





Greater Accra, Northern and Upper West Regions, Ghana

Universal LLIN Distribution

February 2016 to December 2018

Pre-distribution, Distribution and Post Distribution Planning Document

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1. Executive Summary

Acknowledgements

2. Project planning

1. Introduction

Episcopal Relief & Development and its partner in Ghana, Anglican Diocesan Development and Relief Organization (ADDRO), with support from the Against Malaria Foundation (AMF), seeks to partner with Ghana's National Malaria Control Program (NMCP) and partners to undertake a universal Long Lasting Insecticidal Nets (LLIN) campaign in three regions of Ghana; namely Northern, Upper West and Greater Accra Regions.

Episcopal Relief & Development is an international relief and development agency originally established by the Episcopal Church in the United States in 1940. A 501 (c)(3) non-profit entity, its mission is to promote sustainable development and address the root causes of poverty. Episcopal Relief & Development collaborates with Episcopal/Anglican partners in developing countries to serve people in need, regardless of their religious, political or any other affiliation. Episcopal Relief & Development has 40 staff members in its headquarters in New York City and an Africa Regional Office in Accra, Ghana. Episcopal Relief & Development founded the well-regarded *NetsforLife*® Malaria Prevention Partnership. The robust monitoring and evaluation framework for *NetsforLife*® shows results with an estimated 112,235 children under five saved, 41 million individuals sensitized, and 21.9 million LLINs distributed in the 17 countries where the program has been implemented.

Episcopal Relief & Development operates in Ghana exclusively in partnership with ADDRO, which is a registered, faith-based, non-profit, non-governmental organization that seeks to transform life and uphold human dignity and justice for all people, irrespective of ethnicity, sex, religious or political affiliations. ADDRO has over 30 years of experience working with communities in Ghana. ADDRO also has built a strong track record of partnerships with leading international NGOs and donor agencies including Oxfam (UK), USAID/President's Malaria Initiative (USAID/PMI), Water AID (UK), and the Catholic Organization for Development Cooperation (CORDAID, The Netherlands).

In Ghana, ADDRO has developed strong working relationships with various associations, community leaders, religious bodies, and other NGOs. ADDRO can also leverage its experience partnering with local volunteers, which serve as a vital resource for community mobilization and education. Training volunteers to deliver front-line services, such as registration and distribution of LLINs and monitoring household usage ensures that messages

are community owned and delivered, empowers community members as respected public health workers, and bolsters health systems from the community up.

With support from Episcopal Relief & Development, ADDRO has implemented the *NetsforLife*® program in Ghana since 2006. Originally in Upper West, Upper East and Northern Region, ADDRO expanded its malaria prevention program in 2009 to include Eastern Region, Ashanti Region and Western Region. ADDRO has demonstrated ability to enact accurate household level needs assessments, provide excellent supervision at LLIN distribution points, conduct successful LLIN follow up at the household level and work with health workers at the various health centres to obtain case rate data. In May 2010, ADDRO joined the NMCP and other partners to implement a universal LLIN campaign in the Northern Region of Ghana using the *NetsforLife*® methodology. The campaign, which utilized the hang-up strategy, was the largest done within one week's time in Ghana, with approximately 655,369 LLINs distributed within the week.

The proposed program leverages ADDRO's extensive experience and the significant overlap between AMF's four operational elements for net distribution campaigns and the *NetsforLife*® methodology.

AMF OPERATING PRINCIPLE	NetsforLife® METHODOLOGY		
Accurate Household-Level (HH-level) Net Need Data	 Baseline survey supports design of educational messages Community-level volunteers are trained and supervised to collect HH-level data avoiding over- and under-delivery HH-level data ensures right quantities of nets are pre-positioned at distribution points 		
Independent supervision at the "moment of net distribution"	• Supervision at the LLIN distribution points ensures that HHs are given the right number of nets allocated on their vouchers/coupons, which minimizes theft/misappropriation at distribution centers		
Post-distribution of net use and condition	 Community-level volunteers show HHs how to hang nets increasing the likelihood that nets will be used and monitoring condition of nets on follow-up visits Community-level volunteers provide education and sensitizing activities to promote "net culture" and drive demand for LLIN use at the household level 		
Monthly malaria case rate data	 Community-level volunteers collect monthly case and net usage data ADDRO coordinates delivery of data to government health system and NMCP, leveraging ADDRO's existing relationships with government health systems 		

Overlap of AMF's Operating Principles and *NetsforLife*® **Methodology**

2. Distribution area

The LLIN campaign will be undertaken in three regions of Ghana – Northern, Greater Accra and Upper West. Nets will be distributed in all districts in the Upper West Region, 20 districts in the Northern Region and 12 districts in the Greater Accra Region as illustrated in the following chart. NMCP will lead the LLIN distribution. Episcopal Relief & Development/ADDRO will observe the distribution and verify data.

