



## South Sudan case study: Distributing ITNs during the COVID-19 pandemic in Northern Bahr el Ghazal State

### Key enabling factors for continuing the mass campaign during the COVID-19 pandemic

- **Strong leadership** from the Government of South Sudan, through the Ministry of Health and the National Malaria Control Programme (NMCP), to continue implementing the ITN mass campaign in Northern Bahr el Ghazal State (NBeG) before the high transmission malaria season and despite the COVID-19 pandemic.
- **Effective coordination** between international partners (Alliance for Malaria Prevention [AMP], Global Fund, Malaria Consortium, Population Services International [PSI], World Health Organization [WHO]) and the NMCP. The national COVID-19 task force provided additional technical monitoring and leadership.
- **Adaptive approaches and regular communication** between the main campaign funder (the Global Fund), NMCP and PSI for timely decision-making to avoid delays and validate the country's ITN strategy document for the COVID-19 context.
- **Enhanced coordination** with local government actors for logistics and last mile distribution, given the presence of COVID-19, and assistance with crowd control to maintain physical distancing.
- **Ongoing involvement of community leaders in social and behaviour change (SBC)** messaging (COVID-19 and malaria) to communities and their translation into the local Dinka language.

### Achievements

- During the 2020 campaign in NBeG State, the household registration resulted in a population count of 1,824,293 people, who in turn received a total of 983,704 ITNs for 300,901 households, or an average 3.2 ITNs per household.
- Original timelines were mostly observed, although there was a pause between registration and distribution due to the report of a COVID-19 case and the need to plan, discuss with national leadership and implement modifications to the campaign's original plan.
- Rapid strategy adaptations were adopted for key remaining activities in line with WHO, AMP and national COVID-19 infection prevention measures, including:
  - Modified training of campaign workers for the ITN distribution (see details below)
  - Revised fixed site distribution to include physical distancing measures (chalk marking, crowd control) and handwashing stations funded with UNICEF resources
  - Adapted communication strategy to include integrated messaging on malaria, ITNs and COVID-19
- Leverage of existing local community leaders and social mobilizers for SBC before and during the ITN distribution was successful in preventing any potential rumours in the community.
- Post distribution supervision visits, implemented as part of verification exercises, were undertaken in randomly selected households (n=17,820 or 17 per cent of the total households

registered) and showed data consistent with information collected on the registration forms. This was largely due to the fact that teams worked closely with Boma<sup>1</sup> chiefs who helped verify correct household information to avoid inflating the numbers.

## Lessons learned and recommendations

- **Engagement** with all national actors, particularly the national COVID-19 task force and local government stakeholders, was critical for ensuring strong coordination, support for implementation and limiting delays.
- **Crowd control measures** were a key part of the modified fixed point distribution. Distribution teams arrived early to set up and start delivering ITNs as early as possible. They made markings for physical distancing and clear entry and exit points with handwashing stations.
- **Accurate population estimates** were critical. In NBeG the National Bureau of Statistics population estimates were approximately 30 per cent lower than the figures found by the campaign teams during the registration phase: this required an increase in the total number of registration days to cover all households.
- **Sensitization of local leaders** allowed populations to be aware of modified fixed distribution point protocols due to COVID-19. Health messages including those on COVID-19 took time for populations to understand, so it was necessary for local leaders through multiple channels to continue spreading the message about observing physical distancing.
- **Increased supervision and monitoring by local supervisors and PSI field monitors** to improve detection and rapid solutions for the challenges presented in the field. This included the first-ever use of standard monitoring and supervision forms at all levels in a mass campaign in South Sudan.
- **Engagement of local leaders during registration** allowed close monitoring of the registration process and avoided previous issues of inflated household figures.
- **Physical house markings** allowed supervisors to quickly confirm their unique numbers and that they had been visited and registered, while respecting COVID-19 physical distancing.
- **Logistics verification assessment** was conducted in more detail than in previous campaigns and through engaging local leaders to verify the correct geographical details for distribution. Given the additional time and efforts needed to prepare COVID-19 prevention measures at distribution sites once COVID-19 was reported, the more careful assessment process allowed for any necessary alternative plans for transport and storage of ITNs if rains or floods occurred earlier than expected.

