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MINISTRY OF HEALTH-ETHIOPIA

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HEALTHIER CITIZENS FOR PROSPEROUS NATION

Case study for Distributing ITNs during the COVID-19 pandemic in Afar, Benishangul-Gumuz and Gambella, Ethiopia October 2020

I. SUMMARY

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

- **Effective coordination and collaboration** at all levels including National Malaria Control and Elimination Programme (NMCEP), regional health bureaus (RHBs), U.S. President’s Malaria Initiative (PMI) and Global Health Supply Chain Programme – Procurement Supply Management (GHSC-PSM); and between RHBs, Ethiopian Pharmaceuticals Supply Agency (EPSA), GHSC-PSM and Emergency COVID-19 task force and State of Emergency Command Post.
- **Effective and continuous communication** between PMI, Ministry of Foreign Affairs, Ministry of Health (MoH), Ministry of Agriculture and GHSC-PSM to process timely duty free and import permit letters that helped in avoiding delays due to COVID-19-related office closures.
- **High level commitment and support** at all levels including MoH, RHBs, district health offices and GHSC-PSM in deploying extra staff to assist in the implementation of the campaign, including use of supervisors from RHBs and from zonal health departments from within those same regions.
- **Flexibility and rapid decision-making** at PMI, MoH and GHSC-PSM to ensure that the NMCEP, with support from the Ministry of Health and partners, could supply COVID-19 protective materials (sourced locally) to campaign workers.
- Heightened **supportive supervision** to monitor and support the distribution activities at health posts including household registration, social and behaviour change (SBC), and COVID-19 preventive practices including the use of personal protective equipment (PPE) such as face masks and gloves. Note that the MoH provided gloves both for preventing COVID-19 and for minimizing hand irritation when handling ITNs.
- **Engaged community representatives and volunteers** to help in implementation of the guidelines for different activities, revised due to COVID-19 infection prevention measures.
- **Use of text messaging, Telegram and e-mails** for data collection, reducing risk of COVID-19 transmission from paper exchange during the campaign.

Achievements

- Over 1.6 million ITNs were distributed to 604,502 households with the potential to protect over three million people living at high risk of malaria in three regions of the country.
- The first ITN distribution reported after COVID-19 covered 55 *woredas* (districts) reaching 1,051 *kebeles* (villages) distribution site health posts using modern and local transportation resources and engaging the community.
- Training of 3,692 campaign actors on the revised ITN distribution operational guidelines in the context of COVID-19 and deployment of 578 campaign coordinators and supervisors to oversee and facilitate the distribution campaign in line with the revised guidelines.
- Only minor delays of roughly two weeks were experienced while waiting for PPE for protection of health workers involved in the campaign and the communities.
- Adaptation to operational guidelines, based on the national COVID-19 infection prevention measures, was swift, covering those activities essential to guide health workers to safely manage the distribution campaign. Recommendations on distribution of ITNs during the COVID-19 pandemic from WHO, PMI and the Alliance for Malaria Prevention (AMP) were put into practice, including:
 - Training of campaign workers on proper physical distancing, handwashing and use of PPE during the ITN distribution campaign
 - Extended warehouse working hours including weekends and shifts to make up for lost time due to limitations on the number of workers allowed to gather in one place
 - More central microplanning, projecting data from previous campaigns which were then validated with data compiled from family folders¹, data collection tool kept at health posts and from population data sources from village administration
 - Limiting congregation of large crowds at each fixed distribution site by developing a schedule that allowed for distribution of ITNs to different neighbourhoods on different days
 - Setting up more than one distribution point in health posts as needed, especially in urban areas
 - Conducting joint social mobilization communication for indoor residual spraying (IRS) and ITNs integrated with COVID-19 messages, using town criers and local radio stations. In Gambella region, community mobilizers conducted house-to-house social and behaviour communication (SBC) on ITNs during the IRS campaign
 - Conducting more supportive supervision to monitor and support the distribution activities at health posts including household registration, SBC and PPE use
 - Engaging community representatives and volunteers to help in ensuring water availability before starting ITN distribution. Household members were instructed to wash their hands and adhere to two metres physical distancing at the distribution points (volunteers drew circles around two metres apart for household members to stand and wait their turn in line)

¹ Family folder is a data collection tool designed by the MoH for Health Extension Workers (HEWs) to document both individual and household level data to be used as a source of information at the grass roots level. It is a major part of the community health information system (CHIS).



