

Episcopal Relief & Development/ADDRO PDCU REPORT to AMF

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 three regions of Ghana, namely: Northern, Upper West and Greater Accra. As part of the LLINs campaign, ADDRO's team conducts Post-Distribution Check-Ups (PDCU) every 6 months. 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.

Four PDCUs have been conducted in the Greater Accra Region. The first was carried out in January 2017, the second in July 2017, the third in January, 2018 and the fourth PDCU in July, 2018.

The fourth PDCU data collection for the Greater Accra Region was carried out from 16th – 22nd July 2018, employing both the paper based data collection and electronic data collection. This PDCU report therefore consists of two major sections: Section A is on the paper based data collection carried out in 11 out of the 12 AMF supported Districts whilst Section B deals with the electronic data collection (Mobile Pilot) which was carried out in the Shai Osudoku District.

SECTION A: PAPER BASED DATA COLLECTION

2.0 Planning for PDCU@24 Months

The ADDRO regional team had a meeting on 6th July, 2018 to plan for the Greater Accra PDCU at 24 months. The meeting centred on the following:

1. Strategies to use to recruit/replace supervisors and enumerators.
2. Methods of training that will be very effective for new supervisors and enumerators to be able to pick up and properly understand the PDCU tools quickly
3. How to efficiently use different channels of communication to reach supervisors in “overseas” areas (communities usually cut-off during the rainy season) such as communities in Peditorkope subdistrict in the Ada East District.

At the end of the discussion, it was agreed that:

- (a) Only old supervisors and enumerators who performed well in the last PDCU should be considered and new qualified supervisors and enumerators should be recruited to replace those who did not perform satisfactorily as well as those not available for the PDCU exercise.
- (b) Facilitators to provide an in-depth training for enumerators/supervisors especially the new ones on the PDCU data collection exercise
- (c) Ensure that the responsibilities of supervisors and enumerators are clearly spelled out to them during the training
- (d) Before the start of the main training for both enumerators and supervisors, supervisors should be trained for an hour. This was intended to remind/inform supervisors of their roles and responsibilities and how to empower them to deal with issues that may come up in their supervisory duties.
- (e) Enumerators for 5% checks should start data collection after the third day of the main survey. Supervisors to be admonished to give PDCU forms to enumerators for the 5% checks only after the third day of the main survey to ensure that they do not start data collection before the stipulated time.

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 also agreed on during the meeting.

3.0 The PDCU process

The Greater Accra mass LLINs distribution was carried out between 5th and 12th 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 first, second and third paper-based PDCU data collection were carried out from 11th to 20th January, 2017, 4th to 17th July, 2017 and 15th to 22nd January, 2018 respectively in 11 out of the 12 AMF supported districts. The fourth PDCU data collection was carried out from 16th to 22nd July, 2018, also in 11 out of the 12 AMF supported districts.

4.0 Consultative meetings with GHS

ADDRO held consultative meetings with Ghana Health Service in 2016 in preparation for the first PDCU in January 2017. For the subsequent PDCUs, Ghana Health Service were informed of the activities. With PDCU at 24 months, ADDRO took advantage of the current recruitment exercise and visited all the AMF supported districts and briefed the District Directors of GHS and/ or the Malaria Focal Persons on the PDCU activities. This was carried out from 10th to 30th June, 2018.

5.0 Development of data collection tools and sampling

The PDCU form used in the first, second and third PDCU data collection was the same form used for the PDCU at 24 months' data collection in July, 2018. The form, which was the main data collection tool, was developed by AMF with input from Episcopal Relief & Development and ADDRO. The form contained 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 make up for household heads that might be absent (deceased, relocated, unwilling to answer, etc.). In generating the household list for the PDCU @ 24 months, AMF changed the methodology and selected fixed numbers of households in each selected community and multiples of that number in larger communities where appropriate. Communities that had fewer than a minimum size (typically 20 households + spares) were excluded; however, very few communities were excluded for not meeting the selection criteria. This was to bring efficiency and avoid cases where enumerators would travel to small communities and only survey a couple of households. A total of 31,280 households were sampled for the 5% main and 1,392 for the 5% checks for the Greater Accra PDCU exercise.

6.0 Printing and distribution of data collection tools

Printing of the household list, sorting out and packaging of the household lists and PDCU forms according to sub-districts and communities were done by the ADDRO regional team before the training period. Each pack (a plastic folder/file) contained one community household list and the PDCU forms based on the number of households sampled in that community. These packets (containing PDCU forms and a community household list) were given out to main enumerators (5% main) through their supervisors during the PDCU training. The forms for the 5% checks were kept

by supervisors and only given to the enumerators for the 5% checks after the third day of the main data collection.

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

The ADDRO GAR Regional team used the performance of enumerators and supervisors in the previous PDCU exercises as a basis in the selection of enumerators and supervisors for the PDCU at 24 months. The reason for this preferred choice was that; they had the experience and were expected to do quality work as compared to freshly recruited enumerators. The PDCU at 24 months' recruitment took place from the 10th to 30th June, 2018.

