

**Episcopal Relief & Development/ ADDROPDCU REPORT to AMF**

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**Project Title/Name:** Universal LLIN Distribution Campaign in Greater Accra, Northern and Upper West Regions, Ghana



**Episcopal  
Relief & Development**  
Healing a hurting world



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## **1.0 Introduction**

The Anglican Diocesan Development and Relief Organization (ADDRO) in collaboration with Episcopal Relief & Development and with support from the Against Malaria Foundation (AMF), partnered with Ghana's National Malaria Control Program (NMCP)/Ghana Health Service (GHS) and others for a universal Long Lasting Insecticidal Nets (LLINs) campaign in Greater Accra. As part of the LLINs campaign, ADDRO team is to conduct Post-Distribution Check-Ups (PDCU) every 6 months for a duration of 2.5 years. The purpose of the PDCU is to assess the level of continued net use and provide significant data and locally actionable information to the relevant GHS/NMCP leaders and other partners, to contribute to health intervention decisions and planning.

The first and the second PDCU exercises for Greater Accra Region were conducted in January, 2017 and July, 2017 respectively.

The third PDCU exercise for the Greater Accra Region was carried out from 1<sup>st</sup> December, 2017 to 20<sup>th</sup> February 2018, employing both the paper based data collection and electronic data collection. This PDCU report therefore consists of two major sections – the paper based exercise carried out in 11 out of the 12 AMF supported Districts and the electronic data collection (Mobile Pilot) which was done in the Shai Osudoku District only.

## **SECTION A: PAPER BASED DATA COLLECTION**

### **2.0 Planning for PDCU @ 18 Months**

In planning for the PDCU at 18 months, Greater Accra Regional team and ADDRO HQ had a review meeting on 30<sup>th</sup> August, 2017 via phone. The review meeting discussions were centred on recommendations made by the IDInsight team which could be factored into the PDCU at 18 months. The following were considered in the review discussion.

- (a) Ensure quality and competent enumerators and supervisors are recruited for the exercise.
- (b) Make efforts to acquire venues that are conducive for training.
- (c) Ensure that supervisors are trained for at least one hour before the joint enumerators and supervisors training. The training of supervisors to focus on their roles and responsibilities in the PDCU.

- (d) Facilitators to provide an in-depth training for enumerators/supervisors especially the new ones on the PDCU data collection
- (e) Ensure that the responsibilities of supervisors and enumerators are clearly spelled out to them during the training
- (f) Ensure that the 5% checks enumerators start data collection after the third day of the main data collection. Household lists and the PDCU forms for the 5% checks to be kept by the supervisors and only given to the 5% checks enumerators after the third day of the 5% main data collection.

All these recommendations were factored into the PDCU @ 18 months training and data collection.

There were also discussions via phone and exchange of emails between ADDRO HQ and the Regional staff to prepare for the PDCU before the Christmas and New Year holidays since the Greater Accra PDCU takes place immediately after the new year. The dates for the recruitments, training of enumerators and supervisors, data collection, supervision of data collection and retrieval of PDCU forms from enumerators/supervisors were agreed on during these discussions with the regional team. These discussions took place from 25<sup>th</sup> to 27<sup>th</sup> October, 2017.

### **3.0 The PDCU process**

The Greater Accra mass LLINs distribution was carried out between 5<sup>th</sup> and 12<sup>th</sup> July, 2016 and one-month grace period was given to registrants who could not redeem their nets within the one-week period to do so.

The third PDCU data collection was carried out from 15<sup>th</sup> to 22<sup>nd</sup> January, 2018 in 11 out of the 12 AMF supported districts. The processes involved in the third PDCU are highlighted in sections 4.0 to 12.0.

### **4.0 Consultative meetings with GHS**

Building on the consultative meetings held with Ghana Health Service during the first PDCU, ADDRO visited all the AMF supported districts and informed the District Directors of GHS and/ or the Malaria Focal Persons about the PDCU at 18 months. This activity was carried out from 4<sup>th</sup> to 8<sup>th</sup> December, 2017.

## **5.0 Development of data collection tools and sampling**

The PDCU form used in the first and second PDCU data collection was the same form used for the PDCU at 18 months' data collection in January, 2018. The form was the main data collection tool. It was developed by AMF with input from Episcopal Relief & Development and ADDRO. The form contains six key questions to be administered to each household. See Annex 1 for a sample form. AMF worked on the sampling of households for the 5% main and 5% checks and generated the household lists. An additional 50% household list was generated as “spare” to take care of household heads that might be absent (deceased, relocated, unwilling to answer, etc.) during the survey period. A total of 30,175 households were sampled for the 5% main and 1,661 for the 5% checks for the Greater Accra PDCU exercise.

## **6.0 Printing and distribution of data collection tools**

Printing of the PDCU data collection forms were solely done by ADDRO HQ and sent to the regional team. However, printing, sorting, and packaging of the household list according to sub-districts and communities were done by the ADDRO regional team before the training. Each pack or plastic folder contained one community household list and the PDCU data collection forms based on the number of households sampled in that community plus few extra forms to take care of spoilage. These plastic folders (containing PDCU forms and household list) were given out to enumerators through their supervisors after the training sessions.

## **7.0 Recruitment/Replacement of Sub-District Supervisors (SDS) and Enumerators**

ADDRO Greater Accra Regional office team decided to maintain supervisors and enumerators who performed well in the previous PDCU exercises in the Region. The reason for the preferred choice was that they had the experience and were expected to do very minimal or no mistakes as compared to totally new recruits. The old supervisors and enumerators who did not perform satisfactorily in the last PDCU were replaced. This recruitment process commenced from 1<sup>st</sup> December, 2017 and ended on 20<sup>th</sup> December, 2017.

The selection criteria for the recruitment of supervisors for replacement is below:

- Resident in the sub-district

- Minimum of Senior High School Certificate (SSCE), Diploma or Higher National Diploma (HND), etc., in any related field from any recognized institution
- Experience in supervising enumerators
- Should have good leadership skills
- Excellent written and verbal communication skills
- Ability to implement activities to meet deadlines
- Must be a team player
- Ability to motivate enumerators to carry out planned activities to achieve the desired results
- Age limit 20 years and above

The qualification for enumerators included the following:

- Minimum of Senior High School (SHS) Certificate, Diploma or Higher National Diploma (HND), etc., in any related field from any recognized institution
- Resident and able to speak the local language of the area
- Excellent written and verbal communication skills
- Age limit 18 years and above

The role of the enumerators was to collect data by administering PDCU questionnaires to the sampled households; and the role of the sub-district supervisors was to supervise and provide support to the enumerators during the PDCU data collection. Supervisors were expected to visit enumerators under their care at their various locations during the PDCU exercise. This was to enable them to observe the enumerators interview some household heads and help address issues where necessary. They were also expected to check completed data collection sheets/forms to ensure that they were correctly filled before endorsing and collecting them.

A total of 49 supervisors and 360 enumerators were recruited for the exercise. Of the 360 enumerators, 225 participated in previous PDCUs whilst 135 were new. Out of the 360 enumerators, 310 enumerators were recruited for the 5% main data collection and 50 enumerators were recruited for the 5% checks data collection. Also, out of the 49 Sub-District Supervisors recruited, 5 were new and 44 were old supervisors.

See table 1 for details on number of enumerators and supervisors recruited for PDCU at 18 months.

