

# Burkina Faso case study

## Multi-product mass insecticide-treated nets (ITN) campaign 2019

### Context

In most malaria-endemic countries, there is increasing evidence of mosquitoes becoming resistant to the pyrethroid insecticides used on insecticide-treated nets (ITNs), thus reducing the ability of those nets to repel or kill the mosquitoes that come into contact with them. This, in turn, reduces the effect of pyrethroid-based ITNs for individual and community malaria prevention.

In Burkina Faso, various levels of pyrethroid resistance have been documented in the country. Figure 1 and the corresponding map give an indication of the findings.

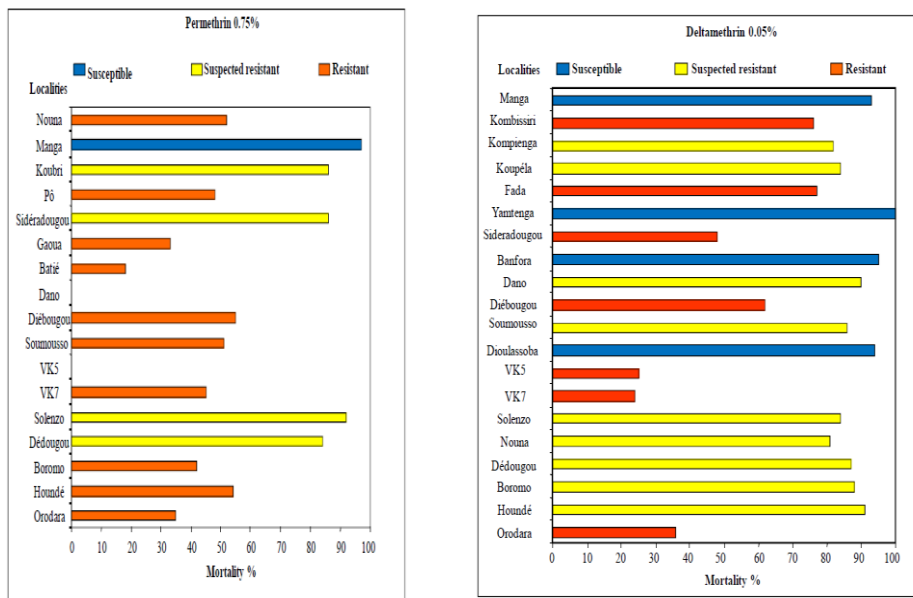


Figure 1 Pyrethroid resistance in Burkina Faso (Dabiré et al 2012)



New types of ITNs using more than one active ingredient are being deployed at scale in targeted countries for evaluation purposes through the New Nets Project<sup>1</sup>, including in Burkina Faso. Although not new to ITN mass campaign distributions (the 2019 campaign was the fourth), the 2019 campaign in Burkina Faso was the first to deliver ITNs of different types, appropriately targeted, in an attempt to address documented insecticide resistance. The campaign was led by the national malaria control programme (NMCP) and financed by the Global Fund, the US President’s Malaria Initiative (PMI) and other partners.

Burkina Faso was the first country to distribute the BASF Interceptor G2<sup>(TM)</sup> (IG2) on a large scale as part of the New Nets Project. ITNs with the synergist piperonyl butoxide (PBO) as well as standard long-lasting insecticide-treated nets (LLINs) were also distributed. Table 1 shows the types and quantities of ITNs distributed, while figure 2 shows which ITNs were targeted in which regions of the county.