Regional Context and Planned Net Distribution						
	Anticipated Population 2016	Malaria Incidence in Children Aged 6-59 Months*	Number of Districts Serviced	Number of Nets to be Distributed		
Northern Region	1,966,710	40%	20	1,092,616		
Upper West Region	786,050	38%	11	436,694		
Greater Accra Region	2,083,496	11%**	12	1,157,498		
			Total Nets to be Distributed	2,686,808		

*2014 DHS

**An increase over 4% prevalence in the same cohort in 2011

- Northern Region There is a six- to seven-month malaria transmission season, with the highest number of cases occurring between July and November. Children under the age of 5 are particularly vulnerable, with stubbornly high disease prevalence for this age group.
- Upper West Region The region has benefitted from Indoor Residual Spraying (IRS), but prevalence for children under five remains high in spite of a 12 percentage point decrease since 2011.
- *Greater Accra Region* Although prevalence for the most vulnerable is lower than the other two target regions, there has been an upward creep in prevalence for children under 5 since 2011.

Appendix 1 - Map of Ghana showing the three regions with prevalence overlaid on population.

Appendix 2 – Detailed population figures for each of the regions detailing the estimated nets needs per district.

3. Budgeting

Episcopal Relief & Development/ADDRO developed the project budget using AMF's approved template and took into consideration cost benefit analysis, geographical locations and administrative structures of all the three regions, the estimated current population of the distribution areas and the number of nets to be distributed and followed up for the two and

half years. Currently, ADDRO has regional offices in the Northern and Upper West Regions. Episcopal Relief & Development plans to leverage its existing structures and networks on the ground to maximize the program's cost efficiency. Based on ADDRO's location and experience in Ghana and the program's specific operating regions, the project partners were able to identify realistic operational and material costs during the budgeting process.

With ADDRO's experience in managing Episcopal Relief & Development funds over the past decade, as well as funding from other projects, including a USAID PMI grant, ADDRO is well-prepared to implement the financial elements of the AMF program. Both Episcopal Relief & Development and ADDRO have very qualified and experienced financial staff and systems in place including clear financial policies and guidelines to ensure correct/sound financial management.

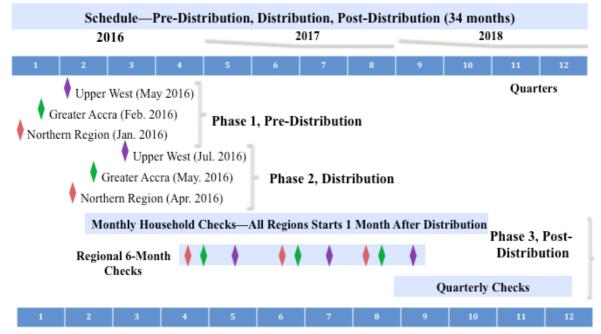
Episcopal Relief & Development's Finance Director oversees all project budgeting, financial management, compliance and reporting, working with the ADDRO Finance Officer. ADDRO's Finance Officer prepares financial reports and submits to Episcopal Relief & Development's Finance Director, who reviews all reports, and finalizes before submission to AMF.

The total budget for all pre-distribution, distribution and post-distribution activities is GHC, equivalent to US\$3,642,390: 70% allocated to the Against Malaria Foundation and 30% allocated to Episcopal Relief & Development as a cost share. This translates to US\$1.36 costs per LLIN total. Although the current exchange rate is a dollar to about 3.85 cedis, an exchange rate of one dollar to 3.5 Ghana cedis was applied to the budget to cater for currency fluctuations. ADDRO will recognize gains or losses based on the actual rate. They will convert the currency and adhere to Episcopal Relief & Development's foreign exchange policy. For the detailed budget, refer to Appendix 3.

4. Scheduling

The following timeline graphic illustrates the life span of the approximately 34-month program, indicating the sequencing of activities across three program phases: Pre-Distribution, Distribution, and Post-Distribution. As AMF is aware, the NMCP launched pre-distribution activities in the Northern Region in January 2016, with an eye toward completing LLIN distribution by the start of high transmission season in July. Due to the staggered approach to regional roll-out, some pre-distribution activities will likely occur prior to the finalization of this planning document with AMF, particularly in the Northern Region. With

the Greater Accra and Upper West Regions, Episcopal Relief & Development/ADDRO will be involved right from the beginning and work with the NMCP and partners for the successful implementation of the campaign activities. While ADDRO is providing some support to NMCP for its current activities in the Northern Region, upon finalization of the program plan with AMF and distribution of funds, Episcopal Relief and Development/ADDRO, in line with the *NetsforLife*® methodology, will begin to provide more robust technical support, leadership and oversight, as outlined in this planning document.



Note: 6-months checks occur at: Northern (Oct. '17, April '17, Oct. '18), Greater Accra (Nov. '16, May '17, Nov. '17), Upper West (Feb. '17, Aug '17, Feb. '18)

Appendix 4--More detailed distribution timeline.

