RESULTS FOR DEVELOPMENT

Costs, Cost-Effectiveness, and Financial Sustainability of Community-based Management of Acute Malnutrition in Northern Nigeria

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Results for Development Institute (R4D) is a nonprofit organization whose mission is to unlock solutions to tough development challenges that prevent people in low- and middle-income countries from realizing their full potential. Using multiple approaches in multiple sectors, including global education, global health, governance, and market dynamics, R4D supports the discovery and implementation of new ideas for reducing poverty and improving lives around the world.

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List of Acronyms

CIFF	Children's Investment Fund Foundation
CMAM	Community-based Management of Acute Malnutrition
DALY	Disability-adjusted life year
HSCL	Health Systems Consult Limited
LGA	Local government authority
MIS	Management Information System
OTP	Outpatient therapeutic program
R4D	Results for Development Institute
SAM	Severe acute malnutrition
SC	Stabilization center

Executive Summary

Treatment of severe acute malnutrition (SAM) has undergone a paradigm shift over the past decade through the introduction of Community-Based Management of Acute Malnutrition (CMAM) in over 60 countries. Under this approach, treatment has moved away from expensive, resource-constrained hospital settings toward the community, where volunteers screen children for signs of SAM.

The growing body of evidence for CMAM is encouraging. It points toward the achievement of significant mortality reductions in a cost-effective manner. In recognition of the life-saving potential of CMAM, as well as the acute malnutrition problem in Nigeria (which has the second number of wasted children globally), the Children's Investment Fund Foundation (CIFF) invested $35.3 million to support the program in eleven states in northern Nigeria between 2013 and 2014.

In order to better understand the costs, cost-effectiveness, and financial sustainability of the CMAM program, CIFF asked Results for Development Institute (R4D) to conduct a data collection exercise. The data collected and ensuing analysis is intended to bolster the existing knowledge base of CMAM costs, while providing neutral analytical inputs for discussions with the government of Nigeria, program implementers, and development partners regarding program expansion.

The study took place over 11 months, between March 2014 and February 2015, in four states: Bauchi, Jigawa, Kano, and Sokoto. All economic and financial costs associated with the program were calculated using data collected during four waves.

The cost per child cured was estimated at $219, of which $160 (73%) are financial costs borne by the government and UNICEF and $59 (27%) are economic costs. Of this cost, RUTF occupies $76 or 35%. Staff costs are the second largest driver at 34% with the remaining 31% comprised of out-of-pocket costs (which at 16% remain high relative to other studies), supply chain (5%), CMAM drugs (4%), opportunity costs (3%), overhead (2%), monitoring (1%), MIS tools (less than 1%), training (less than 1%) and other (less than 1%).

Using financial costs, the cost per life saved is estimated to be $1,117 and the cost per DALY gained $30.

These results are encouraging and suggest that the investment in CMAM represents strong value for money. The total cost per child cured takes into account cost elements not found in other CMAM costing studies, such as community volunteer costs, is nevertheless in line with such studies. In addition, using WHO cost-effectiveness standards, the CMAM program is viewed to be highly cost-effective. While the financial sustainability of the program is not assured (total programmatic costs represent 2.3% of the 2014 Federal Health Budget), the cost-effectiveness numbers, coupled with the expected significant reduction in mortality, suggest that further investment in the program is warranted.

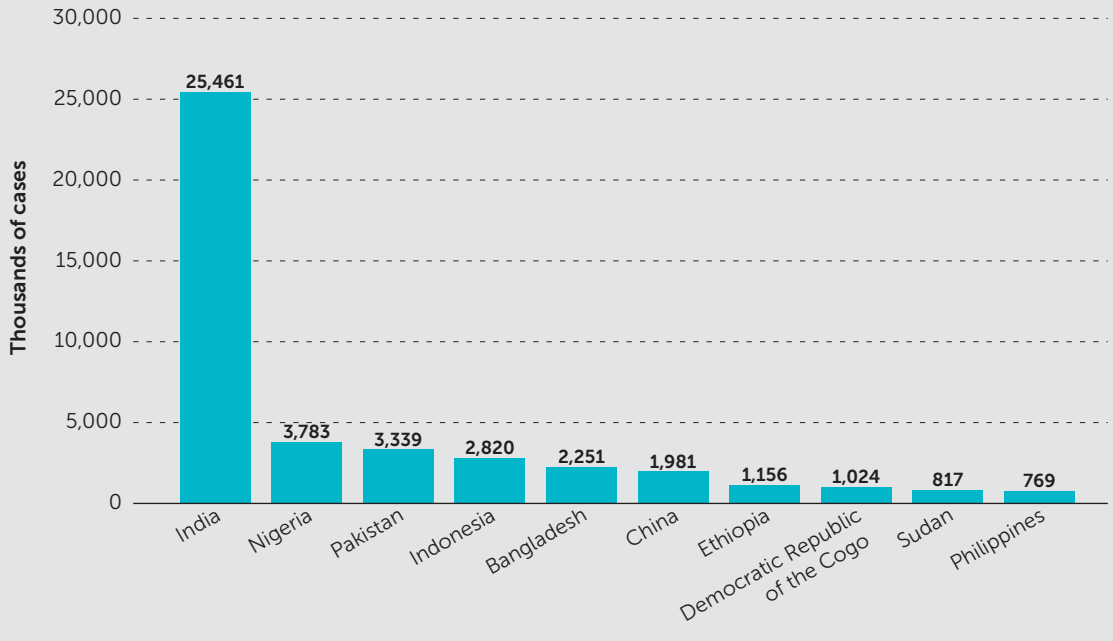
Background

Globally, 17 million children suffer from severe acute malnutrition (SAM),[1] which is defined by a weight-to-height ratio significantly (-3 z-scores) below the median WHO growth standards.[2] SAM contributes to more than 1 million child deaths in the world annually, often because SAM increases a child's susceptibility to complications that compromise the child's health, such as malaria and cholera.[3] Unlike chronic malnutrition, which can have long-term effects on a child's physical and mental development, if treated quickly, SAM-afflicted children can evade lasting damage and live productive lives.[4]

Nigeria has the second-largest absolute number of wasted children globally and the highest percentage of wasted children whose case is severe (Figure 1).[5] In some states, up to 40% of children are stunted, with national estimates indicating that the burden of SAM is as high as 1 million children.[6] Notably, rates of malnutrition in Nigeria are higher than in its neighbors and income peers.

Until the early 1990s, SAM was treated predominantly in an inpatient setting, limiting treatment coverage and access due to the high cost of inpatient care. However, the development of Ready-to-Use Therapeutic Foods (RUTF) changed the treatment protocol. Originally used to restore children's nutritional statuses in emergency situations, RUTF has recently been employed to treat routine SAM cases at the community level. In 1999, the Community Management of Acute Malnutrition (CMAM) program was piloted in Ethiopia and soon after was endorsed by the WHO and UNICEF.[8]

Figure 1. Number of wasted children in 10 most affected countries[7]



[1] UNICEF-WHO-World Bank. Joint Malnutrition Estimates : Levels & Trends in Child Malnutrition. 2013. http://www.who.int/nutgrowthdb/summary_jme_2013.pdf. Accessed 6/5/15.

[2] WHO, Severe Acute Malnutrition. http://www.who.int/nutrition/topics/malnutrition/en/ accessed on 5/1/14

[3] UNICEF Evaluation Report. Evaluation of Community Management of Acute Malnutrition. Evaluation Office, May 2013.

[4] CIFF CMAM Investment Memo, August 2012.

[5] UNICEF Global Nutrition Database, 2012.

[6] UNICEF 2012, Summary Findings of Cross-Sectional Nutrition Surveys.

[7] UNICEF Global Nutrition Database, 2012.

[8] ENN 2013.

CMAM program description

The CMAM program begins when volunteers use simple measures of upper arm circumference to identify potential SAM children and refer them to a clinic for evaluation. At the clinic, those children for whom a SAM diagnosis is accompanied with complicating medical conditions are referred to inpatient facilities (also known as stabilization centers (SC)) for more intensive treatment, while those diagnosed as SAM without complications receive a week's supply of ready-to-use therapeutic food (RUTF). Outpatients in the CMAM program then return to the clinic weekly for a check-up and additional supply of RUTF. Children admitted to an inpatient facility are discharged when their medical conditions are treated and visit the clinic weekly to receive check-ups and RUTF. When a child's weight gain or upper arm circumference exceeds a predetermined threshold, he or she is deemed cured of SAM and graduates from the CMAM program.

To date, the evidence on the efficacy and cost-effectiveness of CMAM has been encouraging. Previous studies suggest that CMAM can reduce the cost and barriers to access associated with inpatient care, and in certain contexts, reduce mortality.

The Children's Investment Fund Foundation (CIFF) supports the CMAM program in eleven high-burden states in northern Nigeria.[9] In the first phase of the CIFF-supported program (June 2013-June 2015), the program's focus was on strengthening performance and securing financial commitment to support the program from the Nigerian government. In the second phase (June 2015-June 2018), CIFF intends to continue its focus on securing financial commitment to support the program and to transfer leadership to federal and state health ministries.

Within this context, CIFF seeks to better understand the costs, cost-effectiveness, and financial sustainability of CMAM in Nigeria. Such information is intended to equip government, external financers, and program implementers with data to inform decisions around programmatic expansion. Cost and financial sustainability data will allow the Nigerian government at both the federal and state levels to understand what financial actions must be taken to ensure that sufficient resources are directed toward the CMAM program. Cost-effectiveness data can help policymakers understand the value of their investments in CMAM relative to alternatives and provide evidence to help make the argument for appropriate budgetary commitments.

Table 1. List of existing literature on CMAM costs and cost effectiveness

Study	Country	Year	Cost per child cured	Methodology
Tekeste et al.	Ethiopia	2007	$135	Household surveys of retrospective out-of-pocket expenditures and economic costs; program costs at the national level.
Wilford et al.	Malawi	2011	$169	Health facility cost estimated by district budget, program costs estimated at the national level.
Puett et al.	Bangladesh	2013	$180	Caretaker interviews, health worker interviews, program records.
Bachmann et al.	Zambia	2009	$203	Health facility cost estimated by district budget, program costs estimated at the national level.
Purwestri et al.	Indonesia	2012	$332	Interviews of caretakers to gather socioeconomic indictors, facility financial reports, interviews of key persons.
Abdul-Latif et al.	Ghana	2014	$805	Household surveys of retrospective out-of-pocket expenditures and economic costs; program costs at the national level.