**Table 1: Distribution of ITNs in Burkina Faso (2019): type and quantity**

Type of ITN	Quantity
Standard LLIN	9,341,339
IG2 ITN	1,533,618
PBO ITN	1,299,245
Total	<b>12,174,202</b>

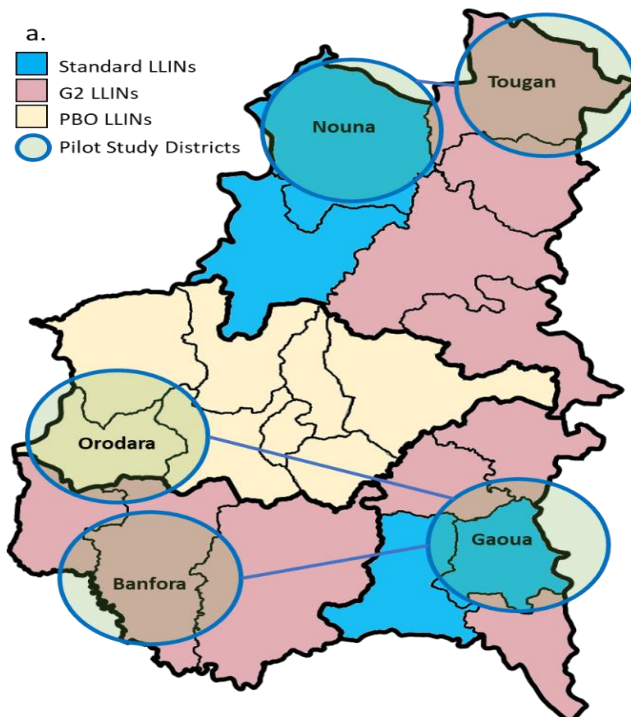


Figure 2: Geographical distribution of ITN net types

<sup>1</sup> See <https://www.ivcc.com/market-access/new-nets-project/>

The 2019 ITN mass campaign was initially planned as a single-phase national campaign but was adjusted in line with ITN delivery timelines into two phases:

- Phase 1: Distribution of standard LLINs and PBO ITNs from 25 to 29 May 2019
- Phase 2: Distribution of IG2 ITNs from 12 to 16 July 2019

Achieving and maintaining high ITN access is important given that Burkina Faso has an 80.9 per cent use:access ratio according to data collected during the 2018 Malaria Indicator Survey (MIS). Based on the data, people who have ITNs will use them, so ensuring access to ITNs is the critical factor for ensuring correct, nightly use of malaria prevention. Analysis of data for the ITN Access Use Report (2019) indicates that ITN use in Burkina Faso tends to decline with the dry season and use given access decreased in 2017—18 for rural populations. Children under five, as well as women of reproductive age, are prioritized for ITN use in households that do not have sufficient nets to cover all household members, while children of school age and young adult males are typically low priority for ITN use.

As Burkina Faso was the first country to distribute IG2s on a large scale, it was expected that several key lessons could be learned on multi-product campaigns which can be shared with other national malaria programmes.

### **Achievements**

The major achievement of the campaign was the distribution of approximately 12,569,272 ITNs of which approximately 1,563,934 were IG2s and approximately 1,377,170 were PBOs. Deployment of three different types of ITNs during the national campaign required special attention to planning and implementation to ensure that the right ITNs were distributed in the right areas, that all ITNs were accounted for and that people were mobilized to collect their ITNs and use them.

Burkina Faso implemented a highly successful multi-product campaign through a number of critical steps:

- Strong coordination: The NMCP ensured that a “Comité Ministériel d’Organisation (CMO)” was established with a range of members reflective of the different stakeholders (including community level stakeholders). The CMO was supported by a number of technical subcommittees.
- Early development of macroplans: The NMCP mobilized support of partners to develop the campaign plan of action, logistics plan, timeline and budget for the campaign, ensuring consensus around technical and operational considerations in line with the complexity of a multi-product campaign.
- Careful consideration of potential challenges: A risk assessment and mitigation plan was part of the macroplanning package that was developed under the leadership of the CMO and took into account the new and different risks associated with the different types of nets being distributed.
- Early engagement of national security forces: The NMCP, based on lessons learned from previous campaigns and anticipating an increasingly complex security situation in the country where the ITNs would be distributed, engaged national security forces early, clearly defining roles and responsibilities for different activities to be implemented.

