



SLEAC/SQUEAC Coverage Survey Report Ashaiman Municipality

October 2013











SLEAC/SQUEAC Coverage Survey Report

Ashaiman Municipality

October 2013









This report is made possible by the generous support of the American people through the support of the Office of Health, Infectious Diseases, and Nutrition, Bureau for Global Health, U.S. Agency for International Development (USAID) and USAID/Ghana under terms of Cooperative Agreement No. AID-OAA-A-12-00005, through the Food and Nutrition Technical Assistance III Project (FANTA), managed by FHI 360.

The contents are the responsibility of FHI 360 and do not necessarily reflect the views of USAID or the United States Government.

October 2013

Recommended Citation

FANTA. 2013 SQUEAC/SLEAC Coverage Survey Report: Ashaiman Municipality. Washington, DC: FHI 360/FANTA.

Contact Information

Deputy Director – Nutrition Nutrition Department Ghana Health Service P.O Box M78 Accra- Ghana Email: nutrition@ghsmail.org Telephone: +233 (0) 302 604278 +233 (0) 302 665001 Fax: +233 (0)302 -662 778

Food and Nutrition Technical Assistance III Project (FANTA) FHI 360 1825 Connecticut Avenue, NW Washington, DC 20009-5721 T 202-884-8000 F 202-884-8432 fantamail@fhi360.org www.fantaproject.org

Acknowledgements

This coverage survey was conducted with the collaboration and contributions of various stakeholders involved in service delivery of, managing, and providing technical support to CMAM services in Ashaiman Municipality.

The Ghana Health Service wishes to thank UNICEF/Ghana, U.S. Agency for International Development (USAID)/Ghana, and the Food and Nutrition Technical Assistance III Project (FANTA)/FHI 360 for the technical assistance and funding to conduct this coverage survey.

The Ashaiman Municipality Health Directorate also wishes to express its appreciation to the Ghana Health Service's – Family Health Division, Health Research Unit, Nutrition Department, and Greater Accra Regional Health Directorate for their instrumental role and leadership in conducting the SQUEAC/SLEAC coverage surveys that are part of strengthening the quality of CMAM services in Ashaiman Municipality.

Special appreciation goes to the following people who conducted Ashaiman Municipality SQUEAC/SLEAC surveys, including data collection, analysis, preparing recommendations, and reporting:

Dr. Gloria Quansah-Asare **GHS/Family Health Division GHS/Nutrition Department** Ms. Wilhelmina Okwabi GHS/Nutrition Department Mr. Michael Neequaye Mr. Amadu Abdul-Kahad **GHS/Nutrition Department** Ms. Josephine Asante GHS/Nutrition Department Ms. Millicent Yorke **GHS/Nutrition Department** GHS/Health Research Unit Mr. Divine D. Logo Ms. Ruby Dovlo GHS/Greater Accra Region Ms. Gifty M. Donkoh GHS/Greater Accra Region Ms. Okailey Adobea Okantey GHS/Greater Accra Region Ms. Zanno Billey GHS/Greater Accra Region Ms. Porbilla Ewura GHS/Northern Region Mr. Abraham Mahama GHS/Upper East Region GHS/Upper East Region Ms. Gloria Kobati GHS/Upper West Region Mr. Alexander Osei Yeboah Mr. Anthony N. Koullah GHS/Upper West Region University of Development Studies, Tamale Mr. Sixtus Aguree Dr. Esi F. Therson Cofie GHS/Ashaiman Municipality Ms. Faustina Vimariba GHS/Ashaiman Municipality Ms. Sadiya Salifu GHS/Ashaiman Municipality Ms. Joyce M. Akpalu GHS/Ashaiman Municipality Ms. Doreen O. Ampofo GHS/Ashaiman Municipality Ms. Grace Eva Nyame GHS/Ashaiman Municipality Ms. Deborah Teye GHS/Ashaiman Municipality Ms. Joyce Asare GHS/Ashaiman Municipality Ms. Jemima Amoako GHS/Ashaiman Municipality Ms. Victoria Otumfo GHS/Ashaiman Municipality Mr. Stephen Mensah FANTA/FHI 360 Ms. Amanda Yourchuck FANTA/FHI 360 Mr. Alemneh Aschenaki Bizuneh Consultant

Last but not least, Ashaiman Municipality Health Directorate wishes to thank opinion leaders, community members, and service providers for participating in the surveys and for their continued support to CMAM services.

Contents

Ack	Acknowledgementsi				
Abb	previations and Acronymsiii				
Exe	cutive Summary1				
1.0	Introduction				
2.0	Objectives4				
3.0	SQUEAC/SLEAC Training				
4.0	Methodology54.1SLEAC Survey54.1.1Sample Size54.1.2Data Collection64.1.3Data Analysis64.2SQUEAC Analysis6				
5.0	Results 7 5.1 SLEAC 7 5.2 SQUEAC 8 5.2.1 Service Design 8 5.2.2 Service Data 9 5.2.3 Contextual Data 14 5.2.4 Field Data 15 5.2.5 Data Synthesis 16				
6.0.	Recommendations17				
Ann	nex 1. SLEAC Sampling Calculator20				
Ann	nex 2. Sampled Communities21				
Annex 3. AACF Data					
Ann	Annex 4. Data Collection Schedule				
Ann	nex 5. Ouestionnaire for Households with SAM Cases				

List of Figures

Figure 1. Combination of SQUEAC and SLEAC for evaluation of coverage of CMAM services	7
Figure 2. Reasons for not seeking treatment	8
Figure 3. Admissions by site	10
Figure 4. Total admissions	10
Figure 5. MUAC at admission	11
Figure 6. Annual comparison of cured vs. defaulters	12
Figure 7. Length of stay – defaulters vs. cured (in weeks)	12
Figure 8. Length of stay – defaulters	13
Figure 9. Defaulter MUAC at discharge	14

List of Tables

Table 1.	Referrals	11
Table 2.	Barriers and boosters to CMAM coverage	17

Abbreviations and Acronyms

AACF	Active and Adaptive Case Finding
CHN	community health nurse
CHPS	Community-Based Health Planning and Services
cm	centimetre(s)
CMAM	Community-Based Management of Acute Malnutrition
CWC	child welfare clinic
DHMT	District Health Management Team
FANTA	Food and Nutrition Technical Assistance III Project
FGD	focus group discussion
GHS	Ghana Health Service
IPC	inpatient care
IYCF	infant and young child feeding
KII	key informant interview
km	kilometre(s)
LEAP	Livelihood Empowerment against Poverty
LQAS	Lot Quality Assurance Sampling
MICS	Multiple Indicator Cluster Surveys
mm	millimetre(s)
MOH	Ministry of Health
MUAC	mid-upper arm circumference
OPC	outpatient care
RHMT	Regional Health Management Team
RUTF	ready-to-use therapeutic food
SAM	severe acute malnutrition
SLEAC	Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage
SMART	Standardized Monitoring of Relief and Transitions
SQUEAC	Semi-Quantitative Evaluation of Access and Coverage
TBA	traditional birth attendant
USAID	U.S. Agency for International Development
WHO	World Health Organization

Executive Summary

In September 2010, a review of the integration of CMAM into the Ghana health system conducted by the Food and Nutrition Technical Assistance III Project (FANTA) at the early learning sites found that CMAM had been effectively integrated into these sites. The Ghana Health Service's (GHS) leadership and co-ordination of CMAM services has led to strong integration with child health and nutrition activities. However, this review also noted challenges, including a high default rate and low caseload, both attributed to weak community outreach. To further investigate these challenges, the review recommended that a survey be carried out to estimate coverage and identify barriers to access and uptake of CMAM services.

