

Report of the process evaluation of the continuous LLIN distribution system in Ghana

May 2013

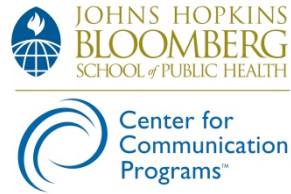
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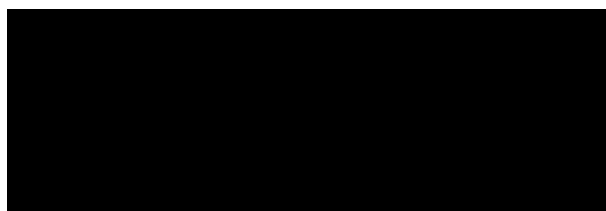
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Abbreviations

ANC	Antenatal Clinic
BCC	Behaviour Change Communication
CD	Continuous Distribution
CMS	Central Medical Stores
CWC	Child Welfare Clinic
DFID	Department for International Development -UK AID
DHIMS	District Health Information Management System
EMIS	Education Management Information System
EPI	Expanded Programme on Immunization
ITN	Insecticide Treated Nets
LLIN	Long Lasting Insecticidal Nets
NMCP	National Malaria Control Programme
ProMPT	Promoting Malaria Prevention and Treatment
SHEP	School Health Education Programme
UNICEF	United Nations Children Fund.
USAID	United States Agency for International Development

Background

Distribution of long lasting Insecticidal nets (LLIN) to reach universal coverage is considered a key intervention for the prevention of malaria. Mass distribution is the best method to rapidly scale up 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 of LLIN. While previous LLIN distributions focused on biologically vulnerable groups (children under 5 year of age and pregnant women), recent efforts were aimed at reaching universal access to LLIN for the general population (on average 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. The Eastern Region was also the pilot region for a set of continuous distribution activities, where nets are being distributed through antenatal clinics (ANC), the Child Welfare Clinic (CWC) under the expanded program on immunization (EPI) and through primary schools. The calendar of activities can be found in annex.

Objectives

The process evaluation aims to critically review the process of LLIN continuous distribution through the various delivery mechanisms, to identify best practices, achievements and lessons learned in the Easter Region, after a few months of implementation. The objectives are:

- To identify the factors that influence the implementation process by reviewing the different stages of the distribution mechanism (coordination, supply chain management, training, supervision, LLIN distribution to beneficiaries, data collection, communication and monitoring and evaluation)
- To identify and provide recommendations on the additional technical and logistical support needed to improve distribution through the channels being piloted

This evaluation is expected to inform the NMCP and partners for the scale up of LLIN continuous distribution in Ghana.

Methods

This retrospective and cross sectional process evaluation was structured in two arms based on delivery channels: Routine health services through ANC and CWC and School-based distribution. This evaluation covered all levels of implementation including the national, regional, district, health sub-district, and community levels. Preliminary work consisted of reviewing the available literature to identify best practices, successes and lessons learned from documented experiences of LLIN continuous distribution mechanisms in Africa. Existing guidelines and tools developed and used in Ghana were reviewed as well as available quantitative data from the project. The fieldwork consisted of collecting qualitative data through key informant interviews, feedback sessions and direct observations.

Qualitative data collection

Qualitative data was collected during field visits to capture interviewees' perceptions of the successes and weaknesses of LLIN continuous distribution as well as recommendations for improvements. The following methods of qualitative data collection were used:

- **Key informant interviews:** a comprehensive range of stakeholders was interviewed at national, regional and district levels. The interviews covered all elements of the distribution mechanisms. The length and depth of the interviews varied, depending on the operational level and the involvement of the interviewee in the pilot.
- **Direct observation:** health facilities and storage sites were visited. Records of distribution activities were reviewed.
- **Feedback sessions:** stakeholders at some district and community levels were also consulted in small groups of 3 to 4 members who played a key role in the LLIN distribution.
- **Informal conversation:** community members and LLIN recipients were approached and interviewed.

Sampling and data analysis

The sampling method of districts, health facilities and schools was purposive, based on accessibility criteria (a mix of ease of accessibility and hard-to-reach districts and communities), coverage during first quarter monitoring visits (health facilities that were not visited earlier were of priority) and stakeholder advice. Two districts were selected. The table below summarizes the stakeholders included in this evaluation:

Operational level	Stakeholders
National	<ul style="list-style-type: none"> • NMCP: Malaria Entomologist and Zonal Program Officer • SHEP Project Officers • DELIVER & Manager of the Central Medical Stores • NetWorks Project Officers
Regional (Eastern Region)	<p>HEALTH</p> <ul style="list-style-type: none"> • Regional Deputy Director of Public Health – Regional Health Directorate • Regional health team • Regional Medical Stores & Supply manager • Regional Health Information Officers <p>EDUCATION</p> <ul style="list-style-type: none"> • Regional SHEP Coordinator – Ghana Education Service • Regional Supply Officer - Ghana Education Service
District 1 (Atiwa)	<p>HEALTH</p> <ul style="list-style-type: none"> • Health Workers, Anyinam health centre • Health Workers, Enyiresi Government Hospital • Health Workers, Akedewaso health centre (CHPS) – remote location • District public health Nurse <p>EDUCATION</p> <ul style="list-style-type: none"> • SHEP Coordinator and 1 Circuit Supervisor • District Supply Officer <p>COMMUNITY (Akedewaso)</p> <p>Informal discussions with community members (households and Queen mother)</p>
District 2 (Kwaebibirem)	<p>HEALTH</p> <ul style="list-style-type: none"> • District Health Team • Health Workers, Abaam health centre (CHPS) <p>EDUCATION</p> <ul style="list-style-type: none"> • District SHEP Coordinator • 1 private school (Advent Reformed Institute - Abaam community)

Data was collected by a team composed of NetWorks project officers and Eastern Regional Health Team members. At the end of each day, team members summarized the output of the interviews and information collected was synthesized into key strengths, challenges and lessons learnt under agreed themes.

Results

HEALTH FACILITY-BASED DISTRIBUTION

Coordination

The ITN committee at national level is described as “vibrant”, with strong leadership from NMCP, from the experience of the hang up campaigns. The coordination mechanism for the continuous distribution is therefore similar. The partnership remained unchanged and includes a variety of donors, international and local organizations such as NMCP, DFID, USAID, UNICEF, WHO, DELIVER, NetWorks, Behaviour Change Support project (BCS) and the Health Promotion Unit of the Ghana Health Service. At National level, the NetWorks project facilitates the technical leadership and the procurement and supply chain management is assured by DELIVER. The School Health Education Programme (SHEP) of the Ghana Education Service was involved in the coordination meetings held before the beginning of the Eastern region pilot.