- Decision-making around communicating about different ITN types: The NMCP, in collaboration with stakeholders within the Ministry of Health (MoH) and partners, made the decision to communicate about the different types of nets being distributed to all levels, including households. The decision was based on several considerations:
  - Standard LLINs were delivered without packaging while PBO and IG2 ITNs were delivered with packaging, so the difference between the nets was visible.
  - The issue of insecticide resistance was already being communicated by the MoH to communities as from the end of 2018/start of 2019 through the district level health administration. The MoH felt that the increase in knowledge might help households understand the noticeable impact of their nets on mosquitoes. Not having the right information was considered to be a potential source of rumours, mis- or dis-information.
  - The security context in the country and the level of distrust among certain population groups presented a high risk for negative reactions if people discovered later that different ITN types were distributed and if certain households felt they did not get the “better” net.
- Decision-making around social and behaviour change (SBC) messaging about different ITN types: After deciding to communicate about different ITN types throughout the country, the NMCP and partners worked out the language to be used and level of detail to be communicated to different audiences. At the central and district health management team levels, the NMCP communicated that “new generation nets” were being distributed to address insecticide resistance issues and that the ITNs that each district would receive for the campaign were those that were most appropriate for documented types of resistance. At the community and household level, the message was that ITNs being distributed were “adapted to the mosquito in your region”.
- Development of a rumour management plan: A rumour management plan was developed that included strategies for identifying and responding to potential rumours, mis- and disinformation associated with the different ITN types being distributed. This included the surveillance of rumours via social media and interactive communication with communities via WhatsApp. Unfortunately, budget gaps meant that this rumour management plan could not be implemented as planned. Nevertheless, the national malaria programme believes that one of the main reasons that no rumours, mis or disinformation arose during and post-campaign was that clear information was given to communities about insecticide resistance and the different types of ITNs being distributed.
- Early anticipation of potential supply chain challenges: The NMCP procured each type of ITN with a different colour of bale packaging for easy differentiation during transport and storage. Although ITNs were procured with delivery to district level, limiting the possibility of a district getting the wrong type of ITN, the possibility that bales would be mixed in the post-distribution period was considered when deciding on the different colours of baling.

### **Main challenges**

The campaign experienced a number of challenges largely unrelated to the multi-product nature of the campaign, including:

- Insufficient resources for microplanning: The NMCP introduced the microplanning process late in the macroplanning period, after the plans and budgets had been

reviewed and approved. Efforts were made to secure resources for the full microplanning activity which was not possible at the time. This led to insufficient planning and budget for detailed training at the national level, as well as delayed implementation of microplanning workshops with personnel from the operational level.

- Late ITN arrival: Due to the late arrival of IG2s in the country, the campaign needed to be changed from a single-phase campaign to two phases to ensure that ITNs already available in the country were in households as planned in advance of the high transmission season. The second phase of distribution (initially planned for July) was significantly delayed and was not implemented until October and November of 2019 due to late arrival of the ITNs.
- Voucher control: A stock-out of vouchers occurred before the end of the registration process, due to some weaknesses in the management of vouchers during the household registration process. This required vouchers to be photocopied or for one voucher to be allocated to several families, to ensure that all households were adequately covered.
- Population movement and special populations: There are a large number of internally displaced persons (IDPs) owing to insecurity in the country which led to the movement of many households during the campaign period. Many of these displaced households did not travel with or lost their vouchers during the violence, making it difficult for them to obtain their ITNs during the distribution.
- ITN gap: A 2.6 million ITN gap was identified following the household registration. This situation has been encountered in previous campaigns and the NMCP manages this in two ways: (1) early communication with regions and districts reinforces to Ministry of Health staff that the ITNs quantified for each district will not be increased if insufficient supervision and monitoring take place to limit inflation or creation of false households, and (2) retroactive capping at the end of the household registration phase based on the number of ITNs available in each district and the number of households and people registered. The retroactive capping allows for the ITNs available to be allocated as evenly as possible across all households, including those with a large number of household members, in an effort to achieve high intra-household ITN access.
- SBC plan and budget: Insufficient resources were allocated to SBC activities which resulted in a lack of materials and tools at the different levels and planned post-distribution SBC activities having to be curtailed.
- Payment of campaign actors: Significant delays were incurred in payments to volunteers through mobile money.

