



COVERAGE MONITORING NETWORK

2013

COVERAGE ASSESSMENT

» SEMI-QUANTITATIVE EVALUATION OF ACCESS & COVERAGE

**SQUEAC REPORT on Baure and SLEAC on Baure, Dutsi,
Daura and Zango, Katsina LGA, Nigeria**

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ACRONYMS

CMAM	Community-based Management of Acute Malnutrition
ECHO	European Commission Humanitarian Office
IYCF	Infant and Young Child Feeding
LGA	Local Government Area
MCH	Mother and Child Health
OTP	Outpatient Therapeutic Program
PHC	Primary Health Care
PRRINN/MNCH	Partnership for Reviving Routine Immunization in Northern Nigeria – Maternal Newborn and Child Health Initiative
RUTF	Ready to Use Therapeutic food
SAM	Severe Acute Malnutrition
SDU	Service Deliver Unit (i.e. health facility)
SLEAC	Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC)
SQUEAC	Semi-Quantitative Evaluation of Access and Coverage
SC	Stabilization Centre



EXECUTIVE SUMMARY

This survey was conducted in Zango, Daura, Dutsi and Baure Local government Areas, Katsina State, Nigeria, in April 2013. The objective of the survey was: to assess the coverage of the CMAM program implemented by the Katsina State Primary Health Care Development Agency in collaboration with Save the Children: list the factors that impact on coverage; generate specific information on how the program can be improved and as a result improve coverage; and conduct in depth investigation using SQUEAC for weak coverage areas to find out barriers and boosters of coverage. A simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) was implemented in the 4 LGAs and a Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) to complete the study was implemented in Baure LGA. OTP coverage was calculated using Point Coverage; and a classification of coverage level for each LGA is provided.

Point coverage was **55%** (95% CI = 53.2% - 56.8%). Program coverage distribution showed a good level of coverage in many parts of the program except for Baure. Generally, point coverage does not meet SPHERE minimum standards for coverage of a therapeutic feeding program in Baure LGA (classified as <50%).

						Point Coverage	
	Service Delivery Unit	Sample size	In prog	Not in Prog	Recovering	Decision value (point)	Classification
1	Baure	58	14	20	24	>17	Below SPHERE Minimum Standard (<50%)
2	Dutsi	26	10	4	12	>7	Above SPHERE Minimum Standard (>50%)
3	Daura	29	11	9	9	>10	Above SPHERE Minimum Standard (>50%)
4	Zango	49	21	16	12	>18	Above SPHERE Minimum Standard (>50%)

The public health approach that the program has followed has enhanced community level advocacy and stronger acceptance of the program by the State MOH and the community. The CMAM program has been in the area since 2010; as a result, many of the mothers know about the program. Seventy six per cent of carers of children who are not in the program actually know that the program is available in their area and that SAM is a treatable disease. Indeed, the results of the investigation as well as field observation show a very high awareness about the program in the surveyed communities. The investigation and the survey have found that community sensitization on the availability of the services for treatment of malnourished children is nearly universally known, which a very big achievement.



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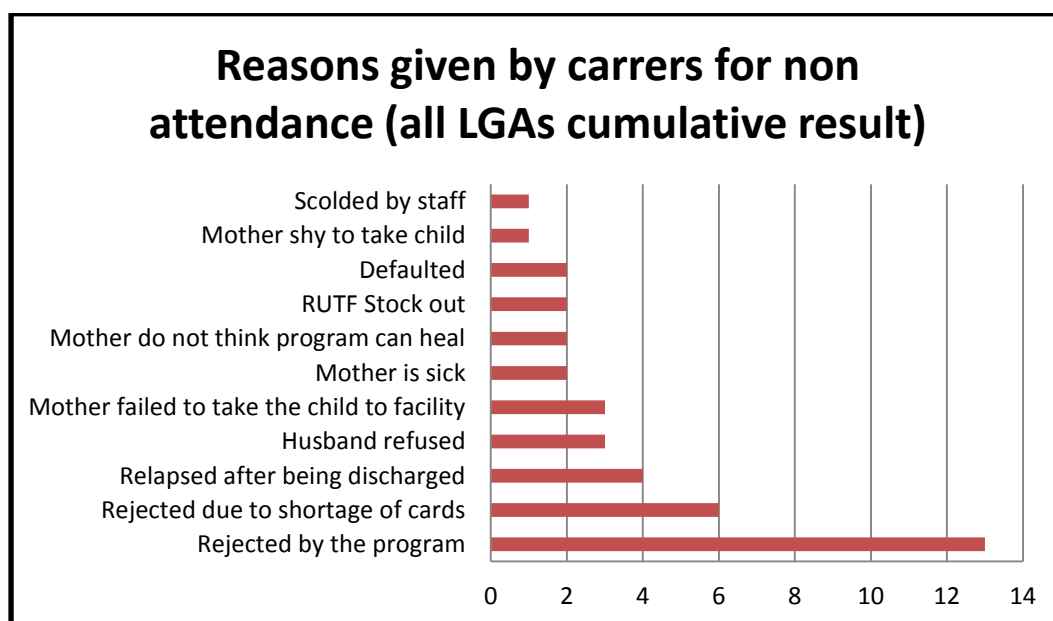


Fifty percent (50%) of carers of cases not on treatment who knew of a program that could treat their child reported that they had attended the program, many on more than one occasion. Some of these carers had been told that their child was not malnourished and would not be admitted to the program, or that there are no ration cards so the child could not be admitted into the program, yet others were mistreated by the staff and turned away. It is unclear how many of this group had originally attended the program as the result of a referral by program case finding staff. It is also unclear how many of this group met program admission criteria at the time of attendance (or before being turned away due to a various reasons).

This *problem of rejected referrals* has been noted in previous CMAM programs and has several important negative consequences for program coverage. The data from this coverage survey strongly suggests that the Carers of rejected children have become unwilling to attend the program even when their children's condition deteriorates. Interviews with mothers of children attending the program confirmed this point.

Confusion, misinterpretation, and assumptions that most mothers want the RUTF and are double registered, and differences in case-definitions are likely to have led to a considerable number of inappropriately rejected referrals that would have been at considerable risk of mortality.

SLEAC findings show that the reasons for poor coverage are predominantly problems from the service provider rather than problems with the community (unlike many programs). Of 39 uncovered children, 24 (61.5%) were not covered due to problems from the program side. These problems are summarized in the graph below.



The assessment showed an overall CMAM **point coverage of 55%**. This is above the recommended SPHERE minimum standards of 50% for rural communities. The MoH and Save the Children International must therefore be commended for successfully



decentralizing these life-saving services across the LGAs, ensuring access for the wider target population. Further strengthening of the program, particularly the community mobilization aspect is required, to ensure that children becoming malnourished are identified early and referred to OTP.

The Program as a whole and in the different LGAs has been able to meet Sphere minimum standard (coverage >50). This is a result of staff commitment and community acceptance.

The investigation recommends;

- 1) Make cards available at all times;
- 2) Sharing and selling is the main reason why the program is rejecting children due to the assumed double registration. Therefore, devise a way to address and avoid double registration and rejecting true cases. The community stated that this can easily be addressed; and recommended that the village leaders discuss with the community the negative aspect of the double registration.
- 3) Strengthening health facility interface in terms of better working conditions for health workers which will in turn impact how caregivers are treated and the waiting times. This can be achieved by increasing the number of health facility staff or number of OTP days per week. This is very important as in significant number of facilities staff exhaustion was observed.
- 4) Community volunteers feel demotivated and consistently asked for motivation and assistance at least with transport fees. This is one of the main barriers that is affecting the program and creating negative feelings between community and facility staff.

Conclusions of SQUEAC in Baure LGA

- The program was well run with very good outcomes in terms of recovery, lengths of stay, defaulting, and mortality
- Awareness about the program is very high
- Awareness about malnutrition is very high
- Program perception by community is very positive
- Volunteers seem to be unhappy about lack of motivation (transport and others). Save the Children and the Government of Nigeria should find solution to this.
- Even if RUTF is well-accepted, considering it as a food is causing double registration. This is seriously affecting the program and a solution should be created (use traditional leaders to address this)
- Caseload per facility is very high in some of the facilities. Due to this mothers wait all day to get the treatment. Ways should be created to address this as it is seriously affecting the program standard
- Sales of RUTF, intra-household sharing of RUTF and consumption of RUTF by adults is wide spread. This should be addressed. Village leaders can help address this.
- Some CVs catchment areas are large, in terms of both numbers of households and area, and this may hamper exhaustive case-finding.
- Community screening is not clear as there is a divide between urban and rural facilities. But, it is confirmed that screening at facility level is more common than case finding at village level. Devise a way to involve the community itself



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screening children at village level rather than bringing hundreds to the facility, creating congestion which may create cross infections; increased workload on volunteers and facility staff, and a high opportunity cost for the carers. Therefore; within-community case-finding and referral activities should be strengthened.

- The program entry criteria should be clarified with all program staff as well as volunteers and other referrers and the community. Spot-checks should be made at all sites to ensure that program entry criteria are being followed and remedial action taken if required.
- In some facilities the relationship between community and facility staff is very bad. The MoH and Save the Children should work towards normalizing relationship by addressing the grievances of staff, volunteers and community. A strategy for raising the awareness of the RUTF as a medicine rather than food should be developed and implemented
- In some facilities, it is reported that there is no water for appetite test and other related activities. This issue needs to be resolved.
- Across all facilities in Baure there are reports of drug shortage and drugs being expensive. Investigate the issue and address the shortage.
- Within-community case-finding and referral activities should be extended to all villages in the program area
- Program outreach activities should be extended into all areas.
- Provide volunteers with slips so that they can trace those referred and admitted to the program.
- Something should be done about referrals to Stabilization Centers (SCs). Mothers when referred to SCs refuse to go and this is seriously affecting many children. This is more frequent during the malaria and rainy season.



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INTRODUCTION

1.1 CONTEXT

Katsina State was carved out of the old Kaduna State in September 1989. It is bordered in the north by the Republic of Niger, in the east by Kano State, in the south by Kaduna State and in the west by Zamfara State.

Figure 1:- Map of Katsina State and the location of the LGAs (green arrows)



The state is made up of two emirates which feature prominently in the establishment of the seven Hausa Kingdoms. Katsina consists largely of scrub vegetation with some



wooded savannah in the south. There are 34 local government areas in the state. The indigenes are Hausa and Fulani with other ethnic groups such as the Ibo and Yoruba. The state is mostly Muslim, and Sharia is valid in the entire state.

Save the Children is supporting the Katsina State Primary Health Care Development Agency (SPHCDA) and the Primary Health Care Departments in Daura, Zango, Dutsi and Baure Local Governments (LGAs). All 4 LGAs are in the North East of Katsina State, most of them bordering Niger Republic and Jigawa State.



1.2. SAVE THE CHILDREN -SUPPORTED PROGRAM IN KATSINA STATE

The magnitude of the hunger situation in Nigeria varies from one state to another with major concerns in the northern states as shown by anthropometric survey carried out at the national level in the framework of Demographic and Health Survey (DHS). Data from the 2008 DHS suggest a deterioration of the situation.

UNICEF estimates that 1.1 million children are threatened with severe acute malnutrition in the Sahel Region. Based on the 2008 Nigeria Demographic and Health Survey (NDHS) 41% of children under five are stunted, or too short for their age (Nationally). This indicates chronic malnutrition. Stunting is more common in rural areas (45%) than urban areas (31%). Stunting ranges from 22% in the South East zone to 53% in North West zone. Wasting (too thin for height), which is a sign of acute malnutrition, is less common (14%). Almost one-quarter (23%) of Nigerian children are underweight or too thin for their age. In Katsina and North West zone SAM was estimated to be 10.6% and MAM 19.9% (NDHS, 2008).

Table 1: Mortality Data for Katsina State

Indicator	Value for Katsina
Infant Mortality Rate¹	91
Estimated infant deaths	23,000
per annum	
Maternal Mortality Ratio	1,025
Estimated maternal	3000
deaths per annum	

Save the Children has been present in Nigeria since 2001, and working in the north of the country since 2006. Since 2006, Save the Children has been a key implementing partner of the PRRINN/MNCH (Partnership for Reviving Routine Immunization in Northern Nigeria – Maternal Newborn and Child Health Initiative), a consortium funded by DFID. The ultimate aim of PRRINN/MNCH is to assist states in northern Nigeria to reduce the excess burden of mortality, and disease, born by women, newborns and children and to generate insight into how validated innovations can inform programming in other parts of the country in support of the Nigerian effort to reach the Millennium Development Goals 4 and 5.

Since mid-2010 Save the Children in collaboration with the State's MoH and local partners, has been carrying out a pilot CMAM program in Daura and Zango LGAs in the

¹ Partnership for Reviving Routine Immunization in Northern Nigeria; Maternal Newborn and Child Health Initiative, 2010 annual report



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north of Katsina State, treating children under five suffering from severe acute malnutrition in two in-patient facilities and 14 out-patient facilities. From the first admission on 21 September till 31 December, 5461 patients were admitted for treatment. Encouraged by their initial success, the MoH and Save the Children rolled out the program into existing Primary Health Delivery Units in 4 more LGAs. This resulted in an impressive increase of service coverage as well as dramatic improvement in access to services by severely malnourished children. The MoH and partners at all levels must be highly commended for their efforts in establishing and maintaining SAM services across wide areas of the Katsina State, over a very short period of time. The challenge now is to ensure continuous provision of quality services, over the longer-term. While the CMAM services may now be in place, it does not necessarily follow that the population are fully utilizing these services. It is important to measure and quantify levels of service uptake by the target population, to understand the reasons why some areas may have high uptake and others low, as lessons can be learned from both scenarios. Where service uptake is low, it is particularly important to understand what barriers the target population may be facing, so that measures can be taken to address these barriers, with lessons learned shared and disseminated to other areas.

To measure CMAM coverage and barriers to service uptake in 4 LGAs in Katsina State, a coverage assessment using the SLEAC and SQUEAC methodology was conducted from 4th of April to 16th of April 2013.

As explained above, 4 out of 34 LGAs are supported by Save the Children International for provision of Community Management of Acute Malnutrition (CMAM) and implemented through the ownership of MoH. This covers 56 facilities across the 4 LGAs (see Annex 1 for list of facilities). Fifty facilities provide OTP services and an additional six treat children with complication in Stabilization Centers.

The key components of the support includes i) technical capacity building and ii) logistical support for the accurate roll out of CMAM. The capacity building aspect includes establishing/strengthening OTP sites and SCs, including logistics and supplies; training of health workers based on identified knowledge /skills gaps; training and deployment of Community Volunteers (CVs), on-going supervision and on site mentoring.



OBJECTIVES

The overall objective of the survey was to strengthen routine program monitoring and increase program coverage in the facilities. This was achieved in two stages. In the first stage a SLEAC Evaluation was conducted across the four LGAs. This provided:

1. An overall coverage estimate (the whole four LGAs)
2. List of factors that impact on coverage
3. Specific information on how the program can be improved and as a result improve coverage
4. Classify the coverage level for each LGA
5. Dissemination of results to key staff at Save and the MoH

The subsequent stage was to conduct a SQUEAC survey in poor service delivery areas. Its objectives were to:

1. Identify barriers to access to the CMAM services;
2. Identify boosters to accessing the program;
3. Provide recommendations to Katsina program based on the survey findings to improve access to the CMAM services and increase program coverage;
4. Enhance the capacities of key Save the Children and ACF technical staff (these were invited to take part in the training and in conducting the survey) to undertake coverage survey using SQUEAC methodology;
5. Dissemination of results to key staff at Save and the MoH

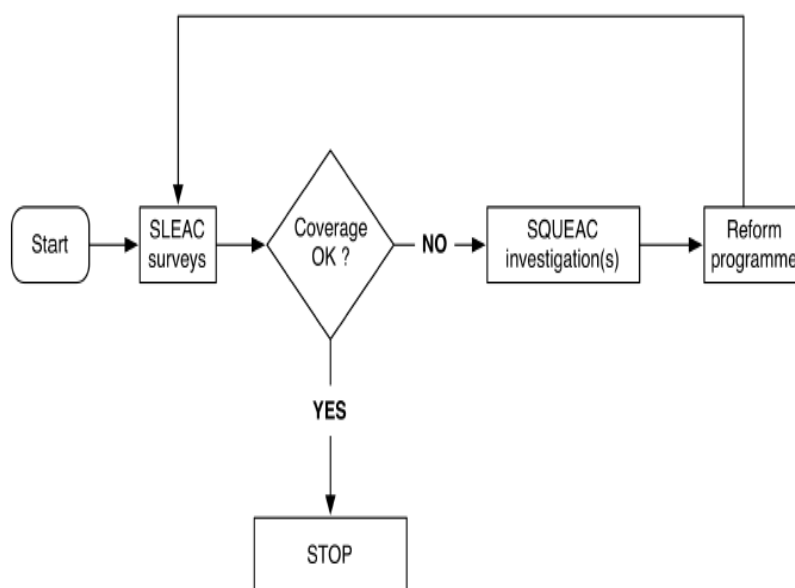


METHODOLOGY

Simplified LQAS Evaluation of Access and Coverage (SLEAC) is a methodology developed by Valid international and others partners to measure coverage of selective feeding programs and barriers to access and attendance of CMAM services

SLEACs and one targeted SQUEAC investigation were used to assess access and coverage. This assessments design is common when the area is too big and not homogenous enough to be covered by a SQUEAC. See Figure 2 below.