[9] These states include Adamawa, Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokot, Yobe, and Zamfara.

Existing Literature

A number of studies have been conducted to determine the costs and cost-effectiveness of CMAM programs; however, the methodology and findings vary substantially by country and by study. Some, but not all, studies captured economic costs of caregivers and community volunteers; most programs were funded almost entirely by non-governmental organizations; and all studies except Abdul-Latif 2014 collected cost data on comparison programs, either inpatient treatment or no treatment.

The measure typically used to analyze program costs is the "cost per child cured," meaning the costs associated with one child who has entered the CMAM program and been successfully treated.[10]

The range of estimates in the examined literature is quite concentrated, save for one outlier. While the average cost per child cured across the six prior studies was approximately $338, this number is inflated by one study — the Ghana 2014 one by Abdul-Latif et al. in which the cost per child cured was $805. As a result, the median of the studies is only $192. The high cost in the Abdul-Latif study was largely attributable to the fact that a relatively low number of cases were detected and treated relative to a large coverage area. Across nearly all studies, the most common "highest cost driver" is RUTF.

The categorization of costs varies across studies, as do the methods used to collect costs (see Table 1 above for a summary of the study methodologies). Importantly, this study used a different approach to collecting and analyzing costs. Chief among the differences is the way in which cost data was collected. This study uses a "bottom-up" methodology, in which data about cost line items were gathered through facility-level interviews rather than relying upon existing budgets/programmatic reporting. As a result, this study appears to have assembled a more comprehensive estimate of costs associated with obtaining CMAM treatment (through inclusion of items not found in official CMAM budgets, such as proportion of facility overhead costs).

In addition, this analysis includes both financial costs, which are defined as cash outlays to support the administration of the CMAM program, and economic costs, or costs to the whole economy. This is not the case in all studies (two calculate only financial costs[11]). Examples of both types of costs can be found in Table 2.

Economic vs. financial costs Total cost per child cured includes several cost components that can be categorised as either economic or financial. Financial costs, or cash outlays to support the functioning of the CMAM programme, comprise slightly less than three quarters of all costs in Nigeria. The remainder, 27%, is comprised of economic costs, or costs borne by the economy as a whole (including opportunity cost). Examples of both types of costs can be found in Table 2. Inclusion of both financial and economic costs in costing analyses is crucial to understand the full cost of the programme. Financial costs only are used for the cost-effectiveness and fiscal space analysis to represent the estimated cost to government and UNICEF in this scenario.

Table 2. Economic and financial costs collected

Economic Costs	Financial costs
Staff time not paid for by CMAM, caregiver time, user fees, use of health facilities, community volunteer time and costs	Cash outlays for drugs, materials for CMAM program administration, resources for trainings and monitoring visits, supply chain activities involved in managing the CMAM drugs and materials, transportation, RUTF, stipends for the community volunteers, salaries of CMAM-specific health workers

[10] Successful treatment refers to a patient who has been assessed by a clinician to no longer be SAM.

[11] Wilford et al. and Bachmann. et al.

Methodology

Study design and settings

The design of the cost collection study was informed by a review of CMAM program documents to identify the different organizational levels where costs are incurred.[12] Eight organizational levels were identified, and survey instruments were then developed specifically for each level to elicit relevant cost information. Table 3 lists each of them, along with the cost components collected.

Surveys were completed with an enumerator recording responses during face-to-face interaction, with the exception of information from UNICEF, for which responses were self-reported. For health facilities – in addition to interviews with the facility focal person, volunteers and caregivers – existing records were consulted and patient cards of the previous three months were selected at random to obtain the required service provision data.[13]

Table 3. Organizational level and associated cost elements elicited from survey instrument

Organizational level	Cost elements collected
UNICEF	Staff time, monitoring, RUTF, supply chain, training, start-up equipment
State Nutrition Officer	Staff time, monitoring, supply chain, CMAM drugs, MIS tools, miscellaneous CMAM costs
Local Government Authority (LGA) Nutrition Officer	Staff time, monitoring, supply chain, CMAM drugs, MIS tools, miscellaneous CMAM costs
Stabilization Center (SC) Health Worker	Staff time, drugs, overhead
Caregiver at SC	Transportation, opportunity cost, out-of-pocket expenditures
Outpatient Therapeutic Program (OTP) Health Worker	Staff time, drugs, number of RUTF used, overhead
Caregiver at OTP	Transportation, opportunity cost, out-of-pocket expenditures
Community Volunteer	Transportation, opportunity cost, stipend

Table 4. Issues identified during pilots and changes made to address issues

Issue identified during pilot	Improved approach used in data collection waves
Respondents could not accurately explain the percent of time spent on CMAM	An innovative approach was designed using post-it notes and beads to help respondents accurately allocate time to CMAM and other activities
Facility information was dependent on respondent knowledge, however, facility records contained the data needed	Instruments were rewritten to specify the specific data item in facility record books that was necessary to elicit.
Drug record-keeping is weak and often hard to read. Drugs are frequently out of stock.	Data collection of drugs given to patients was standardized (using an exhaustive list) and simplified (percentage availability of drugs was solicited from clinicians and applied to drugs reportedly used)
Based on data collectors' experience completing practice interviews, some questions were found confusing because of placement within instrument or poor wording.	Those questions found to be poorly-understood were rewritten, and some questions were reordered to improve understanding

[12] Program design was aided by inputs from UNICEF personnel.

[13] No patient identifiers were recorded to ensure confidentiality.

Survey instrument development

Instruments were refined[14] with input from R4D and Health Systems Consult Limited (HSCL) staff and consultants. Two data collection pilots were conducted – in Bauchi in November 2013 and Kano in January 2014 – in order to test and develop the survey instruments and prepare logistics for the full data collection activity. Notably, the first pilot was hampered due to RUTF stockouts – hence the need to conduct a second pilot. The pilots provided valuable information about program operations which proved valuable in the development of the data collection methods. The key issues identified in the pilots and the refinements made to the study to address these issues are in Table 4.

The pilots were a prerequisite for the development of a detailed field manual used by the data collection team.[15]

Sampling and sample size

Four of the eleven CMAM states in northern Nigeria were selected for the study: Bauchi, Jigawa, Sokoto, and Kano, with security as a prevailing factor for the choice of states. Data were collected quarterly to take into account seasonal variations. Tables 5 and 6 describe economic and CMAM-related characteristics of the states included in the study as well as the dates of each wave of data collection.

Within each state, three of the LGAs where CMAM services are rendered were randomly sampled to participate in the survey.[18] Within each LGA there are multiple OTPs, one of which was selected at random to participate in the study during each wave. Each LGA typically has one SC, which was automatically included in the list of facilities surveyed during each wave. In cases where an LGA did not have an operational SC, the SC in another LGA typically used for referrals was included. In Kano Municipal LGA, where one LGA has multiple SCs, one was selected randomly. Random selection of LGAs and OTPs was completed for each of the four waves of data collection. As a result, a total of 25 different LGAs, 25 SCs, and 40 OTPs participated in the study across the four waves.[19]

Table 5. GDP per capita in sampled states

State	GDP per capita	Population, 2014 (millions)[16]	CMAM admissions (2014)	LGAs with CMAM services (2014)	CMAM sites per state (2014)
Bauchi	$983	6.04	10,710	3	18
Jigawa	$673	5.42	51,187	12	61
Kano	$1,288	12.03	40,263	6	37
Sokoto	$1,274	4.64	21,025	9	55

Table 6. Data collection waves and dates

Wave	Data collection dates
Wave I	March 2014
Wave II	June 2014
Wave III	September 2014
Wave IV	February 2015[17]

[14] All final (Wave IV) survey instruments included in Appendix A.

[15] The field manual is available upon request.

[16] National Population Commission of Nigeria, Projections based on 2006 census.

[17] Wave IV data collection was originally scheduled for January 2015, but pushed back due to strike among health workers in Northern Nigeria.

[18] In Bauchi, there were only three intervention LGAs which were automatically selected for all four waves.

[19] Full list of LGAs included in the study is in Appendix D.

Table 7. Number of surveys completed and average surveys per facility by cost center and cost collection wave									
	Wave 1		Wave 2		Wave 3		Wave 4		Across all Waves
	Total	Per facility	Total	Per facility	Total	Per facility	Total	Per facility	
Caregiver at OTP	89	7.4	102	8.5	101	8.4	104	8.7	396
Caregiver at SC	37	3.1	48	4.0	50	4.2	45	3.8	180
Community volunteer	186	15.5	146	12.2	206	17.2	181	15.1	719

Data collectors used the survey instruments to interview a focal person in each state, LGA, OTP, and SC, so for each wave there were a total of four respondents at the state level and twelve at each the LGA, OTP, and SC level. At the state level, the focal person was typically the State Nutrition Officer (SNO), although in a few cases, when the SNO was unavailable, the Assistant SNO or the Community Health Officer was interviewed. At the LGA level, the Nutrition Focal Person or their deputy were interviewed. At the OTP, data collectors identified the health workers directly mostly involved with provision of CMAM services. If that person was unavailable, the next most senior person at the OTP was interviewed. At the SC, the CMAM focal person was interviewed.

For caregivers at the OTP and at the SC and for community volunteers, data collectors were instructed to carry out, at minimum, five interviews of each type at each facility during each wave. At most OTPs, data collectors were able to interview more than the minimum number given the high number of caregivers and community volunteers in attendance. On average, they interviewed eight caregivers per OTP and fifteen community volunteers per OTP. On the other hand, at the SC, fewer caregivers than expected were available, and thus fewer than five caregivers were interviewed per SC per wave. Table 7 shows the total number of survey instruments completed per organizational level during each wave of data collection.

Data collector training

Data collectors were trained three times throughout the data collection process. The two-day trainings took place before Waves I, II and III of data collection. During the trainings, the teams were instructed on field protocols including contingency plans and sampling methods. Following each training, minimal revision of the instruments, resulting from enumerator feedback, took place.

Data, data cleaning, and analysis

Data were entered and cleaned using a dual data entry system to exclude the risk of data entry errors. In the case of missing data or outliers, the data collection field manager was contacted to provide contextual information. In certain cases, missing or invalid data was imputed (see Appendix B for full list of changes made to the data).