**Table 1: Number of Supervisors and Enumerators Recruited**

District	№ of Enumerators		№ of Sub-district Supervisors			
	Old Enumerators	New Enumerators	Enumerators (Total)	Old Supervisors	New Supervisors	Supervisors (Total)
Ada East	10	6	16	3	0	3
Ada West	12	3	15	3	0	3
Ashaiman	28	16	44	6	1	7
Ga Cent.	12	10	22	3	1	4
Ga East	21	8	29	4	0	4
Ga South	40	30	70	7	0	7
Ga West	31	23	54	2	1	3
Kpone Katamaso	23	08	31	4	0	4
Lade-Kotapon	15	11	26	3	0	3
La-Nkw.-Madina	15	13	28	4	1	5
Ningo Prampram	18	7	25	5	1	6
<b>Total</b>	<b>225</b>	<b>135</b>	<b>360</b>	<b>44</b>	<b>5</b>	<b>49</b>

**Source:** PDCU Supervisor and Enumerators Recruitment Report - Dec, 2017

## 8.0 PDCU Trainings

The PDCU trainings were organized at three levels; first, a refresher training for ADDRO regional staff, an hour training for supervisors and then a combined training for enumerators and supervisors. The trainings were designed to further enhance the knowledge of the old supervisors and enumerators and also equip the new supervisors and enumerators with knowledge and skills to carry out the post distribution check-up.

### 8.1 ADDRO Staff Training

The Greater Accra regional staff had a one-day training of trainers session as part of the preparations for PDCU at 18 months' activities. This training was held on 8<sup>th</sup> January, 2018 at the ADDRO Greater Accra regional office conference room. The strategy employed was the Greater Accra staff taking turns to demonstrate how they will train enumerators and supervisors using the AMF PDCU form. The training was facilitated by ADDRO Health Coordinator and M&E officer.

Hilary Abii Asiah of Episcopal Relief & Development was present to support the process. After the staff training, three teams were composed (two people in a team) to undertake the training in thirteen clusters in the region.

## **8.2 Training of Supervisors**

The supervisors were trained separately for a minimum of an hour on their specific roles and responsibilities before the enumerators training. The supervisors' trainings took place in each of the 13 clusters from 9<sup>th</sup> - 13<sup>th</sup> January, 2018. The training was basically aimed at equipping the supervisors to be able to supervise their enumerators in their assigned sub-districts. They were trained on their specific roles and responsibilities in the entire PDCU exercise including the following:

- Map out strategies with their enumerators on daily basis to collect the data
- Supervise and provide assistance to the enumerators during the data collection
- Fill at least one checklist for each enumerator while he/she is in the field.
- Collect, review and certify forms submitted by enumerators before handing over to ADDRO staff.
- Assist enumerators in addressing challenges related to the exercise or report to the ADDRO regional team for support if the need arises.

## **8.3 Training of Supervisors and Enumerators**

After an hour training for the supervisors, they were joined by the enumerators for the paper based training. The trainings were carried out in 13 clusters to cover all the 11 Districts from 9<sup>th</sup> to 13<sup>th</sup> January, 2018. The trainings were aimed at building the capacity of enumerators and supervisors for the achievement of the following objectives:

- Understand the purpose and strategy for PDCU at 18 months data collection
- Understand the terms or terminologies on the PDCU data collection form
- Effectively use the PDCU data collection form to collect data on LLIN condition and usage

The trainings were focused on the PDCU form since that was the main tool for the data collection. The strategies used during the supervisors and enumerators training included:

1. A brief overview of the AMF program, partners and strategy of PDCU data collection
2. Roles and responsibilities of supervisors and enumerators.
3. Definition of key terms/terminologies in the PDCU data collection forms (e.g. AMF, Household ID, First name, Last name, Brand of Net, Very Good, Ok, Poor, etc.)
4. Translating all questions in the PDCU form into some local languages of the area (Ga, Twi, Ewe and Hausa) to increase understanding.
5. Sharing of experiences on the last PDCU by enumerators.
6. Practise filling the data collection form by participants.
7. Filling of PDCU forms by Enumerators/SDS individually using given scenarios and assesment of filled forms by ADDRO staff to identify weak participants or those who require more training.

All these strategies were adopted to enhance understanding of the participants. The supervisors were taken through the supervisors' checklist (see Annex 2).

A total of 400 participants (302 main enumerators, 49 checks and 49 supervisors) were trained instead of the 409 (310 main enumerators, 50 checks and 49 supervisors) who were recruited. A total of nine (9) enumerators in all, did not turn up for the trainings. Reasons for their absence were not known. The households that would have been visited by the 9 enumerators were given to enumerators assigned to the same communities or those assigned to nearby communities. In the case of the 5% checks person who did not turn up for the training, the households were given to another 5% checks person in the same sub-district to undertake the checks. In all the trainings, ADDRO regional team paired with either one person from the ADDRO HQ team or the Episcopal Relief & Development staff.

Table 2 shows details of Enumerators and Supervisors recruited and trained in each district.

**Table 2: Number of Enumerators and Supervisors recruited and trained in each district**

District	# of Enumerators Recruited	# of Enumerators trained			# of Supervisors Recruited	# of Supervisors trained			Total # of Enumerators and Supervisors Trained
	Total Enumerators	Old	New	Total trained	Total Supervisors	Old	New	Total	Grand Total
Ada East	16	10	6	16	3	3	0	3	19
Ada West	15	12	0	12	3	3	0	3	15
Ashaiman	44	28	16	44	7	6	1	7	51
Ga Cent.	22	12	10	22	4	3	1	4	26
Ga East	29	21	8	29	4	4	0	4	33
Ga South	70	40	30	70	7	7	0	7	77
Ga West	54	31	23	54	3	2	1	3	57
Kpone Katamaso	31	21	8	29	4	4	0	4	33
LaDade-Kotopon	26	14	11	25	3	3	0	3	28
La-Nkw.-Madina	28	14	13	27	5	4	1	5	32
Ningo Prampram	25	16	7	23	6	6	0	6	29
<b>Total</b>	<b>360</b>	<b>219</b>	<b>132</b>	<b>351</b>	<b>49</b>	<b>45</b>	<b>4</b>	<b>49</b>	<b>400</b>

Source PDCU Supervisors and Enumerators Trainings January, 2018

#### 8.4 Training Challenge(s) and Actions Taken

1. A few of the new enumerators had some difficulty in understanding question 2 which is a table for recording the number of nets hung and number of household members who slept in each net. To overcome this challenge, the facilitators trained all the enumerators as if they were all new but paying special attention to the new ones and also allowing the old enumerators to share their experiences. Also in conducting the role plays, the new

enumerators played the role of enumerators while the old enumerators played the role of household heads.

2. Some trainings did not start at 8:30am as planned but started at 10:00am because of the late arrival of enumerators. Training therefore extended to 5:00pm in order to cover all topics. Individual enumerators who came in late were given extra support to pick-up.
3. In 3 out of the 13 clusters, trainees could not be taken to nearby communities to practice filling of PDCU forms because of the late start of training. In those instances, more role plays were done to enhance enumerators' skills.

## **9.0 Data Collection**

The PDCU at 18 months data collection was carried out by the three hundred and fifty-one (351) trained enumerators from the 15<sup>th</sup> to 22<sup>nd</sup> January, 2018. The data collection involved enumerators using the sampled household list containing detailed information of the household head - their full names, community, household location, house number and phone number to enable them locate the sampled household heads to interview. The enumerators were directly supervised by forty-nine (49) sub-district supervisors daily to ensure effective data collection. On the average, each enumerator visited at least 140 households, which is about 20 households a day for seven days.