The Ministry of Health (MOH)/GHS plans to conduct coverage surveys in the five scale-up regions (Central, Greater Accra, Northern, Upper East, and Upper West) where CMAM was first introduced in Ghana. Surveys in Central and Greater Accra Regions were undertaken in July 2013, and surveys in Northern, Upper East, and Upper West Regions will take place in October/November 2013. These coverage surveys are based on the Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) and Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) methods.

This report presents the results of the coverage surveys that took place in Ashaiman Municipality, in Greater Accra Region from July 8, 2013 to July 26, 2013. The report then presents recommendations based on the results.

Using the identified number of 21 SAM cases, Sphere standard-based cut-off values for the number of SAM cases receiving CMAM services (covered cases) required for each threshold were calculated to be a maximum of 6 covered cases for low coverage and a minimum of 15 covered cases for high coverage. Because only 5 of the 21 SAM cases were receiving CMAM services at the time of the survey, Ashaiman was classified as having **low coverage** (< 30%).

Total admissions have decreased each year in Ashaiman following the scale-up of CMAM within the district. Most of the admissions were noted to have come directly from their communities, but information was missing on the admission cards to identify if these were self-referrals or if clients were referred by community volunteers.

The majority of admissions had a mid-upper arm circumference (MUAC) value ≤ 11.5 cm. Data also showed that values of MUAC at admission were frequently rounded to the closest 0.5 value, indicated by spikes at rounded intervals when MUAC values are plotted. This issue points to a lack of rigor from health care providers in the measurement of the MUAC of admitted children.

Facility catchment area was not an issue in Ashaiman. Ashaiman is a densely populated, urban setting, and clients are never farther than 2 km from any CMAM facility wherever they are in the district.

Defaulting, however, is an issue in Ashaiman. When analysing default rates in terms of clients discharged as defaulted or cured, default rates reached as high as 85%. Further analysis of defaulters showed that most clients default treatment only once, indicating a possible lack of follow-up of defaulters.

Analysis of contextual data showed that social and cultural beliefs and livelihoods had strong influences on clients' ability to access CMAM services. There is a strong belief that acute malnutrition is associated with witchcraft or curses.

The most common occupations of Ashaiman residents are traders, those selling items along the side of the road or in markets, and service jobs, such as sewing and hairdressing. Caregivers that hold these

types of jobs typically leave their homes early in the morning and work throughout the day. Caregivers in Ashaiman have limited time to access health services during the day. Health care providers offering CMAM services close early in the afternoon, around 14:00. When caregivers return from work, health facilities are already closed and they are unable to access services.

The analysis of service and contextual data was used to guide the development of focus group discussion (FGD) and key informant interview (KII) guides. FGDs and KIIs were undertaken in two areas in the district. Findings from KIIs and FGDs confirmed the information gathered during the two previous analysis steps. From the combination of analysis of service data, contextual data, and field data, topics were identified as priority areas for action and recommendations were made to improve CMAM service coverage in the district.

1.0 Introduction

1.1 CMAM in Ghana

Community-Based Management of Acute Malnutrition (CMAM) is an innovative approach for managing severe acute malnutrition (SAM) in children 6–59 months of age. CMAM classifies SAM in children as 'complicated' and 'uncomplicated'. 'Complicated' cases represent approximately 10%–20% of all SAM cases. 'Complicated' cases are stabilized in 24-hour inpatient care (IPC) facilities before referral to continue with treatment at decentralized outpatient care (OPC) facilities, whereas 'uncomplicated' SAM cases are managed at home with weekly visits to a nearby health facility. By offering case management at decentralized sites and providing ready-to-use therapeutic food (RUTF) and medication for outpatient treatment of SAM without medical complications, CMAM can result in increased coverage and access to treatment. High coverage, which is one of the most important CMAM service effectiveness indicators, requires working closely with communities to detect and refer cases for treatment.

Community involvement is an integral part of CMAM: In a community whose members are aware of the severity of malnutrition, it is likely that SAM children will be referred early for treatment, facilitating the treatment and increasing the chances of successful treatment outcomes.

The CMAM approach was introduced in Ghana through a June 2007 national workshop organized by U.S. Agency for International Development (USAID)/Ghana, UNICEF/Ghana, and World Health Organization (WHO)/Ghana in that targeted senior health managers and senior clinicians. Following that workshop, the Ghana Health Service (GHS) established CMAM learning sites in two districts (Greater Accra and Central Regions) with technical and financial support from multi- and bilateral partners. In 2010, the GHS and its partners began to expand CMAM through a gradual, two-phase scale-up. The first phase, currently on-going, targets selected districts in five regions (Central – 10 districts; Greater Accra – 14 districts; Northern – 15 districts; Upper East – 11 districts; and Upper West – 10 districts), while the second phase, started in 2012, targets the other five regions (Ashanti, Brong Ahafo, Eastern, Volta, and Western). Following those efforts, the Ministry of Health (MOH)/ GHS has now scaled up the management of SAM to more than 500 health facilities in 60 districts. Other accomplishments include the development of national guidelines, job aids, tools, and training materials for the management of SAM, and the training of more than 2,000 health care providers in the management of SAM.

In September 2010, a review of the integration of CMAM into the Ghana health system conducted at the early learning sites found that CMAM had been effectively integrated into these sites. GHS's leadership and co-ordination of CMAM services has led to strong integration with child health and nutrition activities. However, this review also noted challenges, including a high default rate and low caseload, both attributed to weak community outreach. To further investigate these challenges, the review recommended that a survey be carried out to estimate coverage and identify barriers to access and uptake of CMAM services.

The MOH/GHS plans to conduct coverage surveys in the five initial scale-up regions (Central, Greater Accra, Northern, Upper East, and Upper West). Surveys in Central and Greater Accra Regions were undertaken in July 2013 and surveys in Northern, Upper East, and Upper West Regions will take place in October/November 2013. These coverage surveys are based on the Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) and Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) methods.

This report presents the findings from the coverage survey that took place in Ashaiman, in Greater Accra Region, from July 8, 2013 to July 26, 2013.

