Semi-Quantitative Evaluation of Access & Coverage
(SQUEAC)

Potiskum Local Government Area (LGA)

Yobe State

NIGERIA

August 2012

ACRONYMS

CMAM	Community-based Management of Acute Malnutrition
ECHO	European Commission Humanitarian Office
HF	Health Facility
IYCF	Infant and Young Child Feeding
LGA	Local Government Area
MCH	Mother and Child Health
NFP	Nutrition Focal Person
OTP	Outpatient Therapeutic Programme
PHC	Primary Health Care
SAM	Severe Acute Malnutrition
SDU	Service Deliver Unit (i.e. health facility)
SQUEAC	Semi-Quantitative Evaluation of Access and Coverage
RUTF	Ready – to – Use Therapeutic Food
YSPHCDA	Yobe State Primary Health Care Development Agency
YSPHCMB	Yobe PHC Management Board

ACKNOWLEDGEMENTS

First and foremost, ACF would like to thank the YSPHCDA, LGA authorities and PHC teams, health workers and communities for their commitment to integration of CMAM and in ensuring that timely treatment is available for the children who are severely acutely malnourished in Potiskum LGA. Special thanks to the Technical Coordinator for the support rendered to the team during the SQUEAC investigation.

EXECUTIVE SUMMARY

In August 2012, Semi-Quantitative Evaluation of Access & Coverage (SQUEAC) was conducted in Potiskum LGAs. A SQUEAC training took place with Nutrition Focal Persons (NFPs from Fune and Postiskum LGAs, 10th - 13th Aug) and was followed by an analysis of CMAM routine data and a small area survey (14th-17th Aug). SQUEAC stage 3 could not be completed because of the security situation that deteriorated in the area at that time. Nevertheless, the analysis notably showed that program admission numbers were higher around urban centres (compared to rural communities) and defaulter rates more elevated as well. Some of the reasons identified for high defaulting in urban areas were overcrowding of health facilities and insecurity in Potiskum town. Although Stage 3 could not take place (no coverage estimate), the analysis of different factors affecting coverage as well as small area survey findings led to conclude that **CMAM coverage** is likely to **fall below the 50% threshold**, i.e., **coverage was classified as low in Potiskum LGA.**

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

CONTENTS

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

BACKGROUND

ACF has been supporting the Potiskum Local Government Area (LGA) health system in the integration of Community-based Management of Acute Malnutrition (CMAM) into routine services since August 2011, with 4 health facilities integrating treatment of severe acute malnutrition (SAM). In April 2012, an additional 5 centres integrated CMAM services in order to support increased access and minimise defaulting in bringing treatment closer to households as possible. The CMAM approach in the LGA has focused on capacity strengthening of stakeholders at State, LGA, health facility and community level (health workers, Religious Leaders, Traditional Leaders,Traditional Birth Attendants and Community Volunteers). Activities are done in partnership with the Yobe State Primary Health Care Development Agency (YSPHCDA) and LGA Primary Health Care (PHC) Departments, as well as in close collaboration with community leaders. A total of 9 health facilities are supported, providing CMAM services one time per week. Tudun wada, Yindiski, Dogon Zare and Bolewa A facilities have set a specific week day for medical follow up of SAM cases in program and distribution of supplies (RUTF and medicines), while another day is for admission of new cases. This has been done in order to try and reduce the waiting time for caregivers at the health facility, as the volume of SAM children is very high in the urban centers. The main objective of the project is to ensure SAM children 6-59 months have sustainable access to CMAM services in Potiskum LGA, as such services become integrated as part of health and community systems, while taking acute malnutrition treatment closer to homes.

The SQUEAC evaluation in Potiskum LGA took place after one year of support to the health services in integrating SAM treatment and had two main objectives:

1. To provide baseline coverage and identify main factors affecting coverage.
2. To provide key recommendations for strengthening CMAM services and improve quality and coverage of CMAM services.

The SQUEAC[1] investigation brings timely guidance towards strengthening the approach, which is in the process of developing a CMAM model that can be replicated in accounting for differences between LGAs, for CMAM quality and coverage. The SQUEAC investigation was carried out by ACF Nigeria staff in collaboration with LGA health system personnel. Considering the dimension and scale of CMAM in Nigeria, a simplified, easy-to-use version of SQUEAC was applied, exploring an increasingly time and cost efficient model to be used for regular monitoring of coverage. This report was written based on other SQUEAC reports produced within ACF-International.

1. STAGE ONE

The objective of stage one was to identify areas of low and high coverage and the reasons for coverage failure using routine programme data or easy-to-collect quantitative and qualitative data.

1.1. Programme Admissions (Overall Numbers)

Since support for CMAM integration started in August 2011, a total of 2,219 children have been admitted to 9 health facilities providing CMAM. Evolution of overall admissions is illustrated in Figure 1 and the trend indicates a pronounced drop in admissions during October, December 2011 and January 2012. This was due to, in October, stock outs, and, in Dec-Jan, due to national wide strikes by health workers as a result of removal on fuel subsidies by the Federal Government, security incidents that affected operations at the OTP sites and stock out of RUTF. The steep upward trend from February through to June[2] could be alluded to community awareness and mobilization of

---

[1] SQUEAC guidelines are available at http://www.brixtonhealth.com/handbookSQUEAC/handbookSQUEAC.html
[2] At time of data analysis July data were not yet available, so that discussions reported here refer through June only

CMAM program in LGA, training of community volunteers that increased community screening and referral of SAM children to health facility, stable flow of RUTF from UNICEF to Yobe PHC Management Board (YPHCMB), and improved quality of service by health staff due to CMAM refresher trainings.

**Figure 1. Programme Admissions over Time, Aug2011-June 2012, Potiskum LGA[2]**

The decrease noted in September was also due to a suspension in ACF supported activities as there was a threat posed to ACF team. Then, in October, there was an outbreak of diarrhoea reported which was associated with RUTF by many caregivers.

## 1.2 Admission by service delivery unit

Looking at the overall admission trends, admissions were analysed by service delivery unit (i.e. health facility – Figure 2) in order to identify potential disparities in admissions across the different facilities.