Other data were acquired outside of the on-the-ground data collection and were used to complete the analysis, including:

1. Official salary scales of all survey states
2. Drug cost data, Essential Drug Officers by state
3. Exchange rate, www.oanda.com (used to calculate RUTF cost and other UNICEF costs reported in USD)[20]
4. Population data, 2006 census (used to calculate weights assigned to data across states)

The completed hard copy questionnaires were retained and consulted if questions about data accuracy arose. Follow-up to LGA, State, and UNICEF surveys was done on an as-needed basis.

Full cost data was assembled and weighted by appropriate population amounts and then divided by number of children cured in the relevant OTP facilities.[21]

[20] Exchange rates from the following dates were used in each respective wave: March 1, 2014; June 1, 2014; September 1, 2014; January 15, 2015.

[21] Cost per child cured = (CV + Caregiver at OTP + OTP + (Caregiver at SC*SC weight) + (SC facility*SC weight) + (LGA offices*LGA weight) + (State offices*State weight) + (UNICEF offices*UNICEF weight)) / total children cured at surveyed OTPs. Weights changed by wave according to populations in selected LGAs. OTP catchment assumed to be equal proportion of LGA.

Results

Costs

Overall cost per child cured. This analysis examines the cost per child cured. The cost measure incorporates all costs collected from organizational levels, both economic and financial, as well as costs associated with SAM patients who either died or defaulted, meaning they did not complete treatment. Our findings show that for every 1,000 children who complete treatment, 17 children die and 254 default on average in the four states.

Types of cost are categorized as described in Table 8.

The average cost per child cured is $219, of which $160 (73%) are financial costs borne by the government and UNICEF and $59 (27%) are economic costs. This cost is predominantly driven by RUTF, staff, and out-of-pocket costs, which together comprise more than 85% of total costs. RUTF constitutes the single largest share of total costs: for every child cured, $76 worth of RUTF was needed. Of nearly identical magnitude were staff costs, which comprise 34% ($74 dollars per child cured). The remaining 15% of costs is comprised of opportunity costs, supply chain, drugs, monitoring, overhead, and training costs.

Staff costs, as indicated in Table 8, are drawn from salaried and non-salaried actors, with non-salaried community

Table 8. Type of costs and associated components

Type of cost	Cost components
Staff time	Salaried employees at UNICEF, State, LGA, OTP, and SC adjusted according to time spent on CMAM; opportunity cost, stipend amount, and cost of transportation associated with community volunteers
RUTF	Based on number of RUTF packets issued by OTPs and the purchase price per packet paid by UNICEF.
Out-of-pocket costs	Health services and travel to facility by CGs at OTP and SC
Opportunity cost	Cost of CG time at OTP and SC
CMAM drugs[22]	Based on reported costs at UNICEF, State, LGA, OTP, and SC
Monitoring	Includes fuel, communication, and field allowance; based on reported costs at UNICEF, State, and LGA
Supply chain	Includes transportation and storage; based on reported costs at UNICEF, State, and LGA
Other CMAM costs	Includes materials for program start-up and other costs not specifically asked about in the survey;[23] based on reported costs at UNICEF, State, and LGA
Management information system (MIS) tools	Includes printing of admissions cards and reporting forms; based on reported costs at UNICEF, State, and LGA
Overhead	Based on reported costs at UNICEF, OTP, and SC
Training	Based on reported costs at UNICEF

[22] CMAM drugs included a dose of Vitamin A, Amoxicillin, and a deworming agent per child registered in the outpatient program, and all medication given to children admitted in the inpatient SAM program.

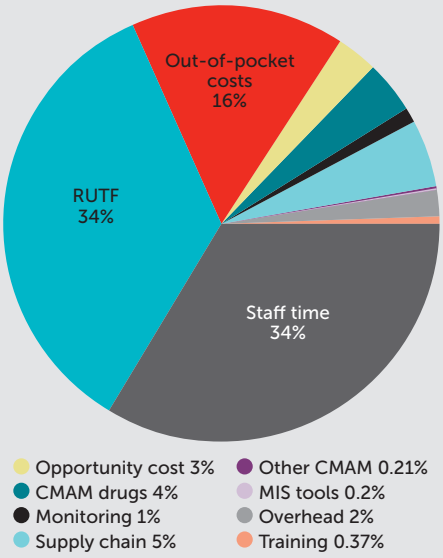
[23] Costs include complementary feeding, thermometers, timer watch, transportation not elsewhere reported.

volunteers accounting for almost a third of staff costs through stipend (13% of community volunteer costs), transportation (29%), and opportunity costs (58%) (see Figure 3). Taken together, health worker costs at the OTP and SC account for another third of staff costs, with the remainder comprised of costs associated with administering the CMAM program at the national (UNICEF), State, and LGA level (e.g. program management, monitoring and administration at each level).

Caregiver out-of-pocket costs consist of transportation costs and payment that they provided for services related to treatment at the OTP and SC. Per child cured, more than $34 is spent out-of-pocket by caregivers on these items, which include drugs, food, and admission costs at the SC. Over two-thirds of out-of-pocket costs occur at the OTP level, which are equally divided between cost of care and transportation to and from the OTP.

More than a third of all costs are accounted for by RUTF product, which is purchased nationally by UNICEF. When RUTF product is coupled with other administrative costs (staff time, training, and OTP start-up costs) borne by UNICEF, almost half of all organizational level costs can be attributed to UNICEF. The next largest organizational level cost categories are costs associated with the community volunteer (12%) and caregiver costs at the OTP (10%) (see organizational level cost category explanation in Table 3).

Figure 2. CMAM costs by type of cost



Cost type	Cost per child cured
Staff time	$74.28
RUTF	$76.06
Out-of-pocket costs	$33.98
Opportunity cost	$7.08
CMAM drugs	$9.24
Monitoring	$1.34
Supply chain	$11.17
Other CMAM	$0.47
Management Information System (MIS) tools	$0.48
Overhead	$4.27
Training	$0.80

Figure 3. Staff time costs by type (34% of total)

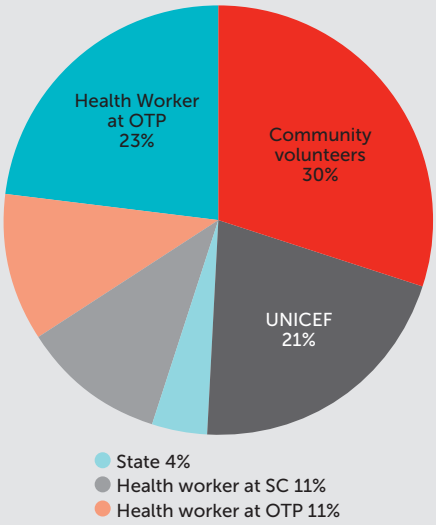


Figure 4. Out-of-pocket costs by type (16% of total)

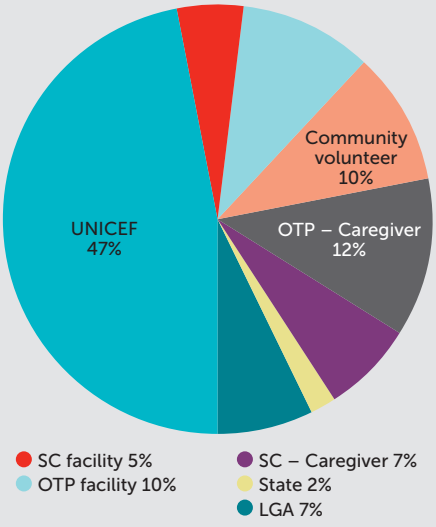
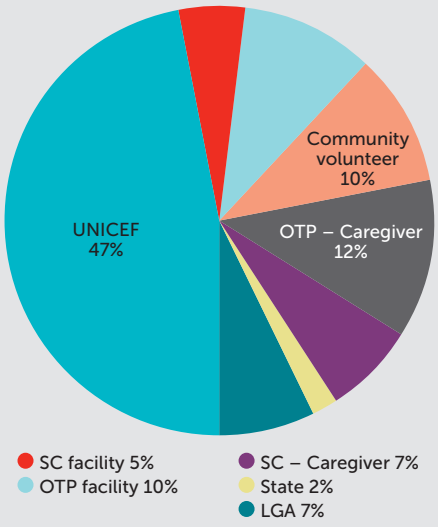


Figure 5. CMAM cost by organizational level

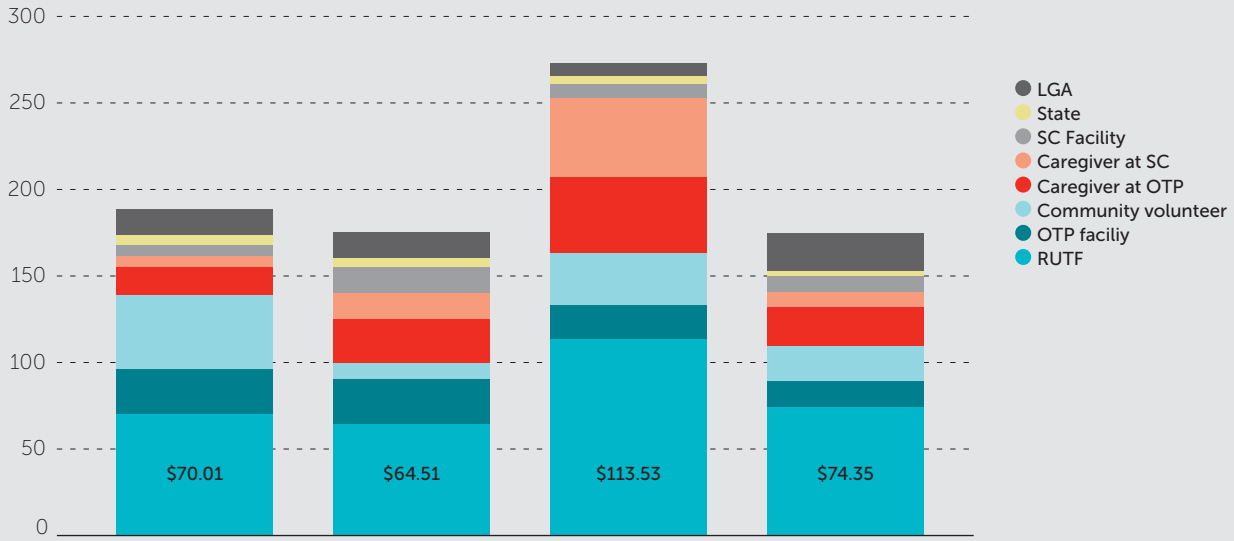


Cost estimates without Stabilization Centers

In the existing literature consulted, costs incurred at the SC are quite low. When these costs, which include caregiver out-of-pocket and facility-level drug, health worker, and overhead costs, are excluded, the total cost per child cured falls to $194—approximately $25 less than the full estimate.