1.2 Ashaiman Municipality Profile

Ashaiman is a municipality within the Greater Accra Region. Ashaiman Municipality was formerly part of Tema Metropolitan Area and became a separate administrative unit in July 2008. The municipality is divided into seven sub-municipality areas for the purposes of planning and delivery of health services. These sub-municipalities are Amui Djor, Blackkpatsona, Gbemi, Maamomo, Mantseman, Niiman, and Tsinaiagber.

Ashaiman is a peri-urban area that is home to a large number of migrants from throughout Ghana and other neighbouring West African countries. It is located approximately 30 km from the Accra metropolitan centre and covers an area of approximately 45 km². The current estimated population is 209,289, giving a population density of approximately 4,651 people per square kilometre.

Poor environmental conditions, overcrowding, and poor nutrition have given rise to high incidence of tuberculosis, malaria, diarrhoeal diseases, skin infections, and SAM among children under 5 years of age. The municipality also suffers from poor road infrastructure. There is only one major road, recently constructed, that passes through the municipality.

2.0 Objectives

- 1. To train a core group of regional and national health care providers and managers on SQUEAC/SLEAC survey methods
- 2. To determine the level of CMAM coverage in Ashaiman Municipality
- 3. To identify barriers and boosters to coverage of CMAM services in Ashaiman Municipality
- 4. To make recommendations to improve coverage in the region

3.0 SQUEAC/SLEAC Training

Prior to the start of the planned coverage surveys, the MOH/GHS held trainings on the SLEAC and SQUEAC survey methods. The Food and Nutrition Technical Assistance III Project (FANTA), in collaboration with UNICEF/Ghana, provided technical support in the design and conduct of the training, including financial support to conduct the SQUEAC/SLEAC trainings. A SQUEAC/SLEAC training package was developed based on the SQUEAC/SLEAC Technical Reference document, published by FANTA in 2012. The package presents the basic steps of conducting a SLEAC survey and a SQUEAC assessment and teaches the required skills.

The SLEAC training was held at Humility Lodge in Swedru, Agona West, from July 2 to July 6, 2013. A total of 22 nutrition officers from the district, regional, and national levels were trained as data collection supervisors for SLEAC surveys. In addition, 16 community health nurses (CHNs) were trained in SLEAC data collection methods. As part of the training exercise, the participants also field tested the SLEAC data collection tools that were used during the Ashaiman SLEAC survey. Before the start of the training a pre-test was given. The same test was given as a post-test at the end of the training. The average pre-test score was 42%; the average score increased to 82% on the post-test. In addition, supervisor trainees were asked to train data collectors on the basis of SLEAC methodology and data collection, further confirming their understanding of the material presented during the supervisor's portion of the SLEAC training.

The training on the SQUEAC analysis methodology was combined with the SQUEAC data collection and analysis for Ashaiman. The SQUEAC training and analysis took place from July 15 to July 26, 2013. A group of 23 district, regional, and national nutrition officers, most of whom were previously trained on the SLEAC survey methodology and participated in the SLEAC survey data collection,

were trained on SQUEAC analysis methods and conducted a review of routine CMAM service data, contextual data, and key informant interview (KII) and focus group discussion (FGD) data. A group of 10 CHNs were also trained on KII and FGD methods and assisted with the collection of KII and FDG data for the SQUEAC analysis.

4.0 Methodology

4.1 SLEAC Survey

The SLEAC method provides a measure of CMAM service coverage by estimating the proportion of SAM cases admitted to CMAM services out of the total number of SAM cases identified through field data collection. It uses Active and Adaptive Case Finding (AACF) as the method for tracing SAM cases in a sample of communities throughout the target geographical area.

To actively trace SAM cases, AACF uses information about the local understanding of SAM and CMAM services to construct a case finding question. This question is asked to a community guide, who then takes the data collection teams to households with children fitting the description asked in the case finding question. The generic version of the question is 'Can you take me to see children who are sick or thin, have swollen legs or feet, or are receiving CMAM services or getting Plumpy'nut[®] (RUTF)?'

Prior to the start of data collection, FGDs and KIIs were conducted in several communities to enable the teams to construct an AACF strategy and adapt the generic case finding question to the local context. Data collection teams spoke with mothers, community members, opinion leaders, a traditional healer, a traditional birth attendant (TBA), and health workers and volunteers. See Annex 3 for AACF data.

4.1.1 Sample Size

The total estimated population for Ashaiman used for this survey was $209,289^1$. With a regional SAM prevalence of $0.4\%^2$, a total of 111 SAM cases are expected to be found in the municipality at any given time. Using the SLEAC Sampling Calculator (see Annex 1), a minimum sample of 29 SAM cases (50% coverage expected) was set for the data collection.

An original list of 41 communities was further sub-divided into 106 sections to facilitate the data collection process in a densely populated, peri-urban setting. The 111 calculated cases were expected to be distributed throughout the 106 sections within Ashaiman. Using 106 sections provides an average of 0.96 cases per section, requiring that 30 sections be surveyed to reach the minimum sample of 29 cases.

As a list of sections had been developed for Ashaiman, a simple random sampling method was used for section selection. First, a sampling interval was calculated by dividing the total number of sections in the municipality by the number of sections required to reach the survey sample size. The 106 sections in Ashaiman divided by the required 30 sections provided a sampling interval of 3.5. Sections were placed in a list, stratified by the OPC site serving the sections. A random number from 1 to the

http://www.statsghana.gov.gh/pop_stats.html,

¹ Ghana Statistical Service. 2010 'Population and Housing Census'. 2012/13.

² Measure DHS. 'Ghana 2011 Multiple Indicator Cluster Survey'. http://www.measuredhs.com/what-we-do/survey/survey-display-398.cfm.

sampling interval was selected using a random number table as the starting point for sampling. See Annex 2 for the table of selected sections for Ashaiman.

4.1.2 Data Collection

There were six data collection teams assigned to Ashaiman, with an average of three to four team members on each team: 12 supervisors who had been trained in the SLEAC method prior to the start of data collection and 9 nurses who were familiar with the communities and local languages. Each team met a guide, typically a community health volunteer, to guide them through the community. See Annex 4 for the full data collection plan and schedule.

The teams recorded the nutritional status of each case identified during field data collection. If the child was identified as having SAM (defined as mid-upper arm circumference [MUAC] < 11.5 and/or bilateral pitting oedema), a questionnaire was filled in to identify if the child was currently receiving CMAM services. If the child was not receiving CMAM services, the questionnaire asked a series of questions to understand the reasons for not seeking services (Annex 5). Each time a SAM case was identified, the caregiver was asked if he or she knew of any other children suffering from the same condition and, if so, if he or she could indicate where to find those children. This method of continuous information gathering about SAM cases is the adaptive component of AACF.

4.1.3 Data Analysis

The analysis of the SLEAC survey data provided the rates of CMAM coverage for the whole district and an initial list of causes as to why the children were not covered.

A simple database was created that captured key information about each child that underwent a nutritional assessment: sex, age in months, MUAC measurement, and grade of oedema (if applicable). If the child was identified as a SAM case, information about services being received was also recorded in the database.