Physically distanced householders waiting to receive their ITNs in Gambella © GHSC-PSM

Lessons learned and recommendations

- **Proper, joint and collaborative planning** is key to ensuring engagement and coordination of all the stakeholders for resource mobilization and implementation of campaign activities at all levels including between NMCEP, RHBs, PMI and GHSC-PSM; and between RHBs, EPSA, GHSC-PSM and Emergency COVID-19 task force and State of Emergency Command Post.
- **Regular and timely campaign communication about progress** will help in identifying and solving bottlenecks encountered before and during campaign implementation.
- **Capacity-building orientation and technical support** during supportive supervision help in implementing uniform and safe campaign activities in line with COVID-19 infection prevention measures.
- **Solving challenges involves high level commitment and support** from different government and other organizations for the various issues arising, such as customs clearance, need for more training venues with COVID-19 prevention measures in place (smaller number of participants per session, face masks and hand sanitizers), vehicles for transportation and obtaining COVID-19 emergency restriction waivers for conducting training and distribution of ITNs to communities.
- **Conducting multiple parallel training sessions** (e.g. in schools) can help to reduce the number of days required to train large numbers of campaign actors at *woreda* level but requires a greater number of trainers.
- **Using locally available transportation means** and engaging community members will help in reaching villages with poor road access.
- **Proper budgeting** is required for all activities including airtime communication expenses (which were not properly budgeted) and post-campaign surveys to evaluate coverage and utilization of ITNs at household levels to improve future programme strategies.
- **Timely procurement and distribution of PPE** are required to prevent campaign activity delays and ensure safe distribution of ITNs for both campaign personnel and household recipients.
- **Setting-up several distribution points** at distribution sites. Health extension workers (HEWs) at the health posts can help in serving a greater number of households per day and reduce the campaign period but it requires more campaign workers and volunteers.

- **Use of washable and reusable cloth face masks and gloves** can reduce waste management challenges at distribution point health posts.
- **Electronic data collection system** is essential in the context of COVID-19 to avoid the virus being transmitted via paper contacts.
- **Adequate funding should be allocated for airtime** communications in future campaigns to ensure robust data collection.
- **Household pre-registration** is required for more accurate target population estimates and to reduce risk of shortages of ITNs or having ITNs left over at distribution sites, requiring reverse logistics and subsequent increase in logistics costs.

II. Country context

Malaria is a major public health problem in Ethiopia with approximately 52 per cent of the Ethiopian population living in malaria risk areas. Long-lasting insecticidal nets (LLINs)², backed by targeted indoor residual spraying (IRS) of houses, are major vector control tools for malaria prevention in Ethiopia. Stand-alone mass distribution of ITNs has remained a key strategy to ensure high coverage within a short timeframe. Mass ITN distribution campaigns are the prime method of ITN distribution in Ethiopia and are conducted at fixed site *kebele* (village) level health posts led by HEWs through active participation and collaboration with *kebele* administration and key community representatives. Distribution or replacement of ITNs is based on family size and covers all *kebeles* in malarious areas.

The NMCEP, in collaboration with GHSC-PSM, planned a regional mass campaign for 2020 in four regions (Afar, Benishangul-Gumuz, Gambella and Southern Nations, Nationalities and People's Region [SNNPR]). The procurement order for 3.1 million ITNs was placed by GHSC-PSM through funding from PMI. Central training of trainers and macroplanning was conducted in December 2019. The first part of a staggered shipment (1.5 million ITNs) was received in January 2019 and distributed to more than half a million households (benefiting three million people) living in 735 *kebeles* in 47 districts in SNNPR in February and early March 2020, before COVID-19 reached Ethiopia.

In addition to the ITNs supported by PMI in the four regions, around three million ITNs were distributed in 2020 in other regions of Ethiopia through Global Fund support.

The first case of COVID-19 was announced in Addis Ababa on 13 March 2020. Following the increasing number of COVID-19 cases and as part of controlling the spread of the pandemic, a State of Emergency (SOE) was declared by the Government of Ethiopia on 10 April 2020. Restrictions from the SOE and COVID-19 infection prevention measures impacted the campaign in the remaining three regions (Afar, Benishangul-Gumuz and Gambella) affecting gatherings, movements of people and logistics. Recognizing the significant risk and impact of malaria on people living in these areas in Ethiopia and the importance of sustaining efforts to prevent the disease, the MoH, in collaboration with GHSC-PSM, decided to proceed with the campaigns in the remaining districts in the three regions. However, it was also necessary to balance the

² With the arrival of new types of nets, the term ITN was re-introduced as the umbrella term for all nets treated with an insecticide, insect-growth regulator and/or synergist. The term LLIN is only being used for ITN classes for which physical and chemical durability have been comprehensively demonstrated against the WHO thresholds of 20 washes and three years of use in the field. In practice, this means that only nets treated with a pyrethroid insecticide alone are presently referred to as LLINs. WHO, January 2020.

importance of lowering malaria-related morbidity/mortality with best practices to protect the health workers and community members from COVID-19 during the campaign and other routine malaria prevention and control interventions. To adapt to the COVID-19 context, the MoH, together with development partners and PMI, revised the earlier distribution campaign implementation guidelines to instruct health workers to safely manage the ITN distribution by adhering to the COVID-19 infection prevention measures.