## Context

The South Sudan NMCP uses one main vector control method, which is distribution of ITNs through mass campaigns every three years in line with WHO guidance. In addition, there is limited routine distribution in some parts of the country targeting pregnant women attending antenatal care (ANC) services. The NMCP with implementing partners also carries out other small-scale vector control activities, such as indoor residual spraying (IRS, mostly in camps for internally displaced persons and their host communities) and the use of larvicides.

The NMCP, with Global Fund funding and through PSI as principal recipient, implemented a national universal coverage ITN campaign in South Sudan. It was within this context that the Malaria Consortium, as PSI's sub-recipient (SR) and under the State Ministry of Health (SMoH) conducted an ITN mass distribution campaign in NBeG state between March and May of 2020 in the midst of the

---

<sup>1</sup> Community administrative divisions.

COVID-19 pandemic.

Malaria is the leading cause of mortality and morbidity in South Sudan, accounting for 47 per cent of outpatient visits to health facilities, 30 per cent of inpatient admissions, and 20 per cent of all-cause mortality<sup>2</sup>. *Plasmodium falciparum* is the most prevalent species of malaria parasite in South Sudan, accounting for 98 per cent of infections and most reported cases of severe disease and death. In NBeG State, the peak of malaria cases occurs in the rainy season between June and November. All of the population in South Sudan is at risk of malaria, with pregnant women and children under the age of five years old being the most vulnerable.

The overall goal of ITN mass campaign distribution is to achieve universal ITN coverage and reduce malaria morbidity and mortality. The aim of the campaign in South Sudan was to protect 85 per cent of the population at risk of malaria by 2021 using recommended malaria prevention methods. This is also in line with the Global Fund timeline for the current grant cycle. The NMCP began planning for the 2019–2020 mass distribution campaigns early in 2019. However, due to extensive flooding and issues concerning the quality of some of the ITNs delivered, all ITN campaigns were postponed to start early in 2020.

Despite numerous challenges, South Sudan’s malaria team worked very hard and managed to develop and implement a full ITN mass campaign training package, including a manual and standardized supervision forms, for all campaign actors to guide and monitor campaign implementation. COVID-19 was first reported after the campaign was under way. While this did not allow time for procuring personal protective equipment (PPE) such as hand sanitizer and face masks, the campaign team was still able to promote handwashing and physical distancing for the remainder of the campaign. Initial discussions were held about introducing a pilot for electronic data collection using tablets available in-country. However, given the COVID-19 pandemic and the complex operating environment (COE), it was decided to maintain the existing paper-based data collection system with which people were already experienced.



*Queueing for ITNs while practising physical distancing*

© PSI

---

<sup>2</sup> South Sudan HMIS report 2017.

Key steps and their timelines in the campaign were:

- Campaign implementation protocol, risk assessment and mitigation plan and timeline and budget were completed by early 2020 (prior to COVID-19 in the country).
- Training of 20 campaign trainers (ToT) was held 13—15 March 2020.
- Training of campaign volunteers including Payam<sup>3</sup> supervisors, site managers, communicators and registrars was held over a period of several weeks from mid-March to early-April, for a total of 1,003 participants.
- Due to the first confirmed COVID-19 case on 21 March, mass public gatherings and all ITN campaign activities were suspended by the government while COVID-19 guidance was developed.
- Following the development and validation of a revised strategy for the campaign adapted to the COVID-19 context, door-to-door registration was carried out in NBeG by two-person teams using paper-based tools to collect data and to give SBC messages. This phase was completed on 17 April 2020.
- Modified fixed point distribution, with an increased number of distribution sites to avoid COVID-19 transmission through crowding, was held in NBeG between 30 April and 6 May.
- The final campaign report was completed at the end of July.