At the end of data collection, the total number of SAM cases was counted. For the purposes of analysis, all children with oedema or MUAC ≤ 11.5 were counted as SAM cases. This is because CMAM service providers in Ghana are instructed to admit borderline cases (i.e., those with a MUAC ≤ 11.5), even though they do not technically meet SAM criteria. The total value of cases is then compared to a cut-off value, calculated by multiplying the total number of identified cases by the Sphere minimum standards of 30% for low coverage and 70% for high coverage.

4.2 SQUEAC Analysis

A SQUEAC analysis was employed as the second step of the coverage assessment. SLEAC and SQUEAC were used together to provide a thorough analysis of barriers to coverage in the case of low coverage. Figure 1 illustrates the association between the two methods.



Figure 1. Combination of SQUEAC and SLEAC for evaluation of coverage of CMAM services

The SQUEAC analysis used a combination of qualitative and quantitative methods to analyse barriers and boosters to the coverage of CMAM services. Data of various types and from various sources was analysed using a triangulation process.

First, all routine service data were collated and analysed to provide an understanding of CMAM service effectiveness and of the profile of clients attending services. Through the analysis, it was possible to identify:

- 1. If clients were receiving CMAM services early or late in their malnutrition episode (very severe anthropometric status at admission may indicate late admissions)
- 2. Where the CMAM clients were coming from (allows for geographical mapping of coverage)
- 3. The proportion of clients who are discharged as defaulters, cured, or dead
- 4. The stage at which clients default early or late in the course of treatment

Next, contextual data analysis provided an understanding of the features of the targeted area and helped confirm or disprove the initial assumptions drawn from the routine service data analysis. The contextual data were also used to further understand the profiles of CMAM clients.

The third type of data collected and analysed was qualitative data that was obtained from communities within the targeted area through FGDs and KIIs. The data were collected from CMAM service personnel, clients, and laypeople to further understand their perspectives of CMAM services and malnutrition. This final step of analysis was meant to fill in any information gap following the routine service data and contextual data analysis.

Based on the qualitative and quantitative data analysis, a comprehensive understanding of barriers and boosters to coverage was reached and recommendations were made to improve coverage of CMAM services.

5.0 Results

5.1 SLEAC

The target sample size of 29 cases was not achieved during data collection. This was most likely due to the unreliability of population data and the possible lack of homogeneity in the distribution of SAM cases throughout the district. In Ashaiman, the transient nature of the population made it difficult to assess if population estimates were representative of the actual populations of the sections surveyed. When conducting future coverage surveys, data from district nutrition surveys, such as Standardized

Monitoring and Assessment of Relief and Transitions (SMART) surveys, could be used to provide a more accurate SAM prevalence at the district level.

However, because the measure of coverage provides only a classification of coverage that is below or above a threshold as per the Lot Quality Assurance Sampling (LQAS) methodology employed by SLEAC, the lower-than-expected sample does not significantly affect the reliability of the results presented.

During the SLEAC survey, the data collection teams assessed a total of 162 children in the sampled communities, **21 of whom were SAM cases**. Of these cases, **five were currently receiving CMAM services (covered cases)**. Of the 21 SAM children, 2 had bilateral pitting oedema and 19 had a $MUAC \le 11.5$ cm.

Using the identified number of 21 SAM cases, Sphere standard-based cut-off values for the number of SAM cases receiving CMAM services (covered cases) required for each threshold were calculated to be a maximum of 6 covered cases for low coverage and a minimum of 15 covered cases for high coverage. Because only 5 of the 21 SAM cases were receiving CMAM services at the time of the survey, Ashaiman was classified as having **low coverage** (< 30%).

Each caregiver of an identified SAM case not receiving CMAM services was asked to answer a questionnaire detailing why he/she was not seeking treatment. The most common response for not seeking care was that the caregiver did not think the child was malnourished (see Figure 2).



Figure 2. Reasons for not seeking treatment

The results presented in Figure 2 suggest that awareness of malnutrition and CMAM services is very low, which could explain, in part, the reported low coverage. The SQUEAC analysis conducted after the SLEAC survey provides further insight into the reasons for the low coverage in Ashaiman Municipality.

5.2 SQUEAC

5.2.1 Service Design

CMAM services were first initiated in Ashaiman Municipality in July 2010. At the municipality level, CMAM services are managed by the Municipal Health Management Team, which includes the municipal director, the disease control officer, the public health nurse, the nutrition officer, and the municipal health information management system officer. The municipal nutrition officer is the municipal CMAM focal person.

CMAM services are delivered by the government facilities as part of routine reproductive and child health services. Ashaiman has one polyclinic, which has recently been upgraded to provide 24-hour IPC services. The municipal health directorate has established seven sub-municipal health service delivery sites where CMAM services are provided. A total of 42 outreach clinics are located in the seven sub-municipalities, of which one outreach clinic in each sub-municipality is established for CMAM service delivery. In total, seven sites throughout the municipality provide weekly OPC services, and the Ashaiman polyclinic also provides 24-hour IPC services.

OPC services are provided by CHNs under the supervision of public health nurses and/or health facility in-charges. For IPC, clinical nurses working in the polyclinic recovery ward manage SAM cases, and the medical assistant provides a daily review of the SAM cases while they are in IPC. In a case where the polyclinic cannot provide the required services, SAM cases are referred for further medical care to Princess Marie Louise Children's Referral Hospital.

There is a strong theoretical linkage between inpatient and outpatient care services; a CHN referring a SAM child to IPC normally accompanies the caregiver to the IPC facility. Upon stabilizing the SAM child in IPC, the IPC nurse provides a referral form to the caregiver and, when possible, makes contact with the OPC facility.

Community outreach activities, which include active case finding, referral, and follow-up of SAM cases, are conducted by CHNs and health promotion assistants. Because Ashaiman is a peri-urban setting with a fluid population, it is difficult to have community volunteers.

Screening of SAM cases is conducted during child welfare clinics (CWCs), growth monitoring sessions, National Immunizations Days, and child health weeks. The District Health Management Team (DHMT) also periodically organizes case searches to identified malnourished children in the municipality. Identified SAM cases are admitted for treatment on any day of the week, with follow-on visits conducted at the health facility on particular a day of the week (CMAM OPC day). Community mobilization activities are often conducted through community *durbars*.

At the start of CMAM activities in Ashaiman, community entry and sensitization activities were conducted by the DHMT and sub-municipality health staff. Several trainings of health care providers and community volunteers have also been conducted. In total, 46 health care providers have been trained on the management of SAM in IPC and 36 community volunteers have been trained on active case finding and referral.

The DHMT, working closely with the Regional Health Management Team (RHMT), is responsible for conducting monthly and quarterly supportive supervision visits to health facilities and also organizes quarterly or half-year review meetings with the health facilities.

5.2.2 Service Data

CMAM OPC treatment cards from July 2010 to June 2013 were collected from six of the seven facilities within the municipality. Information from the treatment cards was compiled into a database that was then used to conduct an analysis of the routine service data.

