

Introduction

Mass distribution is the best method to rapidly scale up long lasting insecticidal net (LLIN) coverage, while continuous distribution systems are essential to sustain the results achieved. Ghana has recently engaged in a massive effort to scale up malaria prevention using mass distributions, aiming at reaching universal access to LLINs for the general population (one net for every two persons). In the Eastern Region, mass

LLIN distributions took place in December 2010 and April 2011, supported by the National Malaria Control Programme (NMCP) and implementing partners. A set of continuous distribution activities was piloted in Eastern Region, where nets are being distributed through antenatal clinics (ANC), the Child Welfare Clinic (CWC) under the expanded programme on immunisation (EPI) and through primary schools.

Methods

This evaluation was designed to provide a critical review of the process of LLIN continuous distribution through the various delivery mechanisms, to identify best practices, achievements and lessons learned in the Eastern Region, after a few months of implementation. The results were expected to inform the NMCP and partners for the scale up of LLIN continuous distribution in Ghana.

This was a retrospective and cross sectional process evaluation covering all levels of implementation, including the national, regional, district, sub-district, and community levels. Existing literature, guidelines, and tools developed and used in Ghana were reviewed. The fieldwork consisted of collecting qualitative data through key informant interviews, feedback sessions and direct observations. The sampling method of districts, health facilities and schools was purposive, based on accessibility criteria (a mix of easily accessible and hard-to-reach districts and communities) and stakeholder advice. Two districts were selected. Data was collected by a team composed of NetWorks project officers and Eastern Regional Health Team members. Stakeholders interviewed in this evaluation were as follows:

National:

- NMCP: Malaria Entomologist and Zonal Programme Officer
- School Health Education Programme (SHEP) Project Officers
- DELIVER Project and Manager of the Central Medical Stores
- NetWorks Project Officers

Regional:

- HEALTH
- Regional Deputy Director of Public Health – Regional Health Directorate
 - Regional Health team
 - Regional Medical Stores and Supply Manager
 - Regional Health Information Officers

EDUCATION

- Regional SHEP Coordinator – Ghana Education Service
- Regional Supply Officer - Ghana Education Service

District 1 (Atiwa):

- HEALTH
- Health Workers of 1 health centre, 1 community health post and 1 Government hospital
 - District public health nurse
- EDUCATION
- SHEP Coordinator and 1 Circuit Supervisor
 - District Supply Officer
- COMMUNITY (Akedewaso)
- Informal discussions with community members (households and queen mother)

District 2 (Kwaebibirem):

- HEALTH
- District Health Team
 - Health Workers, Community Health Post
- EDUCATION
- District SHEP Coordinator
 - 1 Private School