Coordination at regional level is to be ensured by a regional committee that is supposed to include team members of both the health and education sectors. Recommended core members of the committee are the Deputy Regional Director, Regional Malaria Focal Person, representatives of Reproductive and Child Health, Child Immunization Programme, Regional Health Information Officer, the Regional SHEP Coordinator and a representative of the Regional Coordinating Council. This committee is supposed to hold quarterly coordination meetings where progress updates and implementation issues are to be discussed and addressed.

The regional health team was part of the orientation meeting conducted by the ProMPT project team prior to the training of district teams. The Regional Malaria Focal Persons have also been involved in the trainings for health workers and the first quarter monitoring visits at the end of March 2013.

Key weaknesses and challenges identified

The regional coordination committee as recommended in the implementation guidelines was not in place for the Eastern Region pilot by the time of evaluation and to date, no coordination meetings have taken place. Coordination of continuous distribution activities are being run without sufficient involvement of the head of the RCH, the Health Information Officer or the Regional Supplies Manager. This has resulted in a lack of effective collaboration at all levels and amongst levels and impacted on the effectiveness of the following implementation components:

- Training at district level for health facility staffs was conducted by the national team (ProMPT) with little involvement of regional team members
- LLIN were supplied from the Central Medical Store to various districts without sufficient information and prior notice to the districts; as a result, Districts Supply Officers could not make necessary prior arrangements for alternative storage space where necessary. Also, though information on LLIN supplied to districts were made available to the region, the Regional Supplies Officer does not have required information on LLIN supplied to districts to allow for monitoring and follow up of LLIN levels and the need for restocking
- The lack of understanding of continuous distribution process and the involvement of the Regional Health Information Officer resulted in a lack of effective monitoring of LLIN distributed, using the District Health Information Management System (DHIMS) at regional level

The weak coordination mechanism was partially attributed to the timing of the pilot that started simultaneously with the closing of the ProMPT project. Key people involved in ProMPT activities at national and regional levels were therefore required to focus on several activities and deliverables at the same time. It is worth noting that even if partially involved during the pilot, the Regional Health Team is willing to be more engaged in the future continuous distribution activities by having a stronger coordination and oversight role. This was particularly true for the representatives of the malaria programme because LLIN is a malaria commodity.

An implementation guideline was drafted for the pilot distribution and shared with the regional team. However, implementation of continuous distribution relied mainly on information provided through orientations and trainings. Persons key to the effective implementation of the pilot did not refer to the guidelines when needed and many of them were not aware that this document existed. At lower operational levels, some informants suggested that job aids or protocol should be made available in the future.

Training

The trainings for the Eastern region pilot was conducted by a national team of members from the ProMPT and DELIVER projects in partnership with the Eastern Region Health Directorate. An initial orientation was conducted for the regional team, which was followed by a one-day training workshop conducted for District Logisticians and health workers in all health facilities (2 health workers per facility - a community health nurse and a midwife) in all districts. Participants at the workshops were then expected to share their knowledge and provide orientation to all their colleagues that are involved in ANC and CWC service delivery at health facility level.

Key weaknesses and challenges identified

Informants from all levels reported that some of the attendants at the trainings at district level were not the calibre expected. Some of the attendees were health care assistants instead of the community health nurse or midwife. Some health facilities sent only one health care worker for the trainings instead of the agreed number of two, because of insufficient staff or unavailability of targeted health workers. It was systematically highlighted that trained health workers failed to share the acquired knowledge or provide an orientation for their colleagues; this was due to late start of LLIN distribution and the lack of protocol at health facility level.

Also, the lack of involvement of Store Managers was widely reported, although initially recommended. This was true for both the orientation meeting at regional level and for the trainings at district level.

Informants and training participants also reported that the training format did not include enough practical exercises (i.e. use of record keeping forms, role plays for BCC messages) to ensure trainees had grasped the content they should.

These weaknesses resulted in subsequent implementation challenges such as:

- Health facility staff using their discretion and varying criteria to give LLIN to pregnant women instead of giving every first registrant a LLIN
- Poor understanding of the procedures for LLIN restocking beyond the initial consignment pushed from the central medical store to health facilities
- Lack of standardization of record keeping using the existing tools

Supply chain management

The model for health facility-based continuous distribution requires that LLIN (malaria commodity) would be integrated into the existing supply chain for medical commodities. It is important to note however that at the time of start of the pilot, there was a change in policy for the Ghana Health Service supply chain management. Previously, commodities were sent from the Central Medical Store to the Regional Medical Stores then down to the district stores and health facilities, using a combination of push and pull mechanisms. The new policy bypasses the district level so that medical supplies are pulled directly by health facilities from the Regional Medical Stores.

For the Eastern Region pilot, the initial quantified LLIN supply for the first 6 months was pushed from the Central Medical Store directly to each district. The bypass of the Regional Medical Store was agreed by partners to ensure immediate start of distribution and cost-effectiveness. Given that the new supply policy became effective during the first months of implementation of the continuous distribution and as earlier agreed with partners, the next supply of LLIN from the Central Medical Store will go to the Regional Stores and health facilities will send their requests for restocking to the regional level.

Key weaknesses and challenges identified

There were significant delays in LLIN shipments from the Central Medical Store to districts in the Eastern region. This was mostly attributed to contracting issues between DELIVER and the Central Medical Stores (CMS). The current agreement is such that CMS advances funds for the transport of LLIN and gets reimbursed by DELIVER upon completion of deliveries and submission of invoices. This arrangement appears to be a major bottleneck for smooth, effective and continuous LLIN supply to districts and lower levels because CMS does not have huge advance resources for hiring of trucks. Also, the processing of invoices by DELIVER takes a while hence leading to a delay in CMS recouping their funds for another round of distribution.

There was lack of proper communication amongst operational levels (national, regional and district) during the movements of LLIN in the Eastern region. The regional team was not given prior notice of the plans for the movements of LLIN. The regional Store Manager was also not engaged in the process thus he was unable to effectively follow up on the LLIN movements. Due to the lack of planning and prior information, District Store Managers were unable to make arrangements for alternative storage space where needed. Consequently, in one of the districts visited, LLIN were stored in open air space, within the compound of the medical store.