## **Campaign implementation, key data and lessons learned**

### ***Coordination***

To support the coordination of the mass ITN campaign, a “Comité Ministériel d’Organisation” made up of seven sub-committees was established in late 2018. The objective of the CMO was to ensure the coordination of the 2019 ITN mass campaign at the national level. The committees making up the CMO included:

- The coordination committee
- The secretariat
- Technical
- Media and communication
- Logistics and transportation
- Finance
- Security

Members of the committee consisted of staff from the MoH, technical and financial partners, as well as stakeholders from the private and community sectors, ensuring a robust representation from different constituencies involved in the campaign. Sub-national coordination committees (mirroring the structure of the CMO) were established at the regional and provincial level. District representatives were part of the provincial level committees, thus ensuring that the districts were represented during discussions and decision-making. While the NMCP planned to have coordination committees set up at the level of “communes” (i.e. the local level), this was not possible due to lack of funding.

The CMO led the development of the campaign macroplans which defined:

- The campaign strategy and phases of activities
- The roles and responsibilities of key campaign actors
- The logistics plans for storage and transport from delivery of ITNs at district level through to reverse logistics for leftover ITNs
- The monitoring and evaluation component of the ITN campaign

Between November 2018 and November 2019, the CMO organized at least 15 coordination meetings. Good coordination with the regional and provincial level coordination committees ensured effective security measures were put in place (see “security” below) and that consensus on retroactive capping to address the issue of gaps in ITNs was achieved among stakeholders (see “ITN distribution” below).

The main challenge was that the CMO was established late and had insufficient available budget to:

- Fully carry out its roles and responsibilities during the two phases of the campaign
- Address additional work caused by the frequent delays in campaign implementation, especially in areas where IG2 ITNs were being distributed.

**Lessons learned:**

- Strong coordination mechanisms must be established and functional at all levels, including representation of the various stakeholders, at least nine to twelve months before distribution.
- Delays in implementation are a real risk and should be taken into account when developing the risk assessment and mitigation plan. It is important to build contingency plans for the coordination structures at all levels to remain active and functional should delays require them to work beyond the initially established timeline for reasons outside their control (e.g. late ITN delivery).

***Microplanning***

The NMCP recognized that microplanning is critical to ensure the success of all ITN campaigns, as it gathers operational information from the community level and identifies the resources (human, materials, financial, tools and time) required for an efficient and effective campaign implementation. However, the microplanning process was not fully developed or budgeted in the macroplans approved by the Global Fund. While the NMCP was able to get approval for the microplanning to take place, the timing was too close to the implementation period and the budget insufficient for detailed microplanning with representatives from the operational levels.

Due to time and resource constraints, challenges were experienced during the microplanning including:

- Insufficient trained human resources to facilitate microplanning workshops at the district level
- Reduced training of facilitators from five days to two days, as well as limited number of days in the field for facilitators and resources for their travel

**Lesson learned:** Microplanning should be included in the campaign plan of action, and budgeted for accordingly, including ensuring that the following critical steps in the microplanning process are not omitted:

- Development of microplanning tools
- Training of facilitators at central level for five days
- Microplanning workshops for five days at district levels with participants familiar with the operational context
- Cleaning of microplans at central level
- Validation of microplans with districts, provinces and regions

### ***Logistics***

A logistics plan of action (LPOA) defining the supply chain from the point of delivery in the country through to reverse logistics was developed. The LPOA provided details about the roles and responsibilities of campaign personnel at different levels, as well as tracking tools and ITN accountability, logistics training and supervision and monitoring of the logistics operations. ITNs were delivered directly to the district-level warehouses, limiting the possibility of mixing ITN types at higher levels of the supply chain. ITNs were procured with different bale colours for different types of ITNs to avoid any confusion or mixing of the ITN types.