Figure 2. Admissions by health facility, Potiskum LGA, Aug 2011-June 2012 2011

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012
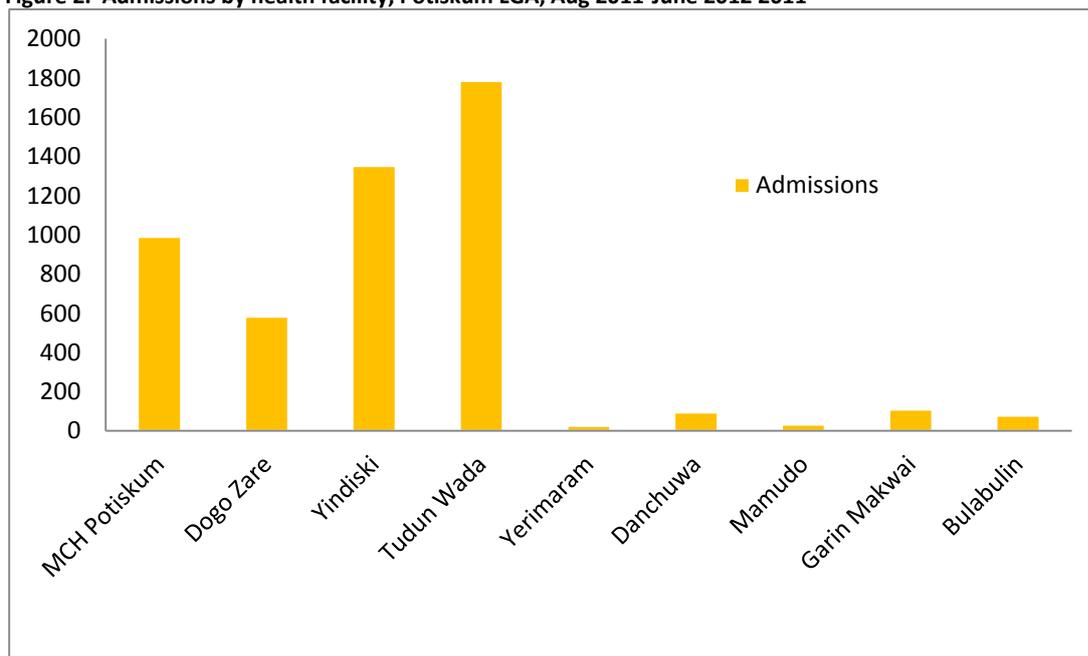
The analysis identified high admissions at Yindiski and Tudun Wada OTPs. The investigation concluded this to be linked to the fact that Yindiski and Tudun Wada OTPs are located in Potiskum town which is more densely populated than peri-urban and rural areas. Low admissions indicated in the five OTPs of Yarimaram, Danchuwa, Mamudo, Garin Makwai and Bulabulin were due to more recent start of CMAM services in May 2012 as well as the health facilities being located in more sparsely located population. The admission trends over time per health facility are illustrated in Figure 3.

Figure 3. Admissions by health facility over time, Potiskum LGA, Aug 2011-June 2012
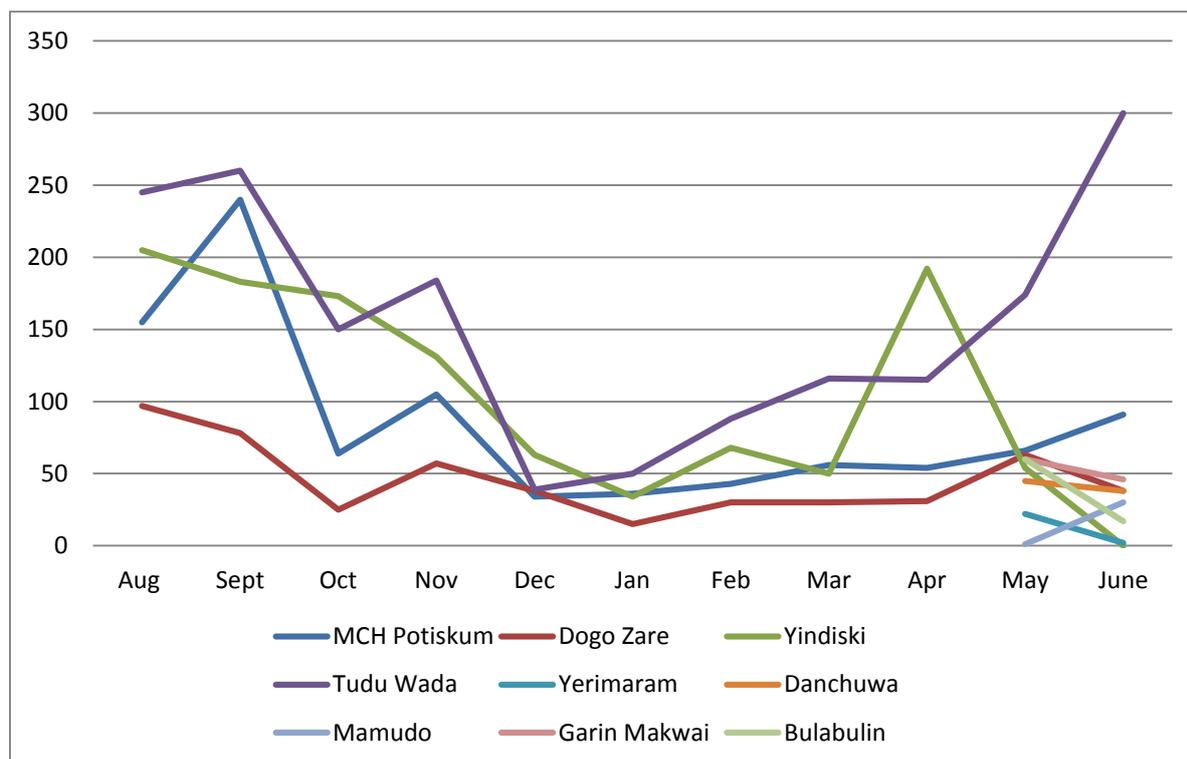
The figure indicates similar trends for almost all four health facilities supported since the start of activities, also highlighting start-up of newly supported health facilities in May. The decrease observed in October and March was due to RUTF stock out, while December and January was because of security incidents and strikes by health workers respectively. Community sensitisation, awareness and training of community volunteers led to upward trend in admission from March/April 2012.