Results

Summary of key successes, best practices, weaknesses and lessons learnt

Health facility based distribution	School based distribution
<p>SUCCESSES AND BEST PRACTICES:</p> <ul style="list-style-type: none"> ❖ Coordination: Effective central coordination through the ITN national committee and “vibrant” leadership by the NMCP ensured a commendable implementation of the pilot ❖ Adoption of available tools and systems: Existing tools for data collection at ANC and CWC were adopted and used to record LLIN distributed. This enabled data being collected at health facility level to be reported through all levels to the central level, using the already existing Health Information Management System <p>WEAKNESSES:</p> <ul style="list-style-type: none"> ❖ Training: Many participants at the training were not the ones managing the LLIN distribution in the facility. Against the expectation and agreed process, trainees did not provide orientation for their colleagues at health facilities in most cases. Also many store managers at all levels were not sufficiently involved in the orientation meetings and the trainings sessions at district level ❖ Supply chain management: Significant delays in LLIN shipments from the Central Medical Store to the districts in the Eastern region were reported, and mostly attributed to contracting issues between partners. Also, communication between operational levels in the region was lacking during the movements of LLIN, resulting in a lack of effective follow up of LLIN movements and arrangement of storage space where needed ❖ Data collection and reporting: Because untrained health workers were recording data on LLIN distributed, there is no standardisation of data collection and reporting across health facilities, leading to improper reporting to the central level and an underestimation of LLIN distributed <p>LESSON LEARNT:</p> <ul style="list-style-type: none"> ❖ Revision of training methods and procedure: Trainings will be conducted in health facilities and ‘on-the-job’ instead of bringing personnel together, out of the facilities for a didactic training session. This will ensure that all personnel who will be involved in the LLIN distribution are provided proper orientation, and that all the real and practical issues related to distribution are discussed and addressed 	<p>SUCCESSES AND BEST PRACTICES:</p> <ul style="list-style-type: none"> ❖ Coordination: There was a high level of enthusiasm for the LLIN distribution activities in the education sector because traditionally, less attention and fewer resources are directed to this sector. This resulted in high commitment amongst the education authorities and effective coordination with the health sector ❖ Schools as an effective channel for behaviour change: It was easy for primary school teachers to educate the children, using their already effective methods and approaches, on the cause of malaria, how to prevent it, and the proper use of LLIN. Materials were developed for behaviour change communication (BCC) and some teachers initiated the progressive introduction of key malaria messages into the daily curriculum <p>WEAKNESSES:</p> <ul style="list-style-type: none"> ❖ Validation of supplies: Quantities of LLIN needed per schools, circuits, districts and region as a whole for the school-based distribution were overestimated, leading to excess nets remaining at stores after distribution. This was due to lack of data validation at all levels using the Education Management Information System (EMIS) data, as required by the agreed process and guidelines ❖ Private schools engagement: The lack of early engagement and involvement of authorities of private schools led to the private-run schools’ lack of understanding of the continuous distribution concept, not willing to share school registrant data, and late inclusion of some private schools in the distribution exercise ❖ Informing parents on concept: School teachers faced complaints from parents after the distribution, because some parents did not understand why some children received nets and others did not <p>LESSON LEARNT:</p> <ul style="list-style-type: none"> ❖ BCC materials to be adapted for children’s use: Though messages on cause of malaria and proper net use were effectively shared with children, teachers and other education authorities were of the view that BCC materials with the same messages, but in simple and less complex formats, should be developed and shared for children and schools. These materials are expected to further reinforce the messages that the teachers pass on



Conclusions

The implementation process of the LLIN continuous distribution pilot in the Eastern Region is commendable. All 21 districts were supplied with LLINs to be distributed through schools and health facilities. During the rollout of the activities, a key weakness impacting on effectiveness and community satisfaction for both channels was the misunderstanding of the concept of “continuous distribution”, especially with the recent past mass LLIN distribution campaigns that were intended to achieve universal coverage. This confusion was systematically found at community level among health facility clients and parents of targeted children, as well as among some health workers who thought this distribution

was following up to the last mass campaign, to reach households that did not benefit. The school-based distribution channel was particularly popular among informants. Implementation appeared easier in every aspect and involvement of the officers of the education sector was high. On the other hand, the effectiveness of the health facility-based channel relies on the existing supply chain of medical commodities, thus is likely to be affected by current weaknesses of the health system. The effective integration of LLINs as a malaria commodity is critical to ensuring a continuous flow of LLINs distributed through health facilities to households. Although these

two channels are implemented independently from each other to a great extent, there are some opportunities for cost sharing and integration, such as community sensitisation and advocacy, movement of LLINs from the Central Medical Store, and supervision visits for school distributions to include members of the health team at all levels. Considering the closing of the NetWorks project in the coming year (2014), it is urgent that the sustainability of the continuous distribution system is considered. Based upon the key weaknesses and challenges identified during this process evaluation, recommendations were provided to the programme.

Acknowledgements

This study was funded by USAID through NetWorks. The authors thank all organisations and individuals that participated in this project for field support, discussion, comments, and participation. This study was made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of USAID/JHU Cooperative Agreement No. GHS-A 00 09-00014-00 for the NetWorks Project. The contents are the responsibility of the authors and do not necessarily reflect the views of USAID or the United States Government.