Instructions and guidance at all levels for restocking of LLIN was lacking. At health facility level, the health workers did not know that they were expected to send requests for LLIN restocking based on their consumption and expected number of new registrants and children receiving the measles 2 vaccine each month. Health workers in all districts visited were also not aware of the procedures for restocking and the agreed LLIN threshold level below which restocking was required. They were also not aware of available stocks of LLIN at the district stores. Also, at the Regional Medical Store, there were only 2000 LLIN found. This is expected because LLIN were sent directly to districts and the region's requirements for the next 6 months (and restocking) are yet to be sent to the region from the Central Medical Stores. It is however worth noting that during the quarterly supervision visits to 65 health facilities prior to this process evaluation, most health workers were aware of restocking procedures and availability of LLIN at district level for restocking. This information can be found in a separate report on the first quarter pilot supervision of health facilities in the Eastern region.

It is reasonable to anticipate some challenge due to lack of storage capacity in Regional Medical Stores (RMS) for the scale up of the continuous distribution channel. An assessment of current capacity of all RMSs was recently conducted by the CMS in collaboration with DELIVER. It was concluded that most RMSs needed additional storage space. At the time of this evaluation, the Eastern region's RMS had recently been renovated without the creation of additional storage space.

Distribution

Key strength

Despite some delays due to LLIN movements, all districts in the Eastern region received LLIN to be distributed in health facilities. Some LLIN had been distributed in all health facilities visited, even during outreaches and in remote areas (i.e. Akedewaso health centre).

Key weaknesses and challenges identified

On one hand, confusion of health workers at the beginning of the activity on target groups for the distribution of LLIN was systematically reported in every facility visited. For example, health workers would give out a LLIN only to women who did not benefit from the recent mass distribution campaigns or only to women receiving IPT3. These misunderstandings can be explained by the following factors:

- Lack of understanding of the concept of continuous distribution by health workers; some midwives and nurses were unsure whether restocking of LLIN would be provided therefore improvised some criteria to prioritize clients based on household need (i.e. those who did not receive any LLIN from the previous campaign) or to boost the uptake of other interventions (i.e. those receiving IPT3)
- Time lapse between the training and the start of LLIN distribution of sometimes 2 to 3 months, due to late LLIN movements from the CMS

On the other hand, health facility staff received some complaints from clients who thought they should receive more than one LLIN or who wanted LLIN but were not entitled to it as per the guidelines and agreed criteria for distribution. This problem was partially due to the misunderstanding of the objective of continuous distribution amongst the community, as opposed to the hang up campaign that was aiming at reaching universal coverage.

Communication

For the start of the continuous distribution in Eastern Region, it was assumed that key BCC messages had already significantly penetrated communities through previous mass distribution campaigns so the BCC component for the pilot received little attention. At the time of this evaluation, the BCC interventions on net use had only recently started. No BCC materials were specifically developed for use in health facilities. Health workers were required to provide basic health education messages to beneficiaries of health services, following on the key messages designed for the mass distribution campaign about net use, benefits of LLIN, how to hang and use the net, and also net care.

Key weaknesses and challenges identified

The level of knowledge about malaria prevention and LLIN use was quite poor amongst communities visited in hard-to-reach areas. It was surprising to hear some community members and even some

health workers talking about “retreatment kits” and net retreatment, strongly suggesting that key messages about the benefit of long lasting insecticide treated nets were not sufficiently assimilated in these areas. However, the “net culture” promoted through previous LLIN distribution efforts is an opportunity to build upon existing knowledge, attitude and practice levels. In centrally located villages however, the key messages from the mass distribution campaigns were remembered by majority of interviewees.

Faith-based organizations, local NGOs, local authorities and political structures were insufficiently engaged during the pilot. Again, this was particularly true in remotely located villages. For example, in one village in Atiwa district, the Queen Mother had not been approached and informed about the start of distribution of LLIN through either schools or health facilities. It seems to be a missed opportunity to promote interpersonal communication about LLIN that is of particular importance to sustain BCC efforts for ongoing distribution mechanisms.

Data collection and monitoring

At health facility level, data is collected daily using the ANC register and the Immunization tally book. Every month, two data summary forms (hard copy) are sent from health facilities to the sub district then to the district to be entered in the District Health Information Management System (DHIMS). Data on nets distributed are therefore to be captured using this system.

Key weaknesses and challenges identified

The current data collection tools present several challenges for effective monitoring, such as:

- There is no column for “LLIN given” in the current ANC register
- Monthly midwives return form (form A) has no provision made for LLIN distributed; this information is expected to be inputted in the monthly vaccination report, which is usually kept and filled by the nurse at the Child Welfare Clinic (CWC)

This has two consequences. First, data collection at the ANC clinic is not streamlined. Midwives often use the column meant for “LLIN use” to capture information about LLIN distributed or given and others capture LLIN distributed in the remarks column or they create their own columns for recording. The lack of standardisation results in difficulty and accuracy in collation of LLINs given at the ANC. Secondly, due to the inaccurate collation of ANC data on LLIN distributed, not all data on LLIN given are transmitted to the sub-district and district level, therefore not captured into the DHIMS. This contributes to variation in data as is illustrated by the available DHIMS data for the first quarter of the pilot in Eastern region where it seems that LLIN were systematically distributed more through CWC than ANC:

LLIN distributed at health facilities: DHMIS data from 1st of January 2013 to 31st of March 2013

District	EPI distribution			ANC distribution		
	LLIN administered to children	Measles 2 doses administered	Coverage	LLIN administered to pregnant women	ANC registrants (new preg women receiving nets)	Coverage
Akwapim North	836	778	107.5%	740	1005	73.6%
Akwapim South	265	326	81.3%	131	355	36.9%
Akyemansa	223	394	56.6%	367	685	53.6%
Asuogyaman	468	571	82.0%	690	782	88.2%
Atiwa	788	790	99.7%	500	1071	46.7%
Ayensuano	425	439	96.8%	357	731	48.8%
Birim Central Municipal	400	534	74.9%	173	1144	15.1%
Birim North	710	338	210.1%	345	747	46.2%
Birim South	613	605	101.3%	1005	640	157.0%
Denkyembaour	605	543	111.4%	172	587	29.3%
East Akim	733	834	87.9%	346	1331	26.0%
Fanteakwa	722	783	92.2%	863	739	116.8%
Kwaebibirem	1059	661	160.2%	749	985	76.0%
Kwahu Afram Plains North	286	470	60.9%	134	579	23.1%
Kwahu Afram Plains South	402	559	71.9%	222	466	47.6%
Kwahu East	461	482	95.6%	535	669	80.0%
Kwahu South	364	381	95.5%	886	994	89.1%
Kwahu West	1084	608	178.3%	588	1151	51.1%
Lower Manya	495	509	97.2%	369	986	37.4%
New Juabeng	940	941	99.9%	758	1543	49.1%
Nsawam-Adoagyiri Municipal	537	548	98.0%	454	1802	25.2%
Suhum	467	522	89.5%	472	1001	47.2%
Upper Manya	363	407	89.2%	163	382	42.7%
Upper West Akim	465	530	87.7%	97	537	18.1%
West Akim Municipal	561	604	92.9%	151	1033	14.6%
Yilo Krobo	552	625	88.3%	177	645	27.4%