1.3 Admissions vs. Needs

Seasonal peaks are based on the local seasonal calendar and critical events, which highlights highest food insecurity (i.e. hunger season) and malaria peak periods to be between June and August. In linking admission trends and the seasonal calendar (Annex 2) one can see that trends correspond to needs as in figure 3 above. For example, In September 2011, admissions decreased as most households had harvested their crops, and admissions started to take an upward trend from March/April during the lean season.

1.4 Spatial coverage of Admissions

The maps in Annexes 1&3 illustrate the actual geographical coverage of the programme per health facility. The analysis of this mapping exercise helped identify specific areas (where no admission has

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

been reported) in the LGA. Similarly, the analysis showed that admissions were higher in communities around urban centres compared to rural communities. This is because urban communities are more densely populated areas. This was a key exercise towards guiding the investigation in the formulation of two different hypotheses on coverage for testing as part of Stage Two.

1.5 MUAC at admission

In order to further understand whether the programme is reaching SAM children early, MUAC measurements at admission were plotted for all recorded admissions since the start of the programme. The results are found in Annex 4. The median MUAC at admission was 10.8 cm. Overall, children appear to be arriving in a relatively timely manner for treatment. It must be noted though, that there are peaks in digit preference, indicating the need to further strengthen MUAC measurement at health facility level.

1.6 Programme Exits

The following table presents cumulative programme performance indicators since August 2011.

Table I. Performance rates, Potiskum LGA, Aug 2011-July 2012

Performance Rate	Number	Percentage
Recovered	770	**50.7%**
Death	10	**0.7%**
Defaulter	660	**43.4%**
Non-recovered	80	**5.3%**

Programme exits exhibit a high defaulter rate with negative implications for programme coverage in Potiskum LGA. The investigation decided to carry out a more in depth analysis of defaulter cases by consulting the health workers implementing CMAM services.

In linking the elevated defaulter rates with other information collected, some reasons for defaulting were identified: these include distance for rural based caregivers, overcrowding of health facilities and security concerns in Potiskum town. The closure of health facilities during the fuel subsidies in January was also taken into account during the investigation of defaulting in the programme.

1.7 Review of Defaulter Records

To better understand the factors effecting defaulting and potentially affecting coverage, various stages of analysis were conducted specific to defaulting. This was a key exercise towards guiding the investigation in the formulation of two different hypotheses on coverage for testing as part of Stage Two.

#### 1.7.1. Defaulter versus admission and over Time

In bringing together admissions and defaulters per health facility it is possible to identify a few trends in the graph below.

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

Figure 4. Defaulters versus Admissions per health facility, Potiskum LGA, Aug 2011-June 2012
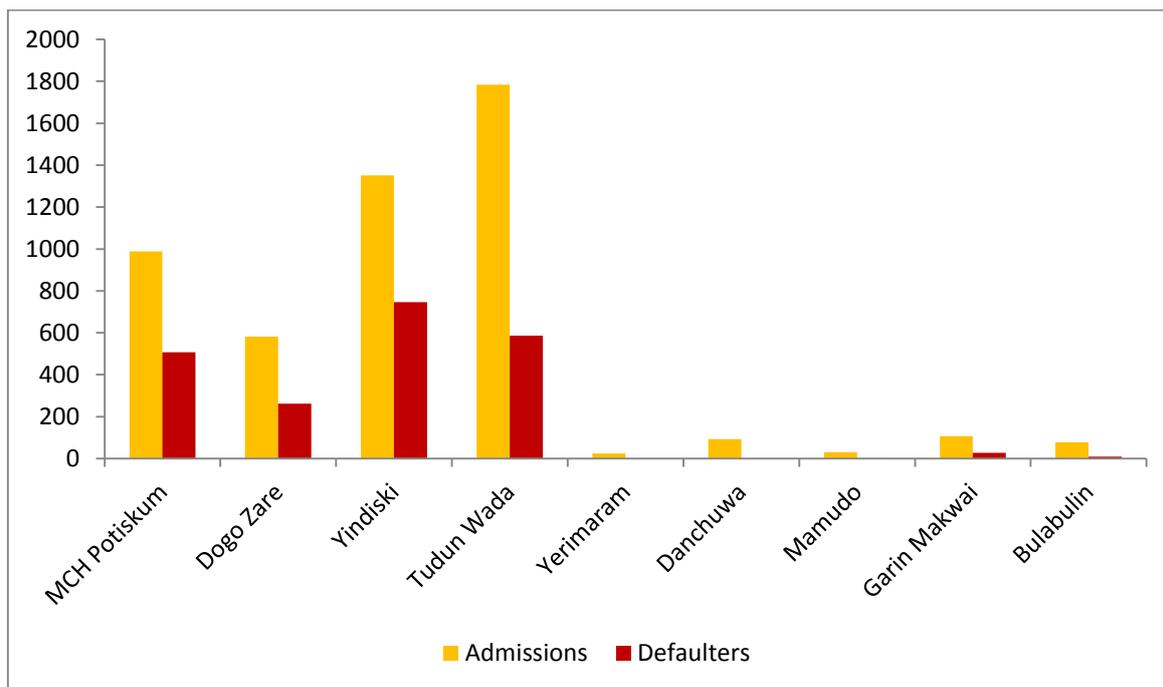
Health facilities with higher number of admissions also have a higher number of defaulters, such as Tudun Wada and Yindiski. On the same note, health facilities with lower admissions also have lower defaulting. Newly opened centres have zero defaulters, such as Yerimaram, Danchuwa, Mamudo and Bulabulin. Garin Makwai has defaulters despite being a new health facility because of RUTF stock out that was experienced at the centre as well as its location in being close to other health facilities providing CMAM services in Aigada and Kolere, both in Fune LGA. The potential correlation seems to be corroborated by the trends in defaulting over time by health facility (Figure 6) which follows a similar pattern to admissions (Figure 3). The increase in defaulting in November 2011 is likely a result of the stock outs recorded in October as well as double beneficiaries recorded that were followed up by health workers.