After data collection, enumerators educated and demonstrated to the household heads, the correct way to hang an LLIN if the household head did not know how to hang the nets correctly or where the nets observed were not hung correctly. In instances where the nets were available but not hung, the enumerators encouraged the beneficiaries to hang them.

The enumerators were directly supervised by the sub-district supervisors. Each supervisor visited all enumerators under his/her care at their various locations/sites. The supervisors directly observed enumerators while they conducted interviews with some household heads. This enabled them to observe mistakes/errors and correct them on the spot. They also checked filled PDCU forms to ensure that they were correctly filled. The enumerators were asked to revisit households and collect

the right information if the information collected were wrongly filled. After checking the forms, the supervisors endorsed and kept the forms for submission to the ADDRO team.

The sub-district supervisors and enumerators were also supervised by ADDRO regional and HQ staff. Additionally, the Episcopal Relief & Development staff monitored the PDCU data collection exercise. The teams visited all the 11 districts and met with some sub-district supervisors and enumerators.

### **9.1 Data Collection Challenges and Actions Taken**

1. The enumerators reported that some names of the household heads and phone numbers were wrong and hence could not get those household heads.

**Action Taken:** The enumerators replaced such household heads with the spare list in order to meet their targets.

2. Some households were reported to have relocated or moved permanently from the locations where they were registered before the LLINs distribution. Most of such people were tenants whose tenancy had expired and had to move out of the house or community.

**Action Taken:** The enumerators replaced such people with any other available household heads on the spare list.

### **10.0 Supervision of PDCU Data Collection**

The sub-district supervisors supervised enumerators in their respective sub-districts during the data collection period. During the training, the supervisors were each given supervisory forms to be used whenever they visited each enumerator. Supervisors visited all enumerators under their care during the data collection period. The supervisory visits by the supervisors was to ensure that the enumerators were collecting the data and recording correctly. They corrected any anomalies observed such as forgetting to write date on the form when taking information from a respondent and also indicating zero where applicable when completing the table on the data collection form, for instance, when no one slept under the LLINs the previous night. Whenever the sub-district supervisors faced any challenge on the field with their enumerators which they could not resolve, they called the Greater Accra Region staff via phone for assistance and or clarification.

The ADDRO HQ and regional team randomly sampled and visited 39 supervisors and 225 enumerators during the data collection period.

Table 3 below shows the number of supervisors and enumerators who were visited during the PDCU exercise.

**Table 3: Number of Supervisors and Enumerators Visited**

District	# of Sub-Districts	# of Sub-Districts Visited	# of Sub-District Supervisors	Supervisors Met	# of Enumerators	Enumerators Met
Ada East	3	3	3	3	19	12
Ada West	3	3	3	3	15	10
Ashaiman	7	7	7	7	51	35
Ga Central	4	4	4	4	26	22
Ga East	4	2	4	2	33	13
Ga South	7	3	7	3	77	29
Ga West	3	3	3	3	57	35
Kpone Katam.	4	3	4	3	33	16
La-Dade Kotopon	3	3	3	3	28	18
La-Nk.-Madina	5	5	5	5	32	20
Ningo Pram.	6	3	6	3	29	15
<b>Total</b>	<b>49</b>	<b>39</b>	<b>49</b>	<b>39</b>	<b>400</b>	<b>225</b>

Source: PDCU Supervision; January, 2018

### 10.1 Observations During Supervision by ADDRO Team

The following observations were made during the monitoring and supervision exercise:

- Some households were difficult to locate because of wrong addresses.
- In areas like Ashaiman and Ga West, the new enumerators were made to move with the old enumerators for the first few days to help them gain some first-hand experience and assistance.
- In the farming communities, most of the households were only available early in the mornings or late in the evenings. The enumerators had to schedule an appointment to meet with those household heads.
- Some household heads were very reluctant to allow the enumerators into their sleeping places to assess the condition of their nets; but willing to provide the enumerators whatever information they requested for about the nets. After taking time to explain to them the importance of

physically seeing and assessing the condition of the net, they allowed the enumerators to enter the rooms to assess the nets.

- Some household heads found it very difficult to recollect the specific number of LLINs they received with their coupons during the distribution. In some instances, they had to confirm with other household members.
- Some of the household heads requested for more nets. They complained that the nets given them were torn and needed replacement. Others mentioned that their children had taken them to boarding schools hence they needed some to use at home. Enumerators encouraged them to mend the nets they have for now and informed them of the upcoming LLIN distribution this year.
- People who received the magnet brand net complained about the texture which is nylon and produces heat. They said it was not very easy sleeping under the magnet net as compared to the permanet brand which is not nylon. They were encouraged to keep using the nets for protection against malaria bites till they benefit from another brand of nets hopefully in 2018.

## **10.2 Challenges and Actions taken during supervision**

The exercise revealed the following challenges:

1. The new enumerators especially complained of walking long distances to get to specific households. They were advised to map out the area before setting out. It was explained to them that they needed to re-group the households on the list into zones so that they cover each zone at a time to avoid moving back and forth in the community.
2. Some of the targeted household heads were unavailable by the time the enumerators got to the households. They were advised to visit the households again. In instances where all efforts to reach them proved futile, they were advised to use the spare list.

## **11.0 Collection of Completed PDCU Forms and Transportation to Data Centre**

### **11.1 Collection of completed PDCU forms**

The ADDRO Greater Accra regional team visited each sub-district and collected the PDCU forms from 22<sup>nd</sup> to 29<sup>th</sup> January, 2018. The ADDRO Regional team and the sub-district supervisors with their enumerators met at agreed locations for the forms to be collected. Each form was checked by

the ADDRO team for completeness and wages were paid to enumerators according to the number of successfully completed forms. All forms were filled out correctly except that certain portion of some of the form, like how many slept under net where zeros were to be filled, were left blank. Enumerators were asked to complete them by filling in zeros.

The Supervisors were paid a fixed allowance for supervising the enumerators.

## **11.2 Transportation of Completed PDCU forms to Data Centre**

A total of 30,010 completed PDCU at 18 months forms were transported to the data centre in Bolga on 2<sup>nd</sup> February, 2018 for data entry. This comprised 28,627 forms for 5% main and 1,383 forms for 5% checks. The completed data collection forms were packaged according to communities in the plastic folders (my clear bag). The plastic folders were packaged per sub-district in labelled brown envelopes. The brown envelopes were put into labelled small jute bag (each district had one jute bag).

## **12.0 PDCU Data Entry:**

AMF added PDCU at 18 months' data entry field to the Greater Accra Region PDCU data entry site. Data entry started on 8<sup>th</sup> February, 2018 and ended on 20<sup>th</sup> February, 2018. Thirty-two data entry clerks did the data entry. A total of 28,627 households PDCU forms for the 5% main and 1,383 PDCU forms for the 5% checks were entered by the clerks.

## **12.1 Results of PDCU**

Twenty-eight thousand, six hundred and twenty-seven (28,627) households' data were entered into the AMF database as against 30,175 target households; which represents 95%. The reason for the shortfall in the number of forms expected from the field is that some households could not be located either because they had relocated from the community or due to death of the HH heads. Despite the use of the spare household list, the target could not be met.