Admissions

Figure 3 shows low levels of admissions for all centres in Ashaiman and a decreasing trend for all sites except the Ashaiman polyclinic. The survey team explained that in June 2012, the DHMT nutrition unit organized a case search that was conducted around the Ashaiman polyclinic, which explains the high admissions compared with other years and sites.



Figure 3. Admissions by site





CMAM services began in Ashaiman in a limited number of sites in July 2010; services were scaled up throughout the district by 2011. Once fully scaled up, a decrease in admissions is still apparent between 2011 and 2012, despite the active case finding activity that took place in June 2012. At the time of this analysis, admissions are on trend to continue to be low for the remainder of 2013.

Such low levels of admissions confirm the low coverage rates measured during the SLEAC survey.

The Ashaiman team then analysed the referral origin of the clients admitted to CMAM services (see Table 2). Most of the admissions were noted to have come directly from their communities, but information was missing on the admission cards to identify if they were self-referrals or if they were referred by community volunteers.

Referral point	Number of referrals	Percent of total referrals
Community	111	82
Health facility	22	16
Inpatient centre	3	2
Total	136	100

Table 1. Referrals

MUAC at Admission

Analysis of MUAC at admission revealed that many clients were admitted with a low MUAC value (Figure 5). This usually indicates a low level of awareness in the community about the features of acute malnutrition and the importance of seeking treatment as early as possible. Data also showed that values of MUAC at admission were rounded to the closest 0.5 value (see the large spike at 11 cm and a smaller spike at 10.5 cm), indicating a lack of rigor from CMAM personnel in the measurement of the MUAC of admitted children.

Figure 5. MUAC at admission



Catchment Area

Ashaiman is a very small municipality, covering approximately 45 km². Analysis revealed that clients are potentially never further than 2 km from any CMAM facility regardless of where they were in the municipality.

Discharges

When analysing the effectiveness of the services in terms of discharges, the survey team identified high rates of defaulting, well over the maximum acceptable 15% set in the Sphere minimum standards for humanitarian practice. Defaulting rates have been consistently high throughout the years, fluctuating between 55% and 85% of all discharges. These rates directly affect recovery rates, which fluctuated from 15% to 45% (Figure 6).



Figure 6. Annual comparison of cured vs. defaulters

Length of Stay/Treatment

The average length of stay of recovered cases was measured at 49 days, while the average length of stay for defaulters reached 78 days. Forty-nine days represents an acceptable length of stay for recovered cases, but the long length of stay for defaulters may be indicative of low levels of compliance from facility personnel and/or caregivers. It can also be a direct result of the low MUAC values of children at admission. When children are admitted in a very severe state, it can take longer for treatment to improve children's nutritional status to the point where they reach the discharge criteria.



Figure 7. Length of stay – defaulters vs. cured (in weeks)

Defaulters

Defaulting is defined as being absent from treatment for two consecutive visits.

Due to the very high rates of defaulting identified in the CMAM data analysis, the teams analysed the profile of the defaulters.

First, most cases that default from CMAM services default only once. This indicates that the majority of defaulted cases never return for treatment, highlighting the potential weakness of outreach and

follow-up activities. Defaulters are supposed to be traced by outreach actors who should try to convince caregivers to bring back children for treatment. Only 17% of those who defaulted eventually returned to treatment; of this number, 83% defaulted for a second time and did not return.

As mentioned above, the average length of stay for defaulters was 78 days. Such a long length of stay disproved the initial assumption that having to pay a fee at admission or being treated rudely by health facility personnel would be a cause for defaulting. If these examples had been the case, a larger number of defaulters would have defaulted after only 1 week of receiving services.

It was noted that the average length of stay of defaulters was associated with the number of times clients were absent for receiving services. Those who were absent once and never came back had a length of stay of 38 days (n=59), those who were absent twice reached 82 days (n=14), and those absent three times reached 96 days (n=1) (Figure 8).





Figure 9 shows the value of MUAC at discharge for defaulters and highlights two possible scenarios. The majority of the cases defaulted when having a MUAC ≥ 11.5 cm. Combined with the long length of stay for defaulters, this may indicate that caregivers decided not to attend the treatment anymore as the child was getting better. The second scenario applies to the high number of defaulters who defaulted after having spent several weeks receiving services without seeing any improvement in the MUAC status of the child. A large number of children indeed defaulted with a MUAC ≤ 11.0 cm. Local nurses and team members suggested that for many people malnutrition is associated with witchcraft; caregivers may have decided to change strategy for the treatment of their children and went to seek treatment with traditional healers instead of remaining at the CMAM facility. In that case, defaulting hides a high number of non-responding children, which is often associated with non-compliance to treatment protocols from facility personnel and/or caregivers.



Figure 9. Defaulter MUAC at discharge

5.2.3 Contextual Data

Following the analysis of routine service data, contextual data were reviewed to help provide further insight into the patterns seen in the service data. Contextual information includes disease and morbidity data, climate and weather patterns, social and cultural norms, and agriculture and livelihoods information. Using this information, either specifically for Ashaiman or for Greater Accra Region, depending on availability of data, a profile was created of the population and communities within the municipality. Presented here is a sample of the main aspects revealed by the analysis of contextual data.

Morbidity and Disease Data

Incidences of diarrhoea, respiratory tract infections, and malaria increase during the rainy season.

Access to Services

Public transportation, such as *trotros* and taxis, as well as private methods, like bicycles and motorcycles, are readily available; however, these methods may not be affordable for all residents.

Because there is an OPC site located within each sub-municipality, residents should be within 30 minutes walking distance from services.

Water is also easily accessible, usually within 5 minutes walking distance; however, the water quality cannot be guaranteed in all places.

Climate

Ashaiman lies within the Ghana Coastal Savannah Zone. Average rainfall is approximately 700 mm and the area has two rainy seasons: The minor season occurs between August and October, while the major rains occur between May and July. As a peri-urban setting, population movements in Ashaiman are not significantly affected by weather patterns.

Agriculture and Livelihoods

Because Ashaiman is a peri-urban setting, there are no agricultural activities in the municipality. This means that residents are dependent on the markets for the purchase of their food and also subject to the seasonal price fluctuations of staple food items. As a result, food becomes less affordable during the lean period, from April to September.

The most common occupations of Ashaiman residents are traders, those selling items along the road or in markets, and service jobs, such as sewing and hairdressing. Caregivers that hold these types of

jobs typically leave their homes early in the morning and work throughout the day. This gives them limited time to access health services during the day. Health centres offering CMAM services close early in the afternoon, around 14:00. When caregivers return from work, health facilities are already closed and they are unable to access services. Some caregivers are able to access services only on the weekends; yet OPC days are only scheduled during the week. Outreach workers and volunteers are instructed to inform caregivers of SAM cases about the OPC day, but often do not clarify that they can seek treatment on days other than the one specified as a CMAM OPC day. Because these days are all during the week, caregivers may be discouraged from attempting to seek treatment: They do not know that the facilities are also open on the weekends.