Figure 5. Defaulter over time, Potiskum LGA, Aug 2011-June 2012

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012
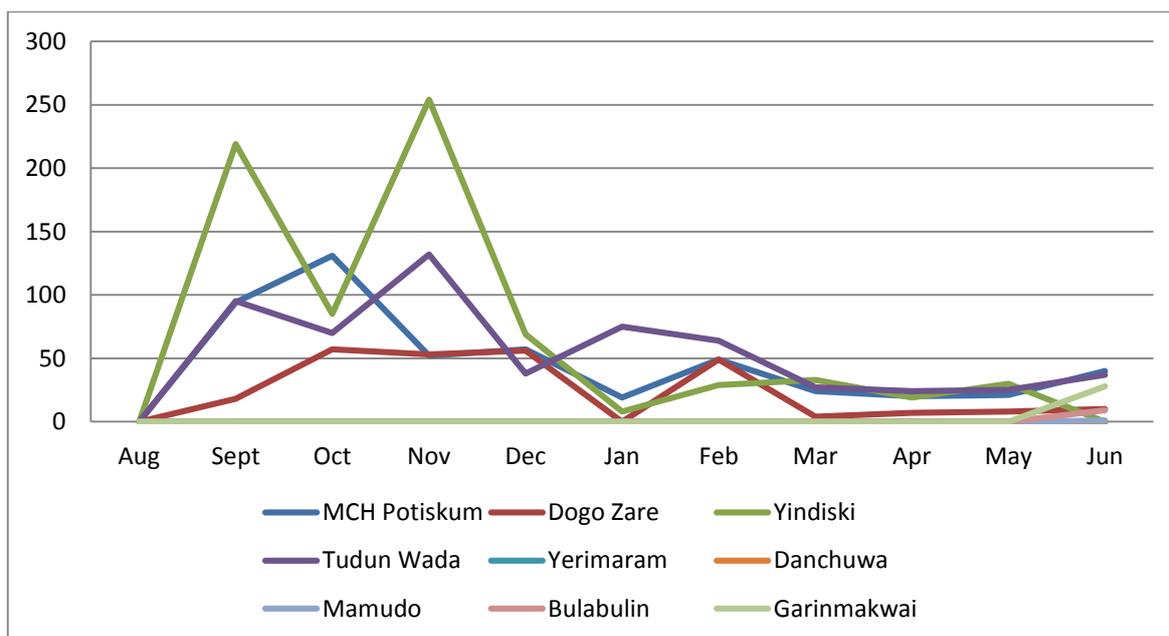
1.7.2. Early versus Late Defaulter

The investigation also analysed the timing of defaulting, in an effort to determine possible reasons behind it[3]. For Nigeria, a threshold of at least 5 visits or more was set as sufficient for a child to be considered as a late defaulter (based on average length of stay in the programme observed from treatment charts). Discharged defaulter cards were gathered and separated into categories according to number of visits recorded (Figure 7). The analysis concluded that most defaulting is occurring early on, with most defaulters never returning for a single follow-up visit after admission. In order to explore possible correlations between defaulting and programme numbers, the analysis was done by health facility as shown below (Figure 8).

The highest early defaulting is happening in MCH Potiskum and Tudun Wada. A key factor linked to defaulting is the interface problem between health worker and beneficiary, which is caused by overcrowding of health facilities, which overwhelms health workers.

Figure 6. Time of defaulting, overall, Potiskum LGA, August 2011-June2012
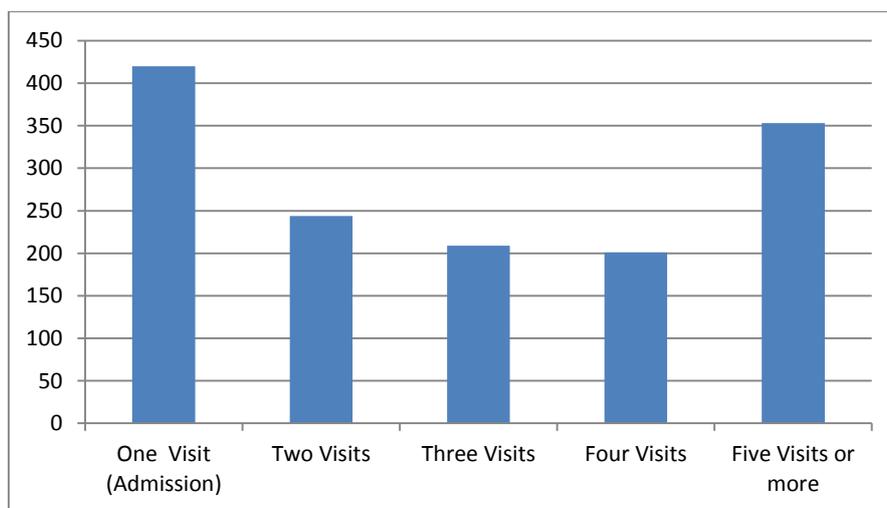
Figure 7. Time of defaulting, per health facility, Potiskum LGA, August 2011-June 2012