5. Resource planning

The Episcopal Relief & Development/ADDRO staffing plan includes 13 staff under the leadership of a National Program Manager. The National Program Manager will provide both technical expertise and proven program management abilities. He or she will oversee staff spread across three regions, liaise with the NMCP, GHS and other partners, and oversee the technical quality of the program. A Technology Officer, working closely with the program manager, will manage all technology-related program activities interfacing with AMF and NMCP on the electronic platforms, providing guidelines and training to data supervisors, and regular quality supervision in each of the three regions. Both the National Program Manager and the Technology Officer will be based in Episcopal Relief & Development's regional office in Accra and will be Episcopal Relief & Development contracted employees. They

will maintain contact and communication with ADDRO HQ staff in Bolgatanga and regional offices through e-mail, phone, and regularly scheduled inter-office meetings.

ADDRO's Bolgatanga-based M&E Officer will oversee three regional coordinators and interface with the 3 regional data supervisors. A Bolgatanga-based Health Coordinator will oversee all community-based outreach activities, including the direct supervision of 3 regional volunteer managers, who will oversee all community volunteers and district-level volunteer supervisors under this program. Existing ADDRO staff will serve as regional coordinators in the Northern and Upper West Regions, minimizing the recruitment burden for the project; however, a regional coordinator will also be a combination of new staff and existent. Each community will have a community volunteer trained by Episcopal Relief & Development/ADDRO. This volunteer will conduct household visits to monitor the use and condition of the LLINs, promote net culture, and educate household members on malaria, diarrhea, and pneumonia. **Appendix 5--**Organizational Chart

6. Reporting

Episcopal Relief & Development/ADDRO will submit reports in accordance with AMF's reporting requirements and schedules. Reports to be submitted to AMF include:

- **Pre-distribution registration survey (PDRS) information**--Data entry clerks will input all household registration data (including the 5% verification sample) into a database for analysis by the M&E team. Episcopal Relief & Development and ADDRO will provide support and supervision to generate the report for AMF.
- Single page weekly reports updating on progress during the distribution process During the distribution process, the program team will update AMF on a weekly basis with a single page progress report to include distribution sites reached, numbers of nets distributed, information on distribution delays or challenges, any BCC or education component that accompanied the distribution, anticipated changes to the distribution timeline. Whenever possible, photographs and video will be included to document the distribution process. This will be done in accompaniment of the NMCP staff and processes.
- **Distribution reports--**ADDRO will compile a comprehensive distribution report upon completion of the distribution phase. The report will outline all distribution activities at all sites across the three regions, and will incorporate a discussion of outcomes, challenges and lessons learned. Whenever possible, the report will also

include photographs and will be accompanied by video documentation. The Program Manager will manage this report, which Episcopal Relief & Development/ADDRO will review before submission to AMF.

• **Post-distribution surveys--**The ADDRO team will conduct post-distribution surveys every 6 months for the duration of 30 months using the 105% methodology championed by AMF. The team will compile reports on each 6-month survey period. In total, five post-distribution survey reports will be submitted to AMF. Additionally, ADDRO will provide AMF with relevant information from the monthly post-distribution follow-up activities under the *NetsforLife*® rubric (monthly for 18 followed by quarterly between the 19th and 30th month) i.e. activities designed to promote prevention activities on malaria, pneumonia, and diarrhea, promote net culture and drive household demand for future nets.

Malaria case rate data

Leveraging ADDRO's existing relationships with government health staff throughout the regions, the program team will work closely with staff in all health centres of the distribution catchment area to obtain malaria case rate data, which the team will report to AMF monthly.

Final Program and Financial Report

Episcopal Relief & Development/ADDRO will submit a final program and financial report to AMF at the end of the program, detailing all programmatic and fiscal activities, capturing program outcomes, highlighting project successes with both anecdotal and quantitative data, and reflecting on implementation challenges and lessons learned. The final report will contain photographs and associated video, where possible.

3. Pre-distribution

1. Technology preparation

Episcopal Relief & Development/ADDRO's Technology Officer, in conjunction with the M&E Officer, National Program Manager, and Technical Team, will review the platform for electronic data entry developed by AMF, and ensure that the NMCP HH registration survey forms, the post-distribution data collection survey tools, and the HH level journals for volunteers (which track monthly visits) are all carefully aligned to the various platforms for data collection and fit for purpose for electronic data entry. The Technology Officer will also outline key guiding procedures to protect against data entry errors, integrate such procedures into the training of trainers and supervision guidelines, and provide a clear schedule for regular oversight (review and cleaning) of the data entries.

All survey forms (starting with the NMCP HH registration tools) will first be developed and provided on paper data entry formats, and collected and stored on paper. After finalizing the content of the survey instrument (registration questions, etc.), the electronic data entry will be streamlined accordingly, with provision made for paper copies to be printed per HH surveyed and visited, and bound per community for back up on any electronic record sharing with all stake holders.