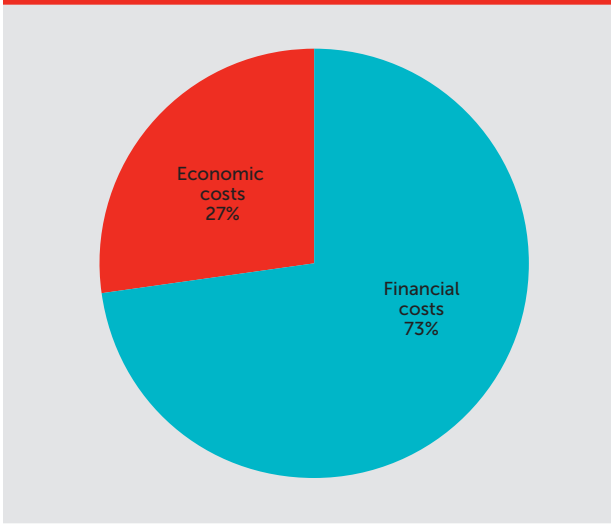
Cost per child cured varied substantially by state. Sokoto had the highest cost per child cured ($273). Although Sokoto's annual costs are the second-lowest among all states, the number of children reported to be cured in those OTPs is less than half as many as in the other OTPs. Sokoto also has the highest ratio of total visits to patients cured: for every patient cured, approximately 3.1 patients visits take place. In Bauchi, Kano, and Jigawa, that ratio is 2.6, 2.8, and 2.9 respectively.

Figure 6. CMAM cost per child cured by state



	Bauchi	Kano	Sokoto	Jigawa
LGA	$14.86	$14.76	$7.48	$21.47
State	$5.80	$5.48	$4.52	$3.30
SC facility	$6.70	$14.99	$7.94	$9.23
Caregiver at SC	$5.90	$15.22	$45.49	$8.35
Caregiver at OTP	$17.05	$25.80	$44.08	$22.92
Community volunteer	$42.42	$8.76	$30.13	$20.40
OTP Facility	$26.16	$25.99	$19.66	$14.66
RUTF	$70.01 (37%)	$64.51 (36%)	$113.53 (41.5%)	$74.53 (42.6%)
Total cost per child cured	$188.39	$175.50	$272.83	$174.67

Figure 7. Economic and financial costs



The number of RUTF issued per patient cured is also highest in Sokoto (133 sachets in Sokoto compared to 115 on average across the other states). However, RUTF as a percentage of total cost did not vary greatly across states, ranging from 36% of total costs in Kano to 42.6% of total costs in Jigawa.

Total cost per child cured includes several cost components that can be categorized as either economic or financial (see Table 2 for examples of economic and financial costs). Financial costs, or cash outlays to support the functioning of the CMAM program, comprise slightly less than three quarters of all costs, while the remainder, 27%, is comprised of economic costs, or costs borne by the economy as a whole (e.g. opportunity cost).

Observations at the facility level

A number of qualitative themes emerged during the four waves of the data collection. Among the observations recorded by enumerators:

- Large variance in the quality and level of record keeping across facilities, but particularly at stabilization centers
- Considerable differences in responses regarding stockouts: some interviewees reported that stockouts are prevalent, others say that stockouts are never an issue
  - Some interviewees reported going to SCs when stockouts persist in OTPs
- There did not appear to be a robust understanding of the underlying causes of default
- Non-malnourished children have, in selected instances, sought RUTF from OTPs
- Lack of awareness of when health worker strikes had ended, thus reducing care seeking

Cost effectiveness

Using the financial costs described above, cost effectiveness was calculated with several key assumptions (see Appendix F). According to the data collected, CMAM treatment in the four states is estimated to be $1,117 per death averted[24] and $30 per Disability-Adjusted Life Year (DALY) gained,[25] which situates it favorably among existing literature that calculates CMAM cost per death averted. These numbers represent a slight increase from CIFF's base-case projection for cost per death averted for the CMAM program ($900). [26]

Table 9. Cost per death averted and cost per DALY gained in CMAM literature

Study	Country	Year	Cost per death averted	Cost per DALY gained
Puett et al	Bangladesh	2013	$869	$26
This study	Nigeria	2015	$1,117	$30
Wilford et al	Malawi	2011	$1,365	$42
Bachmann et al	Zambia	2009	$1,760	$53

[24] Cost per death averted is calculated using total program costs over 10 years. Costs include all financial outlays, including human resources, monitoring, training, worker compensation, RUTF, medicine, and inpatient costs. Total deaths averted is calculated as follows: (Estimated caseload x mortality reduction for those cured x weighted cure rates for outpatient and inpatient services)

[25] This study estimates 37 DALYs gained per death averted. Total DALYs gained is calculated by multiplying DALY gained per death averted by the estimate of deaths averted. Cost per DALY gained is calculated by dividing total projected program costs over 10 years by total DALYs gained.

[26] The optimistic estimate in the investment memo was $750 per death averted with the pessimistic estimate of $1820 per death averted.

Table 10. Selected sensitivity analyses for CMAM cost-effectiveness			
Key parameter	**Observed levels**	**Adjustment**	**Change in estimates**
RUTF cost	$57	25% reduction	Cost per death averted: $1,014 (-$103) Cost per DALY gained: $27 (-$3)
OTP cure rate	56%	25% increase	Cost per death averted: $937 (-$180) Cost per DALY gained: $25 (-$5)
Number of health workers at OTP	7.7	Initial estimate (2)	Cost per death averted: $763 (-$375) Cost per DALY gained: $20 (-$10)

Table 11. Cost-effectiveness of interventions to prevent or treat infectious and communicable diseases in developing countries		
	Cost per death averted	**Cost per DALY gained**
This study	*$1,117*	*$30*
Nutrition[27]		
Micronutrient home-fortification program	$406	$12
Nutrition education	$1,952	
HIV/AIDS[28]		
STI diagnosis and treatment		$57
Blood and needle safety		$84
Preventing and treating coinfection with TB		$120
Tuberculosis		
DOTS strategy		$5-50
Treating multi-drug resistant TB		$400
Malaria		
Insecticide-treated nets		$11-17
Indoor spraying		$5-18
Preventative treatment for pregnant women		$13-35
Diarrhea		
Promoting exclusive breastfeeding, measles immunization, ORT, and hygiene		$5
Sanitation through public policy		$11
Hand pumps		$94
House connections for potable water		$223
Vaccines		
Against six original EPI diseases	$205	
Family planning		
Family planning programs (maternal)	$5,000-35,000	
Family planning programs (infant)	$1,300-5,000	$30-60

[27] Batura, N et al. 2014.

[28] Jamison, DT et al. 2006.

When key parameters were varied, there were corresponding effects on cost-effectiveness estimates. A 25% reduction in the cost of RUTF yields a reduction in the cost per death averted of $103 and a reduction in cost per DALY gained of $3. Furthermore, a 25% increase in the OTP cure rate yields a reduction in cost per death averted of $180 and a reduction in cost per DALY gained of $5. This study found that approximately seven health workers at the OTP spent some share of time working on CMAM, compared to the original assumption that only two worked on CMAM. Using the original assumption for this parameter, the cost per death averted falls by $375 and the cost per DALY gained declines by $10.

Although research on the cost-effectiveness of nutrition interventions is not plentiful, the cost-effectiveness estimates of the Nigeria CMAM program compares favorably to estimates of other health interventions. As such, the CMAM program is likely as or more cost-effective than many programs that are currently being funded by the Nigerian government.

The WHO deems interventions where cost per death averted is below GDP per capita as highly cost-effective; if cost per death averted is between one and three times GDP per capita, the intervention is deemed cost effective; and if cost per death averted is more than three times GDP per capita, the intervention is deemed not cost effective.[29] In 2014, GDP per capita in Nigeria was approximately $3,000, suggesting that the CMAM intervention is highly cost-effective.[30] As noted in Table 4, GDP per capita in the survey states are lower, but even using these estimates, the intervention remains a cost-effective one.

Financial sustainability analysis

As noted above, financial costs associated with the CMAM program are comprised of staff costs at the OTP and SC, monitoring, supply chain, drug, RUTF, MIS, training, overhead at the UNICEF level, and miscellaneous CMAM costs. As opposed to the costing, the cost-effectiveness analysis and financial sustainability analysis excludes economic costs like opportunity cost, cost to caregivers, overhead of facilities, and transport costs for community volunteers and caregivers, since these are not expected to be borne by CMAM funders.

The average total financial cost of CMAM to scale up will be up to $160 per child cured. For an average OTP site, with over 500 admissions and 360 children cured per year , estimated cost is $58,157 (NGN 11,515,022) per year, 74% of which is associated with RUTF procurement and transportation. Therefore, the total financing needed to support an average LGA with 5 OTPs would is approximately $290,783 (NGN 57,575,108). While these costs are not insignificant, they are affordable.

As of March 2015, CMAM is functioning in 633 OTPS in 97 LGAs, yielding a total cost of $36,813,175, which represents 2.3% of the 2014 national health budget and $0.20 per capita.[31] In 2014, the total admissions to the program were 320,247 (UNICEF estimates). A 25% increase in caseload, in which approximately 400,309 children would enter the CMAM program, would yield a scale-up to roughly 791 OTP facilities in 121 LGAs, necessitating a financial outlay of approximately $46 million, or 2.9% of the national health budget. Scaling the current program by 50%, assuming consistent rates of new patient entry at the OTP, would cover an additional 160,124 children compared to the base scenario, or 480,371 per year. Such an increase would require 949 OTPs (316 new) at a total cost of $55 million, or 3.5% of the national health budget. It is important to note that in

Table 12. Financial implications of base and scale-up scenarios

	OTP sites	Caseload	Total cost	% national health budget
Base scenario	633	320,247	$36,813,175	2.3%
25% increase	791	400,309	$46,016,469	2.9%
50% increase	949	480,371	$55,219,763	3.5%

[29] WHO Cost-effectiveness thresholds http://www.who.int/choice/costs/CER_thresholds/en/

[30] World Bank 2013 current dollars http://data.worldbank.org/indicator/NY.GDP.PCAP.CD, accessed 4/23/15

[31] This calculation uses the 2014 Appropriations Bill which establishes a FMOH Budget of 262,742,351,874 Naira. An exchange rate of 167 Naira per dollar was used.

the coming years, Nigeria's health budget is expected to fall, increasing the proportion of the budget occupied by CMAM costs. As detailed above, this study relies on a sample of 40 OTPs in four states; as such, national extrapolations should be interpreted with caution. A full list of limitations can be found in a later section.