Social and Cultural Norms

Residents of Ashaiman represent a cross-section of the social and cultural variation found throughout Ghana; people travel from throughout the country and the West African region in search of work. All major religions can be found in Ashaiman: Christian, Muslim, and traditionalists. However, the poorest areas of Ashaiman tend to be predominantly Muslim.

Decisions within families are taken by one of the following members, depending on the composition of the family unit: men (husbands or grandfathers), elderly women (grandmothers or aunties), other family head, or the breadwinner. In a situation where the caregiver of a SAM child does not fall into one of these categories, she may be required to seek permission from the family decision maker to access health services.

In rural settings, members of the extended family are available to help take care of children or to bring them to the health facility. Residents of Ashaiman have typically travelled away from their places of origin and do not have a network of family members to help take care of children while at work. This is especially a problem for single mothers, who must work throughout the day to provide for their families; taking time out of the work day to travel to a health facility directly results in the loss of income.

There are also cultural beliefs related to food consumption that can be detrimental to developing children. It is believed that if children eat fish or eggs they will become thieves. Children are also fed 'less heavy' foods just before they begin to walk because it is thought that if the child is too heavy his or her legs will not be able to support him or her and the child will be unable to walk. It is also frequently thought that weight loss, including levels within the range of acute malnutrition, is a stage of growth that happens just before a child begins to walk.

5.2.4 Field Data

The analysis of service and contextual data was used to guide the development of FGD and KII guides. FGDs and KIIs were undertaken in two areas: Official Town and Lebanon Zone 2. FGDs and KIIs were held with community members, beneficiaries, nurses, health volunteers, TBAs, and religious leaders.

Stigmatization against families with SAM children has a negative impact on health seeking behaviours. It is said that mothers of acutely malnourished children do not take good care of their children. Health workers reported that if caregivers bring SAM children to CWCs, they come late in the day so that they meet fewer people. The TBA that was interviewed also reiterated the problem of stigmatization and stated that caregivers will often try to hide acutely malnourished children and do not want to take them outside.

The interviewed religious leader has not been well sensitized about CMAM services and does not know the CMAM volunteers; however, the leader was able to think of possible cases in the congregation. The religious leader indicated that it would be possible to assist with encouraging people in the congregation to use the service.

The interviewed TBA also indicated that she did not know the CMAM volunteer; however, she has referred cases to the service in the past. She stated that is was more difficult to convince people that she did not know how to use the services well.

CMAM OPC days are held opposite other treatment days. The intention of this design was to avoid overwhelming health staff and reduce stigmatization of SAM cases and families. However, isolating CMAM services from other outpatient services, or providing CMAM services where no other outpatient services are provided, requires caregivers of CMAM cases to make an extra trip to the site just for the CMAM services. It also may lead to missed opportunities for referrals if other health staff do not identify acutely malnourished children or if the health staff do identify them but then tell the caregiver to return another day to receive treatment.

Beneficiaries reported that not all nurses explained the service well to them. Information about the causes of and treatments for acute malnutrition, including the name of the services provided, was not always provided comprehensively. Depending on the community, beneficiaries must travel between 30 and 60 minutes to access services. They also stated they typically go to the site to access other services as well.

Nurses stated that most cases are identified during CWC days or home visits. Distance from the facility and moving to a different community were the most common reasons given for defaulting. Nurses said they sometimes follow up on defaulted cases if the caregiver lives nearby; if not, the nurse will wait until a scheduled home visit to follow up on the case. Despite this, nurses in both communities did not think that there were currently any defaulters receiving service, going back as far as 2012.

Volunteers seem to be more aware of defaulters than are the nurses; however, not all volunteers indicated that they actively followed up cases, though some did this if asked to by the health facility. Volunteers said that caregivers default because they have to keep returning to the site to receive more RUTF. In Ashaiman, volunteers indicated that they work weekly and throughout the week; however, this may be a unique situation while the health promotion assistants are supporting the municipality.

Young mothers related the causes of acute malnutrition to superstitions or spiritual causes. In contrast, grandmothers were better able to relate acute malnutrition to poor feeding practices or premature birth. In general, community members seemed to be more sceptical of spiritual treatments. This may be due to the urban setting. However, community members still seek herbal treatments or will rely on a chemist for treatments before going to a health facility. This is true for conditions other than acute malnutrition as well. In general, community members seem to be poorly sensitized on CMAM services. They have not heard about the services and they are not aware of the volunteers working in the communities.

5.2.5 Data Synthesis

Following the analysis of field data, the survey team combined field findings with the findings obtained through the previous analysis steps. From the combined analysis of service data, contextual data, and field data, a table was made showing the main barriers and boosters to coverage. These were used to identify the main priorities for action.

Barriers	Boosters
Stigmatization is common against acute malnutrition and CMAM	Good opinion of CMAM services
Health staff can be rude and reprimanding with caregivers	Good standard of service
Limited and un-sustained community sensitization and mobilization	Husband encouragement is common
Poor awareness of malnutrition and CMAM services in community	Availability of CMAM supplies
Poor knowledge about malnutrition and CMAM services in the community	Decentralized OPC sites (high geographical coverage)
Poor referral and follow-up of SAM cases from health facility and community	Effective linkages between facilities
Absence of a sustainable volunteer system in community	Commitment of DHMTs/RHMTs to CMAM activities
Inability of caregivers and health facilities to register uninsured SAM cases for health insurance to cover the cost of drugs	
CMAM services not flexible enough	
Sub-optimal use of Community-Based Health Planning and Services (CHPS) compounds	

Table 2. Barriers and boosters to CMAM coverage

6.0. Recommendations

Based on the analysis conducted during both the SLEAC survey and the SQUEAC analysis, recommendations were identified by the survey teams for improving the coverage of CMAM services in Ashaiman.

Short-Term Recommendations to Be Addressed at the Municipal Level

Limited knowledge about malnutrition and CMAM services was identified as a major barrier to coverage. The first recommendations aim to create better awareness and to mobilize the communities.

- Visual tools (drawings, booklets, flyers, posters, etc.) should be created and used for conducting community awareness sessions on CMAM and to increase population awareness about acute malnutrition.
- In the absence of volunteers, an assessment should be conducted to identify the most effective community structures and groups that could be used to support community sensitization for CMAM and other nutrition services. Organization of community *durbars* should be one approach for sensitizing large groups at once.
- Community/opinion leaders should be engaged in sensitization.
- Mass campaigns should be organized through various media outlets for community sensitization. Radio campaigns, posters, and newspapers should all be utilized for this purpose.
- Quarterly active case finding and sensitization campaigns should be conducted with the help of students, health facilities personnel, and community volunteers.
- Detection of acute malnutrition should be systematically integrated into annual and biannual mass campaigns, such as expanded programs of immunization and child health weeks.

• Community champions should be identified, trained, and supported to assist with and promote sensitization of communities.

Analysis of the barriers to coverage also identified a number of bottlenecks in the implementation of CMAM services. To address this, the following recommendations were made.