Pilot distribution using mobile technology

In addition, a mobile data entry pilot will be designed and implemented for the postdistribution surveys in one district, and lessons from this experience integrated into stakeholder meetings, reports, and reports with an eye to potential scaling of the mobile data processes in later distributions.

The mobile pilot will be implemented in the Shai Osudoku district of the Greater Accra Region. A total of 34,773 LLINs will be distributed to an estimated population of 62,592. Mobile technology will be employed for the post-distribution surveys. Smart phones will be used to collect data in electronic form for the data collectors visiting 5% of the HH. The same procedures outlined in the post-distribution section of this document will be followed. Quality checks will be made with the data while it is being received live, with analysis conducted by the M&E Officer and Technology Officer real time. While data collectors are still in the field, missing data and outliers in the data will be identified directly to data supervisors such that they can take corrective action.

Data collectors who will use the mobile format will review the paper survey tool in the context of their training to familiarize themselves with the content and framing of the questions before being trained on the smart phone application. Once data collectors are comfortable with the mobile device and the software, they will participate in a practice session, where they will test the survey instrument and transmit the data. The data will be reviewed with the group, and questions regarding the data collection process will be addressed. The survey team will also be trained on how to troubleshoot issues on the field if they face hardware problems.

While the project Technology Officer will develop a training manual and guidelines for use of the mobile devices and the software, s/he will also, with sign off from the National Program Manager, identify and purchase the specific data collection software and equipment, following Episcopal Relief & Development's standard procurement process. Smart phones and additional accessories, including spare batteries, battery chargers, protective cases for the smart phones, wifi connection devices, and computers will all be purchased. As a contingency, extra phones and batteries will be purchased and used in the case of smart phone damage or hardware problems.

The server for the mobile platform will be located at the Episcopal Relief & Development regional office in Accra. The Technology Officer will be in charge of the data and its analysis.

2. Vehicle planning

Episcopal Relief & Development/ADDRO will require three pick-up vehicles, preferably Toyota Hilux (a standard vehicle among development implementers in the regions because of unpaved roads which become difficult to drive in the rainy season), one for each of the three regional offices. Episcopal Relief & Development will provide a new vehicle for ADDRO Bolgatanga, as part of its cost sharing contribution. The ADDRO regional office vehicles (Northern and Upper West regions) are over aged and unable to meet the demands of this project. The vehicles can be purchased locally from Toyota Ghana Company Limited in Accra, Ghana.

3. Timing

The pre-distribution phase includes the following activities undertaken in collaboration with NMCP:

- Informative meetings with Regional Health Directorate and one-day regional planning workshops will each take place at each of the three regional health directorates.
- One-day orientation of districts and sub-district authorities on the distribution process in each of the three regions
- One-day orientation of supervisors and of volunteers for household assessment
- Social Mobilization/SBCC activities at least two weeks will be spent on social mobilization before the household registration exercise. Health workers and project volunteers will undertake SBCC activities throughout the pre-distribution phase disseminating information on the benefits on LLINs, utilization, care and maintenance and other relevant topics.
- Household registration exercise and issuing of coupons The household registration and issuing of coupons will take a period of five days in each region. This exercise will start in the Northern region in March. Greater Accra and Upper West Registration exercise is scheduled for April and June respectively.
- Compilation of registration data by sub-district health officials will take place in all the three regions immediately after the registration exercise.
- Data validation and allocation of LLINs to pre-positioning sites This will take place after the compilation of data by the sub-district health officials. Allocation and transportation of LLINs to pre-positioning sites will be done after data validation.
- Entry of household assessment data into a database, analysis of the data This will start in March in the Northern region and will end in early August in Upper West Region.

For a detailed timeline of the pre-distribution activities, refer to Appendix 4.

4. Liaising with community leaders pre distribution

The project team will meet with community leaders to discuss the ongoing monitoring processes throughout the program, and to ensure full community engagement The NMCP will be responsible for liaising with national and international donors/partners, which are making inroads with the local community on existing malaria programming. With technical collaboration from Episcopal Relief & Development/ADDRO, the NMCP will convene meetings with all parties at the NMCP national office in Accra throughout the lifecycle of the project to share information, and follow up on ongoing field level activities.

At the same time however, Episcopal Relief and Development/ADDRO will be engaging technical content and onsite with the regional and district health teams at the health directorate level, on the follow-up activities. The goal is that GHS health teams will engage community leaders to promote the campaign itself and request their cooperation and support, while the Episcopal Relief & Development/ADDRO team will be sensitizing and preparing communities for follow up of the LLIN, and HH education and engagement on malaria, pneumonia and diarrhea monthly for 18 months (followed by quarterly thereafter up until the 30 month period). The community leaders will subsequently be asked to inform their community members about the LLIN campaign and encourage all members to participate in the various exercises.