The selection criteria for the recruitment of supervisors were not different from the previous requirements. The qualification for supervisors included the following:

- 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 supervisors was to supervise and provide technical support to the

enumerators during the PDCU data collection exercise. Supervisors were expected to visit enumerators under their care at their various locations during the PDCU exercise. This was to enable them observe the enumerators interview some household heads and help address issues where necessary and also check completed data collection forms to ensure that they were correctly filled before collecting and endorsing them.

A total of 46 supervisors and 349 enumerators were recruited. Out of the 349 enumerators, 259 enumerators were old and 90 new. Thirty-nine (39) of the enumerators were for the 5% checks data collection. Out of the 46 Sub-Supervisors, 2 were new and 44 old. See table 1 for details of number of enumerators and supervisors recruited/replaced for PDCU at 24 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	16	1	17	3	0	3
Ada West	14	2	16	3	0	3
Ashaiman	24	18	42	5	0	5
Ga Cent.	16	6	22	4	0	4
Ga East	26	2	28	4	0	4
Ga South	49	15	64	5	1	6
Ga West	33	19	52	3	0	3
Kpone Katamaso	26	2	28	4	0	4
Lade-Kotapon	14	11	25	3	0	3
La-Nkw.-Madina	22	11	33	4	1	5
Ningo Prampram	19	3	22	6	0	6
Total	259	90	349	44	2	46

Source: PDCU Supervisor and Enumerators Recruitment Report - June, 2018

8.0 PDCU Trainings

The fourth PDCU training was in two sessions; about an hour training for the supervisors and a combined training of the enumerators and supervisors. However, the ADDRO regional staff had a one-day preparatory session before the training. The trainings were to equip the supervisors and

enumerators with knowledge and skills to carry out the data collection for the post distribution check-up successfully.

8.1 ADDRO Staff Preparatory Session

The Greater Accra staff had a one-day preparatory session as part of the preparations for PDCU@ 24 months training of enumerators and supervisors. This session was held on 6th July, 2018 at the ADDRO regional office conference room. Staff discussed various aspects of the PDCU form and explained key terminologies. They also took turns to fill training scenarios using the PDCU form.

8.2 Training of Supervisors

The supervisors were trained separately for about an hour on their specific roles and responsibilities before the enumerators' training. These supervisors' trainings took place in each of the 13 clusters from 9th –14th July, 2018. These trainings were 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 on how to collect the data
- Supervise and provide assistance to the enumerator during the data collection
- Fill at least one checklist for each enumerator while he/she is in the field.
- Collect/Review/Certify forms submitted by enumerators before handing over to ADDRO staff.
- Assist enumerators address challenges related to the exercise or report to the ADDRO regional team for support if the need be.

8.3 Training of Supervisors and Enumerators

The supervisors and enumerators were trained together on the AMF paper based data collection. The trainings were carried out in the 13 clusters to cover all the 11 Districts from 9th to 14th July, 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 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 focused on the PDCU form since that was the main tool for the data collection. The main areas of the training were:

1. A brief overview of the AMF program, partners and strategy of PDCU data collection
2. Roles and responsibilities of supervisors and enumerators.
3. Sharing of experiences and challenges of the last PDCU by enumerators and supervisors
4. 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.)
5. Translating some questions on the PDCU form to some local languages of the area (Ga, Twi, Dangbe and Hausa) to increase understanding.
6. Practice session on filling the data collection form.

The participants were taken through all these to enhance their understanding of the form and the data collection exercise in general. The supervisors were taken through the supervisors' checklist (see Annex 2).

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 Enumerators and Supervisors Trained
	Total Enumerators	Old	New	Total trained	Total Supervisors	Old	New	Total	Grand Total
Ada East	17	16	1	17	3	3	0	3	20
Ada West	16	14	2	16	3	3	0	3	19
Ashaiman	42	24	18	42	5	5	0	5	47
Ga Cent.	22	15	6	21	4	4	0	4	25
Ga East	28	25	2	27	4	4	0	4	31
Ga South	64	49	15	64	6	5	1	6	70
Ga West	52	33	19	52	3	3	0	3	55
Kpone Katamaso	28	26	2	28	4	4	0	4	32
LaDade-Kotopon	25	14	11	25	3	3	0	3	28
La-Nkw.-Madina	33	22	11	33	5	4	1	5	38
Ningo Prampram	22	17	3	20	6	6	0	6	26
Total	349	255	90	345	46	44	2	46	391

Source: PDCU Supervisors and Enumerators Trainings July, 2018

As seen in table 2 above, a total of 391 participants were trained (345 enumerators and 46 supervisors) instead of the 395 recruited (349 enumerators and 46 supervisors). In all, four (4) enumerators did not turn up for the trainings. Reasons for their absence were not known. The households that would have been visited by the 4 enumerators were shared among enumerators assigned to the same communities. At all training venues, ADDRO regional team paired with one person from the ADDRO HQ to facilitate the training.