Figure 2:- Steps of conducting evaluation of a program by alternating SLEAC and SQUEAC



The **SLEAC** method *classifies* program coverage for a service delivery unit such as a health district in “low coverage” or “high coverage”. The advantage of this approach is that relatively small sample sizes (e.g. $n = 40$) are required in order to make an accurate and reliable *classification*. **SLEAC** can estimate coverage over several service delivery units.

Data from the individual service delivery units are combined and coverage for this wider area is *estimated* from this combined sample.

SLEAC is a low-resource method for classifying and estimating the coverage of selective feeding programs over many service delivery units. A **SLEAC** survey will usually be very much quicker and very much cheaper than a **CSAS** survey of the same area. A However, the cost efficiency of **SLEAC** as compared to **CSAS** and **SQUEAC** is exemplified best by coverage assessments over multiple service delivery units and over wide areas.



Table 2: SQUEAC and SLEAC are designed to complement each Other

SLEAC	SQUEAC
SLEAC is a wide-area method that could be used to classify and map the coverage of CMAM service at District, national, or regional levels.	SQUEAC is a local method used to identify factors influencing program success and failure at the local (i.e. district or clinic) level.
SLEAC provides a coarse overview of program coverage (i.e. coverage class) with only limited information on barriers.	SQUEAC provides a detailed view of program coverage and detailed information on barriers.

SLEAC uses a *two-stage sample*: *First stage*: a sample of villages in the survey area. During the second stage a complete search of current cases or recovering cases was conducted.

STAGE 1

A geographical sampling method was used by applying a systematic random sample of all villages in the catchment areas of the surveyed facilities. This was chosen to make the data representative in terms of area in contrast with population proportional to size methods which give more weight to population.

Each LGA was considered as a service delivery unit and the classification of coverage was calculated for each LGA accordingly. Since four LGAs were evaluated, SLEAC produced four coverage classifications.

Using estimates of population size, population structure and prevalence of SAM, the total number of SAM cases per service delivery unit were estimated:

$$N = \text{population of service delivery unit}_{\text{all ages}} \times \frac{\% \text{ of } 6-59 \text{ months}}{100} \times \frac{\text{SAM Prevalence}}{100}$$

Table 3: Population of the four LGAs²

SN	Service Delivery Unit or Local Government Authority (LGA)	Under-five population	Total SAM per LGA ³
1	Baure	42432	1231
2	Daura	52472	1522
3	Dutsi	28663	831
4	Zango	36954	1072
	Total	160521	4656

Sample sizes (*n*) are then determined using the sample size table shown below given the estimates of SAM cases per service delivery unit.

² Population data were taken from Save the Children International.

³ Save the Children Survey in its program areas gave a SAM prevalence of 2.5. For estimating caseload we have adjusted this to reflect the prevailing caseload at the survey period



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Table 4: SLEAC survey sample size lookup table

Total cases in the Service delivery unit	sample size	
	50% standard	70% (30%) standard
500	37	33
250	35	32
125	31	29
100	29	26
80	27	26
60	25	25
50	23	22
40	21	19
30	17	18
20	15	15

For Katsina SLEAC, a target sample size of $n = 40$ current SAM cases was used. This is the standard **SLEAC** sample size for large populations⁴. The number of villages (n villages) needed to reach the target sample size in each district was calculated using estimates of average village population and SAM prevalence using the following formula:

$$n_{\text{villages}} = \frac{N}{\left(\text{Average village population}_{\text{all ages}} \right) \times \frac{x_{6-59 \text{ months}}}{100} \times \frac{\text{SAM Prevalence}}{100}}$$

Thus the required village for each LGA is calculated using the following variables:

Table 5:- Inputs to determine village size

Service delivery unit	Required current cases (sample size)	Average village size	Proportion of under fives	SAM prevalence
Baure LGA	40	600	0.2	0.3
Daura LGA	40	500	0.2	0.3
Dutsi LGA	40	850	0.2	0.3
Zango LGA	40	650	0.2	0.3

Table 6: Calculated required village for the survey

SN	Service Delivery unit	SAM caseload (using	Sample size	Total number of villages
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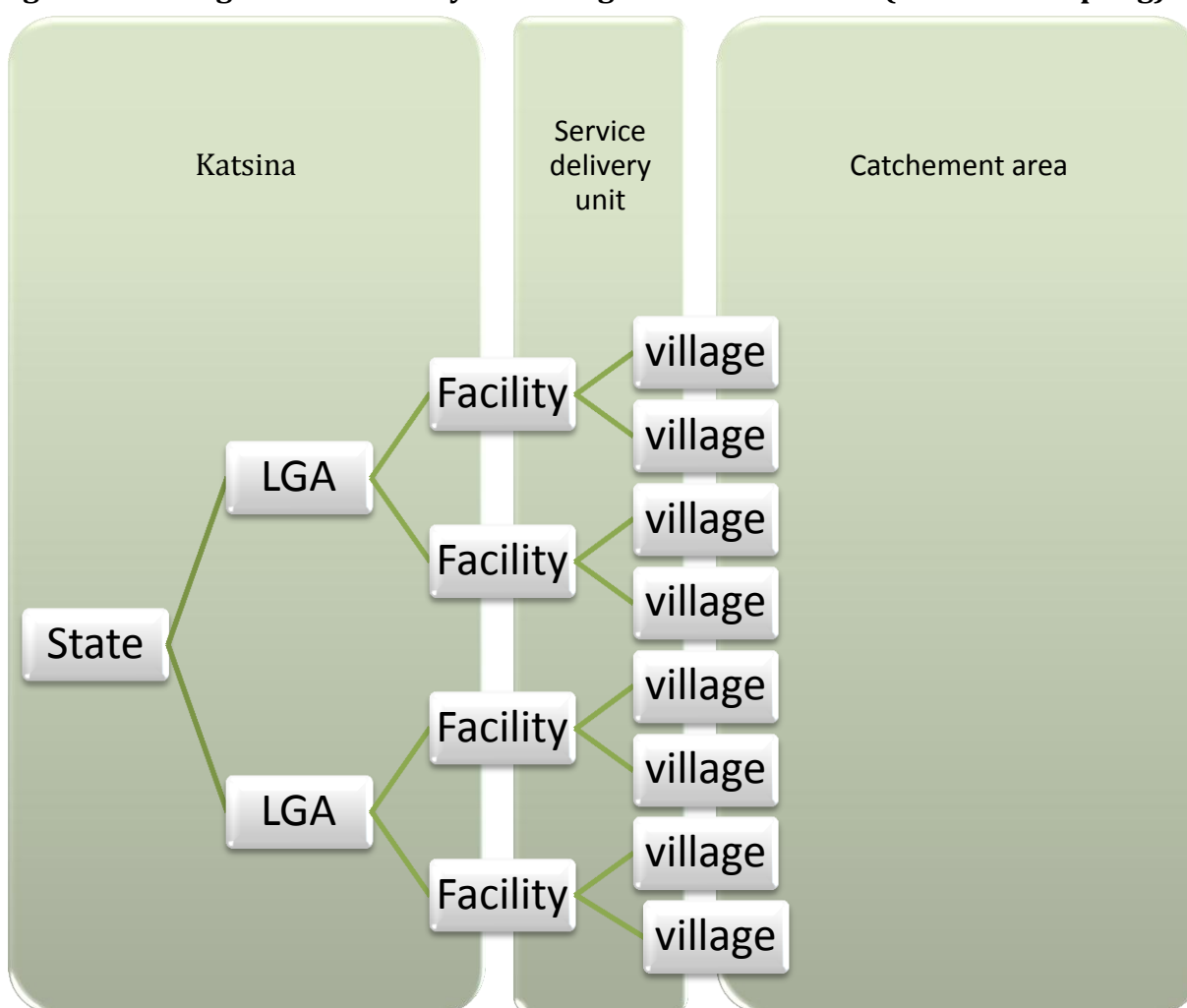
⁴ To understand as to why a minimum sample size of 40 is appropriate for SLEAC surveys is an optimum sample size for SLEAC; please refer the manual on page 202 and beyond. In general, the manual shows on page 203 the operating characteristics plots and probability of classification plots found using simulation for $n=40$. The curves are steep and there are no gross misclassifications. At lower prevalence or smaller populations, the method will perform better than indicated by the operating characteristic curves and probability of classification plots shown in figure A1-4 as the sampling proportion increases

(Refer to: Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)/ Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) Technical Reference)

2.9%)

1	Baure	1231		11
2	Daura	1521		13
3	Dutsi	831		8
4	Zango	1072		10
	Total	4655	40 for each service delivery unit	42

Figure 3: Arrangement of facility and villages in Katsina state (used for sampling)



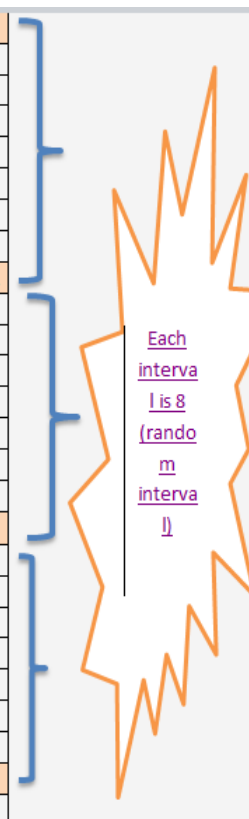
Using this sampling frame one sampling was conducted using systematic random sampling. To do so the sampling interval should be calculated using this formula:-

$$\text{Sampling interval} = \frac{\text{Total number of villages in the four LGAs}}{\text{number of locations to be sampled}}$$



After determining the sampling interval, to select the villages using it we should select the first village (random start). A random table was used to select the first village to be selected (villages were numbered to do this). The first village is the random number between number 1 and the random interval calculated above. Subsequent villages were sampled by adding the interval to the random start. The random interval was 8. The following snapshot is taken from the sampling frame (annex 3):

Rabaure	1.5	200	81	11
Farin Haki	2	500	82	
Beguwh	1	1500	83	
Kudundumawa	1.5	500	84	
Shipale	3	1800	85	
Tsuba	5	2000	86	
Habawa	4	2000	87	
Garlawa	6	1500	88	
Bulyar mata	5.4	2000	89	12
Dutsawa Fulani	4	1500	90	
Dutsawa Yanni	4	1700	91	
Lampar	7	2000	92	
Kuya	3	2500	93	
Ruwan Kaye A	1	600	94	
Ruwan Kaye B	1	500	95	
Madawa	0.2	500	96	
Dutsi	0.5Km	10,345	97	13
Gadare	0.5	300	98	
Jaura	1	400	99	
Matsakawe	0.5	350	100	
Dage	1	400	101	
Runde	1	350	102	
Raba	2	500	103	
Maqahiyo	2	400	104	
Dakawa	1Km	180	105	14
Nasarawa	2	450	106	



COVERAGE ESTIMATOR (OVERALL)

An overall estimate of Coverage was calculated using the results of each service delivery unit. As shown above, the number of SAM cases will vary between service delivery units in the program area. This means that the results from any one service delivery unit should be *weighted* by the number of cases in that service delivery unit.

The *weighting factor* for each survey is:

$$w = \frac{N}{\sum N}$$

N: Estimated number of cases in a service delivery unit (presented in above for each service delivery unit). Estimates of N are based on estimates of local population size, population structure, and the prevalence of SAM.

The weight factor for each Local Government Authority (our service delivery unit) is:-

Table 7: Weighting factor calculation

SN	LGA	N	$\sum N$	w
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1	Baure	1231		0.264339
2	Daura	1522		0.326886
3	Dutsi	831	4656	0.178562
4	Zango	1072		0.230213
	Total	4656		

Overall coverage estimator⁵

Overall Coverage is estimated as:

$$Coverage = \sum \left(w \times \frac{c}{n} \right)$$

Where:

w : weighting factor $\left(w \times \frac{c}{n} \right)$

c : number of covered cases found in each survey

n : sample size in each survey

A 95% confidence interval on the estimated coverage was calculated using the following formula:

$$95\%CI = Coverage \pm 1.96 \times \sqrt{\sum \frac{w^2 \left(1 - \frac{c}{n} \right) \frac{c}{n}}{n}}$$

Second Stage Sampling

Save the Children had previously conducted multiple SQUEACs in all the LGA's. This information was used to decide on the type of sampling of cases within the selected villages. The previous surveys and a field exercise as well as information from volunteers confirmed that active and adaptive case finding method using snow balling sampling technique is a better way to identify all cases in the survey population.

Active case-finding method in which survey teams visit communities with the assistance of local informants and carers, actively search for children meeting the program entry criteria for severe malnutrition. In order for this to work well, survey teams need to have a pre formulated case-finding question framed in the local language and consistent with locally held perceptions and beliefs regarding severe malnutrition. Teams also need to be able to identify and recruit useful local informants to assist with case-finding. The case-finding question and identification of suitable local informants for the coverage survey were informed by a rapid and tightly-focused piece of qualitative research. The sources and methods used for this work are summarized below:

Table 8:- Sources and methods used to develop the active case-finding method

⁵ It should be remembered that it is usually only sensible to report an overall coverage estimate if:

- The overall sample size is greater than about 96. This sample size is usually sufficient for a 95% confidence interval of ± 10 percentage points or better.
- Coverage is not patchy (i.e. coverage is broadly similar in each of the areas surveyed).



Source	Method	Location
Program staff	In-depth Interview	At facility
Community Volunteer	Focus group	At facility
Carers of children in the program	Focus group	At facility
Carers of children not in the program	Focus group	At village
Community members	Focus group	At village
Community members	Focus group from far away villages	At village
Community members	Focus group from far away villages	At village

The case-finding question is the following:

*Can you take me to see children who are **sick**, thin, have swollen legs or feet (edematous), or are in a feeding program or getting relief food?*

If specific local terms for *marasmus* or *kwashiorkor* are commonly used and understood then these terms are used *in addition* to “thin” and “swollen legs or feet”. Presence in the feeding program can usually be ascertained by asking about “children with a red anklet”. In order to increase *sensitivity*, the case-finding question is usually supplemented with a request to see *vulnerable* or *at-risk* children using locally appropriate definitions and terms. Similarly, for those who are in the program admission cards or sachet of RUTF should be shown to the enumerators.

Table 9 shows the Hausa language terms used to formulate the case-finding question identified by the qualitative research. Brief trials of the case-finding question indicated that a case finding question using the identified terms was likely to be both sensitive and specific. In an initial test using a local informant provided by the village chief the case-finding question identified six children in approximately twenty minutes.

Table 9:- Hausa terms used to formulate the case-finding question

Category	Hausa	Remarks
Wasting	Tamoa	The term <i>tamoa</i> also refers to dehydrating diarrhea with anorexia and fever. This was reported by carers and others to be a common precursor of wasting in young children. It is nearly universally known in all the visited villages
Sick	Yara maarallafiya	
Thin child	Ramamme	
Those who use RUTF	Madarar tamowa	



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Oedematous child	Yaro maikumburin kafa ko hannu	These terms are used for both bipedal and peri-orbital oedema.
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Suitable local informants identified by the qualitative research are Carer of current program beneficiary, health facility in-charges, Village leaders and mothers and carers in the community. For fear of biasing the survey towards those in the program, community volunteers were avoided. Indeed, this was found to be extremely important for reasons to be illustrated in subsequent sections.

Hence, severe cases were identified in the community using an active case-finding method. The active case-finding method required the teams to approach key informants such as village leaders, health facility in-charges and mothers/caretakers. These key informants assisted the teams in identifying children described as thin, sick, and oedematous and enrolled in the programme. Each team was provided with a sample of RUTF to show to the caretakers. Local terms were used in defining and identifying cases and children in the program. The teams also requested to see the RUTF if a child was said to be in the program (see Appendix for case-finding procedures). When the team was directed to children described as thin, sick, having oedema or in the program, they checked the age of the children and proceeded with screening by assessing for bilateral pitting oedema and measuring Mid Upper Arm Circumference (MUAC). Caretakers of children identified as CMAM cases were asked questions using different questionnaires depending on whether their child was in the program or not (see Annex for the list of questions). Any child identified as SAM and not currently enrolled in the program was immediately referred to the nearest OTP site for follow up. The children's main caretakers were then asked if they knew of other children in the village who were thin, sick, had oedema, or were in the programme. The teams continued this process until all children considered to fit the case-finding criteria had been visited in the selected village. Every effort was made to find all children fulfilling the criteria.