III. THE REVISED STRATEGY

Campaign activities that required modification to proceed safely in the context of COVID-19 included training, logistics, microplanning, SBC, distribution, supervision and monitoring. Adaptations were based on the COVID-19 infection prevention guidelines from MoH and AMP recommendations on distributing ITNs during the COVID-19 pandemic.

1. **Coordination:** The SOE required that all public gatherings of more than four people including for meetings and training were banned, affecting activities such as training of campaign actors and household members gathering to receive their ITNs. However, the regional emergency COVID-19 task force and state of emergency command post were able to coordinate a response and allow flexibility for waivers so that it was possible to conduct the regional and *woreda* (district) level trainings and distribution of the ITNs at distribution points. This was achieved through engagement of top-level RHB management to discuss and convince the task forces to approve the training and limit the number of household members gathering to receive ITNs. All these activities were closely monitored and evaluated on a daily basis by the RHBs and task forces and support was provided for challenges encountered related to the COVID-19 restrictions. In addition, *woreda* level coordination and collaboration with other sectors (e.g. district education offices) helped to secure schoolrooms as training venues almost free of charge (except for some room cleaning fees). These training venues allowed parallel training sessions, limiting the number of participants to around 10–15 each in line with the waiver obtained from the emergency task forces.
2. **ITN customs clearance:** Although procurement of ITNs to be distributed in the remaining regions was completed before the pandemic reached Ethiopia, there was about a seven day delay in the shipment due to the lockdown in India (supply origin) affecting document processing, particularly in the delay of the original bill of lading (BOL). In addition, the SOE in Ethiopia that led to office closures, including the Ministry of Foreign Affairs (MOFA), increased the time required to obtain the duty free import permit letter and affected customs clearance and in-country delivery of the ITNs. A series of virtual communications were made through e-mail and telephone calls with MOFA to obtain the duty-free import permit for the ITNs. In addition, the coordination and communication between the freight forwarder, the supplier and GHSC-PSM (procurement agent for PMI nets) helped in obtaining the BOL required for customs clearance. Strong commitment and fast action from the MoH to write a pre-import request letter to MOFA and the response from the Ministry of Agriculture in registering the nets helped to process the customs clearance and ensure timely delivery of the nets required for the campaign.
3. **Procurement of PPE:** The MoH directed the RHBs to acquire PPE (cloth masks and alcohol-based hand sanitizers) required for distribution of ITNs from their existing stock

used for maintaining non-COVID-19 essential healthcare services. However, this was not an easy thing to do in some regions since they had already distributed the routine PPE supplies to *woredas* and service delivery points, and there were no PPE supplies remaining in those regions by the time the ITN distribution campaign started. This challenge required additional discussions with PMI through GHSC-PSM to approve a budget for PPE. Based on need, PMI approved the procurement of PPE and GHSC-PSM quickly quantified and procured the required PPE from the local markets.

4. **Microplanning:** To adapt to the restrictions on the limited gathering of people and speed up planning, the NMCP together with GHSC-PSM and RHBs conducted a central microplanning process, using data from previous campaigns to assign the number of ITNs to be delivered to *woredas*. Similarly, *woreda* health offices used data from the previous campaign to estimate the quantities of ITNs required to be delivered to the distribution site health posts. Another source of data (in regions such as Benishangul-Gumuz and Gambella) to help verify population numbers came from IRS and measles campaigns. To validate these data, HEWs and *kebele* administrators were informed by telephone to compile population numbers in each *kebele* by collecting data from family folders at health posts and population data sources from village administration. During *woreda* level microplanning and orientation, *woredas* presented the final data to the HEWs and *kebele* administrators for their comments and obtained agreement before sending the ITNs to the villages. In addition, logistics and SBC activities microplanning were accomplished for each village during the *woreda* level training.