It is worth mentioning that the current weaknesses of the data collection tools were anticipated and discussed before the start of the pilot at national level. This led to the revision of the Expanded Program for Immunization (EPI) data collection tools to capture LLIN given in both ANC and CWC. It was agreed that considering the printing cost, the existing ANC tools can be used, recording LLIN given in the ITN column in the ANC register and that the LLIN distributed in ANC should be fed into the revised EPI tools. Even if specified in the implementation guidelines, this procedure has not been adhered to. Indeed, the health facilities had previously been used in Ghana to distribute LLIN and the challenge of effective data collection had already been documented.

Another weakness for quality monitoring of the system was the lack of active involvement of the Regional Health Information team. As already highlighted earlier, the representation of data management was insufficient or absent during orientations and trainings. Therefore, most of the team members were not aware of the key LLIN continuous distribution indicators (e.g. number of LLIN recipients amongst new ANC registrants & number of LLIN recipients amongst children receiving Measles 2) to monitor. Without any form of progress monitoring and data follow up, no

feedback can be sent to district teams thus missing opportunities for improvement of the delivery system.

Supervision

The Regional Health Team is expected to conduct quarterly supervision visits to districts and health facilities. At the time of this evaluation, a monitoring visit had been conducted, which also served in providing support to all the districts. The monitoring team was composed of members of the Regional Health Team, DELIVER and NetWorks.

Key weaknesses and challenges identified

There is an overreliance of the Regional Health Team on implementing partners to conduct planned supervision visits. This is a well-known challenge for other health programmes, and not specific to the Eastern region. This can be attributed in a great extent to unavailability of transport means and funds for fuel and stipends. This leads to very low frequency in planned routine supervision visits and this is even more so for hard-to-reach districts. For example, in one of the health facilities visited in Atiwa district, the last supervision visit performed was in July 2012 (from the visitor's book); the main reasons for visit were National Immunisation Day (NID) or LLIN hang up mass campaigns.

However, the recent first quarter monitoring visit conducted during the pilot was highly valuable. It has contributed to significant improvements in the continuous distribution system being piloted, by identifying common mistakes and weaknesses and by providing on-the-job guidance and orientation. This was evident when some of the health facilities visited during the supervision visits were visited during this evaluation process. A key element for success of this monitoring visit was that all 21 districts¹ were visited and a total of 65 health facilities were directly supported and provided the required orientation where needed. A monitoring tool was developed and used for this supervision exercise. A separate report of this supervision visits is available.

¹ At the time of the monitoring visit, the Eastern Region was composed by 21 districts as opposed to the current 26.

² This recommendation is specific to Eastern Region because for the scale up to other regions, it was decided to follow the new supply policy (i.e. LLIN are supplied from the central medical store to the Regional medical store and health facilities send their request to the regional level instead of the

SCHOOL-BASED DISTRIBUTION

Coordination

Key strength

School-based LLIN distribution is implemented in collaboration with the School Health Education Programme (SHEP). LLIN distribution in schools was very successful. Target children were primary classes 2 and 6. Every school teacher and district office team members of SHEP were also given a LLIN each. Two elements contributed to the effectiveness of this distribution channel, as compared to health facility based distribution:

1. The overall structure of the education sector is much more organised than that of the health sector. For example, circuit supervisors (i.e. school supervisors in charge of all public and private schools in the equivalent of a sub-district) are generally more engaged and more mobile than their colleague at sub-district level in the health sector.
2. There is a higher enthusiasm for distribution activities amongst the education sector than amongst health sector. Traditionally, the SHEP receives less attention and resources from donor projects or health programmes, hence they readily accept any intervention which will enable them achieve their mandate of health promotion in schools. Therefore, more commitment was seen amongst school teachers and circuit supervisors for the LLIN distribution. Also, it was observed that teachers gave more time to health promotion and malaria messaging than health workers, because it is directly related to their teaching skills. LLIN distribution is therefore welcomed as a supportive measure to spread messages about malaria prevention.

Both the SHEP and Health Team at regional level reported a very good collaborative relationship with the other sector. The two teams are used to working together on other health programmes such as mass school drug administration for deworming. Also, it was felt that distributing LLIN in private schools paved the way for SHEP to engage the private schools much more than usual.

Key weaknesses and challenge identified

Engaging private schools was sometimes more challenging than public schools. Some private school Headmasters were initially reluctant to participate in the distribution activities because they were sceptical about the concept of distributing LLIN freely to children in their schools where all services were at a cost. Once they had been convinced, they took part freely in the distribution activities and showed commitment similar to that of public school Headmasters.

Budget allocation for transport of LLIN was insufficient for hard-to-reach schools. This was because flat rates were given for LLIN transport to schools, not considering the distance of schools from the district SHEP office and LLIN store. As a result, some circuit supervisors had to make local

arrangements to reach these remotely located schools, for the supply and supervision of LLIN distribution. However, despite these difficulties, all schools in the region were reached by the school-based LLIN distribution, suggesting that overall budget for transport was sufficient.

Training

Participants for the regional training were the Regional SHEP Coordinator, the Regional Director of Education, the private schools Coordinator, the basic school Coordinator, the Regional Store Officer, the Regional Girl's Education Coordinator and School Health Coordinators at district level. At district level, the target participants for training included Head teachers, SHEP Officers, private school Heads and Sanitation Officers.

Key weaknesses and challenges identified

Challenges for the training of the school-based LLIN distribution were minor and did not significantly impact on the overall effectiveness of implementation. The lack of involvement of key persons such as Training Officers, Chief Inspectors of school and Regional Storekeepers was deplored. The absence of participants from private schools was noted in several districts. The reason for this was the lack of clarity on whether LLIN would be freely distributed in private schools too, as already highlighted earlier.