DATA COLLECTION

Seven teams were involved in the assessment. Each team was composed of 3 members; a team leader, and two assistant measurers. Most team members had participated in various nutrition and coverage surveys. Therefore, they were given additional training on how to conduct coverage assessments, to supplement their extensive experience in measuring MUAC and oedema, as well as interview techniques. Team leaders were selected considering their experience in leading teams during previous coverage and nutrition surveys. Staff from ACF (2) and Save the Children International (1) was involved in coordination and supervision of the teams. The teams were trained over two days in assessment design, anthropometric measurement, and recognition of the signs and symptoms of malnutrition, data collection and interview techniques as well as assessment procedures.

ANALYSIS

Data was entered and analysed using Excel. Two coverage estimates were calculated: point coverage and period coverage. Period coverage is designed to take into account the number of children treated by the program over its recent duration, including those



who are no longer cases; i.e. children from 6-59 months who were admitted as SAM cases but are currently recovering and no longer SAM on the day of the assessment. Period coverage can therefore provide a good reflection of program performance over recent months. Point coverage on the other hand, shows the ratio of SAM cases in the program compared to the total number of SAM cases identified by the assessment. Point coverage does not include children registered in the program who are partially recovered and no longer SAM. Point coverage estimates, with the stricter definitions, provide a reflection of program performance “right now”. While both are useful measures, point coverage is recommended when the program has long length of stay and therefore it was chosen.

The following formula is used to calculate *point coverage*:

$$\text{Point coverage} = \frac{\text{Number of current (SAM) cases attending the programme}}{\text{Number of current (SAM) cases}}$$



RESULTS

4.1. GENERAL

Seven teams visited 4 LGAs, 30 catchment areas and 44 villages. The teams identified a total of 775 children who were described as thin, sick, oedematous and/or in the programme by key-informants. Of these, 162 (20.9%) children qualified as cases as defined by the program and/or were already in the programme⁶. Most of the children, 87.6% (142) were in the younger age group (6-24 months). Alternatively, the over representation of younger children in the program is likely due to the use of MUAC and oedema as admission criterion (rather than weight-for-height and oedema) for decentralized OTP as MUAC is biased towards the younger age group.

Of these, 30% (49) were current SAM cases who are not covered by the program, 35% (56) were current cases who were in the program at the time of the survey and 35% (57) were recovering cases that are in the program at the time of the survey.

4.2 OVERALL CMAM COVERAGE

A total of 162 SAM cases were found, distributed amongst 38 of the 44 villages surveyed. 56 out of the 105 (53.3%) of SAM cases found were currently registered in CMAM (point coverage). Overall the weighted coverage estimate is indicated in **table 10 below**:

Table 10: Overall Coverage Level

Program Coverage	Weighted Coverage Rate	Sphere minimum standard for program coverage in a rural area
Point coverage	55% (95% CI 53.2% - 56.8%)	>50%

4.2.1. Over all classification of converge

Over all classification of converge for the combine four LGA is:

- Determine decision rule
- Point coverage

Sphere recommends the minimum standard for selected program coverage in rural areas should be >50%. Therefore, for this survey we should get >50% of the cases covered by the program :

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

Point coverage:

Numerator= SAM cases in program=56

⁶ SC admission Criteria: Bilateral oedema +++; OTP admission criteria: Bilateral oedema + and ++, MUAC <11.5 cm, discharges from SC



Denominator=SAM cases=105

Checking this against the 50% Sphere standard using simplified LQAS:

$$D = \left\lfloor \frac{\text{denominator}}{2} \right\rfloor = \left\lfloor \frac{105}{2} \right\rfloor = \lfloor 52.5 \rfloor = 52$$

Since the numerator (56) is **greater** than the decision rule 52, the *point coverage* in the surveyed area is classified as being above 50%.

Table 11: Survey Findings

Local Government Area (LGA)	Cases not in program	Cases in program	Recovering cases	Total Cases	weight
Baure	20	14	24	58	0.26
Dutsi	4	10	12	26	0.18
Daura	9	11	9	29	0.33
Zango	16	21	12	49	0.23
Total	49	56	57	162	

4.2.2. SUMMARY OF CLASSIFICATION OF CONVERGE BY LGA

Analysis of data using the simplified LQAS classification technique involves examining the number of cases found in the survey sample (*n*) and the number of covered cases found:

- If the number of covered cases found exceeds a threshold value (*d*) then coverage is classified as being satisfactory.
- If the number of covered cases found does **not** exceed this threshold value (*d*) then coverage is classified as being unsatisfactory.

The threshold value (*d*) depends on the number of cases found (*n*) and the standard (*p*) against which coverage is being evaluated. A specific combination of *n* and *d* is called a *sampling plan*. The results revealed that the coverage for most of health facility catchment areas were above the target coverage of 50%⁷.

Table 12:- Results of Coverage Classification for all LGAs

						Point Coverage	
Service Delivery Unit	Sample size	#SA M In prog	# SAM Not in Prog	Recovering	Decision value (point)	Classification	
1 Baure	58	14	20	24	>17	Below SPHERE Minimum Standard (<50%)	
2 Dutsi	26	10	4	12	>7	Above SPHERE Minimum Standard	

⁷SPHERE standard for selective feeding program coverage in a rural areas



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							(>50%)
3	Daura	29	11	9	9	>10	Above SPHERE Minimum Standard
							(>50%)
4	Zango	49	21	16	12	>18	Above SPHERE Minimum Standard
							(>50%)

4.3. REASONS GIVEN BY CARERS FOR NON-ATTENDANCE

The CMAM program has been in the area since 2010; and, many of the mothers know about the program. Seventy six percent (76%) of carers of children who are not in the program actually know of the availability of the program in their vicinity and that SAM is a treatable disease. Indeed, the results of the investigation as well as field observation show a very high awareness about the program in the surveyed communities. Also it may be the case that the strong community mobilization contributed for this high awareness.

Fifty (50%) carers of cases not on treatment who knew of a program that could treat their child reported that they had attended the program previously (are readmissions) many on more than one occasion but had recently been told that their child was not malnourished (rejected) and would not be admitted to the program. Or they have been told that there are no ration cards, and turned away for this. Or still others were scolded by the staff and turned away. It is unclear how many of this group had originally attended the program as the result of a referral by program case finding staff. It is also unclear how many of this group met program admission criteria at the time of attendance (or before being turned away due to a various reasons).

This *problem of rejected referrals* has been noted in previous CMAM programs. Rejection of referrals can have important consequences for program coverage:

1. Carers of rejected children may become unwilling to attend for admission even when their children's condition deteriorates. Carers of rejected children may actively disparage the program leading to carers of other children becoming unwilling to attend for admission even when referred or when they believe their child to be malnourished.
2. Carers of other children notice that many children are rejected by the program and may become unwilling to attend for admission even when referred or when they believe their child to be malnourished
3. Community-based volunteers may become disillusioned with the program or may delay referrals thus negating the advantages of early treatment which allows the bulk of cases to be treated in OTP rather than stabilization centers.
4. Local leaders may become disillusioned with the program leading to problems with program acceptance and the dissemination of program information.



All of these can negatively impact program coverage. The data from the coverage survey strongly suggests that the first three items on this list are already happening. Interviews with mothers of children attending the program confirmed that many of them knew mothers of previously rejected children who were unwilling to attend even though their child's condition had deteriorated.

Confusion, misinterpretation, assumption that most mothers want the RUTF and are double registered and different interpretation of case-definitions is likely to have led to a considerable number of inappropriately rejected referrals that would have been at considerable risk of mortality.

SQUEAC (next section) results from the coverage survey in areas where proximity to OTP sites was unlikely to be a major issue (see the section of this report regarding *distance below*) showed a considerable number of carers of cases reporting that they had attended the program but had been rejected. This finding prompted a visit to an OTP site in one of the areas concerned in order to observe teams at work. During this visit it became clear that many severely malnourished children were being refused admission, there was a tense relationship between the staff and the populace and the program purposely turns many away. This was investigated in an in-depth manner in the SQUEAC investigation which is the second part of this report.

The reasons as to why mothers are not attending the program are presented below in the following sections (by LGA).

4.3.1. Reasons given by carers for non-attendance in Baure LGA

Twenty two mothers of severely malnourished children not currently enrolled in the program were interviewed in order to understand their level of knowledge regarding their child's nutritional status and the existence of the CMAM program. Of these 18 caretakers, 18 (81.8%) knew that their child was malnourished, and also knew there was a program that delivered treatment services for SAM children. These 18 caretakers were then further questioned about why they had not taken their children to the OTP. The responses are presented in the chart below:

Figure 4:- Reasons given by carers for non-attendance in Baure LGA

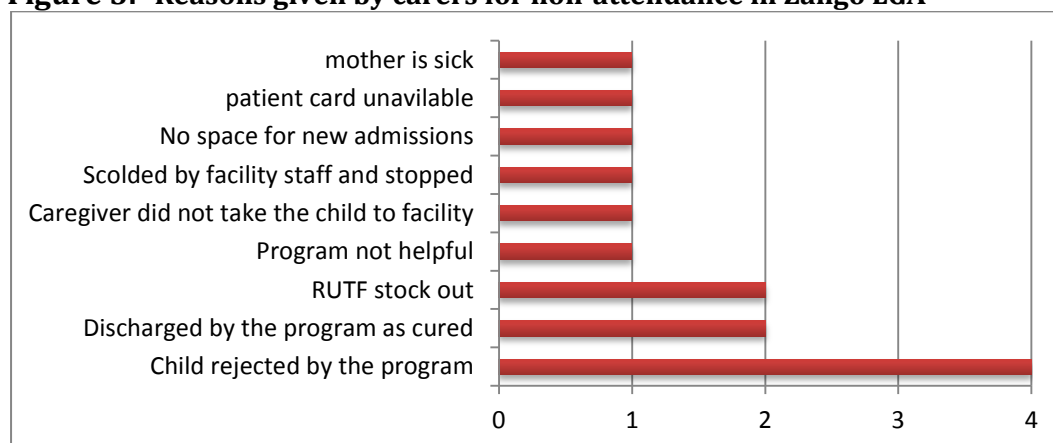




4.3.2. Reasons given by carers for non-attendance in Zango LGA

Sixteen mothers of severely malnourished children not currently enrolled in the program were assessed in order to understand their level of knowledge regarding their child's nutritional status and the existence of the program. Of these 16 caretakers, 14 (87.5%) knew that their child was malnourished, and also knew there was a program that delivered treatment services for SAM children. These 14 caretakers were then further questioned about why they had not taken their children to the OTP. The responses are presented in the chart below:

Figure 5:- Reasons given by carers for non-attendance in Zango LGA



4.3.3. Reasons given by carers for non-attendance in Dutsi LGA

The results for non-coverage in Dutsi are presented below:

Figure 6: Reasons given by carers for non-attendance in Dutsi LGA



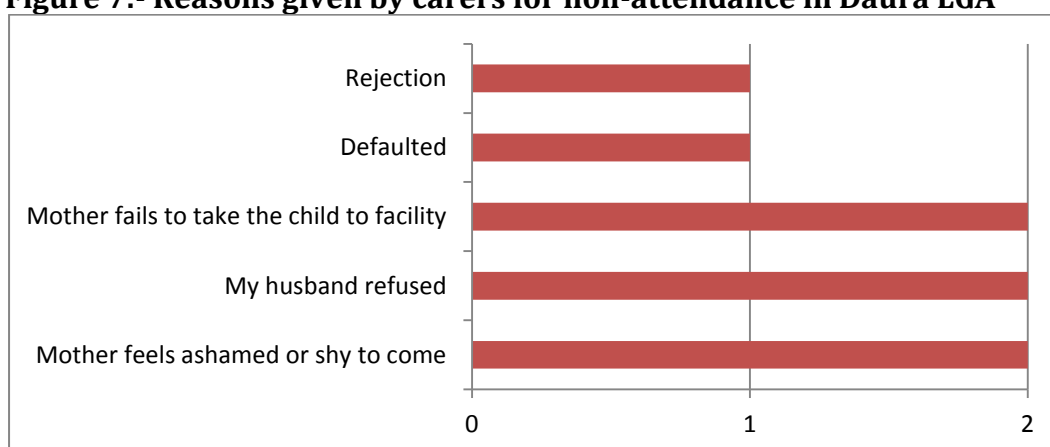
4.3.4. Reasons given by carers for non-attendance in Daura LGA

In Daura the carers of children who met OTP criteria but were not enrolled in the OTP were interviewed about the reasons for their child not being in the program. Eight carers were interviewed. The full questionnaire is included as annex 4 and 5.



- When asked ‘Do you think your child is malnourished?’ 87.5% (n=7) of caretakers responded ‘yes’ with the remaining 12.5% (n=1) not considering that their child was malnourished. For the carers who did *not* think that their child was malnourished no further questions were asked. Investigating why they do not think that their child is malnourished is essential and should be addressed as a regular procedure in the questionnaire.
- When asked ‘Do you know a program which can help your malnourished child?’ All of the carers answered Yes: 100%
- When the carer knew both that the child was malnourished and that there was a program which could have helped, the interviewer investigated further the reason why the child was not in the program, by asking ‘Why didn’t you take your child to this program?’ Carers answers were as follows:

Figure 7:- Reasons given by carers for non-attendance in Daura LGA

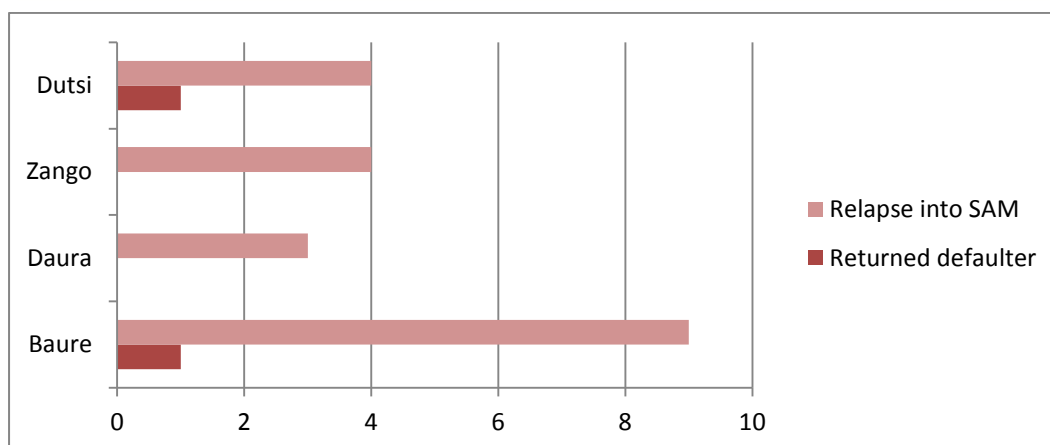


4.5. REASONS GIVEN BY CARETAKERS FOR ATTENDING OTP

81 out of 107 (75.7%) children identified by the assessment were registered in the program for the first time, 20 out of 107 (18.6%) for the second time, 4 out of 107 (3.7%) for the third and 1 out of 107 (0.9%) children for the fourth time.