---
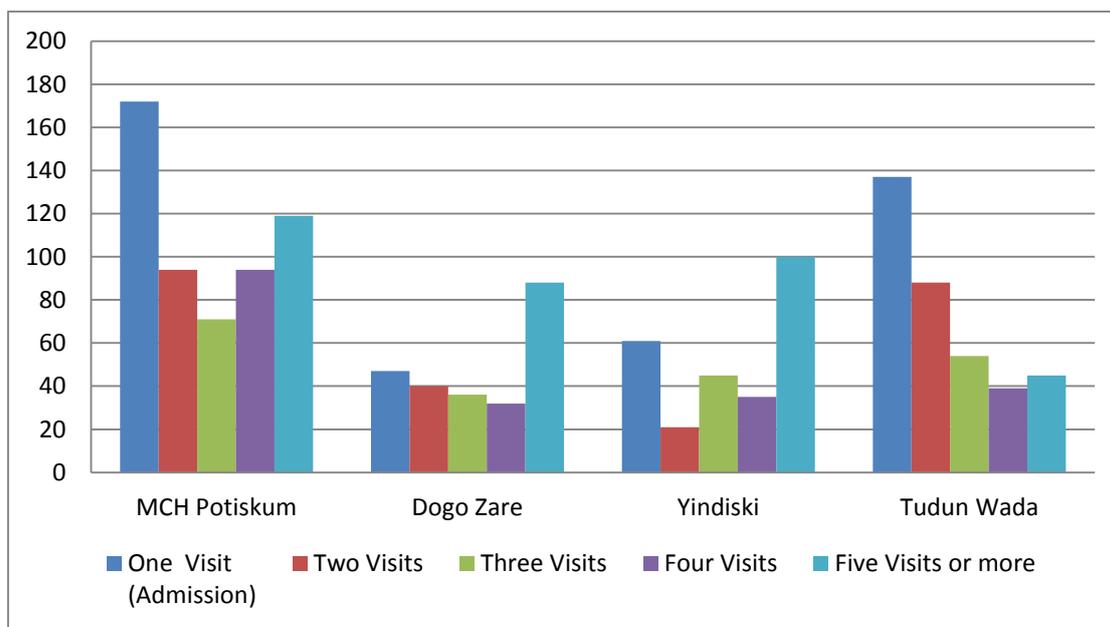
[3] Early defaulters generally happened most likely for significant reasons worth exploring because affecting coverage. If defaulting happened late it generally means that: 1) the child probably recovered on its own and; 2) it probably happened precisely because "sufficient" progress had been made

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

1.7.3. Defaulters by Health Facility Location

Since defaulting was also more pronounced in Tudun Wada, Yindiski and Potiskum MCH facilities, an analysis of defaulters by health facility location was also carried out. The aim was to establish the extent to which high defaulting was having an impact on coverage within Potiskum LGA.   Defaulters were mapped by health facility (Figure 9) in relation to their village of origin.

The mapping shows that facilities located on the urban had more defaulters compared to health facilities in the outskirts of Potiskum LGA. The urban centres also record highest admission of SAM children. This suggests that caregivers spend more time to receive services from health facilities due to large number of cases. Therefore long waiting hours is responsible for defaulting. Poor interface by health workers due to high workload is also another possible reason for defaulting.

Figure 8. Defaulter mapped Potiskum LGA August 2011-Jun 2012
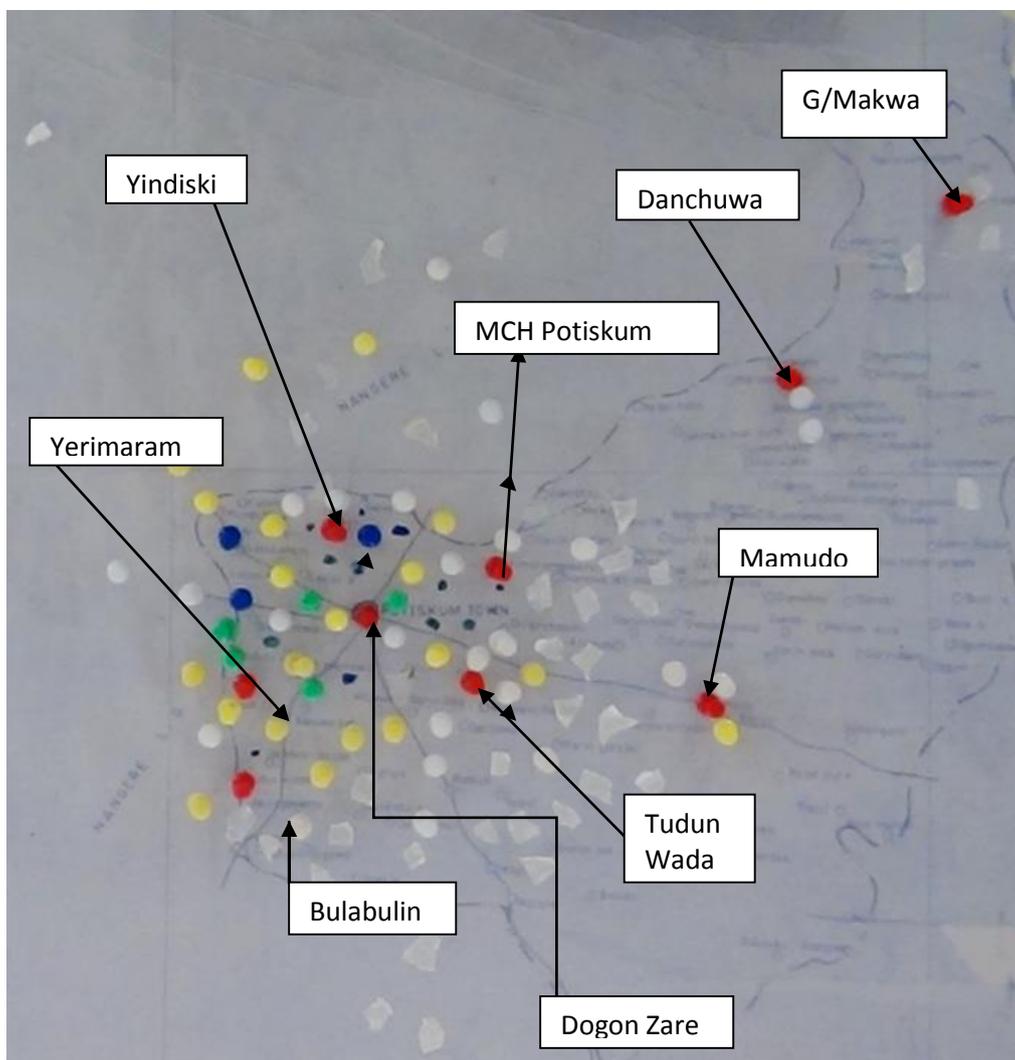
Colour Codes
- Red represents Health Facility (HF)
- Yellow represent locations with more than 15 defaulters)
- Green represents locations with 11- 15 defaulters

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

- Blue represents locations with 6 - 10 defaulters
- White represents locations with less than 5 defaulters

The map reveals that a core number of defaulters are coming from within the towns where health facilities are located and providing treatment, suggesting that neither physical access nor distance is a barrier.

