prior to the annual MIS and immediately post-distribution, the BIMCP will conduct a representative household survey in 2 urban districts of Malabo on Bioko Island in April 2018. Communities within the urban districts were selected by probability proportional to sizes and households were randomly selected in each community. The survey questions will focus on LLINs utilization and apprehension, reasons for not using LLINs, educational messages heard about LLINs, and the sources of the messages. This information will contribute to a better understanding of the needs of the population regarding LLINs and will improve communication and sensitization strategies concerning LLINs, with the goal of increasing utilization on Bioko Island.

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## ABSTRACT

### Background

The goal of the Bioko Island Malaria Control Project (BIMCP) is to reduce malaria transmission through interventions amongst which, mass distribution campaigns of Long Lasting Insecticide-treated Nets (LLINs). BIMCP has been using LLINs together with Indoor Residual Spraying (IRS) as the main vector control interventions since it onset in 2004. In 2007/2008, BIMCP under the Ministry of Health and Social Welfare (MoHSW) of Equatorial Guinea distributed PermaNet 2.0 LLINs impregnated with Deltamethrin Island-wide. This was followed with another mass distribution campaign in 2014/2015 with PermaNet 3.0 (Deltamethrin + PBO); while Olyset Plus LLINs (Permethrin +PBO) were widely distributed on the island in 2018. However, LLINs usage has generally remained low at about 40% (Cooks et al., 2018). Anecdotal evidence as reported by field workers suggests that populations have been complaining about the odor, the color, and adverse effects related to the nets (itchiness). Following the 2018 massive distribution campaign, a rapid follow-up survey was conducted in two sub districts in urban Malabo, and the objectives were to:

- Determine if the population accepts and use Olyset Plus nets as compared to the previous LLINs
- Access populations knowledge of LLINs

## METHODS

In 2018, the BIMCP and the national Malaria Control program (NMCP) embarked on a door-to-door mass distribution campaign of LLINs Island-wide. A rapid bed net distribution follow-up survey was conducted two months after distribution in two sub districts in urban Malabo. A total of 400 households were randomly selected (200 per sub district). Interviews were conducted by trained enumerators on household members above 18 years. The survey, among other things, sought to:

- Assess if survey respondents reported receiving LLINs
- Assess LLINs usage, and perception in comparison to previous ones received from the BIMCP/NMCP.
- Assess exposure to messages related to LLINs, the route of exposure, and the type of messages heard.



Fig 1. Training of field volunteers



Fig 2. Conducting interviews in the field

## RESULTS

- Roughly 75% of adult respondents and 92% of children under 5 years were reported to use the Olyset Plus nets every night (Fig. 3)
- About 71% of the respondents indicated that Olyset Plus nets were user friendly as compared to the previous nets (doesn't itch) (Fig. 4)
- Most of the respondents (62%) received messages on LLINs from the BIMCP distribution team as compared to Television (13%), radio (7%) and the project BCC team (7%) (Fig. 5)
- About 57% got the message that the LLINs protect them against mosquitoes bites and 21.8% heard they have to sleep under LLINs every night (Table 1)

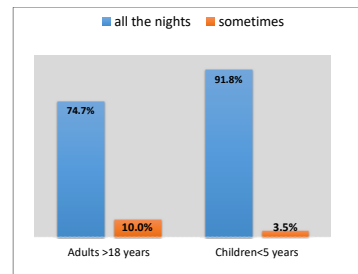


Fig. 3. Use of Olyset Plus nets among adults and children below 5 years

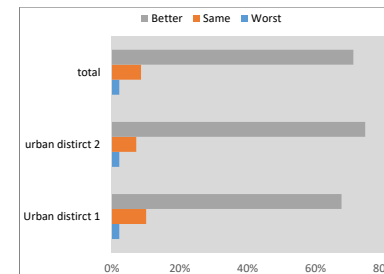


Fig. 4. Perception of people about Olyset Plus nets compared to previous LLINs

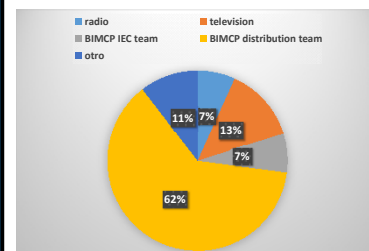


Fig.5. Source of messages on LLINs and IRS

Table 1. Type of message received on LLINs

	Urban district 1	Urban district 2	Total
LLINs protect against mosquitoes	87 (61.7)	77 (52.0)	164 (56.8)
Sleep under LLINs every night protects against malaria	34 (24.1)	29 (19.6)	63 (21.8)
Use nylon or ropes to hang the net	18 (12.8)	10 (6.8)	28 (9.7)
Be sure to tuck the borders of the nets under the mattress before sleeping	12 (8.5)	14 (9.4)	26 (9.0)
Wash when dirty, but no more than 4 times a year	51 (36.2)	78 (52.7)	129 (44.6)
Do not dry nets in direct sun light	31 (21.9)	65 (43.9)	96 (33.2)
Fix net when torn	4 (2.8)	10 (6.8)	14 (4.8)
Bed nets are been distributed free	6 (4.3)	1 (0.7)	7 (2.4)
Other	20 (14.2)	23 (15.5)	43 (18.9)
Total	141	148	289

## DISCUSSION

- Overall, the study did not demonstrate any complaints of side effects with the Olyset Plus nets as compared with the previous LLINs distributed on the Island; Thus majority of the population accepted and used Olyset Plus nets
- About 62% of the study population received messages on LLINs from the project distribution team. Communication strategies of the project IEC team need to be intensified through the various media channels on the Island
- Although about 57% indicated sleeping under the nets protected them against mosquito bites, only 22% knew they had to sleep under the nets every night; which could explain why LLINs usage remained low on the Island?
- Roughly 5% got the message on sewing the nets if there torn. Education on the maintenance of nets is very important as these nets are distributed every three years and through routine channels.
- On how to dry the nets after washing, only 33.2% received the message of drying the nets under shade and not to expose them to sun rays.

### Conclusion

The study population preferred Olyset Plus nets as compared to the previous nets, however, knowledge on nets use and maintenance need to be improved through intensive BCC activities

## REFERENCES

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