A total of 52,238 LLINs were reported as received by the 28,627 households visited during the PDCU at 18 months. Out of this total LLINs received, 43,630 (84%) were found hung over sleeping spaces; 3,325 (6%) were present in the households but not hung over sleeping spaces. 5% were not

present in the households (nets worn out hence not usable) and 5% not present in the households for other reasons than worn out. Some major reasons (other than nets worn out) respondents gave for nets received but not present in the households were: nets given to wards to take to school and nets given to other family members in different communities. See table 4 below for summary of nets received and their status (copied from the AMF database, 28<sup>th</sup> February, 2018).

**Table 4: LLINs received and their status**

AMF Nets													
Region	Households			Nets Received	Nets Hung		Present not hung		Missing		Worn out/not usable		Missing + Worn Out
	Target	# entered	%	#	#	%	#	%	#	%	#	%	%
	30,175	28,627	95	52,238	43,630	84	3,325	6	2,820	5	2,463	5	10

### Results of PDCU at 18 months Versus Results of PDCU at 6 months

The PDCU at 12 months data had duplicate data entry issues which are yet to be resolved by AMF and hence the analysis of the results of PDCU at 18 months was compared with only the PDCU at 6 months results. The following are the results of the analysis:

1. PDCU at 18 months has a higher percentage of households interviewed (95%) than PDCU at 6 months (69%).
2. Percentage of LLINs found hung is 84% which is the same as PDCU at 6 months.
3. Percentage of LLINs present in the households but not hung are lower during PDCU at 18 months than PDCU at 6 months. That is, 6% at PDCU at 18 months, 11% for PDCU at 6 months. This means that more LLINs were being hung than the previous PDCUs. The reasons for LLINs present but not hung include: have fewer sleeping spaces than LLINs, LLINs producing heat, and LLINs reserved for future use. The increase in the LLNs hung during PDCU at 18 months than that of 6 months could be due to ADDRO/Episcopal Relief & Development's Strategy of Monthly Household Sensitization and Quarterly Data Collection on Malaria Diarrhea and Pneumonia and the importance of LLIN usage.

4. The percentage of LLINs worn out were higher during PDCU at 18 months than PDCU at 6 months; 5% and 0% respectively. This implies that the LLINs gets worn out with time, hence at 18 months, more LLINs were worn out than at 6 months PDCU.

**Table 5:** Results of PDCU at 18 months vs. results of PDCU at 6 months

Region	PDCUs	
	PDCU@6 months	PDCU@18 months
PDCU		
Target HHs to be visited	30,875	30,175
Actual HHs visited/entered in to database	21,181	28,627
%	69	95
Nets received	38,332	52,238
Net hung	32,271	43,630
% of Net hung	84	84
Nets present but not hung	4,030	3,325
% of Nets present but not hung	11	6
Nets Missing	1,842	2,820
% of Nets Missing	5	5
Nets worn out/not usable	189	2,463
% of Nets worn out/not usable	0	5
% of Nets missing+ worn out/not usable	5	10

Note: PDCU at 12 months data had duplicate data entry problems which is yet to be rectified by AMF

### **IDInsight Team Recommendations Factored into the Paper Based PDCU.**

The following recommendations made by the IDInsight team were incorporated in the PDCU.

- Supervisors were trained for at least one hour before the joint enumerators and supervisors training. The training of supervisors focused on their roles and responsibilities in the PDCU.
- ADDRO regional team emphasized and ensured that the 5% checks enumerators started data collection after the third day of the main data collection. Household lists and the PDCU forms for the 5% checks were kept by the supervisors and only given to the 5% checks enumerators after the third day of the 5% main data collection
- In-depth training for both enumerators/supervisors (especially the new ones) were provided.

- Roles and responsibilities of both supervisors and enumerators were clearly spelled out to them during the trainings
- Venues that are conducive for facilitation and learning were acquired for the trainings
- Qualified and competent enumerators and supervisors were recruited for the exercise.

Incorporating IDInsight's recommendations into the PDCU training and data collection, improved supervision by supervisors and quality of data collected by enumerators, especially the new enumerators.

### **13.0 Malaria Case Data (Monthly uncomplicated malaria cases)**

These are monthly positive malaria cases collected from 12 AMF supported districts of the Greater Accra Region. Table 6 shows a summary of malaria case data from July, 2017 to December, 2017.

**Table 6: Malaria Case Data (Monthly uncomplicated malaria cases)**

Month / Year	Age group	Ada East	Ada West	Ashaiman	Ga Central	Ga East	Ga South	Ga West	Kpone Katamanso	La Dadekotopon	La Nkwantanang	Ningo Prampram	Shai Osukoku	Totals
July 2017	U5 years	119	119	853	153	338	419	375	271	99	114	368	345	3573
	PW	8	5	121	14	9	24	14	41	3	36	31	24	330
	5 to 70+	442	667	2989	708	1354	1145	1574	2397	621	727	1287	687	14598
		<b>569</b>	<b>791</b>	<b>3963</b>	<b>875</b>	<b>1701</b>	<b>1588</b>	<b>1963</b>	<b>2709</b>	<b>723</b>	<b>877</b>	<b>1686</b>	<b>1056</b>	<b>18501</b>
Aug 2017	U5 years	108	71	614	131	248	396	376	166	64	93	305	271	2843
	PW	10	4	232	26	11	44	22	7	0	20	27	21	424
	5 to 70+	298	345	2528	714	1108	1464	1446	785	274	629	1030	1006	11627
		<b>416</b>	<b>420</b>	<b>3374</b>	<b>871</b>	<b>1367</b>	<b>1904</b>	<b>1844</b>	<b>958</b>	<b>338</b>	<b>742</b>	<b>1362</b>	<b>1298</b>	<b>14894</b>
Sept 2017	U5 years	81	91	333	148	85	613	308	176	17	204	281	213	2550
	PW	3	5	38	15	6	31	11	16	0	15	17	25	182
	5 to 70+	176	270	1138	668	591	2322	1195	716	192	803	768	967	9806
		<b>260</b>	<b>366</b>	<b>1509</b>	<b>831</b>	<b>682</b>	<b>2966</b>	<b>1514</b>	<b>908</b>	<b>209</b>	<b>1022</b>	<b>1066</b>	<b>1205</b>	<b>12538</b>
Oct 2017	U5 years	64	74	509	92	132	345	242	131	21	67	277	172	2126
	PW	2	2	2	12	11	32	25	15	0	12	19	11	143
	5 to 70+	143	183	1748	321	593	887	897	496	168	313	640	584	6973
		<b>209</b>	<b>259</b>	<b>2259</b>	<b>425</b>	<b>736</b>	<b>1264</b>	<b>1164</b>	<b>642</b>	<b>189</b>	<b>392</b>	<b>936</b>	<b>767</b>	<b>9242</b>
Nov 2017	U5 years	159	53	1026	271	329	311	383	650	22	84	287	166	3741
	PW	21	1	72	11	12	31	33	101	2	0	19	11	314
	5 to 70+	392	242	3210	938	616	840	1309	2548	251	581	654	653	12234
		<b>572</b>	<b>296</b>	<b>4308</b>	<b>1220</b>	<b>957</b>	<b>1182</b>	<b>1725</b>	<b>3299</b>	<b>275</b>	<b>665</b>	<b>960</b>	<b>830</b>	<b>16289</b>
Dec 2017	U5 years	134	64	954	80	397	345	375	803	30	120	324	166	3792
	PW	9	6	100	7	5	38	34	45	5	4	29	21	303
	5 to 70+	364	263	3282	461	893	1088	1319	2114	227	148	784	662	11605
		<b>507</b>	<b>333</b>	<b>4336</b>	<b>548</b>	<b>1295</b>	<b>1471</b>	<b>1728</b>	<b>2962</b>	<b>262</b>	<b>272</b>	<b>1137</b>	<b>849</b>	<b>15700</b>
<b>Total</b>		<b>2533</b>	<b>2465</b>	<b>19749</b>	<b>4770</b>	<b>6738</b>	<b>10375</b>	<b>9938</b>	<b>11478</b>	<b>1996</b>	<b>3970</b>	<b>7147</b>	<b>6005</b>	<b>87164</b>