In general, 25% of the children who were captured by the survey are readmissions, of which 2 children had returned to the program because they were defaulted and the rest were relapses. Responses of the return to the program as presented below:

Figure 8:- Causes of Readmissions



As can be seen from the figure above it was established that most have returned due to relapse into malnutrition for second and subsequent times. Further questions and investigations as to why they have returned to the program get the following reasons:

Table 13: Main causes for relapse into Severe Malnutrition

Dutsi	Daura	Zango	Baure
Diarrhoea and vomiting	Don't know	Diarrhoea	Diarrhoea
Diarrhoea and fever	Poor breast feeding	Diarrhoea and vomit (2)	Measles (2)
Mother was busy, hence defaulted		Due to diarrhoea and loss of appetite	Baby is orphan and lack of care
Child too sick		Loss of appetite and fever	Lack of money for RUTF
Lack of appetite			Poor breast feeding, vomiting, poverty

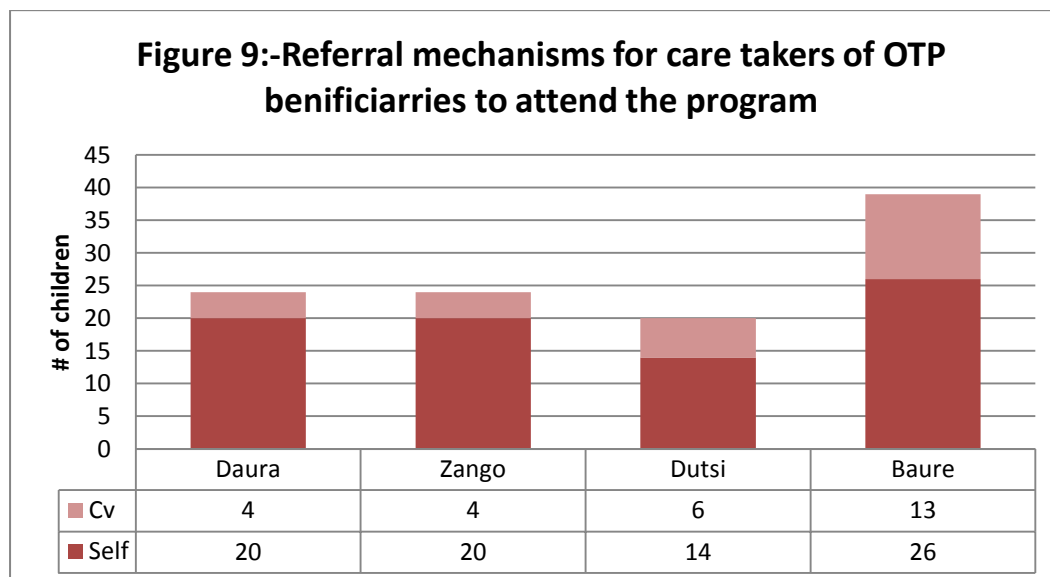
Twenty-five (25%) carers of cases in the CMAM reported that their child had already been in the program and had been discharged as cured. Partly, it can be said that this is a very strong side of the program as these carers did understand that their child was eligible for readmission into the program. Having a high readmission rate in the face of a very high rejection of positive cases is a very good side of the program as some rejected carers may fear that the program would reject a relapsed or defaulted cases and fail to come, which is not the case here.

Severe diarrhoea, fever and other childhood illnesses are referred as the cause of the child being readmitted in the program. It is established by mothers of readmitted children that these diseases (mainly severe diarrhoea) are principal underlying cause of relapse.

This may be a good indication that IYCF services as well as supplementary programs should be introduced into the existing programs to help address this issue.



The referral mechanisms for caretakers of OTP beneficiaries are indicated in bar graph below. The beneficiaries attended the program for most part by self-referral. There were also self-referrals.



The result shows awareness is widespread through the community based network evidenced by the rate of community self-referral and referrals by Community Volunteers (CVs) accounting for 100% of the registered beneficiaries.

4.6. DISTANCE TO OTP SITES

The proximity of CMAM services can greatly influence service uptake by caretakers. The village leaders, CVs and caretakers were asked the distance caretakers walked to the various OTP sites. The distances can however vary even within a village due to the difference in relative distance of households from the health post/health centre. Moreover, distance is a matter of perception. Each mother's unique situation will determine whether a given distance is acceptable or easy to travel for her. Care takers' perception of the distance from their home to the facility was asked. Sixty six per cent (n=83) perceived the distance to the OTP site as near, 29% (n=36) perceived it as far and 5% (n=7) perceived it as very far. Amongst LGAs Zango and Baure are termed as far and very far more than the other surveyed LGAs. The results are presented below.

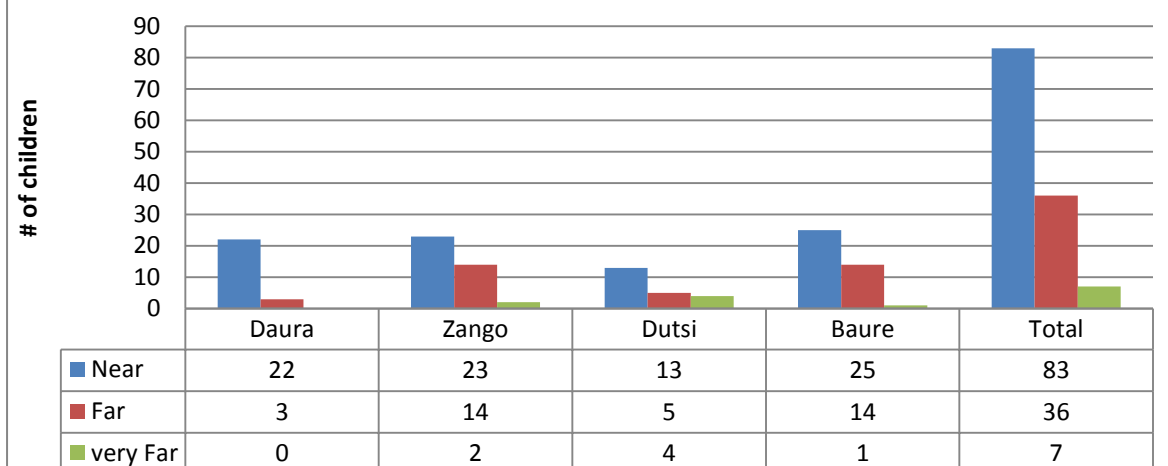


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Figure 10:- Respondents perception about distance to OTP site



Similarly, the estimates of the distance from facility to villages of respondents were asked. The results the distance varied from 0.2 km to 5 km. see Annex 3 for further details.

DISCUSSION

The assessment showed an overall **Point Coverage of 55.3%** (95% CI: 53.2% - 56.8%). This is above the recommended SPHERE minimum standards of 50% for rural communities. This is a result of staff commitment and community acceptance. The MoH must be commended for successfully decentralizing these life-saving services across the LGAs, and ensuring access for the wider target population. Further strengthening of the program, particularly the community mobilization aspect is required, to ensure that children becoming malnourished are identified early and referred to OTP. Mechanisms are needed to further improve the access to OTP services, especially in the northern part of the LGA where there is a distance issue for most of the villages.

Here are some of the findings of the coverage survey:

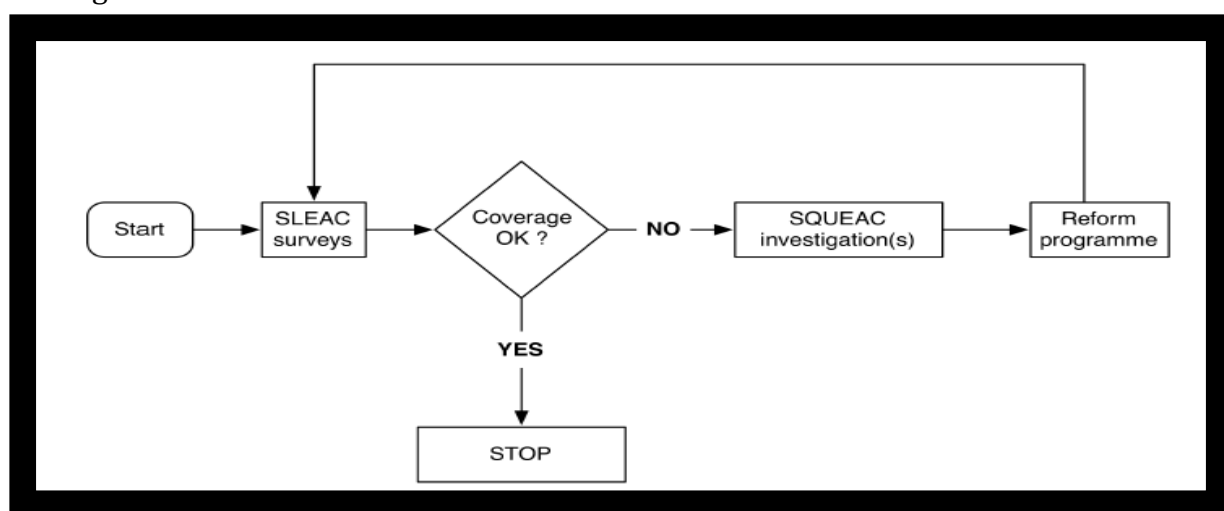
- The surveyed community's perception of the program is positive;
- Relapse is high and the reason is due predominantly to poor caring practices.
- The bulk of the admissions were from volunteers and self-referrals. This shows the community is actively engaged in the program as well as the program is sustainably integrated into the community;
- Rejection is unacceptably high. The SQUEAC investigation details as to how rejection is a problem in the facilities (see next section for a detailed explanation of as to why rejections are such a challenge in this program).
- Reports of some malpractices may quickly erode the strengths of the program from medium to long term.



SQUEAC-BAURE LGA

STAGE 1:

Of the four LGAs investigated Baure's coverage falls below 50% coverage. To have an in-depth understanding of the reason for this low coverage rate, a SQUEAC investigation was conducted. The investigation concentrated on finding out areas and reasons for low coverage in order to reform the program. The flow chart below illustrates the process of investigations and reform:



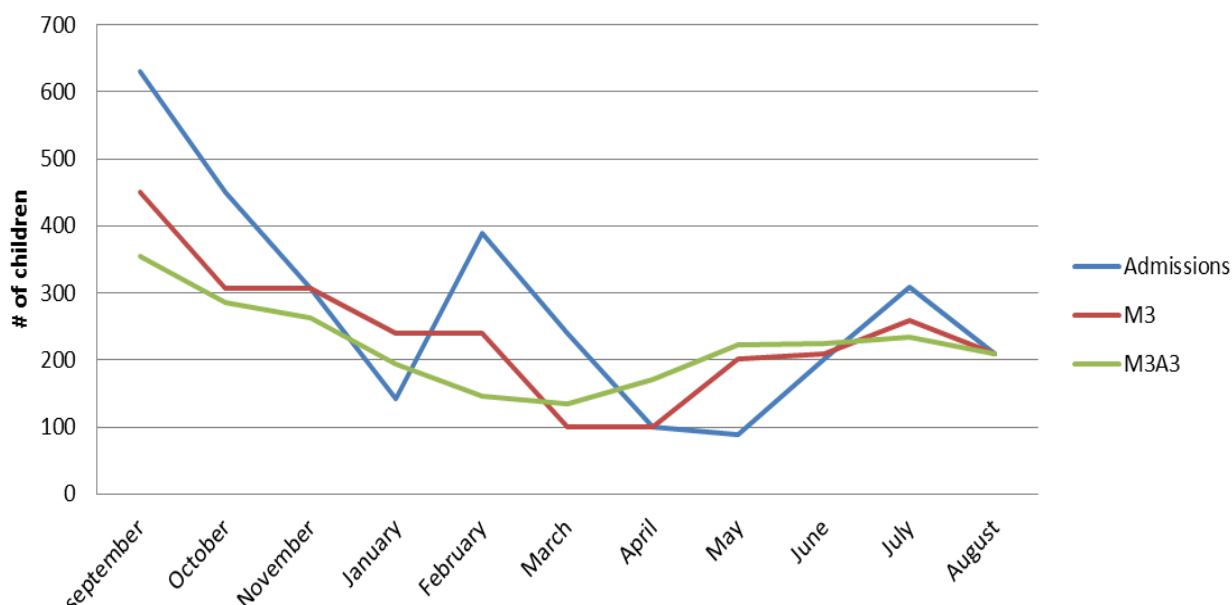
PROGRAM ADMISSIONS (OVERALL NUMBERS)

A plot of admissions over time revealed that the program was probably responsive to need for the most part. Rises in admissions coincided with periods when SAM incidence was expected to be high such as during periods of food insecurity and of increased infections associated with wasting. Figure 1 shows the number of admissions over time from January 2012 to December 2012. The pattern of admissions shows a typically high number of admissions in the first few months of program operation as both prevalent and incident cases are found and admitted.

On Figure 11 admission overtime plots are presented. Further, plots M3 and M3A3 were calculated and plotted alongside the admission trend. M3 is a moving average of median of three month admissions; whereas M3A3 is a further smoothing of the median (M3) using three spans of averages (average of three months). This data smoothing of admissions was done to hide random noise component of the time series data and help reveal the seasonal and trend components of the time series.



Figure 11: Program Admission overtime (Jan-Dec 2012)



	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Hunger gap												
Harvesting												
Labor migration	on farm labor								off farm labor			
Ramadan												
Land preparation												
Rainy season												
Dry season (off-season farming)												
Livestock sale												
Milk	Peak production							low production				
Food purchase								food purchase				
Malaria												

The movement in the case load of admitted children reflects the changes on the ground for Baure for most parts of the year. However, a critical event calendar shows that during April (the Hunger gap period) it is expected that case load will increase. But the trend in admission shows a declining trend. This trend is consistent across all facilities. SQUEAC investigations showed that (as the survey is on April) the month is a high caseload month and the program pushes or rejects many children from getting admitted to the program for reasons we will discuss later on in the report. In general, March to June is the hunger season (or lean period) for the region. Admission shows an indefinite decrease up to April and an upward increase in admission of cases starting from May. Therefore, the program responds to changes on the ground (to the change in its context), but the response lags and should start at April.

Similarly, the table below of locally prepared disease calendar shows expected period of increased incidence of both diarrhoea, Measles, malnutrition and ARI in April to September that would normally lead to an increase in the incidence of SAM which, if the program is responding to need, should lead to an increase in SAM admissions. This



expected increase in admissions was not observed on April, but clearly observed beyond April until the month of September.

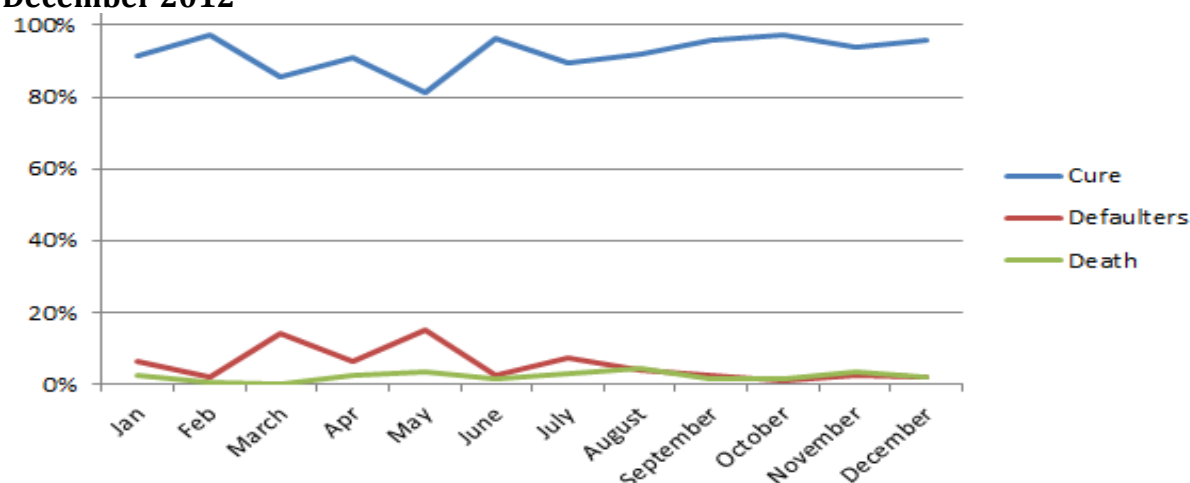
TABLE 1: SEASONAL DISEASE CALENDAR FOR BAURE⁸

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
ARI			XX X	XX X	XX X	XX X	XX X	XXXXX X				
Fever/ Malaria	XXXXXXX X	XX X	XX		X	X	X	X	X	XXX	XXXX X	XXXXXXXXX X
Diarrhea	XXX	XX								XX	XXX	XXX
malnutrition	X				X	X	XX	XXXXX X	XXXX X	XXXX X	XX	XX
Measles	X		XX X	X	X	X	X	XXXXX X	XXXX X	XXXX	XXX	X
Meningitis								X	X	XXX	XX	XX

STANDARD PROGRAM MONITORING DATA

The standard program monitoring data are consistent with a well-performing therapeutic feeding program with cure rates at 91.4%, deaths at 2.3%; defaulters at 6.3%. Figure 2 shows standard program monitoring data for the period January 2012 – December 2012.