Delayed ITN arrival, particularly of the IG2 ITNs, created a number of challenges for the campaign implementation. The first delivery of ITNs (standard LLINs and PBO ITNs) was expected in mid-December 2018, but these were not delivered until mid-June 2019. In addition, IG2 ITNs were expected in mid-June 2019 but were not received until August 2019. The changing ITN delivery timelines caused multiple revisions to the campaign timeline.

The logistics component of the campaign faced budgetary constraints which:

- Prevented the assessment of warehouse capacity within the districts in advance of ITN delivery
- Delayed lateral and reverse logistics (which were also a result of challenges linked to microplanning and retroactive capping, which led to ITNs within a province or region being transported elsewhere)
- Created delays in the management of waste, including the transport of waste from health centres with non-functional or no incinerators
- Made planning for delivery and receipt of ITNs in insecure areas and for displaced populations, where additional or specialized transportation requirements were needed, very challenging

**Lessons learned:**

- Pipeline monitoring is critical and any shifts in delivery timelines must be communicated promptly to stakeholders at all levels.

- The risk assessment and mitigation plan should include the potential for late ITN delivery and a contingency plan for managing delays in campaign implementation.
- Costs for waste management and reverse logistics must be included as part of the detailed campaign budget. The process for waste management and reverse logistics (including any quantification) should be sufficiently detailed in the macroplans to eliminate any ambiguities when costing the activities, as well as during implementation.
- Strong microplanning is needed to minimize the need for lateral ITN movement and identify and plan for ITN distribution in hard-to-reach areas and for displaced populations

***Communication (social and behaviour change)***

The NMCP had requested AMP technical assistance (TA) support to develop the communications strategy and plan of action (PoA) but were unfortunately unable to secure this TA support, causing a delay in the development of the communications strategy, tools and materials. A national consultant was subsequently contracted to support the development of the communication PoA, which was developed with the objective of increasing ITN access and use in all households in Burkina Faso. It was based on lessons learned from previous campaigns as well as existing data and was an analysis of the context in the country that included:

- Review of the most recent MIS data regarding sources of information
- Review of ITN access:use data to identify areas of the country with lower indicators
- The identification of barriers to adopting positive net utilization behaviours
- Identifying strategies to mitigate or remove these barriers to positive net utilization

With distance support from AMP TA providers, the NMCP was also able to identify the various risks to the campaign and communication activities (such as growing insecurity within the country) and develop appropriate mitigation measures to improve the existing strategy and plan of action.

As with most campaigns, the principal challenge faced by the communication committee was a lack of funding for a robust, multiprong strategy. While many communication activities were financed by the Global Fund, the gap in funding resulted in:

- Inability to implement a workshop for the development of messages specific to the new ITN types being distributed, as well as the pre-testing of these messages
- The rumour management plan not being implemented as developed: while rumours are always a challenge for ITN mass campaigns, the risks are greater in a multiproduct campaign
- Planned post distribution communication activities not being implemented, with the risk that any questions or rumours arising about the different ITN types after the actual distribution may not be responded to effectively
- No health education posters being displayed or used at distribution points

**Lessons learned:** Ensure that the plan and budget for SBC are developed early and take into account the extra time and resources required for a multi-product campaign including:

- All tools and materials required to support the communication strategy
- SBC microplanning to ensure sufficient quantities of materials are available for each district
- A robust post-distribution SBC strategy and accompanying activities

***Training***



Training was conducted in a cascade method, with the final training for community-level campaign workers being conducted in two steps:

1. A two-day training for household registration organized 48 hours before the start of the registration exercise
2. A one-day training for ITN distribution organized the day before the start of the distribution

The principal challenge faced in training implementation was the late reproduction of training materials and tools (including the training manual) which subsequently resulted in certain weaknesses in the household registration process.