Logistics and supply chain management

LLIN quantification was done using the Education Management Information System (EMIS) data from earlier years for P2 and P6 classes instead of real class register data as recommended by the guidelines. This decision was taken because the EMIS data was readily available, even if inaccurate. Due to the short notice given, collection of figures from school registers was not considered since it is time consuming and without prior notice, could result in incomplete information. Private school Headmasters are also known to be reluctant in sharing their real enrollment data because they suspect that the data could be used for taxation purposes.

Due to suspected inaccuracies in the EMIS data, a buffer stock of 15% agreed on and was added unto the quantifications provided. The LLIN were supplied to district level by the national team. From each district, Circuit Supervisors supplied schools with their required quantities of LLIN and in some cases, teachers came to the store to collect the LLIN for their schools.

Key strength

The quantity of LLIN available for the distribution was sufficient to cover most target groups as well as teachers and regional team members. Only few pupils were reported not to have benefited from the distribution and this was mainly due to late enrolment of these children after the period of distribution of LLIN.

Key weakness identified

The main weakness in the supply chain management was the overestimation of LLIN quantities needed for the school-based distribution, due to lack of data validation at district level and the addition of a 15% buffer on quantifications from the EMIS data. This resulted in significant leftovers of LLIN in most districts stores. For example, 1139 and 949 LLIN were found in Atiwa and Kwaebibirem district stores respectively. These stocks of nets were however securely stored and documented. The management of leftovers adds an unnecessary burden on the supply chain management and is likely to result in avoidable transport costs.

Distribution

The distribution as school level was organised in 1 or 2 days. Parents attended the distribution in most schools and this was an opportunity to pass on health education messages to parents too. It was also felt that the presence of parents was beneficial to avoid children being bullied for their LLIN on their way home. In addition to P2 and P6 children, all primary school teachers as well as district staff and circuit supervisors received nets. In Atiwa district for example, 744 teachers received a net as well as 53 office staff.

Quantities of LLIN distributed (at district level) in schools

District	P2			P6			Total		
	Number of children	LLIN given	Coverage	Number of children	LLIN given	Coverage	Number of children	LLIN given	Coverage
Asuogyaman	2837	2822	99.5%	2466	2467	100.0%	5303	5289	99.7%
Kwahu South	2299	2328	101.3%	1931	1964	101.7%	4230	4292	101.5%
Birim South	2846	2846	100.0%	2499	2499	100.0%	5345	5345	100.0%
Fanteakwa	3084	3084	100.0%	2530	2530	100.0%	5614	5614	100.0%
Kwahu West	4959	4959	100.0%	4419	4419	100.0%	9378	9378	100.0%
Kwahu North	5004	5004	100.0%	3034	3034	100.0%	8038	8038	100.0%
Akuapem North	4372	4372	100.0%	3981	3981	100.0%	8353	8353	100.0%
Atiwa	3173	3170	99.9%	2510	2505	99.8%	5683	5675	99.9%
Yilo Krobo	1893	1884	99.5%	1572	1571	99.9%	3465	3455	99.7%
West Akim	5920	5913	99.9%	4585	4624	100.9%	10505	10537	100.3%
Kaebibirem	6374	6284	98.6%	5706	5628	98.6%	12080	11912	98.6%
east Akim	3676	3676	100.0%	3299	3299	100.0%	6975	6975	100.0%
Kwahu East	2284	2284	100.0%	1756	1756	100.0%	4040	4040	100.0%
Akuapem South	4251	4251	100.0%	3589	3589	100.0%	7840	7840	100.0%
Suhum Kraboa Coaltar	6251	6251	100.0%	4654	4654	100.0%	10905	10905	100.0%
Birim Central	4535	4486	98.9%	4195	4173	99.5%	8730	8659	99.2%
Akyemansa	2632	2628	99.8%	2037	2031	99.7%	4669	4659	99.8%
Birim North									
Upper Manya Krobo									
New Juaben	4545	4545	100.0%	4278	4278	100.0%	8823	8823	100.0%
Lower Manya Krobo	2843	2698	94.9%	2636	2583	98.0%	5479	5281	96.4%

Key weaknesses and challenges identified

School teachers faced complaints from parents after the distribution, because some parents did not understand why some children received nets and other did not. This problem is again due to the lack of understanding of the purpose of the continuous distribution system and selection of particular classes, as opposed to previous mass campaigns that were aiming at universal coverage. This challenge could be overcome by engaging the community through parent-teacher associations (PTA). It was highlighted that these advocacy meetings were also important to reinforce accountability by preventing LLIN from being sold, especially in private schools.

Also, the timing of the school-based distribution is critical for success. The implementation in Eastern region occurred around the time of the presidential elections in Ghana. Consequently, some community members thought LLIN were being distributed for political reasons. Free LLIN were given to staff of the education sector apart from office staff at regional and district levels and this was seen to be unfair; reasons for this decision were not understood.

Communication

Behaviour Change Communication is a strong component of the school-based LLIN distribution. Health promotion through schools is found to be particularly effective in Ghana. This is due to the high school attendance, the specific communication skills of teachers and the receptiveness of children to advice from their teachers. More than educating children, it is hoped that pupils will become agents of change in their communities by spreading the BCC messages and making positive attitudinal changes towards malaria prevention the norm.

Key strengths

BCC materials were developed for the school-based distribution, unlike for the health facility-based channel. Posters were designed, using hang up campaign messages, with pictures and explanations. Two of these posters were distributed to each school and Circuit Supervisors reported that these posters were found on the walls in most schools. Few days after the distribution, some children reported itching sensation after using the LLIN and others complained of the weather being too warm to use the LLIN. In response to these remarks, advice and BCC messages about LLIN use were reinforced by teachers.

Some teachers in Kwaebibirem initiated the progressive introduction of key BCC messages in their classes. Each week, one new malaria-related message is discussed with children as is already recommended for other health programmes (i.e. HIV).

Key challenge identified

The current key BCC messages in their current format are too complex for children in lower primary classes. Teachers requested that the messages should be designed in a simpler and more appropriate format for these age groups.

Data collection, monitoring and supervision

Data on LLIN distributed are to be collected in each school. This information is then sent to the Circuit Supervisor who aggregates the data for his/ her circuit and shares it with the District and Regional SHEP Coordinators. In general, record keeping was found to be easier for the school-based distribution channel than the health facility-based channel. In both districts visited, data on LLIN supplied and distributed were collected per circuit. Supervision around the time of distribution was ensured by Circuit Supervisors with some involvement of the regional level. The Regional SHEP coordinator reported having visited all districts in the period around the distribution.