Financial sustainability thresholds developed by R4D suggest that, while the costs are by no means crippling relative to available domestic resources (especially in light of the potential number of lives saved), concerted effort should nevertheless be paid to the financial sustainability of the CMAM program.[32]

	Not a serious issue	Significant issue of sustainability	Questionable sustainability
Incremental spending as % of health budget	<1%	1-2%	>2%

It is important to note that states and LGAs play an important decision-making role in financing CMAM (with state co-financing a key goal of CIFF's Phase II support). A lack of transparency on sub-national budgets prevents state-specific financial sustainability analyses. Further understanding of budgeting and available resources at the state level will be critical to understand the financial sustainability and potential for success of the proposed co-financing in Phase II.

[32] This assumes a 72% cure rate found in the sites where data was collected.

Discussion

Several themes emerged from the data that are worth nothing.

1. At $219, the cost per child cured in the CMAM program is **comparable to cost estimates in other studies** (see Table 1).

   As referenced in the discussion of existing literature, there are important differences in the way this study's costs were calculated (e.g. only one other study includes community volunteer costs and most rely upon programmatic budgets), which could have the effect of producing relatively higher costs. This makes the fact that the costs associated with the CMAM program in Nigeria are in line with other studies even more laudable.

2. As in other studies, RUTF is a major cost driver for the CMAM program. Of the $219 total cost per child treated, $76 is spent on RUTF, comprising approximately 35% of total costs and close to 50% of financial costs, making it the largest single cost input. Using a top-down method that draws upon UNICEF budgets, spending on RUTF for 2014 yields a nearly identical cost per child treated of $218 (though top-down costs are less reliable because they vary based on when the orders were made, when they were delivered, and the estimated consumption period). The proximity in estimates suggests that there is little leakage in the system and that the OTPs are distributing RUTF appropriately -- though issues of stockouts, as manifested in the pilot and to a lesser extent, during data collection, should continue to be monitored.

   Irrespective of which method is chosen, the cost of RUTF represents a significant portion of costs – an unsurprising finding given that this is the case for most of the studies consulted. As such, some investment in strategies to reduce RUTF costs could prove worthwhile. Sensitivity analysis is illustrative insofar as it reveals how reductions in the cost of RUTF can provide moderate savings. For example, a 25% reduction in the cost of RUTF would provide a savings of $16, or 7%, of the total cost per child treated.

3. Costs associated with community volunteers are responsible for approximately 10% of total costs, and 30% of all staff time costs. The costs of community volunteers relate to their opportunity cost – i.e. the economic value of their time and their implicit lost wages. This number is derived from self-reported wages and the time spent on CMAM (50% of their time, or 20 hours). Community volunteer costs also include transportation and stipends.

   However, caution should be taken when interpreting this number, as its magnitude could be inflated by two factors. First, it may be that community volunteers overestimate the time that they spent of CMAM-related activities, in an effort to provide a "more favorable" response. Secondly, it may be that those community volunteers who were interviewed are, in some way, different than those who were not available to be interviewed (because they weren't present at the OTP during the day of the interview). For example, those community volunteers present may be more likely to be working in their role as a community volunteer than those not present when enumerators visits, thus biasing results.

   Encouragingly, extrapolations of the wages reported by community volunteers revealed that reported wages of community volunteers are reasonably line with state-specific GDP per capita estimates (Table 12).

   The distinction between opportunity cost and economic cost is highly relevant when considering the role of community volunteers. While community volunteers contribute significantly to the economic costs, not all of these costs are actually compensated. **As a result, care should be taken to ensure that an adequate supply of quality community volunteers continue, given that compensation does not match the true economic value of their contributions.**

Table 13. Community volunteer reported income and GDP per capita by state

State	Reported Income	GDP per capita (2010)
Bauchi	$1,081	$983
Kano	$864	$1,288
Sokoto	$522	$1,274
Jigawa	$1,163	$673

Qualitative data from the evaluation support the idea that some diminution of interest over time on the part of community volunteers is present.

4. Another important cost driver is out-of-pocket costs that are borne by the patient's family. Of the $219 per child treated, approximately $30 is spent on financial outlays to support the child's treatment, whereas one admission to the SC is reported to cost $87.

   One perceived benefit of CMAM model is that it can reduce the financial barriers that accompany inpatient treatment. While not all prior CMAM studies collect out-of-pocket costs, those that did found that they generally constitute 5% or less of costs. In Nigeria, this figure may be higher for a number of reasons – e.g. higher transportation costs, charging patients for drugs that are supposed to be free – but also be a function of the survey design, as caregivers and community volunteers were asked specifically about out-of-pocket costs.

   Notably, enumerators observed that some SCs had few CMAM patients because caregivers were unable or unwilling to shoulder the financial burden involved in inpatient admission. While it is not clear whether out-of-pocket costs have significantly affected program participation or adherence rates, **out-of-pocket costs hold the potential to deter care-seeking.**

5. As referenced in discussion point #1, the costs associated with the Nigeria CMAM program appear to be significantly lower than those of other studies. While the financial sustainability numbers suggest that that fiscal space constraints should be considered (assuming that the government takes up full ownership of the program), **the low programmatic costs and encouraging cost-effectiveness estimates indicate strong value for money, especially relative to other potential health investments. Moreover, when using annual financial outlays and cost-effectiveness estimates from this study, up to an estimated 31,500 lives will be saved per year — substantially higher than original estimates. As such, the case for further investment in the program is a compelling one.**

Limitations

A number of limitations were encountered during the study, as detailed below.

Limitations regarding internal validity

Utilization of the "bottom-up" method of calculating costs involved a reliance on individual responses to questionnaires (which, in some circumstances, were drawn from relevant records or documentation). Individuals, for many reasons, may not have had the most accurate information and the possibility of self-reporting bias must be acknowledged. State and LGA staff were occasionally out of the office during the time of interviews and deputies possessed less knowledge, possibility threatening the accuracy of certain data. In addition, records at the state level were poor and in some instances, total nutrition or drug costs were difficult to distinguish from CMAM-specific costs.

In addition, poor record keeping and few admissions at the SC led to uncertain reliability of data and interpolation. In some cases, SCs didn't have functioning CMAM programs, did not have CMAM patients admitted, and/or did not have records available for CMAM patients. In the cases where this information was available, such data were extrapolated from the total set of SCs. An additional effort was made to collect information about CMAM admissions in the form of a daily log developed by the data collection team. However, adherence was quite low.

Limitations regarding external validity

Security considerations may limit the generalizability of the results. The states included in this study were selected on the basis of security reports from the government of the United Kingdom and the United States.

As such, the results of the study may not be generalizable to all states in Nigeria, particularly those with more serious security concerns. In those states, the issue of poor security may have a double effect on the CMAM program by decreasing food security and deterring caregivers from seeking care for their SAM children out of fear of attack.

Furthermore, variation across states in terms of performance (including administrative capacity) should be taken into account, given its influence on the cost and cost-effectiveness estimates. While some variance in performance existed across the study states, differences are likely to be even more pronounced in other states.

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Appendix A. Imputations and their Effects on Estimates of Cost per Child Cured

Organizational level	Data item	Problem encountered	Imputation	Differential cost per child cured
CV	Wage	Non-response	Use average (non-responses included)	-$0.45
CV	Stipend	Frequency of stipend not always reported	Assumed monthly stipend	-$5.92
CG at SC	Wage	Non-response	Use average (non-responses included)	-$0.18
CG at SC	Cost of services	Non-response	Use average (non-responses included)	-$0.29
HW at SC	Patients admitted and length of stay	No CMAM patients admitted at time of survey	Use average (non-responses included)	-$0.53
HW at SC	Drug costs	No records available	Use average (non-responses included)	-$0.02
HW at SC	Overhead	Non-response	Use average (non-responses included)	-$0.17
HW at SC	Number of facilities	In Kano, only two facilities were functioning in Waves II, III, and IV.	Average costs used for other facilities in same wave.	-$0.22
HW at OTP	Overhead	Non-response	Use average (non-responses included)	-$0.10
HW at OTP	Number of RUTF distributed	OTPs reported no RUTF distributed but reported CMAM patients seen	Use average (non-responses included)	-$0.75
HW at OTP	Patient records	No patient records provided	Use average (non-responses included)	$0.99
HW at OTP	Number of CMAM patients	One facility reported patient visits ten times higher than the average	Use average from same wave	$6.18
HW at OTP	Number of CVs	Facility reported no CVs associated with OTP but two were interviewed	Replaced reported 0 with 2	-$0.02
CG at OTP	Wage	Non-response	Use average (non-responses included)	-$1.92
CG at OTP	Transport costs	Response of "don't know"	Use average (non-responses included)	-$0.03
LGA	Drug costs	One LGA reported drug costs substantially higher than other respondents.	Use average (non-responses included)	$6.20
State	Drug costs	Some states reported quantity of drugs but not costs.	Cost imputed from other states where that drug was reported	-$1.18

Appendix B. Assumptions

- RUTF cost: $57/case; quantity from reported distribution of RUTF by OTP facility
- Exchange rate: 167 Naira/dollar (average across waves)
- 40 hour work week
- 22.5 working days per month
- Each individual possesses an opportunity cost of time
- Cost of building a OTP is $64,0000
- Cost of building a SC is $160,000
- Health facilities have a 30-year lifetime

Appendix C. LGAs in which cost collection took place by data collection wave

	Wave I	Wave II	Wave III	Wave IV
Bauchi	Dambam Katagum Kirfi	Dambam Katagum Kirfi	Dambam Katagum Kirfi	Dambam Katagum Kirfi
Kano	Kano Municipal Madobi Tsanyawa	Kano Municipal Bichi Wudil	Bichi Tsanyawa Sumaila	Bichi Sumaila Kano Municipal
Sokoto	Gada Binji Illela	S/Birni Gudu Goronyo	Binji Gudu Wamakko	Wamakko S/South Goronyo
Jigawa	Gwiwa Jahun Guri	Gwiwa Jahun Kaugama	Bikudu Yaukwashi Birriniwa	Guri Roni Gwiwa