Figure 2:- Standard program monitoring data for the period January 2012 - December 2012

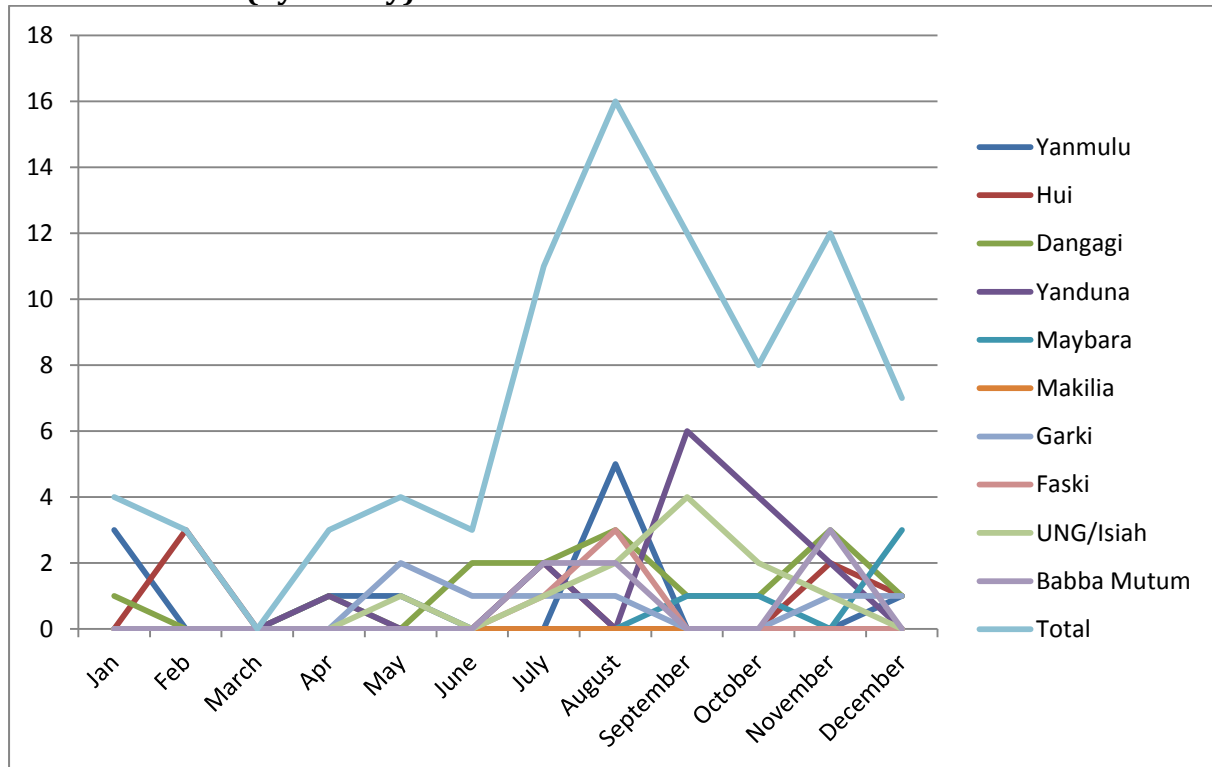


The observed defaulting rate (6.2%) is well within international norms for therapeutic feeding programs. Low rates of mortality and non-response are usually associated with good program coverage. This may be due to the ability of the program to find and recruit cases in a timely manner (see below).

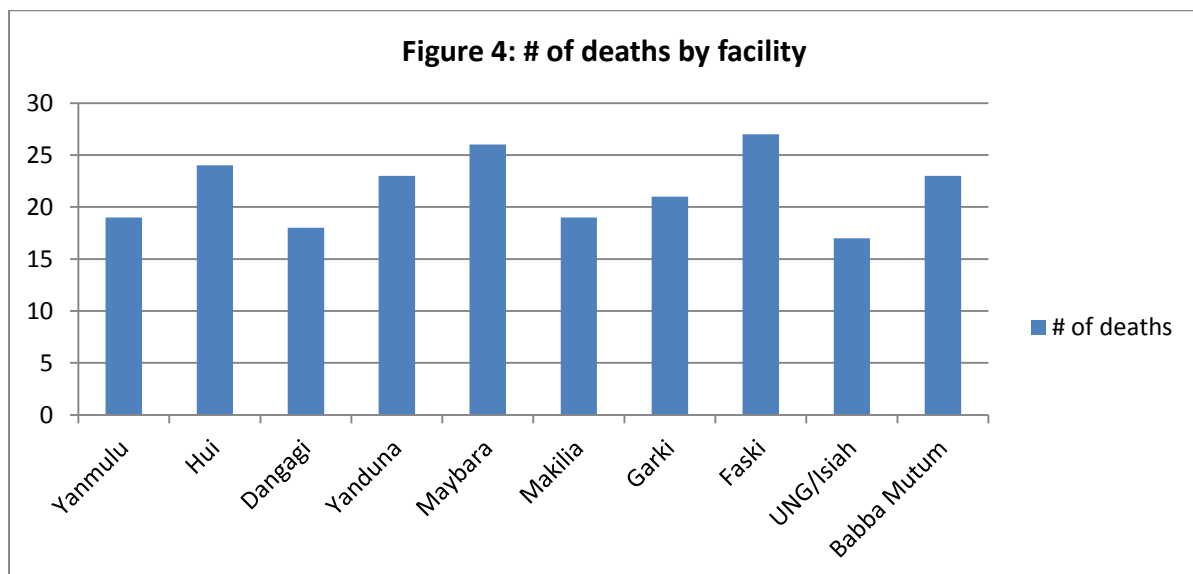
⁸ The more Xs are in the calendar the more prevalent is the disease for that specific period.



Figure 3:- Standard program monitoring data for the period January 2012 - December 2012 (by facility)



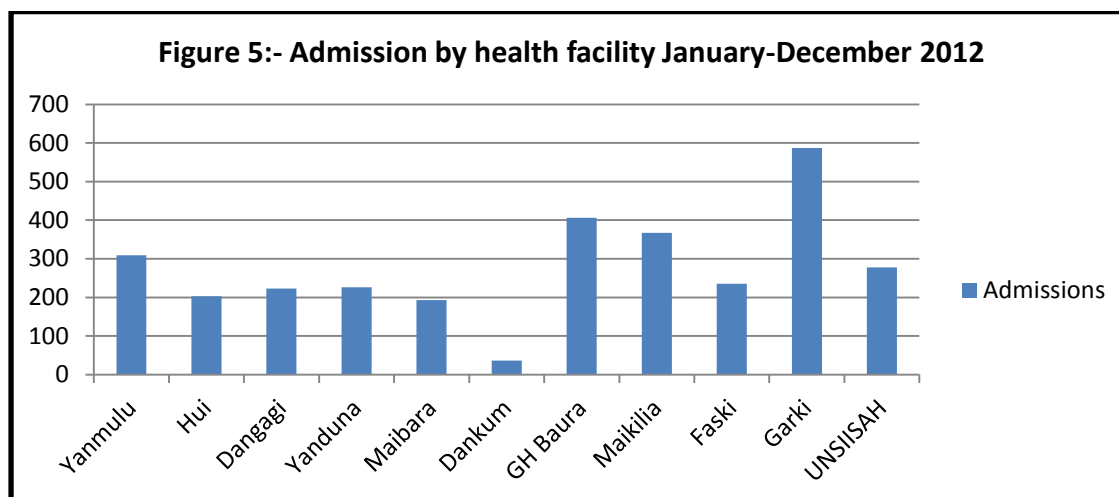
Moreover deaths were plotted across facilities, to see whether the deaths per facility have a marked difference across facilities. Statistical tests show there are no differences and the observed differences are by chance.





ADMISSION BY SERVICE DELIVERY UNIT

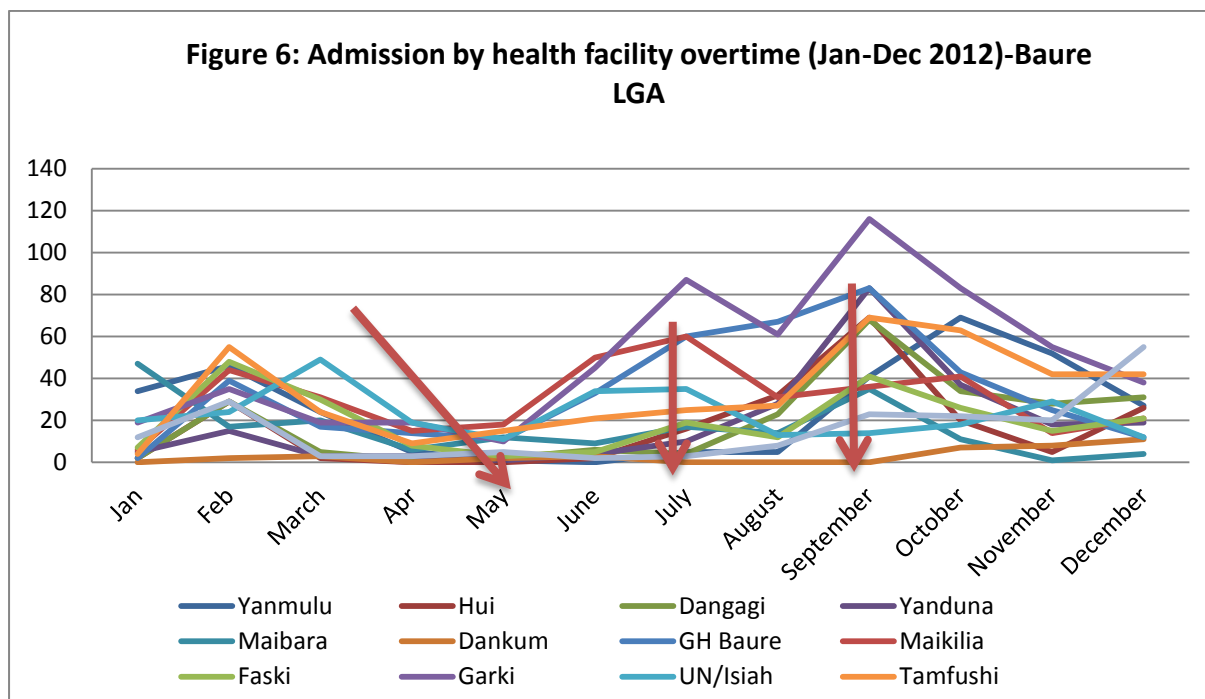
Admissions were analyzed by service delivery unit (i.e. health facility – Figure 5) in order to identify potential disparities in admissions across the different facilities.



The analysis identified a clear difference, some health facilities admitting markedly higher number of children than the others. The reasons could be their relative population size or vulnerability to malnutrition. It can also be the case that these health facilities are delivering high quality program, attracting more cases from other catchment areas.

Specifically, Garki, GH Baure, Maikilia and Yanmulu accounted for more than 50% of the total admission. Moreover, Garki has a higher caseload contrary to its lower population size (20% are from its catchment area). Therefore a SQUEAC investigation took place to understand why admissions are higher at some facilities and lower at others.

In Garki facility, where there is a very high admission, investigations revealed that double registration, and selling and sharing of RUTF are the main reason of inflated admission numbers. The Investigation found that it is very common for an adult who wanted the RUTF to find a malnourished child already in the program and register him/her again so that they can consume the RUTF themselves. Due to this the number of admissions does not really reflect the true number of children in the program.



The figure indicates similar trends for almost all health facilities with a decrease in April and increase between May and June. The increase in admissions is clearly more significant for Garki (Figure 6) due to the double registration. Also, it is interesting to notice that admission responds to seasonal changes identically across all months. This indicates the program responds to its changing environment identically.

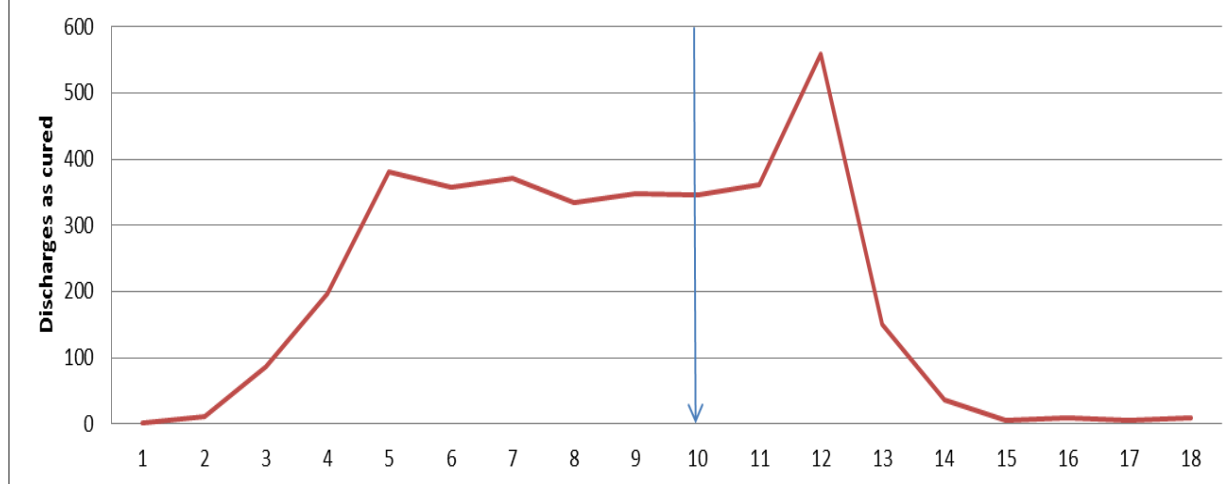
LENGTH OF STAY

According to the National CMAM Guidelines, the Standard Average Length of Stay is 8 weeks. The discharge criterion is using MUAC 125 mm as discharge cut-off point. The median length of stay for this program is 10 weeks. This is based on analysis of 3568 children.

Figure 7: Length of Stay (LOS) in weeks



Figure 7: Length of Stay (LOS) in Weeks

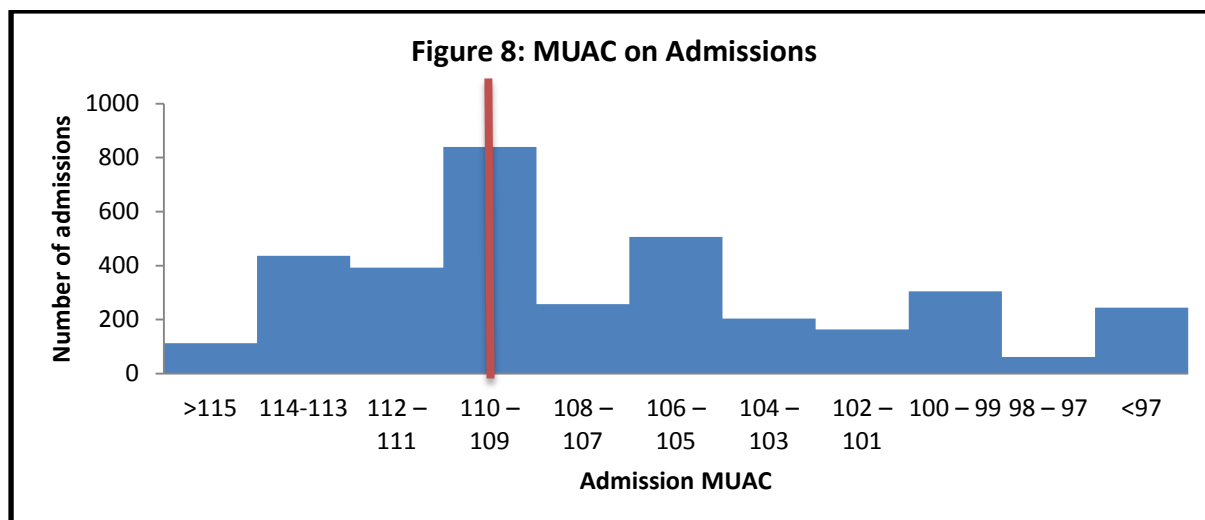


As depicted in Figure 7 above, the Median Length of stay is 10 weeks. Program with higher coverage tend to have a median duration of less than or equal to about 8 weeks. This data refers to planned discharges (cured and non-responders). Long treatment episodes may be due to late admission or poor adherence to the CMAM treatment protocol by program staff (e.g., failure to give systemic antimicrobial, RUTF stock-outs) and beneficiaries (e.g., intra-household sharing of RUTF, lack of continuity of care).

Indeed, the SQUEAC investigation here found that this long stay is due to intra and inter household sharing of RUTF and selling of RUTF . It is very common to find RUTF at markets (sold at 200 Naira). In fact, the people of Katsina use groundnut to extract oil and at the same time they use the by product (which resembles RUTF) for household consumption. Due to this, RUTF is considered as a staple food thus it is normal for adults or other children to eat it too. Also, there is demand from Nigerian communities on the border for RUTF thus creating a market for the product. It is therefore, due to this sharing of RUTF that the children stay longer in the program.

MUAC AT ADMISSION

In order to further understand whether the program is reaching SAM children early or whether there is problem of late detection and late admission, the MUAC at admission was plotted for all recorded admissions for 2012. The median MUAC at admission was 10.9 cm. A plot of admission MUAC from a program with high coverage is likely to have a very large number of admissions close to the program admission criteria (around 115mm). However, Figure 8 shows that a number of admitted children had MUACs well below the program's admission criteria. These are indicative of problems with case-finding and recruitment and low program coverage. This finding shows that the program is not recruiting and admitting children as expected from it. Moreover, admissions at 11, 11.5, 10 and 10.5 are very common, showing that there are digit preferences, which means that the ability to properly measure MUAC is weak.