Key weakness and challenge identified

The main concerns for data collection, monitoring and supervision was with the design of the record keeping forms. Some meaningful information is currently not captured such as:

- Number of schools per circuit with breakdown by public and private categories
- Number of targeted classes (P2 & P6)
- Gender of pupils given an LLIN

At the time of this evaluation, data was not available for review at regional level.

Conclusion and recommendations

The pilot of the continuous distribution of LLIN in Eastern region is being implemented fairly successfully. All the 21 districts were supplied with LLIN 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 hang up mass LLIN distribution campaigns that was aiming to reach universal coverage. This confusion was systematically found at community level amongst health facility clients and parents of targeted children as well as amongst some health workers who thought this distribution was following up on the last hang up to reach households that did not benefit from the mass campaigns.

The school-based distribution channel was particularly popular amongst 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 LLIN as a malaria commodity is critical to ensuring a continuous flow of LLIN 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 sensitization and advocacy, movement of LLIN from the Central Medical Store, 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 to consider sustainability of the continuous distribution system.

Based upon the key weaknesses and challenges identified during this process evaluation, this report suggests the following recommendations:

HEALTH FACILITY BASED DISTRIBUTION

Coordination

Coordination mechanism

The coordination mechanism at regional level should be strengthened. A core committee should be in place, including representatives of the following:

- Malaria programme
- Supply and logistic
- Health information
- Reproductive and child health
- Education (SHEP)
- Health promotion

The committee should meet at least every quarter to discuss and trouble shoot any arising issues with the continuous distribution system as well as to review progress. The Deputy Director of public health shall pull these people together. The malaria focal person shall coordinate and provide the needed reminder to the deputy director for this activity to take place. NetWorks shall constantly draw the attention of the malaria focal person to remind the region to hold these meetings. The regional health team expressed their intention and willingness to be more engage in the coordination process during this evaluation.

Communication channels

Communication channels should be clarified at all levels and across levels to ensure that all persons playing a role in the system are engaged, kept informed of progresses and planning updates. The lower operational level should also communicate effectively, the right information to the higher level and the higher operational level should provide regular feedback to the lower level, based upon the review of data or specific issues identified.

Guidelines

The implementation guidelines should be reviewed and finalised. All people involved in the continuous distribution should be informed of and conversant with the protocol. Simple job aids will be useful at health facility level. Instructions on the distribution concept and criteria should be clear for all personnel from health facility to regional level.

Training

Calibre of trainees

Sufficient notice period should be given to health facilities when inviting health workers for trainings. Emphasis should be put on the importance of attendance of the targeted staff members at the training. Also, district and hospital supply officers should be engaged and be part of the training at district level.

Training content

More emphasis should be put on practical exercises, especially for reporting tools and BCC messages. Also, explanations of the purpose and objective of continuous distribution of LLIN should be adapted to the level of trainees and a session should be dedicated to role playing to manage conflicts with unsatisfied clients at the beginning of the distribution.

Transfer of knowledge to other colleagues

Special attention should be given to ensure knowledge acquired by trained personnel should be shared with other health workers in every health facility. Job aids would be useful to facilitate communication and ensure the sharing of the right messages.

On-the-job follow up training

Supervision visits should be used not only to supervise record keeping but also to reinforce compliance to the guidelines for continuous distribution and address specific challenges encountered by health facility staff. The supervisor should spend sufficient time with health workers to discuss all aspects of the continuous distribution with the health workers such as BCC, record keeping, stock monitoring and advocacy at community level.

Supply chain management

Integration of LLIN into routine supply chain for re-stocking

Clear guidance on next steps after the initial supply should be designed and shared with the regional supply managers for the integration of LLIN as a medical commodity² and to ensure re-stocking as required.

Improving LLIN supply from CMS to regional level

Shipments of LLIN to regions should be planned, coordinated, more reliable and timely to avoid delays in implementation. This should be addressed by:

² This recommendation is specific to Eastern Region because for the scale up to other regions, it was decided to follow the new supply policy (i.e. LLIN are supplied from the central medical store to the Regional medical store and health facilities send their request to the regional level instead of the district store).

1. Providing a prior notice period of 3 to 4 weeks (as recommended by CMS) before LLIN movements from the Central Medical Store to allow for internal mobilisation of resource for transportation and also manage competing shipments
2. Contractual issues and the processes for payment for transportation should be reviewed by partners to increase efficiency of CMS as the LLIN transporter

Improve communication across levels

Regional Medical Stores should be informed early enough of the shipments of LLIN from CMS to regions and districts, and the quantities of LLIN to be supplied should be shared to ensure sufficient storage space is available on the day of delivery. In the same way, the Regional Medical Store should follow up on quantities of LLIN supplied to health facilities. Practical measures to improve communication across all levels should be discussed and agreed on.

Manage LLIN leftovers from hang up campaign

LLIN leftovers should be collected, recorded appropriately and integrated into the continuous distribution system.

Follow up on storage capacity needs

Considering that Regional Medical Stores will play an important role in the restocking of health facilities with LLIN, it is important to follow up on the availability of storage space or the need to increase storage capacity in most regional stores.

Distribution

Minimize duration between trainings and distribution

LLIN should be available at health facilities before trainings or training participants should collect LLIN supply for their health facilities at districts on the day of training (to limit transport cost) to allow the start of the distributions without delays.

Promote advocacy meetings

More efforts should be made by the health workers and other authorities to engage the communities, especially at the start of the distribution, on the purpose and objective of continuous distribution. This will limit conflicts and client's disappointment during the rollout of the activities.

Behaviour Change Communication

Target hard-to-reach communities

BCC should be more emphasised in remote districts and villages. The concept of long lasting ITN should be highlighted to address the confusion about the need to retreat LLIN using retreatment kits as was discovered in both districts visited. Collaboration with the SHEP team in using schools as a channel to reach more peripheral villages could be useful for this and other malaria messages.

Promote interpersonal communication

The ongoing nature of this LLIN distribution mechanism requires sustainable strategies for BCC. Regular engagement of the communities through local NGOs, political structures and opinion leaders is important. In addition, the involvement of community volunteers should be explored as an opportunity for changing behaviour as these persons are already collaborating with ANC midwives for such results. In some facilities, community volunteers have already been solicited to promote LLIN use, beyond the immediate past mass campaigns.