**Table : 7 Summary of Malaria Cases (Monthly uncomplicated malaria cases)**

Month / Year	Ada East	Ada West	Ashaiman	Ga Central	Ga East	Ga South	Ga West	Kpone Katamanso	La Dadekotopon	La Nkwantanang	Ningo Prampram	Shai Osukoku	Totals
Jul 2017	569	791	3,963	875	1,701	1,588	1,963	2,709	723	877	1,686	1,056	18,501
Aug 2017	416	420	3,374	871	1,367	1,904	1,844	958	338	742	1,362	1,298	14,894
Sep 2017	260	366	1,509	831	682	2,966	1,514	908	209	1,022	1,066	1,205	12,538
Oct 2017	209	259	2,259	425	736	1,264	1,164	642	189	392	936	767	9,242
Nov 2017	572	296	4,308	1,220	957	1,182	1,725	3,299	275	665	960	830	16,289
Dec 2017	507	333	4,336	548	1,295	1,471	1,728	2,962	262	272	1,137	849	15,700
<b>Total</b>	<b>2,533</b>	<b>2,465</b>	<b>19,749</b>	<b>4,770</b>	<b>6,738</b>	<b>10,375</b>	<b>9,938</b>	<b>11,478</b>	<b>1,996</b>	<b>3,970</b>	<b>7,147</b>	<b>6,005</b>	<b>87,164</b>

### **13.1 Analysis of monthly malaria cases – Greater Accra Region – July 2017 to December 2017**

In analysing the malaria cases data in the 12 AMF supported districts in the table above, the general trend shows a decline from July to December, 2017 across the districts and age categories. From table 7 above, there is a general decline in the malaria cases from July to December, 2017. In July, there was a total of 18,501 malaria cases; this dropped to 14,896 in August, 12,538 in September and 9,242 in October. Conversely, there was a rise in November (16,289); the reason for this is not known. The cases further dropped to 15,700 in December, 2017.

With respect to children under five years, the trend is similar, malaria cases dropped from 3,573 in July to 2,843 in August. This further dropped to 2,550 in September and 2,125 in October. However, there was an increase to 3,741 cases in November and a slight further increase to 3,792 in December. The reason for the increase in malaria cases in November and December is not known. Malaria cases among pregnant women in the 12 districts showed an interesting trend. This is because the cases increased from 330 in July to 424 in August, however, from August through to October, there was a reduction in the malaria cases. The reduction was from 424 in August to 182 in September and 143 in October. Malaria cases however increased in November and December (314 and 303 respectively). The reason for this undulating trend of malaria cases is not known.

The region experiences two rainy seasons – the major and minor seasons. The major season spans from April to July and the minor season from August to October. Overall, malaria cases for the 12 AMF districts were higher in July (18,501) and November (16,289) compared to the cases reported in August, September and October which were; 14,894; 12,538 and 9,242 respectively. Though the months of November and December are in the dry season, the clinical confirmed cases of malaria were still higher. Reasons accounting for this trend is not known. From the table, Ashaiman, Kpone Katamanso and Ga South recorded the highest cases of 19,749; 11,478 and 10,375 respectively. On the other hand, La Dade Kotopon, Ada West and Ada East recorded the least cases; 1,996; 2,465 and 2,533 respectively.

## **SECTION B: MOBILE DATA COLLECTION**

### **1.0 Introduction**

In the Post LLINs distribution check-up plan, as indicated in the programme planning document, a mobile technology is to be used for data collection in Shai Osudoku District of the Greater Accra Region for the 2.5 years. This electronic data collection was successfully carried out in PDCU at 6 and 12 months. With PDCU at 18 months, the same mobile technology was employed. A mobile data collection system was set up and implemented in sampled communities from the two sub-districts of the Shai Osudoku District. Similar to the paper based PDCU process, 5% of households who benefitted from the LLINs distribution were sampled (main data). Trained enumerators collected data from the selected households on LLIN availability, condition and use amongst others using Samsung tablets set up with Open Data Kit (ODK) data collection software. A second set of data collectors were also trained to collect data from 5% of households visited by the first set of data enumerators, also using Samsung tablets.

### **2.0 Planning for the mobile PDCU at 18 months**

The planning for the mobile data collection involved the engagement of a consultant. In the first PDCU, Episcopal Relief & Development and ADDRO developed Terms of Reference (TOR) for the mobile pilot. This was advertised on Episcopal Relief & Development's website and in the Ghanaian newspapers (Daily Graphic). Short listed consultants were invited for interview and DS Dayta Solutions was selected to support ADDRO/Episcopal Relief & Development in the development of the mobile technology. With PDCU at 12 months, Episcopal Relief & Development and ADDRO agreed and re-engaged DS Dayta Solutions because they had met all the deliverables for the PDCU at 6 months and has the experience in conducting the activity.

In planning for PDCU at 18 months, Episcopal Relief & Development and ADDRO agreed that DS Dayta Solutions should be given another opportunity to support in the PDCU at 18 months' mobile technology activities with ADDRO taking up the training of enumerators since they have gained knowledge and skills in the PDCUs at 6 and 12 months. Thus, Episcopal Relief & Development developed a Terms of Reference (TOR) for the PDCU at 18 months and shared with DS Dayta

Solutions. They submitted a proposal and were awarded the contract for the third mobile pilot (PDCU at 18 months) data collection in the Shai Osudoku District.

### **3.0 Mobile PDCU at 18 months' Process**

DS Dayta solutions set up an Electronic Data Capture (EDC) system using the Open Data Kit (ODK) software which allows the use of android enabled devices to collect and transmit data electronically to a data server.

In developing and setting up the mobile data collection system, Episcopal Relief & Development took the consultant through the changes or addition to be made to the PDCU form (changes proposed by the IDInsight team during their visit) to enable them understand the issues before configuring the form on the device. In the course of configuring the PDCU form into the ODK, ADDRO and Episcopal Relief & Development teams worked closely with the consultant to clarify questions they had on the form including; format of the HH ID, nets received in the recent universal coverage campaign, nets distributed prior to the distribution period (July to August, 2016), etc.

After installing the PDCU form in the ODK interface, the consultant together with ADDRO and Episcopal Relief & Development reviewed it to ensure it captured the correct details of the PDCU form. The final ODK interface with the PDCU form was finalized and pretested on the field ahead of the enumerators' training.

### **3.1 Procurement of Samsung Mobile Devices**

The tablets that were procured and used for the first and second PDCU data collections were the same tablets used for the PDCU at 18 months.

### **3.2 Recruitment of Enumerators for Mobile Data Collection**

ADDRO recruited 26 enumerators for the mobile data collection exercise. The recruitment exercise took place from 1<sup>st</sup> November to 20<sup>th</sup> December, 2017. The criteria for recruitment of enumerators included:

1. Should not be staff of Ghana Health Services

2. Have completed Senior High School education
3. Resident in the communities where the data will be collected
4. Must be conversant with using the Android OS
5. Should be at least 18 years

### **Recruitment challenges and Actions Taken**

Absence of qualified persons in some remote and hard to reach communities: some enumerators had to be reassigned to those areas since there was no resident community member that met the selection criteria for the data collection exercise.