8.4 Training Challenge(s) and Actions Taken

1. Some 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 the previous night. For example, some supervisors and enumerators ticked at places meant for figures (number of children who slept in a net last night - instead of indicating the number who slept, they ticked). Some trainees assumed that the number of people who slept under a net should be equal to the total number of people in the household. Explanations were provided to such enumerators/supervisors and they understood the correct way of filling the form. Also in conducting the role plays, the new enumerators played the role of enumerators whiles the old enumerators played the role of household heads.
2. Four trainings did not start at 9:00 am as planned but started at 10:00 am because of the late arrival of a good number of enumerators. The training time was therefore extended to 4:00pm in order to cover all topics.
3. In four training centres, participants could not be taken to nearby communities to practice filling of PDCU forms because of the late start of training. In those instances, trainees were taken through more role plays to practice filling of PDCU forms.

9.0 Data Collection

The PDCU@24 months data collection was carried out by the 345 trained enumerators from the 16th to 22nd July, 2018. The data collection was supervised by 46 supervisors. The data collection involved enumerators using the sampled HH list containing detailed information of the HH 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-six (46) sub-district supervisors daily to ensure effective data collection.

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.

9.1 Data Collection Challenges and Actions Taken

1. Only few HH heads were reported to have relocated or moved permanently from the households 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 were asked to replace such HH heads with any other available HH heads on the spare list.

10.0 Supervision of PDCU Data Collection

The data collection by enumerators was supervised by the 46 trained supervisors. Each supervisor had a number of enumerators in his/her sub-district to supervise. The number of enumerators supervised by each supervisor depended on the size of the sub-district but on average, one supervisor was responsible for supervising three enumerators during the data collection exercise. Each supervisor supervised all the enumerators at their various locations/sites. Supervisors checked the PDCU data collection forms daily to ensure that they were correctly filled before endorsing and collecting them. The supervisors used the supervisor's checklist for supervision; see Annex 2 for a sample of the checklist.

ADDRO and Episcopal Relief & Development staff also supervised the data collection exercise in the various sub-districts. Forty-two (42) out of forty-six (46) sub-districts were sampled and supervised by the ADDRO/Episcopal Relief & Development teams. 284 enumerators and 38 supervisors were met in those sub-districts. See table 3 below.

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	17	15
Ada West	3	3	3	3	16	13
Ashaiman	5	5	5	5	42	32
Ga Central	4	4	4	3	21	18
Ga East	4	4	4	4	27	23
Ga South	6	6	6	4	64	58
Ga West	3	3	3	3	52	44
Kpone Katam.	4	4	4	3	28	23
La-Dade Kotopon	3	3	3	3	25	20
La-Nk.-Madina	5	3	5	4	33	21
Ningo Pram.	6	4	6	3	20	17
Total	46	42	46	38	345	284

Source: PDCU Supervision; July, 2018

10.1 Observations During Supervision by ADDRO Team

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

- In areas like Ashaiman and Ga West, the new enumerators (first timers) were made to move with the old enumerators for the first two days to help them gain some first-hand experience and assistance.
- In the farming communities, most of the HH heads were only available early in the mornings or later in the evenings. The enumerators had to schedule an appointment to meet them at home at a convenient time.
- Some of the HH heads requested for more nets. They complained that the nets given them were torn. Others said their children had taken them to boarding schools hence they needed some to use at home. They were informed that NMCP/GHS plan to distribute nets in the last quarter of 2018, hence could afford them access to nets.
- People who received the Olyset net complained about the texture. They said it was not very easy to use as compared to the Permanet brand. Beneficiaries were educated on the benefits of sleeping under the net as well as the implications of not sleeping under the net such as the risk of getting malaria and related complications that could result in death if not treated promptly. Hence, beneficiaries were encouraged to try and manage with the Olyset net till the next distribution planned for the last quarter of 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 plan and map out the area and the households before setting out for data collection. 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 targeted HH heads were unavailable by the time the enumerators got to the households. They were advised to schedule an appointment with them prior to their arrival for the interview. 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 22nd to 29th July, 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. Allowances were paid to enumerators according to the number of successfully completed forms. The Supervisors were paid a fixed allowance for supervising the enumerators.

11.2 Transportation of Completed PDCU forms to Data Centre

A total of 30,751 completed PDCU@24 months forms were transported to the data centre in Bolga on 1st August, 2018 for data entry. This comprised 29,504 forms for 5% main and 1,247 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 bags (each district had one jute bag).

12.0 PDCU Data Entry

AMF added PDCU at 24 months' data entry field to the Greater Accra Region PDCU data entry site. After a refresher training was held for the data entry clerks, they started data entry on 8th August, 2018 and ended on 17th August, 2018. Thirty-three data entry clerks (all had participated in the previous data entry) did the data entry. A total of 29,504 households PDCU forms for the 5% main and 1,247 PDCU forms for the 5% checks were entered by the clerks.