Data collection, monitoring and supervision

Improve record keeping at health facility level

Data completeness in DHIMS should be urgently addressed to enable progress tracking and results monitoring. There should be a conscious effort to record LLIN given in ANC into EPI reporting forms. Health workers in charge of CWC and ANC (all under the Reproductive and Child Health unit) should be strongly encouraged to work in close collaboration on the reporting of LLIN distributed at health facilities. Also, EPI form tallying errors should be regularly corrected through routine checks by supervisors.

Streamline data collection forms

The revision of data collection forms should be considered and advocated for at national level. This should be planned early enough so as to fit in with the next printing round. The modifications of the current tools should focus on the following:

- A column for “LLIN given” to be added to the ANC register
- Provision should be made for LLIN distributed on the monthly midwives return form (form A)

Strengthen monitoring at regional level

Regular monitoring should be strongly encouraged at regional level. Selected indicators should be calculated every month (e.g. proportion of target group receiving a LLIN; proportion of health facilities with any stock out during previous month). Feedback should also be sent regularly to health facilities to help improve the quality of data collection and also provide encouragement.

Promote intense support supervision at early stage of implementation of distribution

Intense supervision is essential during the early stages of the roll out of the continuous distribution. Every facility should be visited at least once during the first three months of implementation to help correct the errors in implementation early. Regular phone conversation by the Regional and District health Teams with hard-to-reach communities and health facilities should be planned.

SCHOOL BASED DISTRIBUTION

Coordination

Emphasise effective engagement of private schools

Private school Headmasters should be informed early enough about the purpose and objectives of the continuous distribution, highlighting that LLIN will be freely distributed. This will ensure that private schools participate in the training. This sensitization could be done by circuit supervisors and community leaders.

Identify hard-to-reach schools for special budget allocation

Hard-to-reach schools should be identified in each district. This information will help inform budget allocations for transport of LLIN to communities and schools with constraints in geographic accessibility as opposed to applying flat rates for transportation of LLIN to all schools.

Encourage intersectoral collaboration

Good relationships and effective collaboration between the education and health sectors should be maintained and encouraged for the training of school teachers and for supervision of LLIN distributions in schools.

Training

Involve additional team members in trainings

Regional Training Officers and Chief Inspectors of schools should be involved in the orientation meetings at regional level. In addition, District Storekeepers should take part in the training at district level as they play an important role in this distribution channel. Also, the training day should serve as an opportunity for Circuit Supervisors to collect LLIN supplies for the schools in their circuit.

No need for subsequent trainings in Eastern Region

Given the short timeframe since the previous distribution in Eastern Region, the need to conduct a full training workshop for the next round of distribution in this region should be considered to avoid unnecessary budget spending. The provision of a succinct protocol to each circuit may be sufficient. Funds saved can be used to get LLIN to the hard-to-reach communities and schools.

Logistics and supply chain management

Review the process for LLIN quantification

The source of data for the quantification of LLIN for school-based distribution should be the school registers and not the EMIS data. Circuit Supervisors should ensure data completeness by validating the information in registers with teachers. These accurate data should be sent to regional and national level and used for quantification of LLIN. If this is done effectively, there will be no need for

buffer stocks and this will prevent resultant significant leftovers of LLIN which lead to the clogging of the limited space at district education stores.

Manage LLIN leftovers

LLIN leftovers should be collected, documented and integrated into the continuous distribution system, through the health facility channel.

Distribution

Ensure appropriate timing of distribution

Appropriate timing of distribution in schools should be agreed in collaboration with National and Regional SHEP Coordinators. The beginning of the first term should be avoided because of competing tasks for school teachers and late enrolment of some children.

Encourage participation of parents on distribution day

Presence of parents on the distribution day should be encouraged to seize the opportunity to promote malaria prevention and LLIN use and also sensitize households on the purpose and objective of the continuous distribution system.

Communication

Promote and sustain BCC strategy in schools

BCC through schools should be supported and encouraged. Success stories and lessons learnt during the first round of distribution should be documented and shared with other schools and regions.

Adapt BCC messages for younger children

Key BCC messages for the lower primary classes should be reviewed and adapted by a committee including health and education professionals.

Encourage the introduction of BCC messages in schools

The BCC strategy for school-based channel should encourage progressive introduction of messages about malaria prevention and LLIN use (i.e. one new message introduced every week).

Data collection, monitoring and supervision

Review record keeping forms

The current tools to capture data should be improved to collect the following information:

- Number of schools per circuits with breakdown by public/private
- Number of targeted classes (P2 & P6)
- Gender of pupils given an LLIN

Ensure timely data analysis and documentation of distribution

Data collected at district level should be sent to the region shortly after the distribution. Coverage achieved and documentation of the process should be completed and shared with the national level in a timely fashion.

Annex I - Calendar of Activities for the Pilot in Eastern Region

Activities	June				July					August				September				October				
	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29
School based channel																						
School stakeholders / planning meeting							X															
Training of trainers											X	X										
Training of head teachers															X							
School based distribution																	X					
Health facility based channel																						
Health workers orientation	X	X	X																			
Start of health facility based distribution															X	X	X	X	X	X	X	X

Annex II – Training of Trainers Workshop Content and Agenda

PRIMARY SCHOOL LLIN DISTRIBUTION CAMPAIGN

Session title	Duration	Time	Facilitators
DAY 1			
<u>Participant arrival</u>		8:30-9:00	
Introduction	20 min	9:00-9:20	
Unit 1: Role of LLINs in Malaria prevention	45 min	9:20-10:05	
Unit 2: Continuous distribution of LLINs	45 min	10:05-10:50	
<u>BREAK</u>	15 min	11:35-11:50	
Unit 3: Communication and social mobilization	45 min	10:50-11:35	
Unit 4: Organizing and managing the Primary School distribution of LLIN campaign	1 hr 10 min	11:50-13:00	
LUNCH	1 hr	13:00-14:00	
Discussion	1 hr 30 min	14:00-15:30	
<u>BREAK</u>	15 min	15:30-15:45	
Unit 5: Micro-planning	1 hr 15 min	15:45-17:00	
DAY 2			
Unit 6: Logistics	45 mins	9:00-9:45	
Unit 7: Monitoring and record keeping	1 hr	9:45-10:45	
<u>BREAK</u>	15 min	10:45-11:00	
Activity U7a: Presentation and discussion of district micro plans	2 hr	11:00-1:00	
LUNCH/Departure	1hr	1:00 – 2:00	

Annex III – Monitoring and Supervision Checklist

MONITORING OF CONTINUOUS DISTRIBUTION OF LLINs IN GHANA

MONTHLY ANC/CWC SUPERVISORY CHECKLIST

Region: District:

Name of Health Facility: Outreach:

Unit (please tick): ANC: ☐ CWC: ☐ Date:/...../.....