5. Participants and roles

The following chart illustrates partner roles and responsibilities at each of the three project phases:

	Pre-Distribution	Distribution	Post-Distribution
Episcopal Relief & Development /ADDRO	 Provides technical assistance and resources to NMCP Designs survey tools for follow up Trains Data Collectors for the 105% HH verifications Identifies cadre of volunteers to implement post-distribution activities Monitors household registration process and collects registration data 	• Provides volunteers to observe at distribution sites	 Manages post-distribution data checks, data collection, analysis, and reporting Manages ongoing household/ community education to promote "net culture" and other health promotion activities
NMCP	 Conducts household registration activities Leads Planning Meetings and Workshops Conducts community sensitization on distribution 	 Supervision of distribution Net transport and delivery logistics Distribution monitoring Transport of distribution data Community engagement 	• N/A

Implementation Partner Roles and Responsibilities by Program Phase

GHS	 Leads Social Mobilization Activities Supervises volunteers Monitors activities 	 Distribution sites (health clinics) Staffing distribution 	 Provides Malaria case data to ERD/ADDRO Staff Community Health Workers serve as Community-Based Agents (CBAs) to support ADDRO-led Household/Net follow-up outreach and education
			 Provides distribution points for LLINs and distribution staff

6. Staff selection and training

The staff and numbers required for the successful implementation of the program are as follows:

Title	Location	No.
National Program Manager	Episcopal Relief & Development Regional Office	One
Technology Officer	Episcopal Relief & Development Regional Office	One
Health Coordinator*	ADDRO HQ Office- Bolgatanga	One
M&E Officer*	ADDRO HQ Office- Bolgatanga	One
3 Volunteer Managers	Regional Offices—one in each office**	One
3 Regional Coordinators	Regional Offices—one in each office**	Three
3 Data Supervisors	Regional Offices—one in each office**	Three
Subdistrict Officers	GHS Sub-District Level Offices	208
Community Volunteers	Community Members	9270
Data Enumerators (5%)***	Hired on ad hoc basis	322
Supervisors for Data Enumerators***	District	32
Data Entry Clerks***	Regional Offices	162

* Existing Staff

****** ADDRO currently has regional offices in Northern and Upper West Regions. A regional project office will need to be established in Greater Accra prior to the roll out of activities in that region.

*** These positions are temporary and will be hired as needed

Episcopal Relief & Development/ADDRO human resource staff and senior management will lead the hiring effort for core staff through a rigorous recruitment process. This includes advertising the vacancies with job descriptions and qualifications through print and electronic

media and candidate interviews. Interview questions will focus on relevant knowledge, skills and experience. Salaries of the successful candidates will be determined based on existing salary scale/branding for the position categories, which are competitive on the job market. The salaries will be discussed and agreed with candidates during the recruitment process. The wages for data entry clerks will be based on number of data collection forms entered electronically daily. Wages for data collectors will be based on number of HH data collected per day.

Staff will attend a three-day training session followed by a two-day planning meeting to outline key activities, timelines, and deliverables to ensure quality implementation and adherence to the work plan. Supervisory staff will be encouraged to properly motivate and mentor staff to succeed in their job performance. The training has been scheduled for the last week in March.

7. Community sensitization

Community engagement is a central tenant of the *NetsforLife* [®] methodology spearheaded by Episcopal Relief & Development/ ADDRO in Ghana, and the NMCP and its partners also consider social mobilization as key to the successful implementation of the LLIN campaign and its follow up activities. Complimentary to the Universal LLIN Distribution campaign, The NMCP and partners, under separate funding, will undertake media promotions on national television– providing regular announcements on the LLIN campaign (when registration will take place, how it will be done, who will do it and the duration, etc).

Other sensitization activities that will be done at the district, sub-district and community levels by the Ghana Health Service and monitored by the NMCP and partners include:

- Announcements and discussions on radio stations in all districts in the three regions
- Announcements in churches and mosques
- Announcements at market squares and other common places of gathering
- Announcement on mobile vans
- Announcements/messaging at health posts/centres

In addition to the list above, volunteers will be trained to provide messaging on the dates of the distribution, utilization, care and maintenance of the nets, etc.

8. Data collection - Pre-distribution registration survey, PDRS

The NMCP and partners will conduct a pre-distribution registration survey (PDRS) to determine household net needs. Episcopal Relief & Development/ADDRO will provide

technical support and resources to the Ghana Health Service to identify and train volunteers. One GHS supervisor per region will also be identified and trained to oversee volunteers during the registration exercise. The trained volunteers will visit and register all households and provide a coupon issued by the NMCP. Volunteers will collect household data and inform registered households of the time and distribution site to redeem their nets using the coupon. Registration in each region will take five days. Each volunteer will visit and register an average of 25 households per day. At the end of each day, volunteers report to their supervisors, who review the registration data. If the registration booklet is full, volunteers submit it to their local Community-based Health Planning and Service (CHPS) compound and continue the registration with a new booklet the next day.