1.8 Qualitative Data

In order to understand health seeking behaviours in Potiskum LGA, a series of cultural and programmatic factors linked to malnutrition were reviewed. Table II summarizes key findings on possible reasons for defaulting and non-attendance that were collected as part of the coverage assessment done in Aug 2011; they were assessed and updated accordingly to the Potiskum context.

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

Table II. Reasons for Defaulting & Non-Attendance

Awareness on malnutrition & treatment available	Malnutrition is not recognized as a distinct disease by communites. Thus, when a child presents malnutrition signs and symptoms, caregivers go to traditional healers. This was also the case before CMAM service became available close to some communities. With the start of CMAM, caregivers bring children for treatment for a few times, and tend to stop once they see the child's condition is improving.
Beliefs linked to malnutrition / Stigma	Malnutrition is believed to result from socially unacceptable behavior or action. Therefore it can sometimes be difficult for the family, especially men, to accept treatment. They will prefer to go to traditional healers unknown to the community and get treatment for the children.
Health Facility service provision	Caregivers complain of health staff attitude towards them at health facility level. They say they are judged and provided with limited information, leading them to feel intimidated or uninformed on the continuation of treatment. This is reported especially to happen to caregivers who may be absent for two weeks and return on the third week. In additon, the number of CMAM beneficiaries in charge in many health facilities is too high resulting in long waiting times, leading caregivers to return home without receiving treament for their child.
Rejection	Many caregivers come on a regular basis to health facilities for screening as they hear about the programme from other caregivers. As some of the children do not fit the criteria, they are not admitted and this is relayed back to communities. Therefore, sometimes, even if a caregiver may notice symptoms, they may be told by other women in the community not to attend the health facility as they will not be admitted anyway.
RUTF Perceptions / Acceptance	Some health facilities refer to RUTF as food, which can have implication in that caregivers will attend the health facility without understanding the admission criteria/malnutrition treatment, be rejected and relay this information back to communities. Health workers also reported that some caregivers believe that RUTF can cause diarrhoea.
RUTF stock outs	The RUTF stock outs that happened in October 2011 led beneficiaries to lose confidence in treatment and thus not return regularly. There was also a full stock out for four weeks in March and four weeks in June 2012. Despite efforts to decrease daily RUTF amounts to ensure at least a supplement was provided over time to the children, the supplies were not enough.

1.9 Areas of High and Low Coverage

Based on the information collected and analysed in Stage One, the investigation concluded that coverage is likely to be relatively low throughout Potiskum LGA. Two primary factors affecting coverage were identified:

1. Concentration of health facilities with CMAM services in urban location
2. Interface problems at health facilities (high defaulting in towns)

2. STAGE TWO

The objective of Stage Two was to confirm the locations of areas of high and low coverage as well as the reasons for coverage failure identified in Stage One (above) using small area surveys.

Four teams were formed for the small area surveys. Four locations were sampled in three days as the teams were expected to be back early at the base due to security concerns. The teams of 3 people went to Tudun Wada, Mamudo, Danchuwa and Yindiski. The case definition used was for both marasmus and kwashiorkor cases - terms used included: children who are not eating, have lost weight, are being weaned or swollen (kwashiorkor) with use of photos, as well as for children in the programme but no longer with SAM (recovering cases). Combined active & adaptive with house to

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

house case finding methodology was used to ensure exhaustive coverage of targeted areas. The main findings of the small area surveys are summarized in Table III.

Table III. Stage Two – Small Area Survey (Findings)

Tudu wada	Urban	Total SAM Found	3	
		SAM Cases in the Programme	2	
		SAM Cases not in the Programme	1	Caregiver relocated
Mamudo	Peri-urban/rural	Total SAM Found	1	
		SAM Cases in the Programme	0	
		SAM Cases not in the Programme	1	Rejection
Danchuwa	Peri-urban/rural	Total SAM Found	15	
		SAM Cases in the Programme	13	
		SAM Cases not in the Programme	2	-Defaulter due to long waiting hours at HF -Difficulty with Child care
Yindiski	Urban	Total SAM Found	4	
		SAM Cases in the Programme	1	
		SAM Cases not in the Programme	3	Rejection

Based on the information collected, coverage was classified against a threshold of 50%[4]. A decision rule (d) was calculated using the following formula:

$$d = n \times \frac{p}{100}$$

n = total number of cases found

p = coverage standard set for the area

The results of coverage classification are presented in Table IV.

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

Table IV. Small Area Survey (Coverage Classification)

High Coverage	Tudu wada	Coverage standard (p)	50%	Number of cases covered (2) is > decision rule (1) **Coverage is >50%**
		Decision Rule (d)	[n x 50/100]	
			[3 x 0.5]	
			1.5	
		d	1	
		Cases covered	2	
Low Coverage	Mamudo	Coverage standard (p)	50%	Number of cases covered (0) is < decision rule (1) **Coverage is <50%**
		Decision Rule (d)	[n x 50/100]	
			[1 x 0.5]	
			0.5	
		d	1	
		Cases covered	0	
High Coverage	Danchuwa	Coverage standard (p)	50%	Number of cases covered (13) is > decision rule (7) **Coverage is >50%**
		Decision Rule (d)	[n x 50/100]	
			[15x 0.5]	
			7.5	
		d	7	
		Cases covered	13	
Low Coverage	Yindiski	Coverage standard (p)	50%	Number of cases covered (1) is < decision rule (2) **Coverage is <50%**
		Decision Rule (d)	[n x 50/100]	
			[4 x 0.5]	
			2	
		d	2	
		Cases covered	1	

The small area survey findings confirmed the hypothesis that interface problems at health facility level, as well as overcrowding are primary factors affecting programme coverage. In addition, it revealed that relocation and difficulties with child care also lead caregivers not to bring children to the health facility. Danchuwa assessment has shown that it has a high coverage as it seems that communities are well aware of the program especially as the health facility just started delivering SAM treatment.