Given the importance of the ITN mass distribution for protecting the population from malaria prior to the rainy season, particularly in a situation where the COVID-19 pandemic could potentially worsen malaria outcomes, the NMCP with support from key stakeholders revised its strategy for the ITN mass campaign. Based on global guidance, the strategy aimed to ensure that ITNs reached households while maximizing COVID-19 infection prevention and safety of campaign workers and household recipients.

## The revised strategy

The campaign in NBeG was ongoing when the first COVID-19 case was notified and activities were suspended. Completion of the campaign required modified approaches for several of the remaining activities:

### ***Training:***

- Training of campaign workers for completion of ITN distribution in NBeG was modified from the original three days to one day of training.
- Training included information on COVID-19 infection prevention such as regular handwashing, physical distancing, not presenting for work if sick (though workers would still be paid), and avoiding crowding at fixed point distribution sites.
- Many of the training sites used were well-ventilated classrooms in schools or open air areas with reduced number of trainees per group (no more than 20 participants) while maintaining two metres physical distancing.
- Megaphones were used in some instances to communicate training messages, avoiding close contact between people.
- Handwashing stations were installed at all training sites. Water collection proved problematic, and having pairs of trainees for pouring and washing hands raised concerns given lack of face masks and inability to physically distance. For this reason, hand sanitizer rather than handwashing was recommended along with face masks for future campaigns.

### ***Distribution:***

---

<sup>3</sup> Administrative division.

Due to COVID-19, NBeG moved to a modified fixed point distribution, which included the following adaptations:

- Expansion to more distribution points and/or increasing the average distribution time from five to seven days to reduce gatherings of large groups of people, with the implementation budget adjusted accordingly.
- An increased number of communicators to allow for door-to-door SBC co-messaging on malaria and COVID-19 prior to ITN distribution, and to ensure adherence to and accountability for the new COVID-19 prevention recommended procedures at the distribution points during the ITN distribution.
- Household recipients were assigned to distribution points by voucher serial numbers. Communicators organized groups by voucher serial numbers and encouraged different groups to visit the distribution point on different days.
- To minimize surface transmission at the distribution point, standard operating procedures (SOPs) included the household representative placing the voucher on the table in front of the distributor so it could be read and registered by the distributor without touching. Similarly, ITNs were placed on the table for the household representative to collect, after which she/he was asked to tear the voucher in half and dispose of it in front of the distributors.
- At the end of each day, distribution areas were cleaned up, including disinfection of surfaces/furniture used and correct disposal of all waste, as per national guidelines.



*Physical distancing at a distribution site*

© PSI

***Supervision and monitoring:***

In each county there were supervision and monitoring teams composed of PSI monitors, staff from the Country Coordinating Mechanism (CCM), NMCP, County Health Department, sub-recipient (Malaria Consortium) and SMoH. These teams were responsible for overseeing the entire process of

registration and distribution, identifying challenges and providing advice and solutions at county level. These teams also participated in county task force meetings, providing updates to the county authorities.

Planned national and state field-based monitoring and supervisory activities were reduced in scale and some travel between states was restricted due to COVID-19. Two members of the MoH COVID-19 task force joined supervisory personnel to promote and verify new COVID-19 infection prevention approaches to the campaign (physical distancing, handwashing, SBC messaging). At the local level, supervisors focused on ensuring that distribution teams adhered to the COVID-19 safety measures (physical distancing, chalk markings, handwashing, crowd control), and overseeing the planning and daily management of each team. This helped confirm whether the rapid changes in procedures made as the COVID-19 guidelines were being rolled out were applied effectively in the field. For example, more distribution points were created to minimize crowding and promote physical distancing. This required more volunteers, supervisors and coordination staff. Their responsibility included checking the health of distributors each day and not allowing them to continue if they showed any COVID-19-like symptoms. This was the first campaign in which PSI and sub-recipient site monitors systematically observed practices along with government counterparts. This allowed more effective and quantifiable identification and verification of issues and potential corrections.