12.1 Results of PDCU

Overall, 29,504 households' data have been entered into the AMF database as against 30,120 target households; representing 98%. 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 list, the target could not be met. A total of 53,352 LLINs were reported as received by the 29,504 households visited during the PDCU survey. Out of this total LLINs received, 44,510 (83%) were found hung over sleeping spaces; 2,428 (5%) were present in the households but not hung over sleeping spaces. Eight percent were not present in the households (nets worn out hence not usable) and 4% 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 on 29th August, 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	%	#	#	%	#	%	#	%	#	%	%	
	30,120	29,504	98	53,352	44,510	83	2,428	5	2,003	4	4,411	8	12	

Source: AMF Data Entry System (DES), August 2018

Results of PDCU at 24 months versus Results of PDCU at 6 and 18 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 24 months was compared with only the PDCU at 6 and 18 months' results. The following are the results of the analysis:

1. PDCU at 24 months has a higher percentage of households interviewed (98%) than PDCU at 6 months (69%) and PDCU at 18 (95%)
2. Percentage of LLINs found hung is 83% which is slightly lower than PDCU at 6 and 18 months (84% in both PDCUs). The reason could be that more nets are worn out/not usable.
3. Percentage of LLINs present in the households but not hung is lower during PDCU at 24 months (5%) than PDCU at 6 and 18 months. That is, 6% for PDCU at 18 months and 11% for PDCU at 6 months. This could be due to the fact that some of the nets have been given away to others or have become worn out.
4. The percentage of LLINs worn out were higher during PDCU at 24 months than PDCU at 6 and 18 months. It was 0% at PDCU at 6 months, 5% for PDCU at 18 months and 8% for PDCU at 24 months. This implies that the LLINs gets worn out with time, hence at 24 months more LLINs were worn out than at 6 and 18 months PDCU.

Table 5: Results of PDCU at 24 months, 18 months and 6 months

Region	PDCUs		
	PDCU@6 months	PDCU@18 months	PDCU@24 months
PDCU			
Target HHs to be visited	30,875	30,175	30,120
Actual HHs visited/entered into database	21,181	28,627	29,504
%	69	95	98
Nets received	38,332	52,238	53,352
Net hung	32,271	43,630	44,510
% of Net hung	84	84	83
Nets present but not hung	4,030	3,325	2,428
% of Nets present but not hung	11	6	5
Nets Missing	1,842	2,820	2,003
% of Nets Missing	5	5	4
Nets worn out/not usable	189	2,463	4,411

% of Nets worn out/not usable	0	5	8
% of Nets missing+ worn out/not usable	5	10	12

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

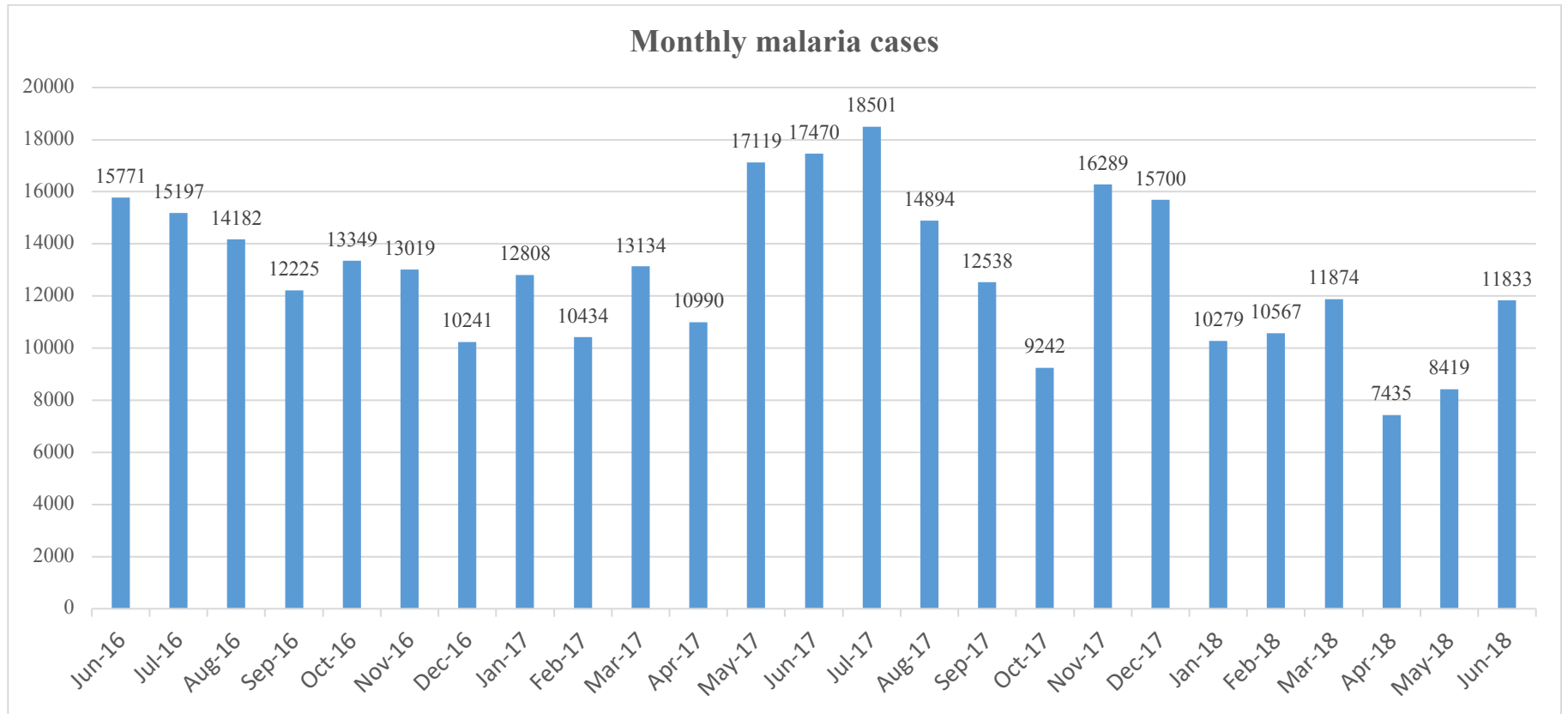
13.0 Malaria Case Data (Monthly uncomplicated malaria cases)