- As part of strengthening the quality of CMAM service delivery, emphasis should be placed on addressing staff attitudes to ensure that service providers treat SAM children with respect, care, and compassion.
- As soon as possible, technical training should be provided by district and regional teams to all relevant health personnel not yet trained. To address the issue of high staff attrition rate, a system of on-the-job support and easy access to training for new staff should be designed and implemented.
- Infant and young child feeding (IYCF) training should be provided to all health care providers conducting community sensitization to ensure that each CMAM client is educated and sensitized adequately on IYCF. Similar activities should be promoted at the community level.
- District and sub-district health teams should ensure systematic analysis of service data and provide feedback to each facility. Feedback should be associated with on-the-job support to address any challenges identified.
- Health care providers at the facility level should also be supported to ensure quality case management, referrals between facilities and between facilities and communities, and early identification of defaulting. (FGDs showed that most facility personnel denied that any defaulters had been recorded in the facilities.)
- CMAM OPC days and hours should be adjusted to better fit clients' schedules, for example, keeping facilities open until 17:00 to give caregivers the opportunity to seek treatment in the afternoons. Ideally, CMAM should be made available to caregivers at any time on any day of the week.
- A children's ward should be developed at the newly upgraded Ashaiman polyclinic in order to increase access to inpatient treatment.
- Collaboration should be strengthened with neighbouring districts/municipalities, as many cases come from other areas. Increased co-ordination would support defaulter tracing and joint efforts toward sensitization.

Longer-Term Recommendations to Be Addressed at the National and Municipal Level

To improve access to CMAM services in Ashaiman, the following recommendation is made for the longer term.

• A children's ward should be developed at the newly upgraded Ashaiman polyclinic in order to increase access to inpatient treatment.

Recommendations were also made for national-level authorities as a way to sustain and increase accessibility of CMAM services to community members:

- Because acute malnutrition affects predominantly low-income households, transport costs to reach facilities and payment of national health registration fees and drug costs at the facility level combine to limit access to CMAM services. A system should be implemented to ensure the waiving of national health insurance registration fees and drug costs for children with SAM, particularly for those not covered by health insurance. There is a need to link SAM children with social protection programs, such as Livelihood Empowerment against Poverty (LEAP)
- Pre-service education should integrate CMAM for all relevant health professions interacting with caregivers and children at the health facility level. Current progress has seen CMAM integrated into community health, public health, registered nursing, and midwifery curriculums;

efforts should be made to ensure that CMAM is integrated in other health professional training curriculums as soon as possible.

• MUAC and bilateral pitting oedema detection should be included in the national Demographic and Health Surveys and Multiple Indicator Cluster Surveys (MICS) to provide accurate prevalence estimates of acute malnutrition that align with the SAM admission criteria.

Total number of cases in the	Target sample size for			
service delivery unit	50% standard	70% or 30% / 70% class threshold		
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		

Annex 1. SLEAC Sampling Calculator

	Village				
	number	Rounded	OPC Site	Community	Section
1	4	4	New Eden	Community 22	Top Star Hotel
			Maternity Home		
2	7.8	8	New Eden	Newtown	Happy Home
			Maternity Home		
3	11.6	12	New Eden	Newtown	Saah Farm
			Maternity Home		
4	15.4	15	New Eden	Christian Village One	Police Barrie
			Maternity Home		
5	19.2	19	New Eden	Christian Village One	Full Gospel Church
			Maternity Home		
6	23	23	New Eden	New town South	SDA Church
			Maternity Home		
7	26.8	27	New Eden	New town South	Amani Hotel
			Maternity Home		
8	30.6	31	Adonai Maternity	Lebanon Zone 5	Pink Lady Junction
9	34.4	34	Adonai Maternity	Lebanon Zone 4	Adonai Maternity Home
10	38.2	38	Adonai Maternity	Lebanon Zone 4	Central Mosque
11	42	42	Adonai Maternity	Lebanon Zone 3	Martin Luther School
12	45.8	46	Adonai Maternity	Lebanon Zone 3	Gas Filling Station
13	49.6	50	Okanta Clinic	Asensu	Freetown
14	53.4	53	Okanta Clinic	Maamomo	Zongo
15	57.2	57	Ashaiman Polyclinic	New quarters	Presby Down
16	61	61	Ashaiman Polyclinic	Sikafoabantem	Ashaiman Pharmacy Area
17	64.8	65	Nyame Bekyere	Lebanon Zone 1	Nyame Bekyere Clinic
			Clinic		
18	68.6	69	Nyame Bekyere	Lebanon Zone 2	Best Start International
			Clinic		School
19	72.4	72	Nyame Bekyere	Lebanon Zone 2	Mark 82
			Clinic		
20	76.2	76	Nyame Bekyere	Jericho	Agyri Nyarko School
			Clinic		
21	80	80	Nyame Bekyere	Freetown	Main mosque (central)
			Clinic		
22	83.8	84	Nyame Bekyere	Adakope	Public Toilet
	07.0				T : D (A .
23	87.6	88	Middle East	Гијаки	Taxi Rank (Ashaiman
24	01.4	01	Outreach Point		
24	91.4	91	Middle East	IVIIddle East	Aggle May Medicine
25	05.2	05		Middle Feet	Centre St. Democrid
25	95.2	95	Nilddle East	Middle East	St. Bernard
26	00	00	St. Mina Clinic	Taboolino	Adakordzi
20	33 102.0	39 102			Klikor
2/	102.8	103	St. Mina Clinic	Official Town	St Mina's Clinic
20	110.0	110	St. Mina Clinic		Mandola Market/Dark
29	110.4	110			
30	114.2	114	St. IVIINA CIINIC	Ashiasec	Astaue

Annex 2. Sampled Communities

Annex 3. AACF Data

Question	Compiled Results		
What is malnutrition?	Wasting = Wumihela (bone disease), Asra Tudii, Asram, Kwashiorkor (Lean growth) Oedema = Kwashiorkor, Obgu (mistake – as in the mother makes a mistake during her pregnancy), Fumorhela, Ahonho, Sunsumyaren It is believed that oedema is caused by sinning – linked to the term obgu		
What causes malnutrition?	 If pregnant woman does not cover her head Indiscriminate eating by pregnant women (they are not careful where they take their meals, eating food from anywhere) If a pregnant woman is eating a meal and a bad person eats part of the meal. Bad eye, witchcraft, or spiritual influence It is transferred from mother to child It happens during the rainy season, which causes convulsions in children. Worm infestation Diarrhoea, malaria, mixed feeding Starting complementary feeding too early Poor feeding Poor sanitary conditions Lack of nutrients Refusal to attend ANC When a mother hits a child with a broom or wooden grinder (Tapoli) When a mother eats banana, ripe plantain early in the pregnancy If child had measles or TB (diseases) 		
How can we treat SAM?	Report to the health centre, Herbalist or traditional healers, Spiritual Churches/Prayer Camps, Special clinic for special food (RUTF) Traditional methods which include: Rat-like hair plus palm kernel designed into beads that are worn on the sick child's waist or wrist Dried fish and snail and bokorbokor used to prepare palmnut soup for child to eat Dried cow dung mixed with water and smeared on affected area Reasons given for not seeking treatment: Inadequate funds, belief the condition will heal on its own, belief that it is a normal condition (stage of development), think it is/caused by fever so they buy drugs for the child		
Which families are the most affected by SAM?	Poor families and single parenting or who do not eat well, Common meals all the time, those living in poor sanitary conditions, illiterate families, busy families, some 'Gawugawu' families, teenage families (households headed by teenage parents), orphans, unemployed parents, ignorant families, over-confident families (those that think they have money and know what to do), those that eat the same meal all the time such as banku which is referred to as 'Assembly man' because it is found everywhere like the assembly man.		