Site managers were responsible for supervising an average of five distributors in their respective sites. Each site manager was supervised by one Payam supervisor and these individuals together formed an independent core volunteer supervision team at the field level and were responsible to ensure that campaign personnel implemented training and the overall ITN campaign according to the national strategy. Note that before COVID-19 was notified, supervision and monitoring teams visited registered households to verify household sizes and data against the information registered by the registrars in the books. The teams also verified areas where higher than expected population figures were reported. After COVID was notified, the procedure was changed and registration was combined with distribution, which meant this type of verification in advance of the ITN distribution was not possible.



*Physical distancing while waiting for ITNs* © PSI

**Logistics:**

The NMCP followed its standard logistics plan for transporting and warehousing ITNs in NBeG both before and after notification of COVID-19. In later campaigns when the Global Fund provided

funding for masks and hand sanitizer, PSI implemented a separate logistics plan to supply PPE to the implementation level.

**Communication:**

Community mobilization before, during and after the ITN mass distribution was done through various channels that included interpersonal communication (by communicators), mass media (such as radio) and print media. To promote quality, harmonization and coordination, key messages were developed by the National Information, Education and Communication (IEC) Technical Working Group with experts from several partner non-governmental organizations and the NMCP. This team developed a comprehensive IEC package containing scripts for radio stations, ITN leaflets, brochures and fliers. The materials were used to provide information on the mass campaign, solicit community participation and inform on the need for sustained use of ITNs. Information on COVID-19 signs and symptoms and prevention measures were integrated in the radio jingles, and posters about COVID-19 were printed and distributed during training and registration of households.



*Using a megaphone and physical distancing in an SBC session*

## Revisions for the future campaigns for the COVID-19 context

The lessons learned for later campaigns to be modified to the COVID-19 context include these key messages:

1. In the context of COVID-19, South Sudan will take **precautionary measures** (in line with WHO, AMP, and national SMOH guidelines) to **ensure the safety** of household recipients, SMOH personnel, and the different levels of ITN campaign teams, while continuing to implement malaria prevention activities to the greatest extent possible.

2. South Sudan will **prioritize areas for ITN distribution** based on malaria burden and intervention stratification while allowing for flexibility in the strategies and quantification to ensure reaching those in greatest need.
3. If population estimates are not expected to be accurate, **ensure supplementary ITNs** are available.
4. **Urban or peri-urban areas** should have special considerations and be divided further to allow more fixed distribution points and minimize crowd control issues.
5. All ITN campaign activities will be organized to **avoid a large congregation** of persons, meaning that distribution approaches will shift from previously existing models into a combination of different strategies to take account of the COVID-19 context, malaria burden, population density and accessibility.
6. The Government of South Sudan, NMCP, WHO, AMP and other partners, who actively monitor the COVID-19 situation will **adjust guidance and strategies** in light of new developments of the pandemic.
7. Campaign teams will ensure that **people at high risk of severe COVID-19** illness (such as the elderly or those with other health conditions) **are not selected** to work on the campaign to minimize their risk of illness.
8. Trainings will still be conducted in person, but in **small groups** not exceeding 20 trainees and two trainers, so that they can be split into even smaller groups of 10 participants if needed and adhere to at least one metre of physical distancing. Training sites will be well-ventilated classroom space at **closed schools or open spaces** under a tree for shade. Training days will be fewer than originally planned to minimize exposure.
9. All training sites will be **equipped with hand** sanitizer and masks.
10. During the campaign, **workers displaying any symptoms of COVID-19 will be asked to stay at home**, report to the Ministry of Health through the established emergency COVID-19 hotline, and comply with national guidelines on managing COVID-19 symptoms.
11. Future campaigns will exclude a separate registration phase but place a cap of three ITNs per household, based on population estimates and the average household size of six persons in South Sudan.

## Budget implications

Changes to the budget were made quickly in line with the new COVID-19 adaptations for a modified fixed point distribution strategy in NBeG, considering South Sudan's specific geographic and logistical context and the available human resources. Given that the campaign was mid-implementation when COVID-19 reached South Sudan, there was not adequate time or budget to procure PPE for the campaign. Stakeholders decided to continue enforcing physical distancing measures in the absence of face masks, but PPE (particularly face masks) should be planned and budgeted as part of all future campaigns.