When registration is completed, GHS sub-district staff will collect the booklets from the CHPS compound and submit them to the sub-districts where sub-district staff will allocate nets to each registered household. Number of nets per household is determined using the universal coverage calculation. Household population and the total number of nets allocated to the households will be calculated and recorded on the front inner cover of each booklet. The total nets for each community and sub-district will then be tallied from these totals.

In addition to the registration of all households (100%), Episcopal Relief & Development/ADDRO will hire and train (as temporary project employees) a different set of data collectors to verify the accuracy of the records. They will do so by visiting a random selection of 5% of the registered HHs. Episcopal Relief & Development/ADDRO will share all pre-distribution registration data with the NMCP and GHS. It will additionally be provided in report format to AMF (See Section 2.5 Reporting).

A. Data Entry, Analysis and Correction

- Data Entry Each of the three regions where the program will be implemented will hire a data entry centre where data entry will be done. Episcopal Relief & Development/ADDRO will identify data entry clerks, train and supervise them to enter the registration data into a database from AMF. Both sets of the registration data will be entered in the database, separately identifiable.
- Data Analysis Data analysis will be done in the database provided by AMF, with output on a spreadsheet and tabs showing the main data set with max/min/ratios identifying errors and anomalies and the main data (100%) vs 5% comparison

• Data Correction – Corrections will be made and errors highlighted. Errors can be identified by running frequency analysis to help identify any outliers, etc.

B. Verification

 Confirmation at community level – Registers will be printed for the verification stage. This verification stage helps to mop up households not captured during the initial registration. This will be carried out by an independent entity, which will be identified by AMF and which verifies the data that was collected in the communities. Beneficiaries/ households that are skipped during the registration process are noted as missing data and then added to the list. Hard copy lists will be returned to the Data Entry Centre in each of the region.

C. Final Data Correction

- The M&E officer for the program will check the data and additions/corrections will be made to the database as necessary. The final data will also be reviewed by Episcopal Relief & Development technical staff (Research and Evaluation Manager)
- Final registers will be printed and shared with partners.

9. Household identification

The NMCP/Ghana Health Service (GHS) will be responsible for the unique identification of households for the registration. During the registration, the coupons provided to HH heads/representatives will be coded/numbered serially with a unique number for each HH. Household contact details (phone number and name of household head) will be captured on the coupon. Household net beneficiaries are further verified as per AMF's standard operating practice, as elucidated in section 11, below.

10. Data management

The NMCP has agreed with AMF to make all pre-distribution registration booklets available to Episcopal Relief & Development/ADDRO for collection. Episcopal Relief & Development/ADDRO will transport the booklets to the regional data entry centers after the distribution phase is completed. Trained data entry clerks at the centers will input the data into the AMF-provided database. The regional data supervisors clean the data and sent it to the ADDRO M&E officer who will conduct further data cleaning as necessary and analyze the data. Frequency analysis will identify and rectify any outliers and data inconsistencies, possible data anomalies, errors and data omissions. Missing cases will be identified and follow up will be made to prevent omission.

11. Data verification--AMF will identify an independent organization to verify the data at the community level.

12. Logistics and security of LLINs

The NMCP will work closely with the GHS on the logistics and security of the LLINs. Nets will be initially stored at the Regional and district medical stores in the three regions, with quantities based on the estimated population data for the regions and the districts. After HH registration is complete, nets will be transported to the sub-districts using the summary data from the registration. At each of the stores, security will be heightened to prevent any loss/theft. The stores will be kept under lock and key with security guards deployed to each of the warehouses. The regional, district and sub-district officials will be held accountable for the security of the nets. From the sub-districts, nets will be allocated to the pre-positioning sites for distribution. The NMCP employs well--documented procedures for net transport, including counting of bales of nets and double signatory on paperwork.

13. Contingency planning--The NMCP will together with their partners develop contingency plans.

4. Distribution

The National Malaria Control programme/GHS and partners will distribute 2,686,808 LLINs in the three regions. Episcopal Relief & Development/ADDRO will monitor the distribution exercise. Episcopal Relief & Development/ADDRO will provide vigilant supervision at the moment of distribution and ensure nets reach the intended beneficiaries and misappropriation of nets reduced.

1. Logistics and pre-positioning of nets

After HH registration is complete and validation is done, total net needs for all communities in a sub-district will be calculated. Nets will then be transported from the district warehouse to the sub-district warehouses for storage ahead of the distribution. During the distribution, nets will be moved from the sub-districts to the distribution points daily for distribution to registered beneficiaries.

2. Timing

The timing for the LLIN distribution in the Northern, Greater Accra and Upper West Regions is April, May and July respectively.

For a detailed timeline, refer to Appendix 4.

3. Liaising with community leaders

With the goal of ensuring net distribution occurs as planned and bolstering community participation, the NMCP will meet with GHS staff at the regional, district, sub-district and CHPS compounds to flag the point of distribution dates request GHS assistance in engaging community leaders to inform their respective communities. They will also be requested to help maintain peace and order at the distribution point in their respective communities.