**Lessons learned:** It is critical to ensure that detailed planning for training is done at the macroplanning stage and that adequate resources are allocated to the various trainings, including:

- Sufficient days and time for each training session and module within the session as per the agendas developed
- Sufficient resources, tools and materials for facilitators and participants to ensure practical exercises are implemented in support of high-quality implementation
- Sufficient time to ensure that procedures and policies for procurement of venues, catering and requirements are followed

***Household registration and data management***

No. of households (macroplans)	No. of households (microplans)	No. of households registered	Difference between microplans and registration	% difference
3,726,796	3,894,332	5,038,227	1,143,895	29%

Despite limiting the number of households to be registered per day to an average of 25 in rural areas and 30 in urban areas, the following challenges affected the household registration process:

- Insufficient and incomplete household registration books
- Low quality of registration of households
- Late submission and transmission of household registration data to the central level (paper-based data collection)
- Inconsistencies between the number of households registered and the number of nets to be allocated
- Poor management of vouchers leading to insufficient vouchers to cover certain areas

During the household registration, data were collected and transmitted to district-level data managers who analysed the data and provided feedback to the district campaign personnel. At the end of the household registration period, the data showed that the number of ITNs required was considerably higher than the number of ITNs available based on what had been procured for the campaign. The NMCP is not unfamiliar with having a large gap after the household registration and thus this situation had been anticipated in advance. The gap between the macroplanning, microplanning and household registration population figures is likely due to a

number of factors including inaccurate baseline population data from census projections, insufficient microplanning to truly capture updated population figures and challenges during training that led to issues during the implementation of the registration itself.

In order to fill the gap identified at the end of the household registration, the NMCP applied a strategy of retroactive capping to reduce the number of ITNs to be allocated to households (a reduction of one to five nets): the CMO created different scenarios of reduction based on the amount of ITNs available vs. the amount of ITNs required as per the household registration. For example, if a household had 14 people and was supposed to receive seven nets, then their allocation was reduced by two nets etc. until data show that all households within the region were receiving ITNs. The scenarios also took into account the average number of household members (national census) in rural vs. urban areas. The scenario that ensured all households received ITNs and that large households were not unduly penalized was adopted in each region and the governor of the region was subsequently informed and led the communication to the targeted households about the change in the ITN allocation strategy. The NMCP estimates that for 75 per cent of households in the campaign, there was no change to their initial allocation; the majority of households that had their number of ITNs reduced had nine or more members.

**Lessons learned:** Retroactive capping, based on actual household registration figures rather than macro level assumptions, ensures that the number of ITNs being distributed to households is:

- More representative of the actual ITN needs at the household level
- Does not unduly penalize large households, which are numerous across Burkina Faso
- Aligned with the ITNs available to limit the number of ITNs remaining for reverse logistics at the end of the campaign

***ITN distribution and data management***

No. of ITNs prepositioned	No. of ITNs allocated to households during registration	Difference between ITNs prepositioned and ITN needs	% difference
12,174,202	14,815,826	2,641,624	22%

The ITN distribution was considerably delayed due to late ITN arrival and was implemented on the following dates:

- First phase of distribution of standard LLINs and PBO ITNs was implemented from 29 June to 03 July 2019.
- Second phase of distribution of IG2 ITNs was implemented from 29 October to 02 November 2019.

Fixed distribution sites were organised as per set guidelines, and good communication ensured that the population was aware of the dates and place to obtain their ITNs. While there was health education and physical demonstration of net use and care at fixed distribution sites, this could have been improved with visual materials showing positive ITN use and care behaviours.

The timing of the second phase of distribution was deemed inappropriate by households and the distribution teams as it came after the rainy season and high malaria transmission period.

### ***Security***

One of the lessons learned from the 2016 ITN campaign was the need to strengthen the security aspects of the campaign to prevent ITN theft, as well as the loss of nets to fire. These aspects were made more complex because security measures that had been installed had to remain discreet, so as not to provoke terrorist reprisals and attacks.