Appendix D. Sensitivity analysis

Data element	Reasoning for sensitivity analysis	Original methods	Adjustment	Differential cost per child cured
CV	CVs not interviewed may not have same costs as those who were interviewed	Costs from interviewed CVs applied to all CVs reportedly associated with OTPs	Non-interviewed CV costs count for 75% of interviewed CV costs	$ (2.02)
CV	CVs not interviewed may not have same costs as those who were interviewed	Costs from interviewed CVs applied to all CVs reportedly associated with OTPs	Non-interviewed CV costs count for 50% of interviewed CV costs	$ (4.04)
CV	CVs not interviewed may not have same costs as those who were interviewed	Costs from interviewed CVs applied to all CVs reportedly associated with OTPs	Non-interviewed CV costs count for 25% of interviewed CV costs	$ (6.06)
CV	CVs may overreport the time they spend on CMAM activities	Use as reported	Reduce reported time spent on CMAM by 25%	$ (3.20)
CV	CVs may overreport the time they spend on CMAM activities	Use as reported	Reduce reported time spent on CMAM by 50%	$ (6.40)
CV	CVs may overreport the time they spend on CMAM activities	Use as reported	Reduce reported time spent on CMAM by 75%	$ (9.60)
CV	Number of active CVs per OTP high in Bauchi and Jigawa	Use as reported	Apply average number of CVs in Kano and Sokoto to Bauchi and Jigawa	$ (8.53)
CV	Number of active CVs per OTP high in Bauchi and Jigawa	Use as reported	Apply average number of CVs in Bauchi and Jigawa to Sokoto and Kano	$ 8.15
RUTF	RUTF can be calculated many ways	Use number reported from log	Calculate number of RUTF distributed per visit for cured and defaulted and apply that to number of new admissions	$ 14.65
RUTF	RUTF may be sourced from different places so price may change	Use $57/carton	Reduce RUTF cost by 25%	$ (18.87)
RUTF	RUTF may be sourced from different places so price may change	Use $57/carton	Reduce RUTF cost by 50%	$ (37.76)
RUTF	RUTF may be sourced from different places so price may change	Use $57/carton	Reduce RUTF cost by 75%	$ (56.64)

Appendix E. Cost-effectiveness model: Original and updated assumptions

Item	Original	Updated
RUTF delivered cost per case (USD)	50	
ITP Cost Per Day	16	
Ongoing TA & M&E per year (000's USD)	2,500	1,520
Outpatient workers per site	2	
Mortality reduction for those cured	15.7%	
Mortality reduction for those defaulted/non-recovered	0.0%	
Imputed mortality reduction for CMAM admissions	9.6%	
RUTF delivered cost per case (USD)	$56	$57
Cases of RUTF per full course of treatment (cured, non-recovered)	1	0.8
Cases of RUTF per incomplete course (default, death)	0.5	0.4
Cost per admission for non-RUTF medicine	$6.00	$0.49
Outpatient facility worker total compensation (USD)	7,000	7,081
Outpatient workers per site	2.00	7.69
Outpatient facilities per district/local government	5	
Share of outpatient facility work time devoted to CMAM (%)	0.20	0.30
Cases referred to ITP	6%	2%
ITP Cost per Day	16.00	2.09
Days in Hospital	7	10
Mortality reduction for those cured	15.7%	
Mortality reduction for those defaulted/non-recovered	0%	
Ongoing TA & M&E ($000's per year)	$2,500	
Freight and distribution	$7.00	$11.17
Background mortality rate in under 5 Nigeria (annualized)	2.9%	
Mortality rate for untreated SAM no HIV	18%	
Mortality multiplier for HIV	2	
HIV Prevalence Nigeria	3%	
Potential more optimistic case for mortality reduction	15%	
Share of investment costs leveraged from other sources (%)	0.10	
Discount rate (%)	3.0	
Base DALYs gained per fatality averted	37	
Mortality reduction for admissions	11.6%	

Item	Original	Updated
Outpatient cure-rate (%)	61%	56%
Outpatient Death Rate (%)	1%	1%
Outpatient Non-recovered (%)	9%	11%
Outpatient Imputed Defaulters (%)	29%	
Inpatient Cure-rate (%)	56%	
Inpatient Death (%)	10%	
Inpatient Non-recovered (%)	0%	
Inpatient Imputed Defaulters (%)	34%	

UNICEF Technical Support - Original					
	2013	2014	2015	2016	2017
Human resources	2300	2300	2400	2500	2600
Overhead	800	900	900	1000	1100
Equipment	100	100	100	100	100
Monitoring expenses	300	300	300	400	400
Training	100	400	200	400	300

UNICEF Technical Support - Updated					
	2013	2014	2015	2016	2017
Human resources	539	539	539	539	539
Overhead	1875	1875	1875	1875	1875
Equipment	97	97	97	97	97
Monitoring expenses	55	55	55	55	55
Training	938	938	938	938	938

Appendix F. Cost Collection Instruments

CMAM Study Questionnaire: CAREGIVERS AT THE PHC – Wave IV

S_CP	**Serial Number**	**CP_____**			**[Insert first letter of state, then serial number]**
CP1	**Date** (dd/mm/yy)				__ __ / __ __ / __ __
CP2	**Start time** (use 24-hr clock)				__ __ : __ __
CP3	**LGA**	☐ 1 Dambam ☐ 2 Katagum ☐ 3 Kirfi	☐ 4 Bichi ☐ 5 Sumaila ☐ 6 Kano Municipal	☐ 7 Wamakko ☐ 8 S/South ☐ 9 Goronyo	☐ 10 Guri ☐ 11 Roni ☐ 12 Gwiwa
CP4	**State**	☐ 1 Bauchi ☐ 2 Kano	☐ 3 Sokoto ☐ 4 Jigawa		
CP5	**Facility**	☐ 1 Janda ☐ 2 Gwasamai ☐ 3 Wanka	☐ 4 Danzabuwa ☐ 5 Magami ☐ 6 Y/Awaki	☐ 7 Gunburawa (Gidan Habibu) ☐ 8 Makera Clinic ☐ 9 Takakume, Shinaka	☐ 10 Kadira ☐ 11 Roni ☐ 12 Dabi

Hello, my name is _____ and I represent Binomial Optimus Limited, a data collection organization. We are conducting a study to collect the costs associated with the CMAM program. The results will be used to improve the quality of the CMAM program and ensure that there is proper funding for its sustainability in your community. I would like to ask you a few questions related to your child's experience with the CMAM program.

CP7	**How long have you been at the PHC today? (Total hours – insert 0 if less than 1 hour)**	_____ ☐ DK
CP8	**Minutes**	_____ ☐ DK/NA
CP9	**How many children are you accompanying for SAM treatment today?**	_____ ☐ DK
CP10	**From when you left your house to when you arrived at the PHC, not counting stops elsewhere, how long did the trip take? (Total hours – insert 0 if less than 1 hour)** *Interviewer: Probe well to obtain a realistic answer*	_____ ☐ DK
CP11	**Minutes**	_____ ☐ DK/NA
CP12	**Did you pay anything for your trip? This may include transport costs, water, food, etc.**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to CP14] ☐ DK [Go to CP14]
CP13	**How much money in Naira did you spend for your trip?**	₦ _____ ☐ DK

I will now ask you some questions about your experience today with the CMAM program. If you are accompanying more than one child for SAM treatment, please answer the following questions for the child whose name comes first alphabetically.

CP14	**How much did you spend in Naira today for CMAM services for your child including any drugs you have bought for CMAM treatment?**	₦ _____ □ DK
CP15	**Is there anything you do to make money?** Tick all that apply. □ CP15.1 **Farming** (only if it makes money) □ CP15.2 **Animal rearing** (only if it makes money) □ CP15.3 **Petty trading/business** □ CP15.4 **Artisan** □ CP15.7 **Not earning any money (GO TO CP17)** □ CP15.5 **Others (specify)** CP15.6.1 Specify _____	
CP16	**How much money do you make in Naira?** Indicate frequency. □ CP16.1 **Day** _____ ₦ **on** _____ CP15.1.1 **days per week (average)** □ CP16.2 **Week** _____ ₦ □ CP16.3 **Month** _____ ₦ □ CP16.4 **Annum** _____ ₦ □ CP16.5 **Others** (specify)_____ ₦ CP16.5.1 Specify frequency_____	
CP17	**Do you have any suggestions to improve the CMAM program?**	
CP18	**End time** (use 24-hr clock)	__ __ : __ __

Thank you for your responses. They are very important to us in our efforts to ensure the sustainability of the CMAM program. Do you have any questions for me?

Name of data collector: _____

Signature of data collector: _____

I have reviewed the questionnaire, and it is completed clearly, completely and consistently

SUPERVISOR SIGNATURE _____

Supervisor phone no.:

CMAM Study Questionnaire: CAREGIVERS AT THE SC - Wave IV

S_CS	Serial Number	**CS**_____		**[Insert first letter of state, then serial number]**	
CS1	**Date** (dd/mm/yy)	__ __ / __ __ / __ __	**CS2**	**Start time** (use 24-hr clock)	__ __ : __ __

CS3	**LGA**	☐ 1 Dambam ☐ 2 Katagum ☐ 3 Kirfi	☐ 4 Bichi ☐ 5 Sumaila ☐ 6 Kano Municipal	☐ 7 Wamakko ☐ 8 S/South ☐ 9 Goronyo	☐ 10 Guri ☐ 11 Roni ☐ 12 Gwiwa
CS4	**State**	☐ 1 Bauchi ☐ 2 Kano	☐ 3 Sokoto ☐ 4 Jigawa	**Other LGA:** (explain in field notes)	
CS5	**Facility**	☐ 1 SC Dambam ☐ 2 SC Katagum ☐ 3 SC Kirfi	☐ 4 SC Bichi ☐ 5 SC Sumaila ☐ 6 H/Bayero	☐ 7 Orth. Hosp Wamakko ☐ 8 UDUTH, Specialist Hosp and WC ☐ 9 Gen Hosp Goronyo	☐ 10 SC Guri ☐ 11 SC Roni ☐ 12 SC Gwiwa
		☐ 13 Other, specify _____			

Hello, my name is _____ and I represent Binomial Optimus Limited, a data collection organization. We are conducting a study to collect the costs associated with the CMAM program. The results will be used to improve the quality of the CMAM program and ensure that there is proper funding for its sustainability in your community. I would like to ask you a few questions related to your child's experience with the CMAM program.