4. Community sensitization

Led by the NMCP, community sensitization activities will be undertaken to alert community members about the upcoming distribution. Illustrative activities include:

- Announcements in churches and mosques
- Announcements at market squares and other common places of gathering
- Announcement on mobile vans
- Announcements/messaging at health posts/centres

5. Participants and roles

Episcopal Relief & Development/ADDRO Project Team--The program manager, M&E officer, regional coordinators, and trained volunteers will provide supervision at the point of distribution Regional Coordinators and Data Supervisors. Episcopal Relief & Development/ADDRO will identify community volunteers to monitor and provide additional supervision at the distribution sites.

Episcopal Relief & Development Permanent Staff --Episcopal Relief & Development Regional Program Officer, Priscilla Amuah, along with a Program Manager, will provide supervision at point of distribution and offer technical support to all partners.

GHS Staff--One Ghana health Service staff member will be positioned at and responsible for each of the distribution points. The district officials will be put into teams and zones will be allocated to them for supervision. The regional health team will monitor the distribution exercise and help to address issues that may arise during the distribution.

NMCP and Partners--The NMCP and other partners will closely monitor the distribution exercise. NMCP has the responsibility of ensuring that the distribution exercise is implemented according to plan.

For Roles and Responsibilities Chart, see Appendix 6.

6. Staff selection and training

The NMCP will work with the GHS to identify and train staff to be in charge of the distribution points. Episcopal Relief & Development/ADDRO will identify and train community volunteers who will serve as independent supervisors at the "moment of distribution," ensuring that nets are given out to the intended beneficiaries.

7. Distribution activities

The nets distribution exercise will be done from fixed points located in the communities. A GHS staff (sub-district staff) and a community volunteer will be positioned at each of the distribution points. Beneficiaries arrive at distribution points and present their coupons to the GHS worker. The sub-district worker in charge of the site will collect the coupon, look at the serial number of the coupon and match it against the counterfoil/stud. The number of nets to be allocated will be listed on the counterfoils. The corresponding number of nets is given to the household member after all net packaging is torn open to deter resale of the nets. The person in charge of the distribution point marks a tick on the tally sheet: a tick in the circle

indicates a net distributed. Nets not claimed by beneficiaries (beneficiary no-show) during the distribution period are sent back to the sub-districts.

8. Data management

At the end of each day, the total number of nets given out is recorded on the tally sheet. Total number of nets distributed should match the number of circles ticked on the tally sheet. At the end of the distribution period, the counterfoils with nets distributed will be returned to the district level, where Episcopal Relief & Development/ADDRO Regional Managers will collect them. These will be sent to the data entry centres in the regions and data entry clerks will be trained to enter the data. The project M&E team will run a Frequency analysis to identify any outliers, inconsistencies, or errors, and then cross check the data. Missing cases will be identified and follow up will be made on such cases to ensure there are no omissions.

9. Contingency planning

The NMCP, GHS and partners will work together to develop a contingency plan. It may be useful to have a security/emergency plan in place for GHS staff and their supervisors at the distribution points. Other contingencies to plan for are beneficiaries requesting nets without their coupons. There will be a strict, "no coupon, no net" policy to mitigate misappropriation of nets. Details can be taken from those HH representatives for later follow up.

5. Post-Distribution

The post-distribution phase is the final phase of the campaign. The duration of the post campaign phase is 30 months. The phase involves the monitoring of nets and HH messaging to promote net culture, with surveys conducted every six months for 2.5 years.

Community volunteers will be identified and trained to visit each household once a month for the 30 months to monitor the use and condition of the LLINs, reinforce educational messages about malaria and encourage families to sleep under an LLIN every night. Post-distribution Check-Ups (PDCUs) will be carried out every six months for 2.5 years with five PDCU to be conducted in total. With the PDCUs, all households will be visited by trained volunteers who will collect household data. A different set of volunteers from the ones who will collect data on all households will be trained to visit unannounced, 5% of households in each community and collect data.

In addition to this, volunteers collect malaria case rate data from the health centers every month. This data helps to assess the impact of the nets and be alerted to trends that might suggest additional actions. The community volunteers also will provide messaging on ICCM, specifically on malaria, diarrhea, and pneumonia.

1. Volunteer/Staff Selection and Training

Selection of Community Volunteers – These volunteers will be identified during the household registration exercise. The volunteers will either be a Community-Based Agent (CBA) or a Malaria Control Agent (MCA). CBAs are Ghana Health Volunteers working on the iCCM Program, while malaria control agents are community members unaffiliated with the health system. One volunteer will be selected for each community. They will be trained to conduct monthly follow up visits to each of the households in their community to monitor the use and condition of the LLINs, reinforce educational messages about malaria and other health topics (diarrhea and pneumonia), and encourage families to sleep under an LLIN every night. In addition, the volunteers will collect malaria case rate data from the health centres every month and record key information in their HH journals.