Although use of data from these sources helped in most of the *kebeles*, there were observations during the supportive supervision that some *kebeles* faced shortages of ITNs, particularly in Gambella and Benishangu-Gumuz regions, which required additional delivery of ITNs from the central storage³. In addition, the population dynamics of people migrating from rural areas to towns contributed to the shortages of ITNs in urban areas (e.g. Assosa town in Benishangu-Gumuz region). Therefore, in the future, household pre-registration exercises are recommended to solve the challenges related to population data accuracy and shortages of ITNs, both in the context of COVID-19 and after.

5. **Household registration:** Household registration and distribution were carried out at the same time during the campaign, as is the usual practice in Ethiopia regardless of the COVID-19 pandemic. It was conducted by the HEWs with the support of *kebele* administrators. To reduce the risk of COVID-19 transmission, household members were not required to place their signature on the household registration book at the distribution sites to confirm receipt of ITNs.
6. **Logistics:** Another challenge related to the emergency measures around COVID-19 was the restriction that no more than four people (daily workers) were allowed to unload the ITNs from containers at EPSA central warehouse where direct loading took place to

³ In Ethiopia, the ITN distribution chain operates directly from the central to *woreda* to health post levels, bypassing the regional levels.

districts through a cross-docking practice⁴. This challenge was solved by extending warehouse working hours, including weekends, and allowing more shifts to make up for time lost. In addition, an extension was negotiated for time of arrival of trucks, which were staggered to take account of the new loading and unloading times at the EPSA warehouse.



Cross-docking of ITNs at EPSA central warehouse

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There was also a shortage of trucks to deliver ITNs from the central EPSA warehouse to *woredas* since priority and most of the attention was given to delivery of COVID-19 products including PPE and oxygen cylinders for hospitals. Moreover, in some *woredas* there were no assigned logistics personnel to receive the nets from EPSA due to fear of contracting the coronavirus from the drivers coming from bigger towns. The direction from MoH was to give due attention to maintaining other essential health services during COVID-19 and this helped to secure more government trucks to speed delivery of the ITNs to the *woredas*.



Transporting ITNs from Afambo woreda to Harisa kebele in Afar region, August 2020
© GHSC-PSM



Transporting ITNs from Wonbera woreda to Wabo-Abay kebele in Benishangul-Gumuz region in June 2020
© GHSC-PSM

⁴ Cross-docking essentially bypasses storage. It is the logistics process of trans-shipping items by unloading the shipments from the inbound trucks directly to the outbound trucks. (<https://www.mdpi.com/2071-1050/12/11/4789/htm>)

The awareness creation activities carried out by the government on COVID-19 transmission and prevention through television and local radios also helped in improving the confidence of staff at *woredas* and other malaria programme management levels in supporting the campaign, including those receiving ITNs from EPSA.

7. **Social and behaviour change (SBC):** SBC activities were modified to adapt to the COVID-19 context by discouraging gatherings of large crowds of people at marketplaces and road show events. The time taken to educate household members at distribution sites was also reduced in line with the COVID-19 infection prevention guidelines. Joint social mobilization was conducted for IRS, ITNs and COVID-19 using town criers and local radio stations. In Gambella region, house-to-house SBC for ITNs was carried out by community mobilizers who visited households during the IRS campaign. Cue cards were used for house-to-house SBC. No rumours were noted, but confusion over messaging about multiple interventions was not assessed and could be considered for future campaigns.



Cue Cards to help raise community awareness on LLIN use and IRS



8. **Data collection:** Data collected on the households who received ITNs included:
 - Name of the household head
 - Household family size
 - Number of ITNs received and
 - Date of distribution

The COVID-19 context necessitated a complete change from paper-based data collection in previous campaigns to SMS text messaging to share daily data on the number of households served, total number of people served in the household and total number of ITNs distributed. These data were shared with *woredas* by HEWs in collaboration with the campaign supervisors. While SMS was successful, it could not accommodate collection of more detailed information such as number of people remaining to receive nets. *Woredas* aggregated and shared weekly distribution data during the campaign and for the final distribution report to their respective RHBs. During the campaign, bi-weekly distribution campaign updates were shared with stakeholders by GHSC-PSM in collaboration with MOH. One of the data collection challenges was shortage of funds for airtime coverage to collect data using text and voice messaging by campaign actors at the distribution sites and

supervisors at all levels. As noted above, communication fees (airtime credit) were only made available for the national level campaign coordinators. Since this challenge could have a big impact on data collection activities and may affect the quality of the collected data, adequate funding should be allocated for airtime communications in future campaigns.