CS7	**Where did you come from to get to the hospital? (Name of area)**	_____ ☐ DK
CS8	**From when you left your house to when you arrived at the SC, not counting stops elsewhere, how long did the trip take? (Total hours – insert 0 if less)**	_____ ☐ DK
CS9	**Minutes**	_____ ☐ DK/NA
CS10	**Did you pay anything for your trip? This may include transport costs, water, food, etc.**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to CS12] ☐ DK [Go to CS12]
CS11	**How much money in Naira did you spend for your trip?**	₦ _____ ☐ DK
CS11b	**When was your child admitted in this hospital?**	☐ 1 **Yesterday** ☐ 2 **Earlier than yesterday** ◯ **3 Today** ☐ DK
CS12	**How much have you spent in Naira for the admissions of your child in the hospital so far?** **If you have not spent anything, please say "zero."** *These expenditures capture one-off costs* CS12.1 **Registration** _____ ₦ CS12.2 **Bed deposit** _____ ₦ CS12.3 **X-ray** _____ ₦ CS12.4 **Lab tests** _____ ₦ Insert "DK" if caregiver responds, "I don't CS12.5 **Drugs** _____ ₦ CS12.6 **Other/Lump Sum** _____ ₦ CS12.6.1 **Specify other**_____	

CS13	**How much did you spend yesterday for items relating to your child's hospital stay? If you have not spent anything, please say "zero."** These expenses capture daily recurring costs. Insert "DK" if caregiver responds, "I don't know." CS13.1 **Food**_____₦ CS13.2 **Toiletries**_____₦ CS13.3 **Bottled/sachet water**_____₦ CS13.4 **Lab tests** (other than those in CS12.4) _____₦ CS13.5 **Drugs** (other than those in CS12.5)_____₦ CS13.6 **Other/Lump sum** _____₦ CS13.6.1 **Specify other**_____	
CS14	**Is there something you do to make money?** Tick all that apply. ☐ CS14.1 **Farming** (only if it makes money) ☐ CS14.2 **Animal rearing** (only if it makes money) ☐ CS14.3 **Petty trading/business** ☐ CS14.4 **Artisan** ☐ CS14.7 **Not earning any money (GO TO CP16)** ☐ CS14.5 **Others (specify)** CS14.6.1 Specify _____	
CS15	**How much money do you make in Naira? Indicate frequency.** ☐ CS15.1 **Day** _____ ₦ **on** _____ CP15.1.1 **days per week (average)** ☐ CS15.2 **Week**_____ ₦ ☐ CS15.3 **Month**_____ ₦ ☐ CS15.4 **Annum**_____ ₦ ☐ CS15.5 **Other frequency** (specify) _____ ₦ CS15.5.1 Specify frequency_____	
CS16	**Do you have any suggestions to improve the CMAM program?**	
CS17	**End time** (use 24-hr clock)	__ __ : __ __

Thank you for your responses. They are very important to us in our efforts to ensure the sustainability of the CMAM program. Do you have any questions for me?

Name of data collector: _____

Signature of data collector: _____

I have reviewed the questionnaire, and it is completed clearly, completely and consistently

SUPERVISOR NAME AND SIGNATURE _____

Supervisor telephone no.:

CMAM Study Questionnaire: COMMUNITY VOLUNTEER – WAVE IV

S_CV	Serial Number	**CV**_____	**[Insert first letter of state, then serial number]**
CV1	**Date** (dd/mm/yy)		__ __ / __ __ / __ __
CV2	**Start time** (use 24-hr clock)		__ __ : __ __

CV3	**LGA**	☐ 1 Dambam ☐ 2 Katagum ☐ 3 Kirfi	☐ 4 Bichi ☐ 5 Sumaila ☐ 6 Kano Municipal	☐ 7 Wamakko ☐ 8 S/South ☐ 9 Goronyo	☐ 10 Guri ☐ 11 Roni ☐ 12 Gwiwa
CV5	**State**	☐ 1 Bauchi ☐ 2 Kano	☐ 3 Sokoto ☐ 4 Jigawa		
CV6	**Facility**	☐ 1 Janda ☐ 2 Gwasamai ☐ 3 Wanka	☐ 4 Danzabuwa ☐ 5 Magami ☐ 6 Y/Awaki	☐ 7 Gunburawa (Gidan Habibu) ☐ 8 Makera Clinic ☐ 9 Takakume, Shinaka	☐ 10 Kadira ☐ 11 Roni ☐ 12 Dabi

Hello, my name is _____ and I represent Binomial Optimus Limited, a data collection organization. We are conducting a study to collect the costs associated with the CMAM program. The results will be used to improve the quality of the CMAM program and ensure that there is proper funding for its sustainability in your community. I would like to ask you a few questions related to the work you do as a community volunteer.

CV7	**What activities do you do for the CMAM program?** Tick all that apply. ☐ CV7.1 Community Sensitization ☐ CV7.2 Contact tracking ☐ CV7.3 Accompany malnourished children to OTP ☐ CV7.4 Assist the health worker during CMAM days ☐ CV7.5 Home visits ☐ CV7.6 Others (specify): CV7.6.1 Specify _____	
CV8	**How many hours in a week do you do CMAM-related activities?**	_____ ☐ DK
CV9	***Additional minutes***	_____ ☐ DK
CV10	**How many hours in a typical CMAM day do you perform CMAM-related activities?**	_____ ☐ DK
CV11	***Additional minutes***	_____ ☐ DK
CV12	**In the last 7 days, how much did you spend in total in Naira <u>on transport</u> for CMAM activities including trips to the communities where you work and the PHC?**	₦ _____ ☐ DK

CV13	**Do you receive any formal stipend for your work as a CMAM CV?** *"Formal" means that you have been promised a payment as a rule rather than an exception.*	☐ 1 **Yes** [continue] ☐ 2 **No** [Skip to CV19] ☐ DK [Skip to CV19]
CV14	**How much do you receive in Naira as a stipend in the past three months?**	₦ _____
CV15	**When was the last time you received a stipend? Please provide approximate day and month.** (dd/mm) INSERT '15' for day if day is not known	__ __ / __ __ ☐ DK
CV17	**When did you receive a stipend payment before that?** **Please provide approximate day and month.** (dd/mm) INSERT '15' for day if day is not known	__ __ / __ __ ☐ DK
CV18	**Who pays your stipend?** [Select only one]	☐ 1 LGA ☐ 2 PHC Staff ☐ 3 NGO ☐ 4 Other, specify: 18.1 _____ ☐ DK
CV19	**In the last 3 months, did you get any other money for your work as a CV apart from your stipend?**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Skip to CV22] ☐ DK [Skip to CV22]
CV20	**How much did you receive in Naira?**	₦ _____ ☐ DK
CV21	**What was the payment for?**	_____ ☐ DK
CV22	**Apart from your work as a CV, in what other way do you make money?** ☐ CV22.1 **No other way to earn a living (GO TO G24)** ☐ CV22.2 **Farming** (only if it makes money) ☐ CV22.3 **Cattle rearing** (only if it makes money) ☐ CV22.4 **Petty trading/business** ☐ CV22.5 **Artisan (e.g. Tailor)** ☐ CV22.7 **Community Health Worker** ☐ CV22.10 **Civil servant** ☐ CV22.6 **Others (specify)** CV22.6.1 Specify _____	
CV23	**Apart from your work as a CV, how much money do you make in Naira? Indicate frequency.** ☐ CV23.1 Day_____₦ on _____ CV23.1.1 days per week (average) ☐ CV23.2 Week_____₦ ☐ CV23.3 Month_____ ₦ ☐ CV23.4 Yearly_____ ₦ ☐ CV23.5 Others (specify):_____ ₦ CV23.5.1 Specify frequency_____	
CV23b	**In the past 3 months, have you attended any trainings as part of the CMAM program?**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Skip to CV25] ☐ DK [Skip to CV22]

CV23c	**Were the trainings the first trainings you received for CMAM or were they "refresher" trainings?**	☐ 1 **First training** ☐ 2 **Refresher training** ☐ DK
CV23d	**How many days in total were in the trainings in the past 3 months?**	_____ ☐ DK
CV25	**Do you have any suggestions to improve the CMAM program?**	
CV26	**End time** (use 24-hr clock)	__ __ : __ __

Thank you for your responses. They are very important to us in our efforts to ensure the sustainability of the CMAM program. Do you have any questions for me?

Name of data collector: _____

Signature of data collector: _____

I have reviewed the questionnaire, and it is completed clearly, completely and consistently

SUPERVISOR SIGNATURE _____

Supervisor name:

Supervisor telephone no.:

CMAM Study Questionnaire: NUTRITION FOCAL PERSON AT THE LGA LEVEL – Wave IV

S_LG	Serial Number	LG_____ then serial number]	[Insert first letter of state,
LG1	**Date (dd/mm/yy)**		__ __ / __ __ / __ __
LG2	**LGA**	☐ 1 Dambam ☐ 4 Bichi ☐ 7 Wamakko ☐ 10 Guri ☐ 2 Katagum ☐ 5 Sumaila ☐ 8 S/South ☐ 11 Roni ☐ 3 Kirfi ☐ 6 Kano Municipal ☐ 9 Goronyo ☐ 12 Gwiwa	
LG3	**State**	☐ 1 Bauchi ☐ 3 Sokoto ☐ 2 Kano ☐ 4 Jigawa	
LG4	**Start time (use 24-hr clock)**		__ __ : __ __
LG5	**CMAM Focal Person name**		_____
LG6	**CMAM Focal Person designation**		_____
LG7	**CMAM Focal Person phone number**		_____
LG8	**CMAM Focal Person email address**		_____

Name of data collector: _____

Signature of data collector: _____

I have reviewed the questionnaire, and it is completed clearly, completely and consistently

SUPERVISOR Name and Signature

_____

Supervisor telephone no.:

Part 1: CMAM Human Resources

We would like to establish the level of effort of LGA level staff working on the CMAM program.
I am going to ask you some questions about staff time spent on the CMAM program, starting with you.

LG10.1 **What is your designation/cadre within this facility?**
LG11.1 **What is your current grade level?**

Bead and show card activity

LG12.1
Let us write the various types of activities you do on these cards. Please divide these 20 beads among the cards that represent activities you may do while at work, distributing the cards corresponding with how you divide your time among the activities. [*Record number of beads on "CMAM" card in LG12.1]*

I am going to now ask you questions about <u>other</u> staff members who work on CMAM. Please answer the following questions for each staff member at the PHC who works on CMAM.