Question	Compiled Results
Where can we find cases of SAM?	Villages (rural areas – not in the city), hospitals, herbal hospitals, prayer camps, hidden in homes within the community, schools, spiritual homes Specific areas of Ashaiman: Zongo, Tabooline, Valco Flat, Newtown, Lebanon Zone 5 Some participants said that most of these cases are only seen on television and not found in their area.
Who is likely to know where to find cases of SAM?	Teachers, opinion leaders, elders, revenue collectors (tax or bill collectors), health workers (CHNs, TBAs, volunteers), pastors, church members, mothers, drug sellers (pharmacists), local Assembly man

Annex 4. Data Collection Schedule

Date	Name of Section	Community	Sub-municipality	Team No.	Assigned Team	Assigned Supervisor	Assigned Vehicle
Day 1	Ashaiman Pharmacy Area	Sikfoamantem	Tsinai-Agber	3	Kullah Sadya	Rubby Alex	FHI Van
09/07/13	Astade	Ashiasec	Asikafoamantem	5	Okaile Joyce	Pobby	Upper East Vehicle
	Police Barrier	Christian Village 1	Niiman	2	Doreen Eva	Gifty Josephine	Greater Accra Vehicle
	Main Central Mosque	Lebanon Zone 4	Niiman	1	Deborah Joyce	Fauty Gloria	WFP Vehicle
	Pink Lady	Lebanon Zone 5	Gbemi	4	Millicent Jemima	Devine Kahad	Nissan Vehicle
	Taxi Rank	Tulaku	Amui Djor	6	Zanno Victori	Sixtus	FHI Van
Day 2	Adonai Maternity Home	Lebanon Zone 4	Gbemi	4			Nissan Vehicle
10/07/13	Presby Down	New Quarters	Tsinai-Agber	3			FHI Van
	Mandela Park	Official Town	Blackkpatsona	5			Upper East Vehicle
	Full Gospel Church	Christian Village 1	Niiman	2			Greater Accra Vehicle
	Nyame Bekyere Clinic	Lebanon Zone 1	Gbemi	1			WFP Vehicle
	Agyie May Machine Centre	Middle East	Amui Djor	6			FHI Van
Day 3	Central Mosque	Lebanon Zone 4	Gbemi	4			Nissan Vehicle
11/07/13	Freetown	Asensu	Maamomo	3			FHI Van
	St. Mina Clina	Official Town	Blackkpatsona	5			Upper East Vehicle
	Saah Farm	New Town	Niiman	2			Greater Accra Vehicle
	Mark 82	Lebanon Zone 2	Gbemi	1			WFP Vehicle
	SDA Church	Newtown South	Niiman	6			FHI Van
Day 4	Martin Luther School	Lebanon Zone 3	Gbemi	4			Nissan Vehicle
12/07/13	Zongo	Maamomo	Maamomo	3			FHI Van
	Adakordzi	Tabooline	Blackkpatsona	5			Upper East Vehicle
	Happy Home	Newtown	Niiman	2			Greater Accra Vehicle
	Best Star Int. School	Lebanon Zone 2	Gbemi	1			WFP Vehicle
	Amani Hotel	Newtown South	Niiman	6			FHI Van
Day 5	Gas Filling Station	Lebanon Zone 3	Gbemi	4			Nissan Vehicle
13/07/13	Agyiri Nyako School	Jericho	Mantseman	3			FHI Van
	Klikor	Valco Flat	Blackkpatsona	5			Upper East Vehicle
	Top Star Hotel	Community 22	Niiman	2			Greater Accra Vehicle
	Public Toilet	Adakope	Mantseman	1			WFP Vehicle
	St. Bernard's	Middle East	Amui Djor	6			FHI Van

Annex 5. Questionnaire for Households with SAM Cases

Da [.] Dis	te (DD/MM/YY): strict: Surveyed vi	Ho illage:	Household code: Case code:		
1.	Is this child(ren) receiving CMAM services Yes IPC Yes OPC No	/treatment (OPC or IPC)? 			
lf Y	'ES IPC or YES OPC, skip to question 5.				
2.	Do you think this child(ren) is malnourishe	ed? Yes	No		
lf N	IO then skip to question 6.				
3.	Do you know where this child(ren) could k	be treated? Yes	No		
	For Yes response, note specific respon	se if given (health facility, prayer	camp, etc.)		

If NO, skip to question 6.

4. Why is this child(ren) not being treated at a health facility for malnutrition?

Do not read these answers to the respondent. After each answer prompt by asking "Any other reason?" Tick the appropriate box for each answer given. More than one box may be ticked.

Answers	X	notes
Lack of childcare/help with children (not willing to detail why)		
Mother/caretaker sick		
Ashamed to go to the health facility/OPC		
The service is not provided/not running any more		
I need to be referred and there is no-one to do this		
Do not know where to go		
Health facility is too far away		
That service is for people in another village		
It is too dangerous to travel		
My husband or family will not let me go		
Health facility staff request money (detail: heard it, experienced it?)		
Health facility staff are rude or difficult		
Health facility runs on the wrong days		
Waiting times are too long		
Child (or sibling) was rejected previously		
Child (or sibling) was in OPC and discharged		
Child (or sibling) was in IPC and discharged		
Child (or sibling) was receiving CMAM service and defaulted		
Other children were rejected		
Service is not good (detail)		

Record any other reasons given:

Give the caretaker a referral slip and share location of the health facility/OPC site and days on which they can access the services.

Skip to question 6

5. How did the child(ren) come to receive treatment/services?

This question should gather information about the history of the case, local understanding of SAM, treatment behaviours/pathways to care. The interviewer should prompt the caretaker in order to get as much information as possible.

6.	Do you know of any children in your village like your child(ren) that are not receiving services/treatment?		
	Yes No		
lf Y	'ES, go to question 7. If NO, go to question 8.		
7.	Why do you think this child(ren) is not receiving services/treatment?		
8.	If I wanted to find children like your child(ren) and the children we have spoken about, how would I best describe them to other people?		

9. If I wanted to find children like your child(ren) and the children we have spoken about, who would best be able to help me find them?