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 January 2018 to June, 2018.

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

Month / Year	Age group	Ada East	Ada West	Ashaim an	Ga Central	Ga East	Ga South	Ga West	Kpone Katamanso	La Dadekotopon	La Nkwantanang	Ningo Prampram	Shai Osukoku	Totals
Jan-18	U5 yrs	179	146	974	170	238	354	348	263	46	92	297	155	1963
	Preg.w	9	2	10	8	4	31	15	10	4	20	24	16	132
	5-70+ yrs	534	471	3388	832	789	1229	1288	1145	226	899	1100	676	8184
		722	619	4372	1010	1031	1614	1651	1418	276	1011	1421	847	10279
Feb-18	U5 yrs	150	86	1100	213	322	345	345	642	25	79	286	112	2369
	Preg. w	8	1	69	0	9	42	24	47	7	15	13	16	173
	5-70+ yrs	523	284	2913	869	664	967	1134	2369	206	604	836	376	8025
		681	371	4082	1082	995	1354	1503	3058	238	698	1135	504	10567
Mar-18	U5 yrs	94	57	1015	162	664	391	413	939	15	73	256	87	3000
	Preg. w	5	2	74	10	5	37	16	58	3	11	19	24	183
	5-70+ yrs	359	169	3582	603	1663	1037	1282	2453	176	472	696	309	8691
		458	228	4671	775	2332	1465	1711	3450	194	556	971	420	11874
Apr-18	U5 yrs	73	40	818	115	247	324	361	252	28	63	156	99	1645
	Preg.w	2	0	66	5	10	59	10	4	2	2	13	29	134
	5-70+ yrs	180	183	2688	290	637	1165	1260	784	194	477	553	296	5656
		255	223	3572	410	894	1548	1631	1040	224	542	722	424	7435
May-18	U5 years	130	92	820	159	87	248	391	303	24	119	280	128	1739
	Preg.w	2	1	75	4	3	52	12	3	0	7	15	13	109
	5-70+ yrs	318	329	2898	657	369	854	1444	980	163	711	850	543	6571
		450	422	3793	820	459	1154	1847	1286	187	837	1145	684	8419
Jun-18	U5 years	101	122	841	256	327	263	457	285	45	118	315	216	2282
	Preg.w	5	2	81	7	5	30	5	11	0	7	13	18	96
	5-70+ yrs	393	525	2960	760	1329	947	1888	1229	302	790	1284	926	9455
		499	649	3882	1023	1661	1240	2350	1525	347	915	1612	1160	11833
Totals		3,065	2512	24372	5120	7372	8375	10693	11777	1466	4559	7006	4039	60407

Figure 1



13.1 Analysis of monthly malaria cases – Greater Accra Region – January 2018 to June 2018

Analysis of the malaria cases data in the 12 AMF supported districts in the table above generally shows an increase in cases from January 2018 to June 2018 across the districts and age categories, with the exception of April which recorded a reduction in the malaria cases.

In January, there was a total of 10,279 malaria cases; this increased to 10,567 in February, 11,874 in March, declining by almost half in April (7,435 cases) and then recording an increase in May (8,419) and June (11,833).

With respect to children under five years, the trend is similar, malaria cases increased from 1,963 in January to 2,369 in February. This further increased to 3,000 in March. However, there was a decline to 1,645 cases in April. Malaria cases again increased to 1,739 in May and 2,282 in June, 2018. The reasons for the continued increase in malaria cases is not known.