1. Service Data

1.1. Check and record previous month's total attendance: ANCCWC

.....

1.2. Check and record the previous month's ANC registrants.....

1.3. Check and record the previous months attendants for Measles booster dose:

2. Logistics Management:

2.1. Is there a tally card/Bin card/ Inventory control card available for tracking LLINs?

YES ☐ NO ☐

2.2. What is the physical count of LLINs in stock at this facility as of today?

2.3. What is the quantity on hand of LLINs recorded in the tally card/Bin card/ Inventory control card as of today?

2.4. Is the tally card/Bin card/ Inventory control card for LLINs updated as of today?

☐ YES ☐ NO

2.5. From where will this facility receive its next supply LLINs?

☐ Facility Store ☐ District store ☐ RMS ☐ Other (specify)

2.6. Are LLINs issued to beneficiaries documented using the EPI tally book/sheets?

(Inspect tally book and summary forms)

Yes always ☐ Yes sometimes ☐ Not always ☐

2.7. What is the quantity of LLINs Distributed recorded in the EPI tally book/sheets and ANC/CWC register for the previous Month? ANC _____ CWC _____

2.8. Does LLINs issued to beneficiaries correspond with available records on target beneficiary?

(Refer to 1.2 and 1.3) ANC Yes ☐ No ☐

CWC Yes ☐ No ☐

2.9. Check and record LLIN Distributed for the following months:

Month	Total LLIN issued out in this Facility		No. of LLINs Distributed as Reported in the DHIMs Software	
	ANC	CWC	ANC	CWC
March 2013				
February 2013				
January 2013				

General Observations/Comments:

.....

3. ANC/EPI Education on LLINs

3.1. Are target beneficiaries given education on LLIN use and care before LLINs are given out?

Yes always ☐ Yes sometimes ☐ No ☐

3.2. How are beneficiaries educated?

Talk ☐ One-On-One Counseling ☐ Both ☐ Other Specify _____ ☐

3.3. Are there job aids to facilitate education on LLIN use and care?

Yes always ☐ Yes sometimes ☐ No ☐

3.4. Was there a demonstration on how to hang the net before LLIN is given out?

Yes always ☐ Yes Sometimes ☐ No ☐ Not Observed ☐

3.5. Was the demonstration done accurately?

Yes always ☐ Yes Sometimes ☐ No ☐ Not Applicable ☐

Observe the process and provide comments:

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Annex IV – List of Key Informants Contacted During Process Evaluation

National Level

National Malaria Control Programme

- Aba Wilmot – Medical Entomologist /Coordinator of LLIN sub committee

***Debriefing at National Malaria Control Programme**

- Dr. Constance Bart-Plange – National Programme Manager
- Dr. Felicia Amoa-Sakyi – Coordinator Northern Zone
- Aba Wilmot - Coordinator of LLIN sub committee and Vector Control Group
- Peter Ekow Gyimah – Manager Ministry of Health - Central Medical Stores

Partners

- Laud Baddoo – USAID DELIVER Project

Debriefing at PMI

- Kwame Ankobea - PMI Representative – USAID
- Lewisa Frimpong -Yakubu - Population Health and Nutrition Office – USAID

Ghana Education Service

- Ellen Gekye – National Programme Officer - SHEP
- Faustina Alimatu Brimah - National Programme Officer – SHEP

Regional Level

Key Informant Interview

- Dr. George Bonsu – Deputy Director for Public Health Ghana Health Service Eastern Region

Regional Level Group Discussion – Regional Health Directorate

- Margaret Adufu - Deputy Director Nursing Services in charge of Reproductive and Child Health
- Rhodalyne Adda – Deputy Regional Nutrition Officer
- Rev. R.K Yeboah – Regional Malaria Focal Person
- Prosper Agbagbah – Deputy Regional Malaria Focal Person

Other Interviews at regional Level

- Dela Asamany – Regional Health Information Officer
- Sellase Kofitse – Deputy Regional Health Information Officer
- Solomon Obri – Manager Regional Medical Stores
- Charles K. Arhinful – Supply Officer – Regional Medical stores

Ghana Education Service

- Bernice Ofori Akyeampomaa – Regional Coordinator - SHEP
- Joseph Kwasi Lawer – Regional Coordinator – Private Schools
- Anthony Kyere – Regional Supply Officer – Ghana Education Service

ATIWA DISTRICT

District Level – Atiwa District

Charlotte Amponsah – District Public Health Nurse

Facility Level – Atiwa District

Atiwa Health Centre

- Mathias Dake - Physician Assistant
- Love Birinkorang – Principal Community Health Nurse

Enyiresi Government Hospital

- Millicent Anum – Deputy Nurse Manager
- Matilda Nyarko – Staff Midwife
- Hannah Yankson – Reproductive and Child Health – Incharge

Kadewaso Community-based Health Planning and Services Centre

- Ruth Ofosu – Enrolled Nurse
- Gifty Ofosua – Community Health Nurse
- Constance Asare – Health Promotion Assistant

Kadewaso Community

- Nana Aduako II – Queen Mother of Community
- Home visits to interact with community members

Ghana Education Service

- Affum Kaffena Moses – District SHEP Co-ordinator
- Rose Nkansah - District Store Keeper
- Richard Omaning – Assistant District Store Keeper

KWAEBIBIRIM DISTRICT

District Level Group Discussion – Ghana Health Service

- Kweku Owusu – District Director of Health Service
- Agnes Kwakye – District Public Health Nurse
- Nana Konadu – District Public Health Nurse
- Augustine Opoku Darkwaa – District Disease Control Officer
- Sakyi Stephen – District Supply Officer

Abaam CHPS

- Josephine Martey - Midwife In-Charge
- Sophia Donkor – Community Health Officer
- Aboagye Shadrach – Community Health Officer
- Bridget Amo – Community Health Officer
- Agnes Oduro – Health Assistant Clinical
- Oforiwaa Mabel – Health Extension Worker
- Agnes Twumwaa Orderly

Ghana Education Service

District Level Group Discussion – Ghana Education Service

- Paul Alidjah – District SHEP Coordinator
- Godwin Addo – District Director of Education
- Kwaning Kwabena Marfo – District Supply Officer

Advent Reformed Institute Private School - Abaam

- George Owusu – Proprietor
- Aseidu Maxwell – Assistant Head Teacher – Academic (School SHEP Coordinator)