In response to the identified risks, the CMO established a security committee at the central level, with security sub-committees at the regional and district levels. During implementation, a total of 7,621 security agents at different levels were mobilized (including at distribution points) to ensure the security of ITNs and campaign personnel.

### ***Data collection***

While data collection tools, as well as a data management system (including the transmission of data from community to central levels) had been established at the macroplanning stage, similar challenges to previous campaigns were encountered including:

- Lack of data reconciliation
- Lack of coherence in data collected, recorded and reported during the different phases of the campaign.

In addition, a strike by health facility staff prevented the transmission of distribution data in real time and these data have still not been received by the NMCP despite the strike situation having been resolved.

The NMCP plans to address weaknesses in the data collection through use of digital tools in the 2022 campaign.

### ***Supervision and monitoring***

While a strong supervision and monitoring structure was established, with clear roles and responsibilities being described in the campaign PoA, including standardized tools and an end process evaluation protocol, the campaign faced some challenges related to planning and logistics which reduced the efficiency and effectiveness of the supervision and monitoring structure:

- Insufficient or inadequate transportation means for supervisors and monitors that limited their ability to reach all targeted areas for the campaign
- Insufficient days allocated for supervision and monitoring (i.e. six days allocated for supervision and monitoring of the registration process which lasted 10 days)

The campaign PoA included independent monitoring of the household registration process to assess quality and coverage, as well as to help identify errors and communicate them to supervisors to be addressed quickly and efficiently. Insufficient resources led to the independent monitoring not being implemented, which could have contributed to challenges identified in the household registration exercise not being communicated and addressed in a timely manner.

#### **Lessons learned:**

- It is important to ensure that implementation of activities is being properly supervised and monitored, allowing for early identification and resolution of challenges. It is critical to

ensure that a strong supervision and monitoring structure is planned and budgeted for at the macroplanning stage to allow for effective implementation.

- Adequate logistics, in particular vehicles adapted to the terrain, should be ensured for the safety and effectiveness of supervisors and monitors

### **Payments**

One of the major innovations in the 2019 ITN mass campaign was the adoption of payment via mobile money (Orange money). However, this process was affected by delays in establishing and operationalizing the system, which in turn delayed payments to community-level personnel for between three and five months. The system did not take into account the need for communication and monitoring to ensure that payments have been made correctly.

**Lesson learned:** Payment to campaign staff, particularly community-level personnel, is often challenging regardless of the method used. Mobile money systems are not established overnight and will initially face many of the same challenges as cash payments. Mobile money systems should be tested to ensure that they are functional in advance of the major periods of payment to community-level personnel. Delays in payments to campaign staff and volunteers should be included as part of a risk assessment, and mitigation measures (including a robust communication strategy that can effectively communicate delays and how they are being managed) developed and put in place.

### **Conclusion**

The 2019 multi-product ITN campaign in Burkina Faso included distribution of three different types of nets (standard LLINs, PBOs and IG2s) at national scale to the entire population of the country, which is a first experience globally. Like most ITN campaigns, the Burkina Faso campaign had successes and challenges, as well as lessons learned that will need to be addressed in future.

The key elements related to the distribution of more than one ITN type identified through the Burkina Faso campaign are primarily related to SBC, including the need for early consensus and decision-making about when, how and to whom the information about different net types will be communicated, and logistics, particularly the need for facilitating effective supply chain management through easy differentiation of bales of different ITN types.

Besides the elements specific to distribution of more than one ITN type, many of the identified strengths, challenges and lessons learned from the 2019 ITN campaign in Burkina Faso are similar to those identified during campaigns distributing a single ITN product. This indicates that improving the efficiency and effectiveness of multi-product campaigns will involve addressing systemic campaign challenges unrelated to the choice or number of ITN types.

See AMP guidance on best practice for all kinds of ITN distribution on:

<https://allianceformalariaprevention.com>