## **4.0 Training of Staff and Enumerators on Mobile Data Collection**

### **4.1 Staff Training**

A one-day refresher training session was organized on 11<sup>th</sup> January, 2018 at the Episcopal Relief & Development Regional office, Accra to refresh the ADDRO staff on how to use the mobile devices for data collection. Two staff from ADDRO HQ, three from ADDRO Greater Accra Regional office and one staff from Episcopal Relief & Development participated in the training. The training was facilitated by DS Dayta Solutions. The following topics were covered during the training:

1. Explanation of the mobile database
2. How to use the data collection software to collect data
3. How to upload the blank PDCU data form on the mobile device (tablet)
4. How to upload completed data form in the mobile device onto the google cloud server
5. How to troubleshoot the data collection devices when any problem occurs

At the training, some scenarios were used to test the understanding of the ADDRO team on the data collection exercise with the mobile device.

### **4.2 Training of Enumerators on Mobile Data Collection**

All the 26 enumerators recruited were trained for the exercise. Twenty three (23) of the enumerators were trained to collect data from 1,158 households for the 5% main. Three (3) enumerators were trained to collect data from 63 households for the 5% checks. Out of the 26 recruited and trained, 16

were old enumerators and 10 were new enumerators. The training took place on 15<sup>th</sup> January, 2018 at the Shai Osudoku Health Directorate.

The training was facilitated by ADDRO M&E Officer and supported by the regional staff. The DS Dayta Solution team provided technical backstopping during the training. The enumerators were taken through the paper based data collection tool in order to help them appreciate the software version of the tool. The enumerators were each handed a tablet for a hands-on experience.

They were then taken through a step-by-step procedure on the data collection process. Scenarios were used to practice filling the forms on the mobile device and this was inspected by the ADDRO team to ensure participants understood what they were trained on. Old enumerators also shared experiences on some challenges they faced. These included: lack of common dialect between enumerators and household heads, wrong addresses, high transportation cost, refusal of some household heads to respond because they did not benefit from the distribution, wrong spellings of respondents names among others and how they could overcome the challenges. On how the enumerators who shared these experiences and challenges surmounted the challenges, they indicated that they had to get volunteers from the community to help them in translation where there were language barriers. Also on the issue of wrong addresses, households they couldn't find and household heads who refused to respond after several attempts to get them to respond, enumerators indicated that they replaced those households with other households on the spare list. Another issue of concern was the GPS coordinates not registering under roofs. Enumerators were advised to get a clear sky view for the device by moving out of the roofs. GPS registering coordinates between 1-12m was recommended and considered acceptable.

### **4.3 Observations and Challenges During Training of Enumerators**

#### **4.3.1 Observations**

Understanding the use of the data collection software and the devices was relatively easy because all the participants were familiar with the use of android/smart phones.

### **4.3.2 Challenges and Action taken**

Some new enumerators had a little difficulty in understanding question 2 which has to do with recording the number of nets hung and number of household members who slept in each net. The adoption of scenarios and role plays facilitated their understanding of the form very fast.

### **5.0 Data Collection and Supervision**

The data collection with the mobile devices was carried out from 16<sup>th</sup> to 24<sup>th</sup> January, 2018. ADDRO monitoring team handed over the checklist to checks enumerators after the third day. Staff of Episcopal Relief & Development and ADDRO monitored the mobile data collection. They visited all the AMF generated sampled communities in the Osuduku and Dodowa sub-districts. Before the commencement of the data collection, enumerators were assigned to communities with some number of households to visit. Because most of the respondents were either traders or farmers who were usually available in the mornings and evenings, the enumerators were allowed to keep the mobile devices during the period of the exercise. This was to enable the enumerators get the target respondents before they left for work in the morning or when they return from work in the evening. Besides, the difficulty of trying to go to each enumerator to hand over a tablet to him or her before they could start work in the morning was avoided. This enabled them to administer the questionnaire at the convenience of the respondents.

An average of 47 households were expected to be administered by each enumerator. The enumerators were cautioned to keep the mobile devices safe. The enumerators returned them to the ADDRO monitoring team daily in their assigned communities for data to be uploaded onto the server.

The process of data collection involved inputting the correct HH ID into the device with the system automatically providing all other details including the district, sub-district, community, name of HH head, his/her phone number, etc. This information was confirmed or edited by the enumerators on their devices. The questions similar to the ones on the manual forms were displayed for the enumerators to fill in the details. The software did not accept inconsistent inputs; for example, mismatches between number of household members and the number of people who slept under the

LLIN the previous night. ODK collect software did not require Wi-Fi or network connection to input the data. It relied on GPS to mark location of all households visited. Internet connectivity is however required only for uploading the data onto the server.

Procedure for entering the households involved observing the cultural protocol. That is, the enumerators knocked at the door/gate at the entrance of the household before they entered on permission. Pleasantries were exchanged and then the purpose of the visit explained to the household head. The enumerator sought the consent of each household head before the data was collected. In situations where enumerators did not get consent from a particular household after all efforts made, they resorted to interviewing a household head on the spare household list.

At the end of the data collection exercise, a total of 1,176 households were successfully visited and data collected by all the 26 enumerators which exceeds the target of 1,158 households. The reason for the over 100% achievement is that one enumerator interviewed 18 households (from the spare household list) more than he should have, although guidelines on the use of the spare list were absolutely made clear to enumerators during the training. The enumerator was not paid for the additional household heads interviewed.

## 5.1 Results of Mobile Data Collection

AMF Nets														
Region/ District	# of Households			Nets Received	Nets Hung			Present not hung		Missing		Worn out/not usable		Missing + Worn Out
	Target	Actual	%	#	#	%	#	%	#	%	#	%	%	
<b>GAR/ Shai Osudoku</b>	1,158	1,176	102 *	2,566	2,108	82.0	221	8.6	73	2.8	164	6.4	15.0	

*\*One enumerator interviewed 18 more households from the spare list*

## 6.0 Best Practices

- Anytime the supervisors (ADDRO Greater Accra Regional Team) visited the enumerators, the information on their devices was uploaded to the server to avoid loss of information or any unfortunate occurrence to the data collected.
- The enumerators were made to sign an agreement form and were allowed to keep the data collection devices (Samsung tablets and their chargers) with them during the data collection period. All the enumerators/supervisors kept the tablets and returned all in good condition to ADDRO after the exercise. This was to allow the enumerators to be able to administer the questionnaire to respondents who were only available early in the morning or late in the evening.

### Observation/findings on data entry on the electronic data collection system

- The system should be designed not to allow entries more than the required target of household visits in each community. This will help avoid enumerators doing more than they are asked to do.
- The server should be modified to flag duplicate entries from a single or more devices/enumerators.

**Action:** These findings will be effected in the next mobile PDCU

## 7.0 Challenges Encountered during Mobile Data Collection and Action taken

- Some Respondents disallowed Enumerators to their Bedrooms: Some household heads were reluctant to allow enumerators assess nets conditions in their rooms.

**Action:** Enumerators were advised to request to see the nets while they were at the entrance of the rooms in order to assess the condition of the net.

- Limited Access to Internet Services: This makes it difficult to upload the data from tablets in those areas. Due to mobile phone network coverage problems, it was difficult reaching some enumerators on phone while they are on field. The areas with network issues include:

Tsumkpo, Agbekotsekpo, Naglayosisi, Dedenya, Osuwem, Kongo, Volivo, Agortor, Huapa and Huapase.