Malaria cases among pregnant women in the 12 districts showed a similar trend. The cases increased from 132 in January, 173 in February and 183 in March, however, there was a decrease in April to 134 and a further decrease in malaria cases in May and June; 109 and 96 respectively. The reason for this undulating trend of malaria cases is not known.

13.2 Analysis of monthly malaria cases for the PDCU Period – Greater Accra Region – June 2016 to June 2018

Figure 1 above shows malaria cases for the 24 months PDCU period and a baseline month of June 2016 (the month before the LLINs distribution) in the 12 AMF supported districts in the Greater Accra Region. The overall malaria cases for the 24 months reveal decreasing and increasing trends. In June, 2016, (baseline month) there were 15,771 malaria cases; this dropped to 15,197 in July, 2016, 14,182 in August, 2016 and 12,225 in September, 2016. However, there was an increase in October, 2016 to 13,349 cases. The cases then dropped to 13,019 in November, 2016 and a sharp decrease to 10,241 in December, 2016. Malaria cases increased to 12,808 in January 2017. It then decreased to 10,434 in February 2017, increased to 13,134 in March 2017 and recording a decrease to 10,990 in April, 2017. Malaria cases then increased significantly in May, June and July with 17,119, 17,470 and 18,501 cases respectively. After July 2017, there was a sharp decrease in August to

October, 2017; 14,896 in August, 12,538 in September and 9,242 in October. This followed with a sharp rise (16,289) in November, 2017 and then decreased to 15,700 in December 2017. The decrease in malaria cases continued in January, 2018, with 10,279 malaria cases; this then increased to 10,567 in February, 11,874 in March, declining by almost half in April (7,435 cases) and then recording an increase to 8,419 in May, 2018 and 11,833 in June, 2018.

The reasons for the decreasing and increasing trend of malaria cases are not known. However, seasonal variations may contribute to either an increase or decrease in malaria cases. Rainfall pattern in Greater Accra is bi-modal – the major and minor seasons. The major season spans from April to July and the minor season from September to October. In the dry season, the number of malaria cases are likely to be lower than during the rainy season. These variations may be explained by increased availability of clean stagnant waters (providing breeding places for the *Anopheles* mosquitoes) during the raining season.

Additionally, since these figures are malaria cases and not rates, the number of people who went to the Health facilities for testing could contribute to an increase or decrease in malaria cases for particular months. Closely linked to this is the availability or otherwise of Rapid Diagnostic Test kits in the health facilities as this can also contribute to an increase or decrease in positive malaria cases for particular months.

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 was to be used for data collection in Shai Osudoku District of the Greater Accra Region for 2.5 years. This electronic data collection was successfully carried out in PDCU at 6, 12 and 18 months. With PDCU at 24 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 the same Samsung tablets.

2.0 Planning for the PDCU

The planning for the mobile data collection involved the engagement of a consultant. In the first (PDCU@ 6 months), Episcopal Relief & Development and ADDRO developed Terms of Reference (TOR) for the mobile pilot. This was advertised on Episcopal Relief & Development 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 and 18 months, Episcopal Relief & Development and ADDRO agreed and re-engaged DS Dayta Solutions because they had met all the deliverables and has the experience in conducting the activity.

In planning for PDCU at 24 months, Episcopal Relief & Development and ADDRO agreed that DS Dayta Solutions should be given another opportunity to support in the electronic data collection activities. Hence, a Terms of Reference (TOR) was developed by Episcopal Relief & Development/ADDRO to engage DS Dayta Solutions for the PDCU at 24 months.

Due to the knowledge and skills gained by ADDRO and Episcopal Relief & Development staff from previous mobile PDCUs, Episcopal Relief & Development/ADDRO staff took over the training of

the enumerators and the management of the ODK data system during data collection. This was successfully done.

3.0 Mobile PDCU@ 24 months Process

An Electronic Data Capture (EDC) system with the Open Data Kit (ODK) software which allows the use of android enabled devices to collect and transmit data electronically to a data server was already set up and used for the first, second and third PDCU's. During the fourth PDCU (PDCU@24 months), DS Dayta Solutions reviewed the existing XLS file to effect updates. The existing questionnaire was updated to incorporate new enumerators names into the survey tool. Also, DS Dayta Solutions configured and updated all mobile data collection devices with the latest version of ODK software. They also updated the ODK with the household listing for the current PDCU. 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, second and third PDCUs data collection were the same tablets used for the PDCU at 24 months.