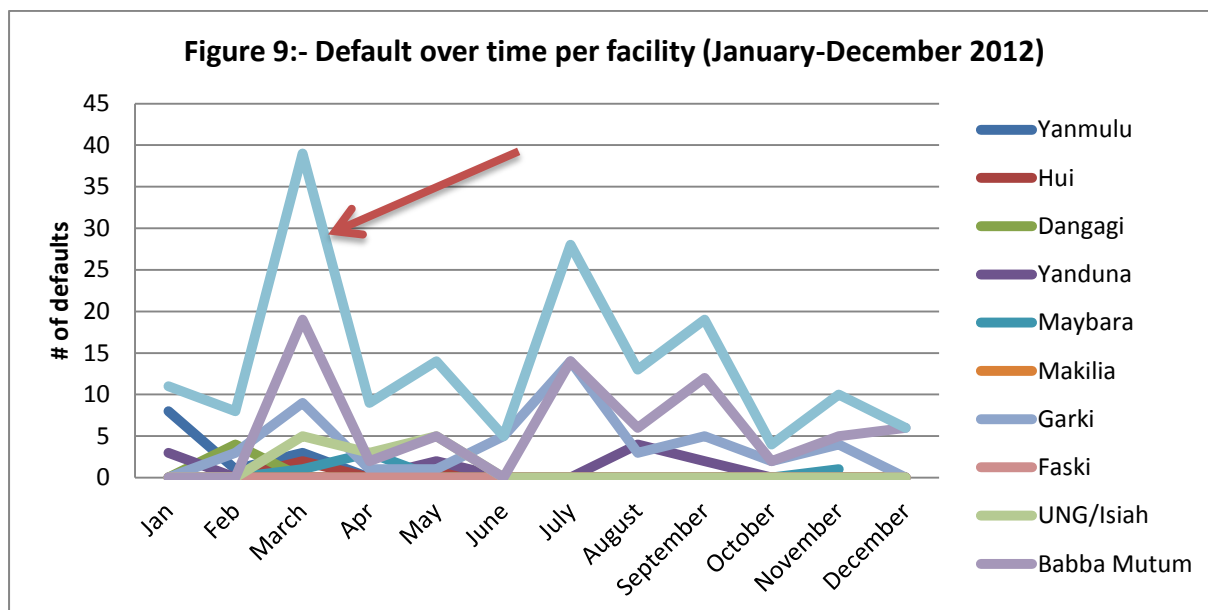
The SQUEAC investigation helped us establish why there is late admission in this program at this stage. The reasons include:

i) The first serious issue is double registration and program staff's attitude towards it. In most countries and in most CMAM programs getting the population to attend to the program is a big challenge. Here it is not a challenge at all. The program is well known and the population really like it. All interviews, discussions and observations confirm that. As a matter of fact, this is a program where mothers' wait all day to get the services. A small study about length of waiting time showed that the average waiting time was 6 hours for Dankum facility. Mothers wait to get the services, despite such delays.

However, the facility staffs across the LGA complained that most beneficiaries are attending other facilities and this is a double registration. Most, assume that those children who come to attend program are there to double register and they will reject them, hence high number of rejection and late admission into treatment. In general, there is a lot of confusion and all-out war between health staff at some facilities and the communities they serve. To help address this issue of double registration community leaders recommended they should be involved in convincing community what the program is about. Carers of rejected children should be given clear advice that they should return to the program if their child's condition worsens or the child becomes ill.

REVIEW OF DEFAULTER RECORDS

Overall, defaulting is not a very big problem for the program at Baure. As a matter of fact providers default is more of a problem. Still defaulter investigation and analysis of routine default data was conducted too better understand the factors affecting defaulting and potentially affecting coverage.

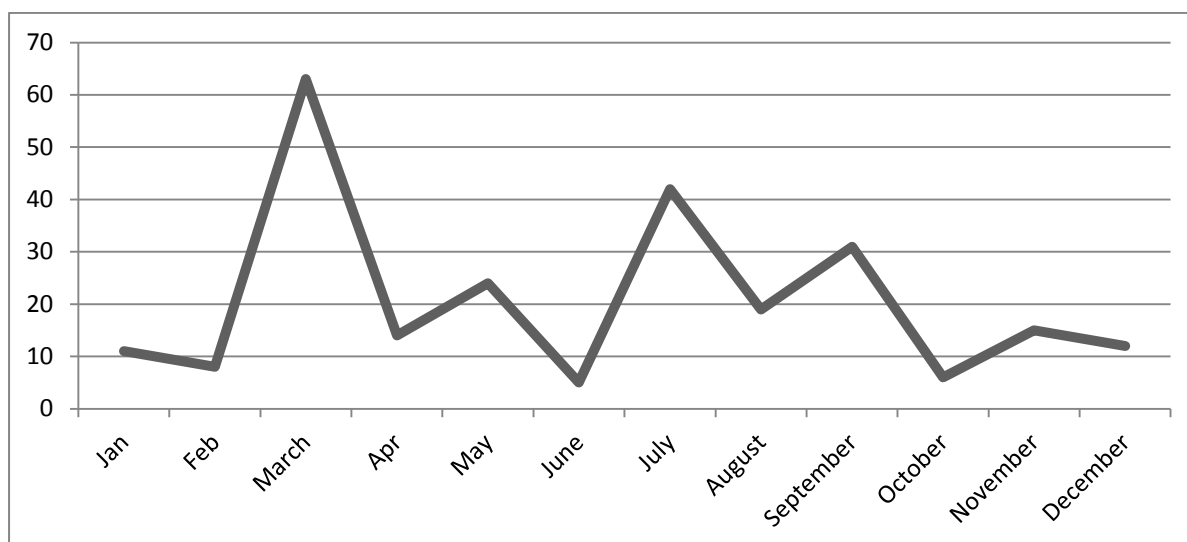


Garki's default rate is higher than the rest of the facilities (Figure 9). The investigation showed that this is the area where in fact the children were double registered and subsequently discharged by the facility.

When a small group of mothers were asked why the defaulted as part of the defaulter tracing exercise, responded with the following:

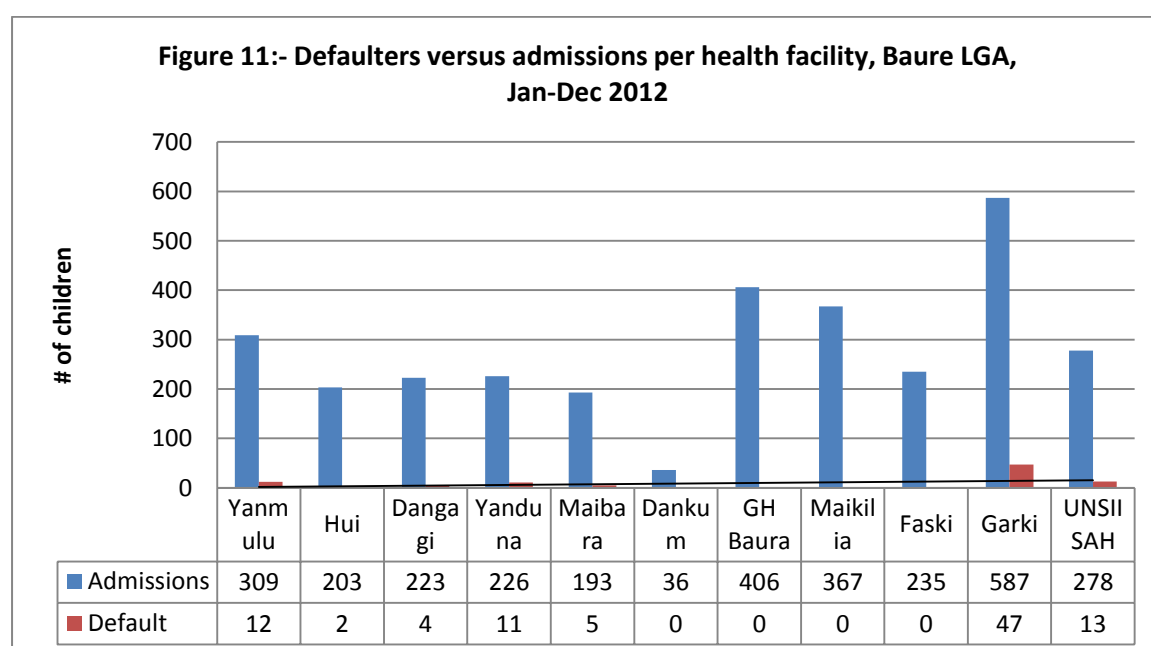
- Mother too busy attending other children and animals (2 mothers)
- The child did not respond to the treatment and the services were not satisfactory. She spent three days in hospital and did not receive any care at all.
- The child's condition did not improve for 11 weeks, health staff referred the child to SC but the mother did not take the child to the SC since she did not believe that the child will improve.
- Moved to another village (6)

Figure 10:- Cumulative default profile by facility for Baure OTP program (January-December 2012)



More revealing results were found when mothers were asked as to what their recommendations will be to make them return to the program:

- Improve service standard, give free drugs, bring the services closer to where people are, and increase counselling session. One interesting observation in this process is the fact that most volunteers work as private patent medicine vendors. In more than two incidents teams found out that medicine cost are big barriers to access the program and there seems to be a conflict of interest with the medicines vendors being volunteers.
- to improve services by showing sympathy to child and care giver
- Provide free drugs for those who are malnourished
- Build good road
- More drugs





COVERAGE ASSESSMENT

» SEMI-QUANTITATIVE EVALUATION OF ACCESS & COVERAGE



Admissions and defaults were configured together to assess whether there is a relationship, say of caseload size per facility and default, for a year. As indicated on Figure 11 above there is no association whatsoever. But, it can be seen that Garki alone accounts for 25% per cent of the total default in year 2012. This is again a problem associated with massive double registration and rejection in the facility. Facilities with zero defaults again look suspicious as it is hardly convincing to get such result. But as described in previous sections the acceptability of the program by community is very high. It is highly likely that children's parents wanted to stay more in the program than default. Across this "0" default facilities questions were asked. Responses show people wanted the program; they want their children to be in the program even longer. It is assumed as a food program⁹.

In general, default does not show a seasonal variation and does not associate with the level of caseload at facility level. Indeed, most defaults are associated with the program itself. This arises when the program founds that children are double registered they will stop the services and consider them as defaulter. .

KEY-INFORMANT INTERVIEWS

Short structured interviews with health personnel (potential sources of referrals) and community leaders took place in Yanduna, General Hospital Daure, Dankum and Garki. For the health personnel interviews, the nurses in charge at the health facilities were interviewed. For the interviews with community leaders and volunteers, IMAMs, volunteers, and elected representatives were interviewed. Additionally, care takers of beneficiary children were also interviewed. Interviews with health personnel: four health facility in-charge were interviewed, revealed the following information:

- All four have been working in the CMAM programme for almost 2 years
- Two of them were trained by Save the Children and the other two were trained by consultants.
- Two of the respondent nurse in charge asked to have a training on data entry and analysis (OTP)
- Support from the MoH is mainly supplying RUTF
- On CMAM day the main difficulty mentioned were high number of patients and presentation of children who are not malnourished,
- The most important means of referral to facility is other beneficiary referral followed by referred by volunteer
- The program is well accepted and RUTF is well regarded as a treatment for malnutrition
- There is no slip when the volunteer refer children to facility, because most volunteers are illiterate. However, facility staff confirmed that volunteers will

⁹ In fact, some findings are interesting and indicate the extent of sharing and selling. One male responder says RUTF is very good for improving sexual performance. In another facility, mothers reported to pay for volunteers to get the services. Village leader justified it by saying they (volunteers should cover their transportation using such). This is reported in one facility. In another facility beneficiaries from Niger pay their way into the program. These shows the services are highly looked after for different reasons and default is a less likely event, actually double registration is the problem.



- check whether those they have referred have actually been admitted to the program (3) and one staff said they do not check;
- All interviewed nurses said slips are given when children are referred to SC and they will come with slips when they are discharged from SCs.
 - Mainly screening is done at facility level.
 - All 4 facilities in Baure confirmed it is very common to have healthy children come at OTP days to get admitted to the program. The number of healthy children coming to facilities ranges from 6 to 96 healthy children per week. Facility staff said this is overwhelming services. As to the cause of healthy children being presented to the facility three nurse in charges said they come to be admitted and sell the RUTF, the fourth one said it is lack of awareness and poor communication that causes this. Mothers will react very negatively when they are told their children are not malnourished. The basic message from facility is the child is normal (not a SAM case).
 - Weddings and other traditionally ceremonies are main causes of absentees and default;
 - Main barriers to access the program and continue treatment are distance and too many social events
 - The in-charge of the Health facilities knew the MUAC case-definition, and mentioned RUTF.
 - All believe that the cause of malnutrition is lack of knowledge (ignorance) and poverty

The messages that the in-Charge sent Ministry of health and partners are (recommendations):

- ✚ There is need for drinking water at the facility
- ✚ There is shortage of staff.
- ✚ Volunteers should be provided with monthly stipend and transportation
- ✚ Pay financial support to volunteers and health facility staff working in OTP
- ✚ Volunteers are bearing the burden of the job but they are not compensated for at least the transportation
- ✚ Introduce home visits by volunteers to track defaulters and absentees
- ✚ More trainings should be provided for volunteers
- ✚ Materials for OTP day have worn-out and more benches and materials should be provided
- ✚ Something should be done about referrals to SC. Mothers when referred to SC refuse to go and this is seriously affecting many children. This is more frequent during the malaria and rainy season.

INTERVIEWS WITH CARER OF BENEFICIARIES:

Semi-structured interviews took place with ten carers (usually mothers) of current and previous SAM cases in their homes. These interviews took the form of case-histories and revealed the following:



- **Outreach:** carers interviewed stated that they heard about the program from other beneficiaries, from town announcers, health facility staff, at social events and Radio.
- **Pathways to care:** all of the interviewed mothers reported that their child was sick and suffered from lack of appetite. Because of this they took their children to the OTP site. This means all of the carers interviewed had self-referred. One mother said she was self-referred but rejected the first time. She was admitted to the program after the SLEAC survey team referred her.
- **Program is well-regarded by carers:** All carers interviewed described the program favorably. Across all the villages the program is well known to give a direct and tangible observable healing to the children. They say it saves a dying child.
- **Ability to identify SAM cases:** All of the carers interviewed felt that they are capable of identifying SAM cases. All except one said that she did not know any child who is SAM in her village. One career said there are many SAM cases in her village and they are turned away by the program due to lack of cards.
- **Peer to peer referral:** all reported that the program is well known by all people and there is no need for peer to peer referral.
- **Waiting time:** most said they wait between 30-45 minutes before admitted to for treatment during OTP days. But in two facilities mothers say they will wait 4 and 5 hours before being seeing by the health workers.
- **Improvements:** Power should be provided so that there will be air conditioning (1), "give us free drugs as we are very poor to buy drugs"
- **Weaknesses:** Rejections (1), staff coming late and people waiting too long
- **Strengths:** Health education, RUTF is very effective
- **Health facilities in-charge are well-regarded by carers:** All carers interviewed described Nurses in Charge favorably.

INFORMAL GROUP DISCUSSIONS HELD IN THE COMMUNITY

Eight informal group discussions (IGDs) with community members took place. These discussions aimed at investigating knowledge of SAM and the CMAM program in the population. These IGDs revealed the following information:

- In all IGDs malnutrition is considered a disease,
- 10-12 year old children, under-fives, children who are breast feeding, and under 12 month children were considered as children affected by malnutrition.
- In one IGD participants did not know of any volunteer in their village that is affiliated with the CMAM program and they said there is nothing like that at their village
- The program is very well known. All participants in all IGDs said they know children who are admitted to the program.
- Knowledge about symptoms and signs of malnutrition is very high. Thinness, muscle wasting, big head, big stomach, change in colour of hair, diarrhoea, tiny body, anaemia, change in the colour of the eye, oedema, insufficient blood in body, and fever are mentioned as symptoms of malnutrition.