3. STAGE THREE

The wide area survey could not be completed because of the security situation that deteriorated in the area at that time. Never the less, the analysis notably showed that program admission numbers were higher around urban centres (compared to rural communities) and defaulter rates more elevated as well. Some of the reasons identified for high defaulting in urban areas were overcrowding of health facilities and insecurity in Potiskum town. Although Stage 3 could not take place (no coverage estimate), the analysis of different factors affecting coverage as well as small area survey findings led to conclude that **CMAM coverage** is likely to **fall below the 50% threshold**, i.e., **coverage was classified as low in Potiskum LGA.**

4. CONCLUSIONS & RECOMMENDATIONS

- Defaulting rates are more than triple the target set by SPHERE standards. A main cause identified has been health facility personnel interface especially in health facilities in urban locations, due to large volume of children to be seen in one day by health workers which can be stressful for the personnel and lead to long waiting hours for caregivers. It will therefore be vital to work with health facility teams to improve service delivery. This may involve provision of double rations, organizing more than one day a week for follow-up or other modifications as may be provided by the health workers themselves. It is important that the planning and implementation in improving interface is done jointly, in close partnership with health facility teams, to ensure ownership of the adaptations they identify.
- Another key contributing factor to defaulting are reoccurring stock outs; a strategy to address and ensure that the supply is consistent, and, in case of stock out to sensitize beneficiaries in communities.
- Awareness about malnutrition and treatment availability vis limited especially as community volunteers were only identified and trained in Feb/March 2012. Thus, the community mobilisation and awareness strategy must be further elaborated beyond community volunteer training and leader sensitisation meetings, to include creative and unforgettable events, such as theatre, jingles, as well as stronger sensitisation of alternative key stakeholders, such as traditional healers.
- A SQUEAC investigation is recommended to be conducted again when the security allows team members to be deployed i) to evaluate the impact of the implementation of the present recommendations, and ii) to conduct a complete (3 Stages) SQUEAC investigation.
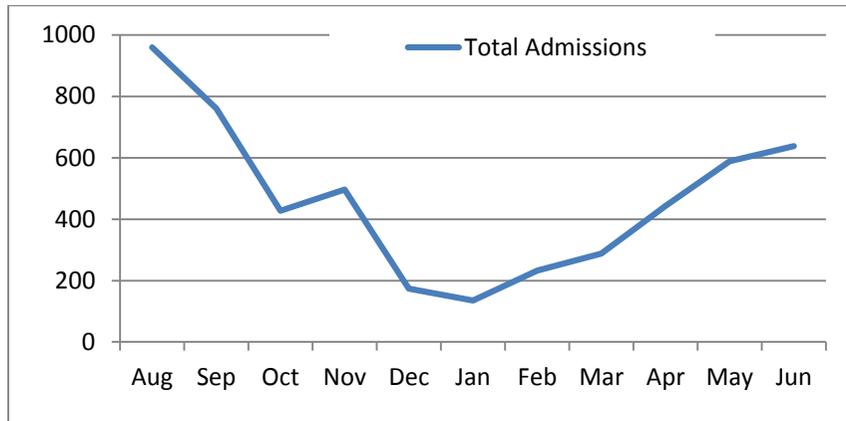
ANNEXES

**Annex 1. Map of health facilities (Service Delivery Units) integrating CMAM-Potiskum LGA**
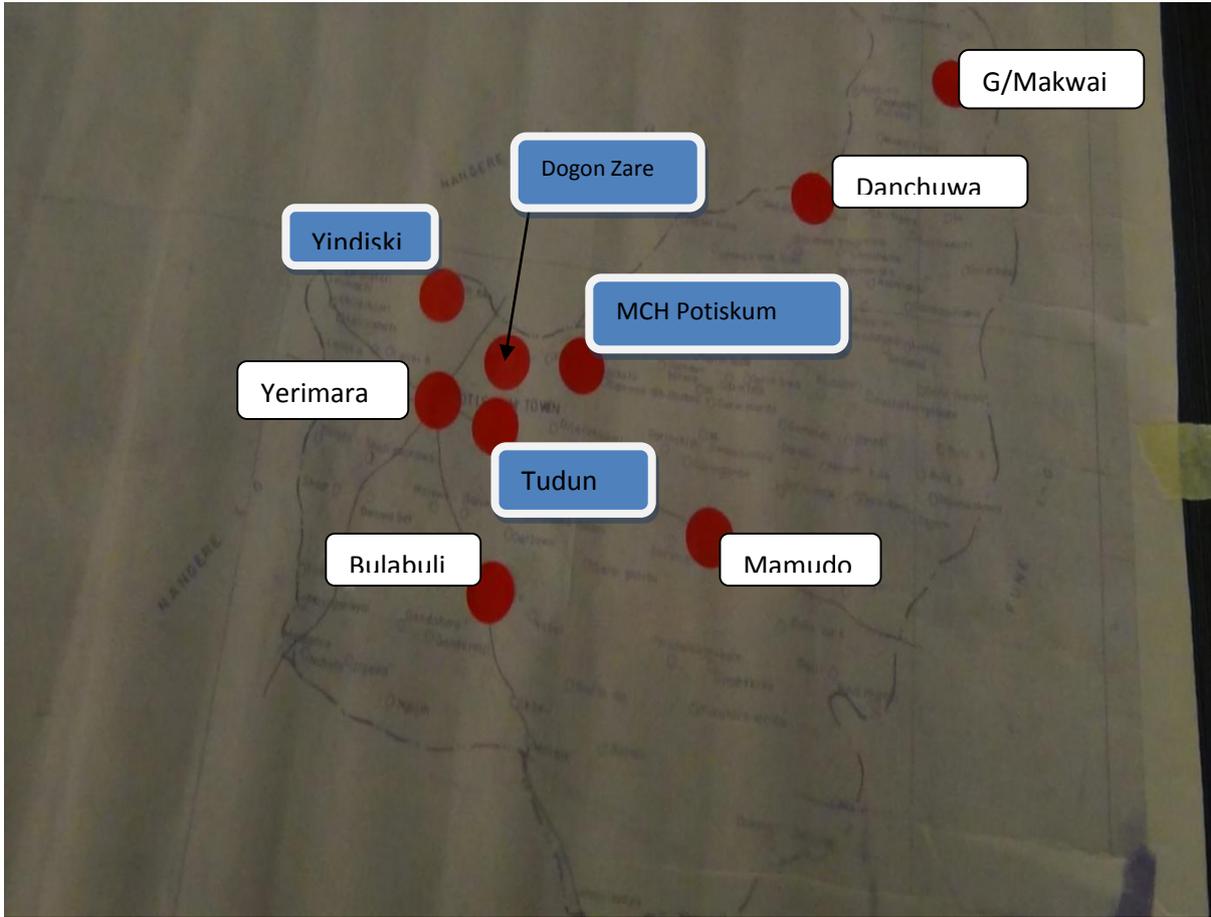
blue text boxes= HFs in urban areas with high admission numbers