Selection and training of data collectors – There are two sets of volunteers who collect data—data collectors and data enumerators. Data collectors gather data from 100% of households every six months during the post-distribution surveys (PDCUs). The data enumerators will conduct the 5% HH visits every six months.

Selection and training of data entry clerks – Data entry clerks will be identified and trained to enter data on the post-distribution surveys. The data from these surveys will be transported to the data entry centers in each of the three regions where trained data entry clerks will enter the data. Data supervisors in each region supervise data entry clerks.

2. Data Management – After data entry, the post-distribution data will be cleaned by the data supervisors in each of the regions. The ADDRO M&E Officer will check and conduct further cleaning where necessary and then analyse the data.

3. Indicators – The indicators below will be collected and tracked under this program.

• Number of LLINs distributed to target population

Condition of nets

- Number of nets found in very good condition
- Number of nets found that are worn out
- Number of nets found already hung
- Number of nets found not hung

LLIN usage

- Proportion of children under five years who slept under LLIN the previous night
- Proportion of children 6 to 18 years who slept under LLIN the previous night
- Proportion of Pregnant women who slept under LLIN the previous night
- Proportion of other adults who slept under LLIN the previous night

Education/sensitization at HH level

- Number of people reached with malaria messages*
- Number of people reached with ICCM messages/information sessions*
- Number of volunteers trained*

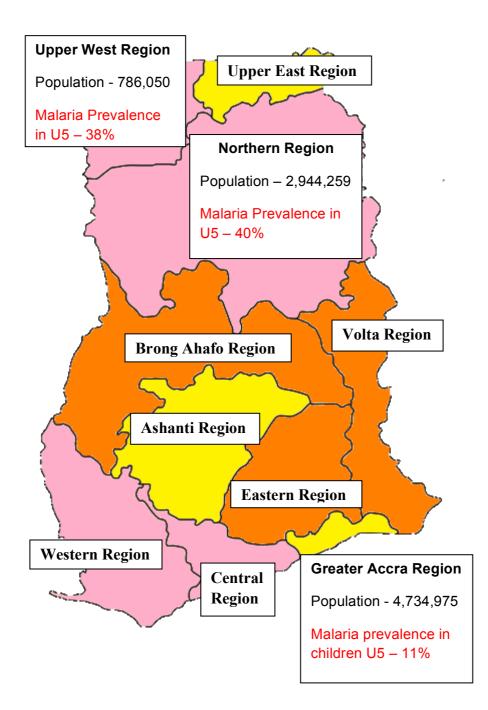
LLIN repair and replacement

- Proportion of HH who report repairing LLIN within the last 3 years*
- Proportion of HH who report replacing LLIN within the last 3 years*

*Not required by AMF, however, we can consider tracking these

6. Appendices

Appendix 1. Map of Ghana with Population and Malaria Prevalence for Project Regions



Appendix 2. Population data (summary, plus separate attachment for detailed population)

POPULATION DATA AND ESTIMATED NUMBER OF LLINS						
REGION	NUMBER OF DISTRICTS	TOTAL POPULATION (2016)	ESTIMATED NUMBER OF NETS			
Northern	20	1,966,710	1,092,616			
Greater Accra	12	2,083,496	1,157,498			
Upper West	11	786,050	436,694			
TOTAL	43	4,836,256	2,686,808			

Appendix 3. Budget (summary, plus separate attachment)

SECTION TOTALS			Cost per LLIN	AMF Cost Share	ERD Cost Share
1. SHIPPING	0	0	0.000	0.000	0.000
2. PRE-DISTRIBUTION PHASE	511,331	145,837	0.055	142,303	3,457
3. DISTRIBUTION PHASE	184,478	52,708	0.021	52,708	0
4. POST-DISTRIBUTION PHASE (PDCU AMF METHODS)	4,000,787	1,143,082	0.425	1,037,228	105,854
5. COMMUNITY SENSITIZATION- NET CULTURE (ERD METHODS)	2,081,911	594,832	0.221	2,057	592,775
LLIN ACTIVITIES SUB TOTAL	6,778,507	1,936,459	0.721	1,234,296	702,086
6. PERSONNEL AND SUPERVISION COSTS	3,170,656	905,902	0.337	747,585	143,107
7. EQUIPMENT AND OPERATIONAL COSTS	1,641,160	468,903	0.174	332,759	136,144
8. INDIRECT COST RECOVERY @ 10%	1,159,032	331,126	0.123	231,464	98,134
AMF/ ERD/ ADDRO PARTNERSHIP 2016-2018 ACT		3,642,390	1.36	2,546,104	1,079,471

Summary budget showing main category totals.

Appendix 4—Detailed Timeline (see separate attachment)

Timeline of pilot (pre-distribution and distribution phases) and main distribution (predistribution and distribution phases) showing timeline for main blocks of work. Detailed task listing and timing in a separate attachment.