- Most childhood illnesses mentioned by participants are strongly associated with malnutrition. Measles was mentioned in all discussions.
- RUTF is universally known. One participant said in their catchment area the people who are using the program are strangers (pointing to people who come from other areas).
- They stated that SAM was treatable by Hospital (8 IGDs), traditional medicine (2) and reciting the Holy Quran (1)
- All participants in all IGDs know children who are malnourished
- Community volunteers, ward heads, community around them and town crier were mentioned as sources of information about the program.
- RUTF is considered as food and balanced diet by all participants.
- Community level screening is very poor. In all but one IGDs they say screening is done at facility level (no community level screening);

COMMUNITY VOLUNTEERS INTERVIEWS

Eleven volunteers (CVs) were interviewed. Most were volunteers for more than a year (up to three years). Only one volunteer had one year experience. Questions about the role of Volunteers in CMAM program activities revealed that their role included the following:

- Active case finding and MUAC measurement
- Referral of SAM cases
- Health education and awareness and community sensitization
- Participate in the ward development committee and advocacy
- Assist health facility on OTP days, conducting health talks, filling cards and distribution of RUTF
- Home visits of children on treatment and follow up
- Tracing absentees and defaulted children

Additional information from the discussions with the CVs revealed:

- **Mothers refusing to go to OTP:** Of the 11 volunteers 6 said there are times when mothers refuse to go to OTP site for treatment. The reasons were: religious beliefs, fear of rejection by facility staff, refusals of husbands and ignorance.
- **How they decide to screen a child:** 9 out of 11 volunteers decide to screen the child or not by observing the child's body conditions.
- **Referral and follow up:** 7 out of 11 interviewed volunteers do not use referral slips while 4 do. One volunteer reported they used to be asked to trace defaulted children but now it is not happening, but the rest said they will be requested by facility staff to do follow up of defaulted and absent children. Three volunteers reported knowledge about children who stopped attending the program. Reasons for defaulting were due to lack of improvement in the child's condition; need to attend traditional ceremonies and funerals, and the fact that they were proved to be double registered. Visiting and encouraging mothers to attend will address default problem and will make mothers return, according to the responses.



- **Communications:** A volunteer reported he has a daily contact with facility, 3 others said they communicate 3 times a week and the rest said communication is weekly. All said clinic staffs inform them about the number of children being treated, how many have being cured and how many have defaulted. In fact, they have said one of them (the volunteers) is responsible for compiling this data and reporting to CVs. Of 11 interviewed, 9 reported a very positive attitude towards the program from the community. But, about facilities the volunteers reported the relationship between community and facility staff is poor. One said “we want them removed from facility due to their mistreatment of community”.

The following recommendations were suggested by the CVs:

- Provide CVs with means of transportation. Across all facilities problems related to transportation were mentioned. Cars, carts and allowances are suggested as solutions.
- “Pay volunteers. They need transportation to do their job and they need food too”. There is huge grievance towards that.
- The ward committee and the CVs in two facilities wanted the facility staff removed.
- The caseload per facility is too much, and there is a shortage of routine medication. This should be addressed.
- During OTP day water for appetite test is not available. CVs are paying for bringing in the water. There should be a way for the health facility to provide this.
- Selling and sharing of the RUTF and double registration can be addressed by rotating volunteers between different facilities in OTP days as well as involving village leaders.
- Improve the supply pipeline of the current system
- Open new OTP sites for those faraway places
- CVs from 2 facilities reported that Mothers insult them and that they are unhappy about it. A solution is needed for this problem.

Stage 2 and 3

As this SQUEAC is a continuum of the SLEAC, stage 2 and 3 were not done. Stage 2 and 3 use sampling methods similar to what was done in SLEAC investigations in part I of this report. Most of the objectives of stage 2 and 3 are already fulfilled during the SLEAC investigation (including coverage classification). As outlined, this stage tries to do in depth investigation to find out reasons of coverage failure. Both recommendations of SLEAC and this stage one SQUEAC generate the required outcomes (barriers, boosters and overall coverage classification).



CONCLUSION AND RECOMMENDATION ABOUT SQUEAC IN BAURE

- The program was well run with very good outcomes in terms of recovery, lengths of stay, defaulting, and mortality
- Awareness about the program is very high
- Awareness about malnutrition is very high
- Program perception by community is very positive
- Admission decreases in April and May, while facts show that it should increase. The program should step up community mobilization activities before April and community screening during April and May to admit all children
- Volunteers are unhappy about lack of motivation (transport and others). This is creating problems for a proper running of the program. Save the Children and the Government of Nigeria should find solution to this.
- Even if RUTF is well-accepted, considering it as a food is causing double registration. This is seriously affecting the program and solution should be created (use traditional leaders to address this)
- Caseload per facility is very high in some of the facilities. Due to this, mothers wait all day for the treatment. Ways should be created to address this as it is seriously affecting the program's standard
- Sales of RUTF, intra-household sharing of RUTF and consumption of RUTF by adults is wide spread. This should be addressed. Village leaders can help address this.
- Some CVs catchment areas are large, in terms of both numbers of households and area, and this may hamper exhaustive case-finding.
- Community screening is not clear as there is a divide between urban and rural facilities. But, it is confirmed that screening at facility level is more common than case finding at village level. Devise a way to involve the community itself in screening children at village level rather than bringing hundreds to facility, creating congestion which may create cross infections and workload on volunteers and facility staff. Therefore; within-community case-finding and referral activities should be strengthened
- The program entry criteria should be clarified with all program staff as well as volunteers and other referrers. Spot-checks should be made at all sites to ensure that program entry criteria are being followed and remedial action taken if required
- In some facilities the relationship between community and facility is very bad. Save the Children should work towards normalizing relationship by addressing the grievances of staff, volunteers and community. A strategy for raising the awareness of the program as a medicine than food should be developed and implemented
- In some facilities, it is reported that there is no water for appetite test and other related activities. Efforts should be made to solve this problem.
- Across all facilities in Baure there is report of drug shortage and drugs being expensive. Investigate the issue and address the shortage.



- Program outreach activities should be extended into all areas.
- Provide volunteers with slips so that they can trace those referred and admitted to the program
- Something should be done about referrals to SC. Mothers when referred to SC they refuse to go to SCS and this is seriously affecting many children. This is more frequent during the malaria and rainy season.

ANNEX 1: SAVE THE CHILDREN–SUPPORTED HEALTH FACILITIES BY LGA

OTPs

Dutsi Local Government Area

- | | |
|--------------------------------------|-----------|
| • Yamel, Kayawa, Balare | Monday |
| • Karawa, PHC Shargalle, Tshar wali | Tuesday |
| • Dutsaw, Machinawa, CHC Dutsi | Wednesday |
| • Sobashi, Madawa, Dan-aunai, Minawa | Thursday |

Daura Local Government Area

- | | |
|-------------------------------|-----------|
| • CHC Daura, Kurneji, Sharawa | Monday |
| • Hindatu, Suduje | Tuesday |
| • Dan-nakola, Kalgo | Wednesday |
| • Gurjiya, Baraji | Thursday |

Zango Local Government Area

- | | |
|--|-----------|
| • Unguwan Duma, Kawarin Kudi, Bidawa | Monday |
| • Kanda, CHC Rogogo, Sara | Tuesday |
| • Dargage, Yardaje, Garni | Wednesday |
| • Ishiyawa, CHC Zango, Kututture, Gwamba | Thursday |

Baure Local Government Area

- | | |
|-------------------------------------|-----------|
| • Yanmaulu, Mantau, Hui, Dangagi | Monday |
| • Yanduna, Maibara, Agala, Dankum | Tuesday |
| • GH Baure, Maikiliya, Faski, Garki | Wednesday |
| • Ung/Isah, B/Mutum, Tumfushi | Thursday |

Stabilization Care

- GH Daura
- CHC Daura
- CHC Zango
- MCHC Rogogo
- GH Baure
- CHC Dutsi



COVERAGE MONITORING NETWORK

COVERAGE ASSESSMENT

» SEMI-QUANTITATIVE EVALUATION OF ACCESS & COVERAGE





ANNEX 2: RESULTS FOR EACH LGA BY CATCHMENT AREA (SLEAC)

SN	LGA	Catchment area	SAM Not	SAM in	recovering
1	Zango	Kututute	2	2	1
2		Sara	1	1	2
3		Gwamba	0	3	1
4		Kawrin kudi	2	3	0
5		Kasuwayal	2	1	1
6		U/duma	1	1	0
7		Yar daje	2	1	1
8		Shargalle	1	0	0
9		Ishiyawa	1	3	3
10		Bidawa	1	0	2
11		Rogogo	4	0	0
12		Rijiyar dadi1	-	-	-

SN	LGA	Catchment area	SAM Not	SAM in	recovering
1	Dawra	Kusugub	-	-	-
2		Sharawa	0	0	2
3		Suduje	0	1	1
4		Gurjiye	3	5	0
5		Kalgo	2	4	1
6		Dankola	1	2	3
7		Baraje	2	0	0
8		Hindatu	-	-	-
9		UngdanShama ki	-	-	-
10		Gadare	0	1	0
11		Kurenji	0	0	1

SN	LGA	Catchment area	SAM Not	SAM in	recovering
1	Dutsi	Balare /Gazare	1	2	0
2		Madawa	0	1	1
3		Bangel	0	2	2
4		Dutsi centre	1	0	4
5		Dakawa	-	-	-
6		Balare/beguwa	1	2	0
7		Yamale	0	2	1
8		Kaiwuri	1	1	1

SN	LGA	Catchment area	SAM Not	SAM in	recovering
1	Baure	Baure	2	3	0
2		Tsayakwana	2	2	0
3		Baban Mutum	0	2	2
4		Kawaryn yanjaji	2	1	3
5		Hui	8	2	4
6		Maibara	2	0	0



7		Dankum	4	2	3
8		yanduna	0	1	10
9		Faski bugaji	-	-	-



ANNEX 3: SAMPLING FRAME

<i>Name of villages</i>	<i>DISTANCE TO FACILITY (KM)</i>	<i>Population size</i>	<i>Serial numbering</i>	<i>Selected villages (Interval=8)</i>
Danakola	0.5	2500	1	1
Danheji	0.5	2500	2	
Bela	1	1300	3	
Kaya	3	1300	4	
Kamparoa	4	1500	5	
Gyarugaroa	3	1500	6	
Banderewa	5	1400	7	
Sherifawa	5	1500	8	
Kawarin yan ja ji	2	1500	9	2
Makabsoro	7	1500	10	
Dangagi	0	4000	11	
Baushi	0.5	2500	12	
Unguar inga	1.5	2000	13	
Wankade	4	2000	14	
Uguwak inga	3.5	3000	15	
Yan tsai	5	3000	16	
Faski bugaje		1000	17	3
Mali ka wa	5.6	1500	18	
Wan ga	4	2000	19	
Faski		5000	20	
Mali magari		3500	21	
Kefiu sule		3500	22	
Tsaya		3000	23	
Kwaryar	5	5000	24	
Baure		3500	25	4
Gwarandama		2000	26	
Dadw sarki		3000	27	
Tsaya		1000	28	
Unguar kaura		1000	29	
Unguar gamyi		3000	30	
Mudrri		4000	31	
Kafw kwaci		1500	32	
Tsaya ki kwang		3500	33	5
Maikilia		3000	34	
Unguar kaura		3000	35	
Burdudu		9000	36	
Gida dawa		500	37	
Unguar kaura Fulani		1500	38	



COVERAGE ASSESSMENT

» SEMI-QUANTITATIVE EVALUATION OF ACCESS & COVERAGE



<i>Name of villages</i>	<i>DISTANCE TO FACILITY (KM)</i>	<i>Population size</i>	<i>Serial numbering</i>	<i>Selected villages (Interval=8)</i>
Shargele A	0.2	4000	39	
Sharegele B	0.2	3500	40	
Bangel	2	1000	41	6
Shargele ung, arwa	0.3	4000	42	
Katoge	1	3000	43	
Gurjiya	2	2500	44	
Yanfari	4	3000	45	
Karemi	4	3000	46	
Bujawa	3	2000	47	
Dugawa	3	4000	48	
Centre	3	2500	49	7
Sirika	4	5000	50	
Burgel	5	2500	51	
Gojabe	6	2000	52	
Wailare	7	2000	53	
Malkeri	5	2000	54	
Karamanu	3	2000	55	
Tuduyel	8	2000	56	
Dutsi	0.5	10345	57	8
Babumi	3	2500	58	
Shipale	3	1800	59	
Tsuba	5	2000	60	
Habawa	4	2000	61	
Garlaw	6	1500	62	
Dutsawa fulani	4	1500	63	
Dutsawa yanms	4	1700	64	
Dakawa	1	180	65	9
Lamporr	7	2000	66	
Huya	3	2500	67	
Tashar dangishiri	0.5	240	68	
Karawa	1	80	69	
Zarkasa	4	200	70	
Wailare	3	60	71	
Kalgore	3.5	130	72	
Gazari	2	1000	73	10
Wakadama	2.5	250	74	
Risiya	3.5	200	75	
Gwammawa	3	200	76	
Nagtau	3	170	77	
Tsamiya	4	140	78	



COVERAGE ASSESSMENT

» SEMI-QUANTITATIVE EVALUATION OF ACCESS & COVERAGE



<i>Name of villages</i>	<i>DISTANCE TO FACILITY (KM)</i>	<i>Population size</i>	<i>Serial numbering</i>	<i>Selected villages (Interval=8)</i>
Balare	1	1500	79	
Madobai	2	500	80	
Rabaure	1.5	200	81	11
Farin haki	2	500	82	
Beguwh	1	1500	83	
Kudundumawa	1.5	500	84	
Shipale	3	1800	85	
Tsuba	5	2000	86	
Habawa	4	2000	87	
Garlaw	6	1500	88	
Bulyar mata	5.4	2000	89	12
Dutsawa Fulani	4	1500	90	
Dutsawa Yanni	4	1700	91	
Lampar	7	2000	92	
Kuya	3	2500	93	
Ruwan Kaye A	1	600	94	
Ruwan Kaye B	1	500	95	
Madawa	0.2	500	96	
Dutsi	0.5Km	10,345	97	13
Gadare	0.5	300	98	
Jaura	1	400	99	
Matsakawe	0.5	350	100	
Dage	1	400	101	
Runde	1	350	102	
Raba	2	500	103	
Maqahiyo	2	400	104	
Dakawa	1Km	180	105	14
Nasarawa	2	450	106	
Finungere	3	200	107	
Ungwar duma	0	2000	108	
Ungwar Kanya	1.5	3000	109	
Komo	2	2500	110	
Komo Fulani	1.5	500	111	
Dakum	4	500	112	
centre	3Km	2500	113	15
Rwwa kassa	7	2000	114	
Diye	8	2500	115	
Tashar	0.5km	240	116	
Karawa	1Km	80	117	



COVERAGE ASSESSMENT

» SEMI-QUANTITATIVE EVALUATION OF ACCESS & COVERAGE



<i>Name of villages</i>	<i>DISTANCE TO FACILITY (KM)</i>	<i>Population size</i>	<i>Serial numbering</i>	<i>Selected villages (Interval=8)</i>
Jarkasa	4Km	200	118	
Walare	3Km	60	119	
Kalgore	3 1/2Km	130	120	
Gazari	2Km	1000	121	16
Wakadama	2 1/2Km	250	122	
Rijiya	3 1/2Km	200	123	
Gwammawa	3Km	200	124	
Nagatau	3Km	170	125	
Tsamiya	4Km	140	126	
Shigale	3Km	1800	127	
Tsuba	5Km	2000	128	
Beguwa	1Km	1500	129	17
Habawa	4Km	2000	130	
Gorlaw	6Km	1500	131	
Dutsawa fulani	4Km	1500	132	
Dutsawa yanna	4Km	1700	133	
Lampon	7Km	2000	134	
Huya	3Km	2500	135	
Balare	1Km	1500	136	
Rabare	1.5Km	200	137	18
Madobai	2Km	500	138	
Farin Haki	2Km	500	139	
Kudundumawa	1.5Km	500	140	
Ruwan Kaye A	1Km	600	141	
Ruwan Kaye B	1Km	500	142	
Madawa	200m	500	143	
Gadare	500m	300	144	
Bangel	2Km	1000	145	19
Jaura	1Km	400	146	
Matsakawa	500m	350	147	
Daqe	1Km	400	148	
Runde	1Km	350	149	
Raba	2Km	500	150	
Maqahiyo	2Km	400	151	
Nasarawa	2Km	450	152	
Yamel	15Km	3000	153	20
finingere	3Km	200	154	
Shargalle A	0.2Km	4000	155	