3.2 Recruitment of Enumerators for Mobile Data Collection

ADDRO recruited 24 enumerators for the mobile pilot data collection exercise. The recruitment took place from 26th to 30th June, 2018. 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

4.0 Training of Staff and Enumerators on Mobile Data Collection

4.1 Staff Training on ODK management

A one-day training session was organized on 13th January, 2018 at the Episcopal Relief & Development Regional office, Accra for ADDRO HQ and Episcopal Relief & Development staff on mobile data management. The training was facilitated by DS Dayta Solutions. The trainees were Hilary Abii Asiah and John Awumbila. The training covered:

- Introduction to the ODK Database systems as well as the functions of various key features.
- How to create profiles for various project types.
- How to load XLS files, how to deploy uploaded files, how to replace uploaded files for redeployment, how to quality assure datasets online, how to view data in infographs and how to download datasets in XLS, CSV and SPSS formats.
- How to run preliminary data analysis.

4.2 Training of Enumerators on Mobile Data Collection

All the 24 enumerators recruited were trained for the data collection exercise. Twenty-two (22) out of the 24 enumerators were trained to collect data from 1,158 households for the 5% main whiles two (2) enumerators were trained to collect data from 144 households for the 5% checks. Out of the 24 recruited and trained, 18 were old enumerators and 6 were new enumerators. The training took place on 16th July, 2018 at the Shai Osudoku Health Directorate. The training was facilitated by ADDRO staff.

Enumerators were taken through a step-by-step procedure on the data collection process. Scenarios were used to practise filling the forms on the mobile device. This was inspected by the ADDRO team to ensure participants understood how to correctly fill the forms. Both old and new enumerators were put into small groups so that the old ones could share experiences on some challenges they faced in previous PDCUs and how they were addressed. These included:

- lack of common dialect between enumerators and household heads, wrong addresses, high transportation cost, refusing to respond because they did not benefit from the distribution, wrong spellings of respondents names and the GPS coordinates not registering under roofs.
- Lack of common dialect between enumerators and household heads - Enumerators had to use interpreters to get around this problem.
- Wrong addresses - Enumerators had to rely on community members to aid in the identification. Where they were not successful, they resorted to the use of the spare household list.
- High transportation cost to enumerators/supervisors travelling to some communities - They were supported with additional fuel.

- Household heads refusing to respond because they did not benefit from the nets distribution - Enumerators were advised to explain the purpose of the exercise clearly to those household heads so as to get their cooperation.
- Wrong spellings of respondents names - Enumerators were asked to maintain the names on the list because any change will lead to the loss of data for the household.
- GPS coordinates not registering under roofs - They were advised to get a clear sky view for the device by moving out of the roofs. GPS registering coordinates within 12m was recommended and considered acceptable.

4.3 Observation 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. The new enumerators understood the form easily because of the experience sharing from the old enumerators. The adoption of scenarios and role plays also facilitated their quick understanding of the form.

5.0 Data Collection and Supervision

The data collection with the mobile devices was carried out from 16th to 24th January, 2018. The ADDRO monitoring team handed over the checklist to enumerators for the 5% checks after the third day. Staff of Episcopal Relief & Development and ADDRO monitored the mobile data collection. They visited all the 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 returned from work in the evening. This enabled them to administer the questionnaire at the convenience of the respondents. The enumerators were cautioned to keep the mobile devices safe. The enumerators returned tablets 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 enumerator on the device. The questions similar to the ones on the manual forms were displayed for the enumerator to fill in the details. The software did not accept inconsistent inputs; for example, mismatches between number of HH members and the number of people who slept under the LLIN the previous night. ODK collect did not require Wi-Fi or network connection to input the data. It relied on GPS to mark location of all HHs visited. Internet connectivity is 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 HH before they entered on permission. Pleasantries were exchanged and then the purpose of the visit explained to the HH head. The enumerator usually sought the consent of the HH head before the data was collected.

At the end of the data collection exercise, a total of 1,118 households were successfully visited and data collected for the 5% main by the 22 enumerators. One hundred and ten (110) households were also visited and data collected by the 2 enumerators for the 5% checks. See table 7 for the detailed results on the 5% main.

The target could not be met despite the use of the spare household listings. This is because some HH heads had passed away, moved out of the district or travelled and did not return before the data collection period ended.

Table 7: 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	%	#	#	%	#	%	#	%	#	%	%
GAR / Shai Osudoku	1,158	1,118	96.5	2,459	1,917	79	181	7	101	4	260	10	14

6.0 Best Practices

- Any time 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. All the enumerators/supervisors kept the tablets and returned all in good condition to ADDRO. This was to allow the enumerators to be able to administer the questionnaire to respondents who got home late or left very early in the morning.

7.0 Challenges Encountered during Mobile Data Collection and Action taken

1. Limited Access to Internet Services: This makes it difficult to upload the data from tablets in those areas. Due to the same network connectivity issue, it was difficult reaching the enumerators on phone while they were on the field. The areas that had network issues include: Dormeliam, Tokpo, Agbekotsekpo, Duffor, Osuwem, Kongo, Volivo, Agortor, Huapa and Huapase.

Action Taken: For the enumerators who worked in these communities, it was pre-arranged to meet them for monitoring and tablets taken to the nearest network area for data upload.