**Action:** For the enumerators who worked in these communities where there are network problems, ADDRO team pre-arranged with them on time and venue to meet them for monitoring and uploading of data. Tablets were taken to the nearest network area for the data upload.

- Some hard-to-reach farming communities had no enumerators because resident members did not meet the selection criteria for the data collection exercise

**Action:** Some enumerators had to be reassigned to those hard to reach farming communities. This was quite challenging to such enumerators because they had to transport themselves to the field and back each day. These enumerators were given money for transportation.

**8.0 Lessons from PDCU at 12 months Incorporated into PDCU at 18 months Mobile Pilot**

Enumerators were informed during the training sessions to arrange for more convenient times to meet the Household heads for interviews if they were not available at the time of visits. More scenarios were used during the training session to ensure the enumerators and their supervisors properly understood how to correctly fill the data collection form. More attention was given to each new enumerator/supervisor to discuss where they went wrong during the practice session on completing forms using scenarios.

**9.0 Recommendations on Mobile Device**

As observed and shared in the previous two PDCU reports, we are convinced that using mobile device technology to collect the PDCU data produces more quality data than the paper based method. It is therefore recommended that the electronic data system should be extended to cover more of the AMF supported districts in the region. See table 8 below for the advantages of mobile data collection over paper based.

**Table 8: Advantages of the Mobile Data Collection Over the Paper Based Data Collection**

	ELECTRONIC (MOBILE PILOT)	PAPER BASED
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	<b>ELECTRONIC (MOBILE PILOT)</b>	<b>PAPER BASED</b>
<b>ACCURACY OF DATA</b>	The software does not allow for inconsistent data to be entered. e.g. The # of HH members cannot be less than # of people who slept in LLINs the previous night	Inconsistent data can be entered on the form.
<b>MONITORING</b>	Geographical location of the enumerator can be determined. By the use of the GPS, supervisors can tell whether the enumerator actually went to the respondents' HH or sat at one spot to fill the forms	It is difficult to tell if the enumerator actually went to the respondent's HH.
<b>DUPLICATION OF DATA</b>	The system could tell the enumerator whether or not a particular HH's information had been collected. It did not allow for duplication of data collection	Enumerators could easily duplicate the data collected with the aim of making more money which could go unnoticed
<b>INCOMPLETE DATA</b>	The system prompted the enumerator to complete filling the form for any respondent. It would not accept any incomplete data into the database.	Enumerators could leave some spaces blank on the paper.
<b>PICTURE / VISUALS</b>	The device allows one to take pictures or even record respondents when necessary.	The paper system does not permit any of these.
<b>PORTABILITY</b>	The device is not only portable but also more convenient when using it.	Enumerators have to carry sheets of questionnaires, files, pens, pencils, erasers, etc.
<b>CONVENIENCE</b>	The mobile device is convenient and easy to handle or carry around. The device can withstand little rain or wind. It can also be used at night when there is no light since it produces its own light	The paper is cumbersome to be carried around unlike the tablets. It becomes wet when it comes into contact with little water. When there is no light in the evening, one cannot collect information with the paper
<b>COST OF DATA COLLECTION</b>	There is no need for the services of another person to be engaged as a supervisor. The ADDRO Greater Accra staff did all the supervision and monitoring at the same time. Data collected on the devices was easily uploaded unto the database without transporting the devices to the data centre for data entry clerks to handle them.	There was the need for a paid supervisor who checked the sheets to ensure the data was properly recorded. Extra resources are needed to transport the forms to the data centre and another cost of paying data entry clerks to enter data.
<b>REAL TIME INFORMATION</b>	One is able to tell the amount of data collected by each enumerator on daily basis	With the paper, one has to count the forms manually to be able to tell; thus consuming time.
<b>DURATION</b>	Because some of the data fields have already been prepopulated in the system, the enumerators do not have to collect that information again, they just have to confirm and move on	All the needed data fields have to be filled by the enumerator which consumes more time as compared to the mobile pilot

## 10.0 IDInsight Team Recommendations Factored into the electronic data collection

1. The edit field was made a drop down menu. This enabled the enumerator to choose what is needed to be edited rather than going directly to the required field for the editing.

2. Question 6 which asks for the number of people in a household which previously accepted zero value was changed and restricted not to accept a zero.
3. On question 3b in the tablet, a suggestion was made to cause that field to be auto-populated.
4. The number of people who slept in the net the previous night was limited to seven (7)
5. Key abbreviations of the Mobile PDCU form (soft copy) were written in full E.g. HH=Household.

## **11.0 CONCLUSION**

The PDCU at 18 months built on experiences and lessons of PDCU at 12 and 6 months as well as the recommendations of IDinsight team on the training and data collection. This contributed to improving the PDCU exercise. The number of PDCU forms that were correctly filled and entered into the AMF database increased to 95% from 82% in PDCU at 6 months.

# 12.0 ANNEXES

## Annex 1: PDCU Form



### POST-DISTRIBUTION CHECK-UP OF MOSQUITO NET USAGE

Country/Region: GHANA/NORTHERN	District name:
Date of distribution: APR - MAY 2016	Sub-District name:
Date of this survey:	Community name:

Form Number:

PLEASE WRITE IN CAPITALS

To the Household Head In the past, you received mosquito nets for free as a community distribution. We are conducting a survey of random (pre-identified) households to assess net usage and condition. We would like to ask you to assess and enter your home to gather this information.

I agree to allow you to enter my home, in my presence, to assess the use and condition of my mosquito nets. Signature of Household Head

Name of the Household Head First name:  Last name:   
 Census Number:

1. How many regularly used sleeping spaces are there in the household?

2. Please complete the following table for all nets found hanging in the household. (If there are no nets found hanging, skip to question 3)

Sample	Brand of net (circle one)			Net distributed in recent mass distribution?	Net condition (circle one)			How many steps under the net last night?				Net condition Very Good Have more than 2 holes of less than 2cm each
	Okus	Perma-Net	Other		Very Good	OK	Poor	= 0 holes or less than 1 hole	= 1-2 holes	= 3-4 holes	= 5 or more holes	
Net 1	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK
Net 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK
Net 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Poor
Net 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	More than 10 small holes or 1 big hole, bigger than 10cm
Net 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If there are more than 10 lines continue on another form and mark both forms.
Net 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Net 7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Net 8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Net 9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Net 10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Of the nets received in the recent universal coverage campaign ONLY:

Number originally received	Hung sum of <input checked="" type="checkbox"/> noted above	Present but not hung <input type="checkbox"/>	Not present	
			Worn out	Other <input type="checkbox"/>
Reason:				

4. Does the household head know how to hang and use a net correctly? Yes / No  
 Ask the household head to demonstrate how the nets are used or right if not obvious how the nets hang

5. How many people in this household have had blood-smear diagnosed malaria in the last month?

6. How many people are there in this household?

CERTIFICATION:  
 I certify the information in this form is correct

Supervisor's name and position:

Supervisor's name and signature:

Official Stamp

Agree to Malaria Foundation - [www.fgm-malaria.com](http://www.fgm-malaria.com)

Form Number:

PLEASE WRITE IN CAPITALS

To the Household Head In the past, you received mosquito nets for free as a community distribution. We are conducting a survey of random (pre-identified) households to assess net usage and condition. We would like to ask you to assess and enter your home to gather this information.