9. **Payments:** Per-diem payments largely involved handling of cash payments in line with COVID-19 infection prevention measures, including physical distancing of participants, wearing face mask and gloves while cash bank notes were being dispensed, and using alcohol-based hand sanitizers or handwashing with soap for all other tasks after payments were completed. In some *woredas*, payments were deposited directly in participants' bank accounts, thus reducing the COVID-19 transmission risk. This practice of paying the participants by depositing money in their account should be considered a best practice and should be expanded in future campaigns. However, the programme would need to accommodate some participants critical to campaign implementation (especially HEWs) who may not have bank accounts.
10. **Training:** Training of trainers (TOT) for regional staff was fortunately completed before COVID-19 in December 2019. The trainings affected by COVID-19 were at the regional level for campaign coordinators and supervisors from zonal and *woreda* health offices, and the *woreda* level training for HEWs, supervisors and *kebele* administrators. The training materials needed to be revised and simplified by focusing on essential topics and reducing number of training days from two to half a day per session. Training organizers used several parallel sessions by engaging a greater number of trainers, although that was a challenge in some *woredas*. The RHBs mobilized almost all of the regional malaria control programme staff having previous ITN campaign distribution experience and knowledge to participate as trainers; this commitment was a key to completing the training of the campaign actors within a short period of time in the context of COVID-19. The number of training participants in a single hall was limited to around 10–15, and several parallel sessions were conducted in a single day. The RHB and MoH were flexible in that they approved the use of PPE previously allocated to RHBs in some *woredas* (e.g. Gambella region) for essential healthcare services. This meant that training could be conducted as planned until PMI approved procurement of PPE through GHSC-PSM.
11. **Implementation arrangements and distribution of ITNs:** Distribution of ITNs was conducted through distribution points within fixed-site health posts with some adjustments made for COVID-19 infection prevention measures. In some health posts with enough support from volunteers, *kebele* administrators and supervisors, multiple distribution points were set-up in the health post compound. The two health extension workers at each health post took the lead for distributing the nets with close collaboration and assistance from volunteers, *kebele* administrators and supervisors. There was no change to the ITN allocation criteria for the household. This was based on family size per household with a cap of four for households having seven or more family members.

The health posts were adapted for COVID-19 infection prevention measures. Adaptations included:

- Limiting the number of households to be served in a single day to less than or equal to 100 from each distribution point and setting up more than one distribution point in the health post
- Restricting the actual distribution area (with a simple fence) to prevent entrance of a large crowd and only allowing entry of one person per household
- Staggering distributions by assigning people from different neighbourhoods a different time of day to receive their ITNs
- Assigning security personnel (village militia) to help in controlling crowds
- Setting up materials for handwashing (water tank, soap and waste container)
- Ensuring water availability before starting distribution and creating mechanisms to bring water if not available at the health posts, including fetching from other sources in the *kebele* in collaboration with the *kebele* administrator and campaign volunteers
- Assigning volunteers from the community to help in instructing households arriving at the site to wash their hands and adhere to the two-metre physical distancing guidance given. Some volunteers helped in drawing circles on the ground around two metres apart for households to stand or sit in to await their turn
- Ensuring infection prevention and control through use of PPE, namely face masks, gloves and alcohol-based hand sanitizers for all campaign staff. In addition, warehouses were regularly disinfected and handwashing points with soap and water installed at all delivery points

Implementation challenges: In urban areas a high turnout and congregation of people at the health posts, irrespective of prior communication about the different schedule for each neighbourhood, increased risk of COVID-19 transmission. Some household members preferred to visit the health posts on the first days of the campaign, fearing a shortage of ITNs if their household was scheduled to visit on the last days of the campaign. As a solution, in addition to the extra communication provided to the communities, some HEWs arranged multiple distribution points in collaboration with *kebele* administrators and campaign supervisors. This clearly shows that SBC information, especially in urban areas, should be strengthened to reassure the community that every household will receive their ITNs according to the schedule.

12. **Supervision and monitoring:** More supportive supervision visits were conducted by the RHBs, zonal health departments (ZHDs) and *woredas* to monitor and support the distribution activities at health posts including household registration, SBC and PPE use. PPE use was also monitored during the supportive supervision from *woredas* by campaign supervisors. On the first days of the campaign, some campaign actors at the distribution sites were observed not using PPE properly and supervisors helped them to correct their practice on PPE use and physical distancing measures. The country normally conducts population-based utilization surveys but not necessarily immediately post-campaign; this can be considered as a best practice in the future and should be planned and budgeted accordingly.
13. **Post distribution:** Since the PPE (gloves and face masks) used at the distribution sites were made from cloth, minimal waste management was required after completion of the campaign. The campaign actors were instructed to properly wash and re-use the cloth face mask and gloves.