2. Inaccessible Routes: The bridge linking Asutsuary to Akuse was blocked. It posed considerable difficulty in reaching the communities beyond the river.

Action: One had to travel aboard a fishing boat to access the adjoining communities to reach the enumerators.

8.0 Lessons from Previous PDCUs Incorporated into PDCU@24 mo Mobile Pilot

Enumerators were informed during the training sessions to arrange for more convenient times to meet the Household heads (HH) 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 in filling the scenarios.

9.0 Recommendations on Mobile Device

Generally, it appears that using mobile device technology to collect the PDCU data could produce more quality data than the paper based method. The advantages of the mobile data collection are more than the paper based data collection. See table 8 below for the advantages of mobile data collection over paper based. It is therefore recommended that the electronic data system should be extended to cover more of the AMF supported districts in the region.

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

	ELECTRONIC (MOBILE PILOT)	PAPER BASED
ACCURACY OF DATA	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.
MONITORING	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.
DUPLICATION OF DATA	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
INCOMPLETE DATA	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.
PICTURE / VISUALS	The device allows one to take pictures or even record respondents when necessary.	The paper system does not permit any of these.
PORTABILITY	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.
CONVENIENCE	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 dark, one cannot collect information with the paper
COST OF DATA COLLECTION	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.
REAL TIME INFORMATION	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.

	ELECTRONIC (MOBILE PILOT)	PAPER BASED
DURATION	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 has to be filled by the enumerator which consumes more time as compared to the mobile pilot

CONCLUSION

The PDCU at 24 months built on experiences and lessons of PDCU at 18, 12 and 6 months as well as the recommendations of IDinsight team on the training and data collection. All these contributed to quality data collection by enumerators and increased in the number of HHs interviewed by enumerators. Ninety-eight per cent (98%) of HHs were interviewed during PDCU at 24 months.

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 in a community distribution. We are conducting a survey of randomly selected households to assess net usage and condition. We would like to ask you some questions about 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: _____
 Contact Number: _____

- How many regularly used sleeping spaces are there in the household? _____
- Please complete the following table for all nets found hanging in the household. (If none are hanging, skip to question 3)

Brand of net (Malaria)	Net distributed in recent mass distribution?			Net condition			How many sleep under this net last night?				Net condition
	Good	Fair	Bad	Very Good	OK	Fair	+ 0 sleep less than 2 hrs each	+ 0 sleep 2 to 3 hrs	+ 1 sleep 4 hrs	+ 0 sleep less than 2 hrs each	
Example	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK
net 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<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="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="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fair
net 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fair
net 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fair
net 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IF there are more than 10 nets
net 7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	continue on another form and reattach here.
net 8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	continue on another form and reattach here.
net 9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	continue on another form and reattach here.
net 10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	continue on another form and reattach here.

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

Number originally received	Hung sum of <input type="checkbox"/> nets as above	Frustrated but not hung <input type="checkbox"/>	Not present	
			Worn out	Other <input type="checkbox"/>

Reason: _____

- Does the household head know how to hang and use a net correctly? Ask the household head to demonstrate how the nets are used or right if not obvious how the nets hanging. Yes / No
- How many people in this household have had blood-smear diagnosed malaria in the last month? _____
- How many people are there in this household? _____

CERTIFICATION: I certify the information in this form is correct

Supervisor's name and position: _____

Form Number: _____ PLEASE WRITE IN CAPITALS

To the Household Head In the past, you received mosquito nets for free in a community distribution. We are conducting a survey of randomly selected households to assess net usage and condition. We would like to ask you some questions about 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: _____
 Contact Number: _____

- How many regularly used sleeping spaces are there in the household? _____
- Please complete the following table for all nets found hanging in the household. (If none are hanging, skip to question 3)

Brand of net (Malaria)	Net distributed in recent mass distribution?			Net condition			How many sleep under this net last night?				Net condition
	Good	Fair	Bad	Very Good	OK	Fair	+ 0 sleep less than 2 hrs each	+ 0 sleep 2 to 3 hrs	+ 1 sleep 4 hrs	+ 0 sleep less than 2 hrs each	
Example	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK
net 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<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="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="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fair
net 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fair
net 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fair
net 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IF there are more than 10 nets
net 7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	continue on another form and reattach here.
net 8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	continue on another form and reattach here.
net 9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	continue on another form and reattach here.
net 10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	continue on another form and reattach here.

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

Number originally received	Hung sum of <input type="checkbox"/> nets as above	Frustrated but not hung <input type="checkbox"/>	Not present	
			Worn out	Other <input type="checkbox"/>

Reason: _____

- Does the household head know how to hang and use a net correctly? Ask the household head to demonstrate how the nets are used or right if not obvious how the nets hanging. Yes / No
- How many people in this household have had blood-smear diagnosed malaria in the last month? _____
- How many people are there in this household? _____

Supervisor's name and signature: _____

Official Stamp

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 _____

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