I agree to allow you to enter my home, in my presence, to assess the use and condition of my mosquito nets. Signature of Household Head

Name of the Household Head First name:  Last name:   
 Census Number:

1. How many regularly used sleeping spaces are there in the household?

2. Please complete the following table for all nets found hanging in the household. (If there are no nets found hanging, skip to question 3)

Sample	Brand of net (circle one)			Net distributed in recent mass distribution?	Net condition (circle one)			How many steps under the net last night?				Net condition Very Good Have more than 2 holes of less than 2cm each
	Okus	Perma-Net	Other		Very Good	OK	Poor	= 0 holes or less than 1 hole	= 1-2 holes	= 3-4 holes	= 5 or more holes	
Net 1	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK
Net 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK
Net 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Poor
Net 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	More than 10 small holes or 1 big hole, bigger than 10cm
Net 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If there are more than 10 lines continue on another form and mark both forms.
Net 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Net 7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Net 8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Net 9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Net 10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Of the nets received in the recent universal coverage campaign ONLY:

Number originally received	Hung sum of <input checked="" type="checkbox"/> noted above	Present but not hung <input type="checkbox"/>	Not present	
			Worn out	Other <input type="checkbox"/>
Reason:				

4. Does the household head know how to hang and use a net correctly? Yes / No  
 Ask the household head to demonstrate how the nets are used or right if not obvious how the nets hang

5. How many people in this household have had blood-smear diagnosed malaria in the last month?

6. How many people are there in this household?

**Annex 2: Checklist for PDCU Supervision**

**GHANA AMF SIX-MONTHLY PDCU -SUPERVISORY CHECKLIST**

**COMMUNITY LEVEL SUPERVISION**

**FOR USE BY SUB-DISTRICT SUPERVISORS**

**Instruction for sub-district supervisors: Fill form for each enumerator during the PDCU data Collection.**

**District** \_\_\_\_\_ **Sub-district** \_\_\_\_\_

**Community** \_\_\_\_\_ **Date** \_\_\_\_\_ **Time** \_\_\_\_\_

**Name of supervisor** \_\_\_\_\_ **Signature** \_\_\_\_\_

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1. Does the enumerator have adequate number of PDCU forms needed for the day's work? Yes/No  
.....If No, why?.....
2. Observe the enumerator collect data in one household from start to finish and record the following:
  - 2.1. Record the start time here (e.g. 2.43pm) .....
  - 2.2. Did enumerator greet the household head? Yes/No
  - 2.3. Did enumerator explain the purpose of the visit? Yes/No
  - 2.4. Did enumerator ask for household head's Consent before interview? Yes/No
  - 2.5. Did enumerator ask household head to sign or thumbprint PDCU form? Yes/No
  - 2.6. Did enumerator fill the details of HH head (names & phone number) Yes/No
  - 2.7. Did enumerator check the number of LLINs household received during campaign? Yes/No
  - 2.8. Did enumerator ask of the condition of LLINs in the HH? Yes/No
  - 2.9. Did enumerator ask of number of people who slept under LLINs the previous night Yes/No
  - 2.10. Did enumerator ask of nets hung, not present etc. Yes/No
  - 2.11. Did enumerator ask if HH head know how to hang and use nets correctly Yes/No?

2.12. Did enumerator ask how many people in HH had blood-test diagnosed malaria in the last month?

Yes/No?

2.13. Did enumerator ask how many people are in the HH Yes/No?

2.14 Record the finish time here (e.g. 2.57pm) .....

*(Explain to the enumerator any corrections and improvements required in private.)*

3. Select one completed PDCU form and follow-up to the HH and verify the following information:

4. Ask the head of the household if enumerator visited the household

5. If yes to 4 Ask/check the following

5.1. The number of LLINs received.....

5.2. The number hanging.....

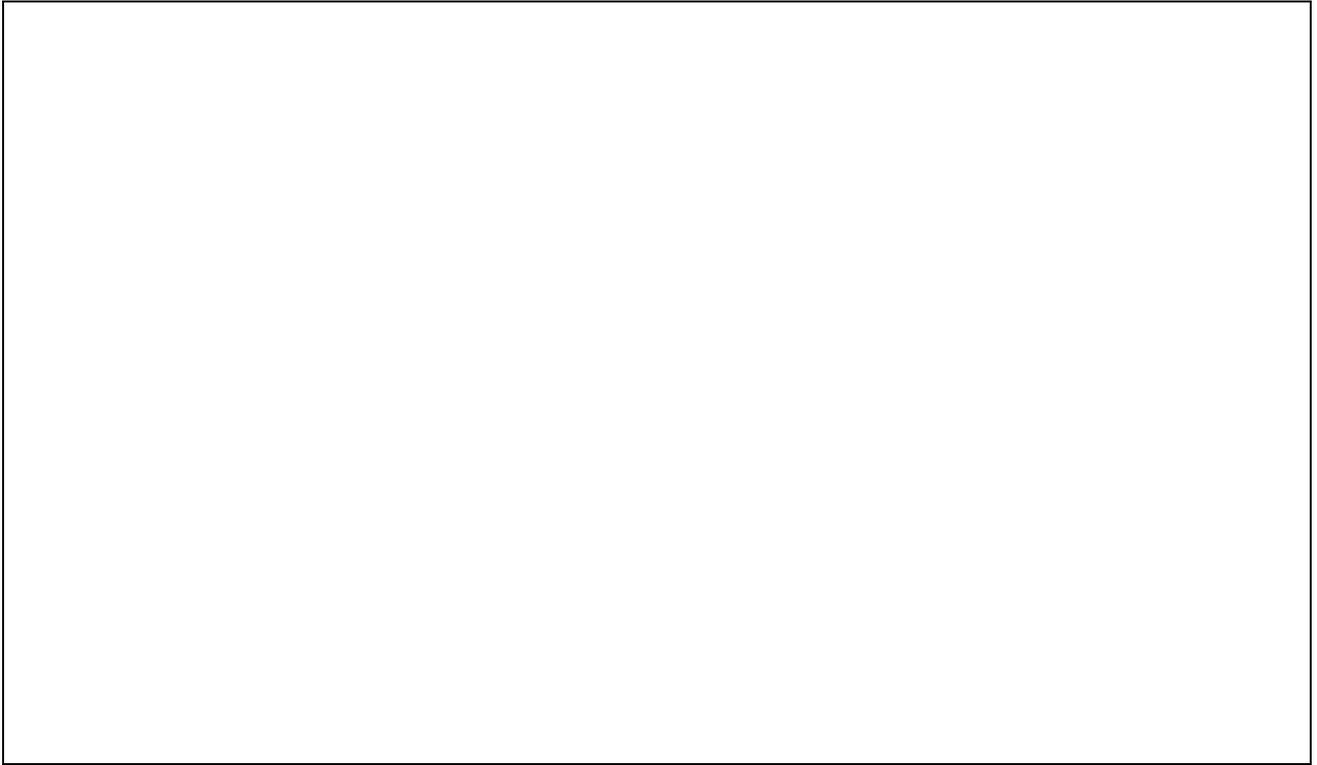
5.3. The number of people in the HH.....

6. Does 5.1, 5.2 and 5.2 agree with information on completed form Yes/No.? If no find out why.

7. What problems were observed and what corrective actions were taken? Use the following table below.

No	Problems observed	Corrective action taken

7. Enumerate 2 key observations/lessons learnt

A large, empty rectangular box with a thin black border, intended for the student to write their two key observations or lessons learned.