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

Annex 2. Admissions versus Seasonal & main events calendar, Potiskum LGA

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Crop Production	Land preparation												
	Planting												
	Weeding												
	Green harvest												
	Harvest												
	Processing												
Hunger Season	Hunger seaon peak												
	Staple food prices peak												
Livestock	Livestock sale												
Employment	Farm casual labour												
	Off-farm labour												
	Labour migration												
	Formal employment												
Health	Malaria												
	Diarrhea												
	Measles												
	Whooping cough												

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

Annex 3. Spatial distribution of Admissions Potiskum health facilities
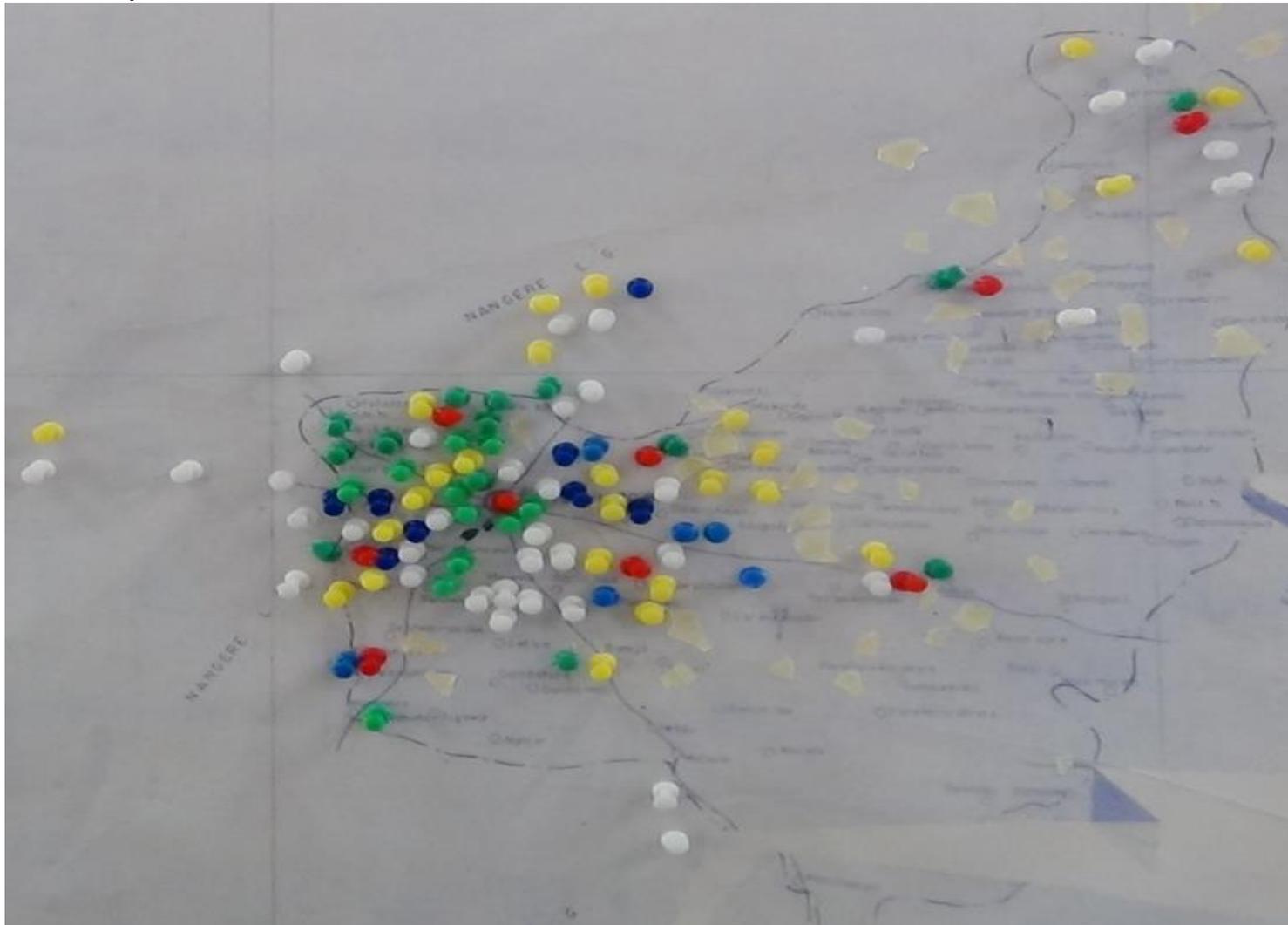
Key- Colour Code

- Red stands for health Facility
- Green- Admission of 20 and above
- Yellow- Admission of between 15-19
- Blue- Admission of between 10-14
- White –Admission of less than 10

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012

Annex 4. MUAC at admission, Potiskum LGA, Aug2011 – June 2012

median

ACF Nigeria, Yobe State, Potiskum LGA, SQUEAC Investigation Aug 2012