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<i>Name of villages</i>	<i>DISTANCE TO FACILITY (KM)</i>	<i>Population size</i>	<i>Serial numbering</i>	<i>Selected villages (Interval=8)</i>
Shargalle B	0.2Km	3500	156	
Shargalle ung arewa	0.3Km	4000	157	
Katoge	1Km	3000	158	
Gurjiya	2Km	2500	159	
Yanfari	4Km	3000	160	
Rulyar mata	4Km	2000	161	21
Karemi	4Km	3000	162	
Bujawa	3Km	2000	163	
Dubawa	3Km	4000	164	
Sirika	4Km	5000	165	
Burgle	5Km	2500	166	
Gojabe	6Km	2000	167	
Wailare	7Km	2000	168	
Ungwar garaki I	0.5Km	5000	169	22
Malkeri	5Km	2000	170	
Karamnu	3Km	2000	171	
Tuduyel	8Km	2000	172	
Babamul	3km	2500	173	
Makoda	2Km	500	174	
Fakarawa	1Km	300	175	
Shabeji	2Km	400	176	
Ung dan shamaki	1Km	500	177	23
Eka	1Km	200	178	
Bagga	3Km	700	179	
Jigawa	6Km	1200	180	
Elde	1Km	350	181	
Beguwa	3Km	700	182	
Makaurachi	2Km	400	183	
Ungwar duma	0Km	2000	184	
Gurjiya	1Km	2000	185	24
Ungwar kanya	1.5Km	3000	186	
Komo	2Km	2500	187	
Komo Fulani	1.5Km	500	188	
Da kum	4Km	500	189	
Ruwa kassa	7Km	2000	190	
Diye	8Km	2500	191	
Ung hungun	0.5Km	1000	192	



<i>Name of villages</i>	<i>DISTANCE TO FACILITY (KM)</i>	<i>Population size</i>	<i>Serial numbering</i>	<i>Selected villages (Interval=8)</i>
maketa				
Suduje B	0.2Km	2000	193	25
Ung barana	0.5Km	500	194	
Ung ayyana I	0.5Km	500	195	
Ung ayyana II	0.5Km	500	196	
Ung dole	1Km	1500	197	
Kalgo gari	2minute	800	198	
Rimi sabuwa	15minute	100	199	
Rimi tsohoha	30minute	100	200	
Kurneji	0.5Km	3000	201	26
Gara	30minute	150	202	
Roojo	3Km	1000	203	
Unguar gamji	4Km	500	204	
KarkonscscSCu	4Km	1500	205	
Yada gamu	5Km	1000	206	
Kagare	7Km	700	207	
Dandakyne	6Km	1000	208	
Gadare	1Km	400	209	27
Sumu	8Km	1000	210	
Suduje A	0.2Km	2000	211	
Sukwanawa	1Km	2000	212	
Sha madara A	2.5Km	1500	213	
Bauni	6Km	1500	214	

Shamadara B	2.5Km	1000	215	
Jeme	2Km	1000	216	
Turumni	2Km	2500	217	28
Shakawu	2.5Km	1000	218	
Suduje fulan	3Km	1000	219	
Kagale	8Km	1000	220	
Unguar gama	6Km	500	221	
Bojo	4Km	1000	222	
Boni	6Km	2000	223	
Shadi	3Km	1500	224	
Tawalala	2Km	3000	225	29
Gunou	4Km	1000	226	



Tuntsaye	8Km	1000	227	
Ingawn	5Km	2000	228	
Kawaru	8Km	2000	229	
bunmana	2Km	1200	230	
Sharawa	0.2Km	3000	231	
Kwjabsa	1Km	1000	232	
Kasuwaya	25minute	7000	233	30
Kaya	2Km	1500	234	
Daberam	1Km	500	235	
Sharawa Fulani	1.5Km	2000	236	
Binga	1.7Km	2000	237	
Zari	3Km	1500	238	
Rijiyar tsamiya	4Km	4000	239	
Jarkuka	5Km	4000	240	
Ishiyiwa	?Km	6000	241	31
Rade	6Km	2000	242	
Rahamawa	2Km	3500	243	
Tsohuwar kasuwa	1Km	2000	244	
Majema	1.5Km	1500	245	
Chadi	1Km	1700	246	
Baraje	500m	1000	247	
Kwar	1Km	3000	248	
Kawurin kudu	0Km	7000	249	32
Sukub	4Km	2000	250	
madabu	1.5Km	2500	251	
Garni	2minute	8000	252	
Kali	15Minute	1000	253	
Badaka	30Minute	1500	254	
Garni Fulani	10Minute	8000	255	
Nakirga	30minute	1000	256	
Rogogo arautake	1Km	984	257	33
Dasha Fulani	1hr	2000	258	
katirirje	5minute	4000	259	
Kasuwayal Fulani	30minute	2000	260	
Danam	1hr	5000	261	
Madaka	30minute	4000	262	
Toka bura	15minute	400	263	
Madaka Fulani	20minute	1000	264	
Makiya	40minute	4000	265	34
Jaamar	1hr	500	266	



Dinau	1hr	500	267	
Dawam malam	1hr	1000	268	
Bidawa habe	0.2Km	3500	269	
Kawarini niyamai	3Km	3500	270	
Bidawa yantuba	1Km	4000	271	
Bidawa massare	2Km	1000	272	
Bidawa gadare	1Km	1000	273	35
Dasha habe	3Km	2000	274	
Dasha Fulani	3Km	1000	275	
Bidawa yesore	1.5Km	1000	276	
Dawaye	5Km	1000	277	
Bukudu gari	4Km	1500	278	
Bidawa fulani	2Km	1000	279	
Aduwawa	1Km	200	280	
Daragage fulasu	0.5Km	200	281	36
Arku	3Km	200	282	
Yardaje	0.2Km	6000	283	
Yardaje chiki qari	2.5Km	2500	284	
Gurajabe	2Km	2000	285	
Yaradaje Fulani	2Km	2000	286	
Jawo lelle	3Km	1800	287	
Gadawa	2.5Km	2000	288	
Honbinam	2Km	2400	289	37
Sishe one	4Km	2000	290	
Sishe sabon gari	5Km	2500	291	
Sishe Fulani	5.5Km	2000	292	
Bulunqualu	1Km	1500	293	
Jama'are fulani	1Km	1000	294	
Kyaukyawa	1Km	2500	295	
Damaski	5Km	1500	296	
Bugaje	3Km	2000	297	38
Rijiyar mata	4Km	1500	298	
Ruwa kasa	5Km	1700	299	
Gidila	6Km	2000	300	
Dakum gari	7.5Km	1000	301	
Dakum Fulani	8Km	1500	302	
Baragumi	4.5Km	900	303	
Bagumi fulani	3.5Km	700	304	
Kusu gu A	?	?	305	39
Kusu gu B	4minute	2000	306	



Risiyar dadi I	2minute	1400	307	
Risiyar dadi II	3minute	800	308	
Rogogo masaura	0.2Km	2093	309	
Rogogo gabas	1Km	1660	310	
Rogogo chidaki	1.6Km	2259	311	
Masauka Fulani	1Km	464	312	
Tana daka	2Km	250	313	40
Arautake musa	2.1Km	518	314	
Arautake kullu	2Km	941	315	
Ungware gaje	2Km	1228	316	
Gaje beti	1.4Km	1096	317	
Gaje jamo	1.5Km	1321	318	
Jamaar m.sani	2.2Km	346	319	
Gwarta	1Km	253	320	
Gwamba	10minute	3000	321	41
Ruwakasa	40minute	1000	322	
Komo habe	30minute	3000	323	
Yan tubar komo	30Minute	500	324	
Kawarini malamai	40minute	3000	325	
Sarkim daki	30minute	500	326	
Riyar mata	70Minute	1000	327	
Ruwa kasa(galadima)	40minute	2000	328	
Dakum habi	90Minute	500	329	42
Dakum Fulani	100minute	500	330	
Gidila maza	30minute	1000	331	
Gidila musa	30minute	500	332	
Gidila chalamau	30minute	500	333	
Gidila malam musa	60minute	1500	334	
Bugaje rijiyas mata	90minute	2000	335	
Maizabo	2km	3000	336	
Yan marake	1.5km	2000	337	
Faffaru	2km	3000	338	
Rahamawa	2.5km	4000	339	
Fulanin rogogo	3km	4000	340	
Ungwan gaje	2km	3000	341	
Kole	3km	2500	342	
Yardage	2.5km	3000	343	
Kuttutture	1km	4000	344	



ANNEX 4: CALCULATION OF CLASSIFICATION OF COVERAGE FOR EACH LGA

a. Classification of converge for Baure LGA

LGA	Cases not in program	Cases in program	Recovering cases
Baure	20	14	24

Point coverage:

Numerator= SAM cases in program=14

Denominator= SAM cases=34

Checking this against the 50% Sphere standard using simplified LQAS:

$$D = \left\lfloor \frac{\text{denominator}}{2} \right\rfloor = \left\lfloor \frac{34}{2} \right\rfloor = \left\lfloor 17 \right\rfloor = 17$$

Since the numerator (14) is below the decision rule 17, the *point coverage* in the surveyed area is classified as being below sphere minimum standard 50%.

Period coverage:

Numerator= SAM cases in program + Recovering cases =14+24=38

Denominator= SAM cases in program + Recovering cases + SAM cases not in program =14+24+20=58

Checking this against the 50% Sphere standard using simplified LQAS:

$$D = \left\lfloor \frac{\text{denominator}}{2} \right\rfloor = \left\lfloor \frac{58}{2} \right\rfloor = 29$$

Since the numerator (38) is greater than 29 (the decision rule), the *period coverage* in the surveyed area is classified as being above 50%.

b. Classification of converge for Dutsi LGA

LGA	Cases not in program	Cases in program	Recovering cases
Dutsi	4	10	12

Point coverage:

Numerator= SAM cases in program=10

Denominator= SAM cases=14

Checking this against the 50% Sphere standard using simplified LQAS:

$$D = \left\lfloor \frac{\text{denominator}}{2} \right\rfloor = \left\lfloor \frac{14}{2} \right\rfloor = \left\lfloor 7 \right\rfloor = 7$$

Since the numerator (10) is above the decision rule 7, the *point coverage* in the surveyed area is classified as being above sphere minimum standard 50%.

Period coverage:

Numerator= SAM cases in program + Recovering cases =10+12=22

Denominator= SAM cases in program + Recovering cases + SAM cases not in program =10+12+4=26

Checking this against the 50% Sphere standard using simplified LQAS:



$$D = \left\lfloor \frac{\text{denominator}}{2} \right\rfloor = \left\lfloor \frac{26}{2} \right\rfloor = 13$$

Since the numerator (22) is greater than 13 (the decision rules), the period coverage in the surveyed area is classified as being above 50%.

c. Classification of converge for Daura LGA

LGA	Cases not in program	Cases in program	Recovering cases
Daura	9	11	9

Point coverage:

Numerator= SAM cases in program=11

Denominator= SAM cases=20

Checking this against the 50% Sphere standard using simplified LQAS:

$$D = \left\lfloor \frac{\text{denominator}}{2} \right\rfloor = \left\lfloor \frac{20}{2} \right\rfloor = 10$$

Since the numerator (11) is above the decision rule 10, the point coverage in the surveyed area is classified as being above sphere minimum standard 50%.

Period coverage:

Numerator= SAM cases in program + Recovering cases =11+9=20

Denominator= SAM cases in program + Recovering cases + SAM cases not in program =11+9+9=29

Checking this against the 50% Sphere standard using simplified LQAS:

$$D = \left\lfloor \frac{\text{denominator}}{2} \right\rfloor = \left\lfloor \frac{29}{2} \right\rfloor = 14$$

Since the numerator (20) is greater than 14 (the decision rules), the period coverage in the surveyed area is classified as being above 50%.

d. Classification of converge for Zango LGA

LGA	Cases not in program	Cases in program	Recovering cases
Zango	16	21	12

Point coverage:

Numerator= SAM cases in program=21

Denominator= SAM cases=37

Checking this against the 50% Sphere standard using simplified LQAS:

$$D = \left\lfloor \frac{\text{denominator}}{2} \right\rfloor = \left\lfloor \frac{37}{2} \right\rfloor = 18$$

Since the numerator (21) is above the decision rule 18, the point coverage in the surveyed area is classified as being above sphere minimum standard 50%.

Period coverage:

Numerator= SAM cases in program + Recovering cases =21+12=33

Denominator= SAM cases in program + Recovering cases + SAM cases not in program =21+12+16=49

Checking this against the 50% Sphere standard using simplified LQAS:

$$D = \left\lfloor \frac{\text{denominator}}{2} \right\rfloor = \left\lfloor \frac{49}{2} \right\rfloor = 24$$



Since the numerator (33) is greater than 24 (the decision rules), the period coverage in the surveyed area is classified as being above 50%.



ANNEX 5: CASE-FINDING PROCEDURE

Go directly to the Community leader and introduce yourselves, the program, explain why you are there and what you will be doing. Make sure you explain that you want to see **all oedematous, thin, or sick (can apply the local terms) children and children in the program aged between 6-59 months of age.**

Ask the leader to provide you with a guide to show you houses with oedematous, thin and sick children and children in the program (Specifically, ask for Volunteers and/or a woman who knows all the mothers of U5s in the village).

Ask the guide to take you to houses with oedematous, thin and sick children and children in the program.

Go to the first household identified by the guide or the leader.



When you arrive at an identified household, introduce yourselves, the program, and explain why you are there and what you will be doing. Then start assessing the child.

Is the child between 6-59 months of age? To confirm the age ask for vaccination card and calculate the age in months (if no card use calendar of events to calculate the age of the child).



No.

Thank the carer, ask the mother of this child if she knows of any children that might be oedematous, thin or sick, or in the program.

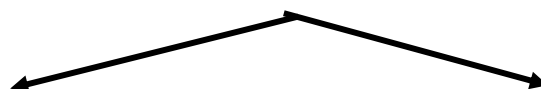
Then move on.

Yes.

*Screen the child for malnutrition (Use **MUAC < 11.5** for screening if the child is not in the program)*

Check Oedema and take MUAC

Does the child have bilateral pitting oedema or MUAC < 1.5 cm or in the program?



No

Thank the carer, and ask the mother of this child if she knows of any children that might be

Yes

Then fill up the questionnaire.

If the child is not in the program, refer her/him to the



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oedematous, thin or sick,
or in the program.

Then move on.

nearest OTP site

Remember

- 1) After you have assessed the children in the selected household, always ask the mother if she knows of any children that might be oedematous, thin or sick, or in the program. Then move on to the selected household.
- 2) Ask if any child from the village is currently in hospital or at a health centre. If so, get the name of the child and mother and make sure you measure him / her in the health facility.
- 3) If a mother with oedematous, thin and sick child is away from the village, go where she is and measure the child.
- 4) If a mother with a child in a program is away from the village, take the name and age of the child



ANNEX 6: SURVEY QUESTIONNAIRE

A) For the carers of children (Severe cases) who are NOT in the program

Region _____ LGA _____

OTP site _____

Name of Child _____ Team No _____

1. DO YOU THINK YOUR CHILD IS MALNOURISHED?

- ☐ YES ☐ NO

2. ARE YOU AWARE OF THE EXISTENCE OF A PROGRAM WHICH CAN HELP MALNOURISHED CHILDREN?

- ☐ YES ☐ NO (→ stop!)

If yes, what is the program's name? _____

3. WHY IS YOUR CHILD CURRENTLY NOT ENROLLED IN THE PROGRAM?

- ☐ Too far (How long does it take to walk? hours)
☐ No time / too busy. What is the parent doing instead? _____
☐ Mother is sick
☐ The mother cannot carry more than one child
☐ The mother feels ashamed or shy about coming
☐ Security problems
☐ There is no one else who can take care of the other siblings
☐ The amount of RUTF was too little to justify the journey
☐ The child has been rejected by the program already. When? ____ (approx.)
☐ Other parents' children have been rejected
☐ My husband refused
☐ I thought it was necessary to be enrolled at the hospital first
☐ I do not think the program can help my child (prefer traditional healer, etc.)
☐ Other reasons (specify): _____

4. WAS YOUR CHILD PREVIOUSLY ADMITTED TO THE PROGRAM?

- ☐ YES ☐ NO (→ stop!)

If yes, why is he/she not enrolled any more?

- ☐ Defaulted (when?..... why?.....)
☐ Condition improved and discharged by the program (when?.....)
☐ Discharged because he/she was not recovering (when?.....)
☐ Other: _____

(Thank the carer)

B) For mothers/carers of children CURRENTLY enrolled in the OTP/SC program

Region _____ LGA _____

OTP site _____

village _____ Name of Child _____

1. Is this the first time your child has been in the program? If yes, skip to Q5 ____
2. If no: record the number of times the child was in the program previously []
3. Try to establish why the child has returned
 - a. returned defaulter ☐
 - b. relapsed into severe malnutrition ☐
4. What was the reason for a or b above?



5. Have any of your other children been enrolled in the program? **If yes:** record the number_____ **[if no: put 0]**
6. What made you decide to attend? (free listing)