LG10.2-8 **What is his/her designation/cadre within this facility?**
LG11.2-8 **What is his/her current grade level?**

LG12.2-8
Please divide the 20 beads among the cards that represent activities this staff member may do while at work, distributing the cards corresponding with how this person divides his/her time among the activities.
Record number of beads on "CMAM" card in LG12.2-8

→ Insert grade level **STEPS** after a **SLASH**, (eg. 7/3). If step is not known, write X (eg. 7/X) ←

	Designation		Grade level		No. of beads allocated to CMAM (0 to 20)
LG10.1	**LGA Focal Person**	**LG11.1**		**LG12.1**	
LG10.2		**LG11.2**		**LG12.2**	
LG10.3		**LG11.3**		**LG12.3**	
LG10.4		**LG11.4**		**LG12.4**	
LG10.5		**LG11.5**		**LG12.5**	
LG10.6		**LG11.6**		**LG12.6**	
LG10.7		**LG11.7**		**LG12.7**	
LG10.8		**LG11.8**		**LG12.8**	

[Insert DK if the respondent is unable to provide answer.]

Monitoring Visits

LG13	**Are LGA staff involved in monitoring of the CMAM program?**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to Part 2] ☐ DK [Go to Part 2]
LG14	**How many monitoring visits have taken place in July, August and Sept.**?	_____ (If 0, go to Part 2) ☐ DK

LG16	**What is the total estimated cost in Naira incurred in one typical CMAM monitoring visit by all LGA officers combined? Do not include staff time.** Insert 0 if no cost.	1 Vehicle hire _____ ₦ □ DK 2 Fueling of vehicle _____ ₦ □ DK 3 Communication _____ ₦ □ DK 4 Token for driver _____ ₦ □ DK 5 Field allowance(s) _____ ₦ □ DK	6 Other _____ ₦ □ DK 6_1 Specify _____ 7 Other _____ ₦ □ DK 7_1 Specify _____ 8 Other _____ ₦ □ DK 8_1 Specify _____

Part 2: CMAM Supply Chain Costs

We would like to determine supply chain related costs borne by the LGA for the CMAM program.

LG17	**Does the LGA handle logistics of CMAM related supplies? (e.g. RUTF, Resomal etc.)**	□ 1 **Yes** [Continue] □ 2 **No** [Go to Part 2] □ DK [Go to Part 2]
LG18	Do you pay for CMAM commodity transportation **from the State to the LGA** *[include transport and labor cost to load and unload the CMAM commodities] [IF YES]* ***How much?***	LG18.1a □ 1 **Yes** LG18.1b _____ ₦ □ 2 **No** □ DK
	Do you pay for CMAM Commodity transportation **from LGA to OTP** *[include transport and labor cost to load and unload the CMAM commodities] [IF YES]* ***How much?***	LG18.2a □ 1 **Yes** LG18.2b _____ ₦ □ 2 **No** □ DK
	CMAM commodity storage at LGA *[IF YES]* ***How much?***	LG18.3a □ 1 **Yes** LG18.3b _____ ₦ □ 2 **No** □ DK
	Does the LGA pay for other supply chain costs? If so, how much has the State paid in total for these during July, August and September? What are these costs? *[IF YES]* ***How much?*** ***What is it that you paid for?***	LG18.4a □ 1 **Yes** LG18.4b _____ ₦ □ 2 **No** □ DK Specify SN18.1_1

Part 3: CMAM related commodities (e.g. routine drugs)

Question should be directed to the Essential Drug Staff

We would like to determine the costs of procurement and supply of CMAM related drugs.

LG19.3-28.3 **How many bulk units (carton, boxes etc) with this drug did you buy in the last three months (Oct-Dec)**

LG19.4-28.4 **How many doses are in each bulk unit for this drug?**

Lg19.2-28.2 **What is the cost per dose?**

{Calculate if necessary: Divide the cost per bulk unit by number of doses per bulk unit}

Enter DK if the answer is "Don't know".

	COMMODITY	*Number of Bulk units (eg. Carton, box)*	*Number of Doses per bulk unit*	Cost per dose
All fields must have an entry (insert 0 if necessary)	Amoxicillin (Suspension)	LG19.3_1	LG19.4_1	LG19.2_1
	Amoxicillin (I.V.)	LG19.3_2	LG19.4_2	LG19.2_2
	Albendazole / Mebendazole	LG20.3	LG20.4	LG20.2
	Anti-malarial drugs	LG21.3	LG21.4	LG21.2
	Paracetamol	LG22.3	LG22.4	LG22.2
	Vitamin A	LG24.3	LG24.4	LG24.2
	Others: Specify LG28.1_1 _____	LG28.3	LG28.4	LG28.2

Part 4: CMAM related MIS Tools (management information system)

LG33	**Does the LGA incur costs for the development and distribution of CMAM specific MIS tools?**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to LG29] ☐ DK [Go to LG29]

FOR EACH TOOL MENTIONED IN THE TABLE BELOW:

LG34.1-39.1 **What is the quantity printed in October, November, and December?**
LG34.2-39.2 **What is the quantity distributed in October, November, and December?**
LG35.3-39.3 **What is the unit cost of printing?**

ONLY IF IT IS NOT POSSIBLE TO PROVIDE A BREAKDOWN:
LG40 **What was the total cost of MIS tools produced in October, November, and December?**

Enter "DK" if answer is "I don't know".

MIS Tool	Quantity printed in Oct, Nov, and Dec?	Quantity distributed in in Oct, Nov, and Dec?	Unit cost for production (per copy) ₦
CMAM Admission Cards	LG34.1	LG34.2	LG34.3
CMAM Hand Cards	LG35.1	LG35.2	LG35.3
Others, Specify LG36.1_1 _____	LG36.1	LG36.2	LG36.3
Others, Specify LG37.1_1 _____	LG37.1	LG37.2	LG37.3
Others, Specify LG38.1_1 _____	LG38.1	LG38.2	LG38.3
Others, Specify LG39.1_1 _____	LG39.1	LG39.2	LG39.3
Lump Sum (only if no breakdown possible)	LG40	₦	

Part 5: Costs not mentioned before

LG29	**Are there any other costs related to CMAM that we might have forgotten after everything we talked about so far?**		☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to LG41] ☐ DK
LG30	**What is the CMAM-related cost type?** **How much do you spend in Naira?**	LG30.1 Specify: _____ LG30.1_1 _____ ₦ ☐ DK	
LG31	**What is another CMAM-related cost?** **How much do you spend in Naira?**	LG31.1 Specify: _____ LG31.1_1 _____ ₦ ☐ DK	
LG32	**What is another CMAM-related cost?** **How much do you spend in Naira?**	LG32.1 Specify: _____ LG32.1_1 _____ ₦ ☐ DK	

LG41	**Do you have any suggestions to improve the CMAM program?**	
LG42	**End time** (use 24-hr clock)	__ __ : __ __

Thank you for your responses. They are very important to us in our efforts to ensure the sustainability of the CMAM program. Do you have any questions for me?

CMAM Study Questionnaire: HEALTH WORKER (OIC/CMAM FOCAL PERSON) AT THE PHC

Wave IV

S_PH	Serial Number	PH_____ [Insert first letter of state, then serial number]				
PH1	**Date (dd/mm/yy)**				__ __ / __ __ / __ __	
PH2	**Start time (use 24-hr clock)**				__ __ : __ __	
PH3	**GPS coordinates: Latitude** (Direction, degrees, minutes, seconds. Ex: N10°22'15.8")		Dir.	Deg°	Min'	Sec ''
PH4	**GPS coordinates: Longitude** (Direction, degrees, minutes, seconds. Ex: E120°22'15.8")		Dir.	Deg°	Min'	Sec ''
PH5	**CMAM focal person phone number**		_____ DK			

PH8	**LGA**	□ 1 Dambam □ 2 Katagum □ 3 Kirfi	□ 4 Bichi □ 5 Sumaila □ 6 Kano Municipal	□ 7 Wamakko □ 8 S/South □ 9 Goronyo	□ 10 Guri □ 11 Roni □ 12 Gwiwa
PH9	**State**	□ 1 Bauchi □ 2 Kano	□ 3 Sokoto □ 4 Jigawa		
PH10	**Facility**	□ 1 Janda □ 2 Gwasamai □ 3 Wanka	□ 4 Danzabuwa □ 5 Magami □ 6 Y/Awaki	□ 7 Gunburawa (Gidan Habibu) □ 8 Makera Clinic □ 9 Takakume, Shinaka	□ 10 Kadira □ 11 Roni □ 12 Dabi

TO BE SIGNED IN THE END / AFTER REVIEW

Name of data collector: _____ Signature

I have reviewed the questionnaire, and it is completed clearly, completely and consistently

SUPERVISOR NAME AND SIGNATURE _____

Supervisor telephone no.:

[After the Introduction]

I am going to ask you some questions about staff time spent on the CMAM program, starting with you.

PH9.1 **What is your designation/cadre within this facility?**
PH10.1 **What is your current grade level?**
PH11.1 **How many total hours in a week do you typically work?**

Bead and show card activity

PH12.1

Please write your different activities on these notes, starting with CMAM. Please divide these 20 beads among the cards that represent activities you may do while at work, distributing the cards corresponding with how you divide your time among the activities. [*Record number of beads on "CMAM" card in PH12.1***]**

I am going to now ask you questions about other staff members who work on CMAM. Please answer the following questions for each staff member at the PHC who works on CMAM.

PH10.2-8 **What is his/her designation/cadre within this facility?**
PH10.2-8 **What is his/her current grade level?**
PH11.2-8 **How many total hours in a week does he/she typically work?**

PH12.2-8

Please divide the 20 beads among the cards that represent activities this staff member may do while at work, distributing the cards corresponding with how this person divides his/her time among the activities. Record number of beads on "CMAM" card in PH12.2-8

	Designation		Grade level		Total hours worked per week		No. of beads allocated to CMAM (0 to 20)
PH9.1		**PH10.1**		**PH11.1**		**PH12.1**	
PH9.2		**PH10.2**		**PH11.2**		**PH12.2**	
PH9.3		**PH10.3**		**PH11.3**		**PH12.3**	
PH9.4		**PH10.4**		**PH11.4**		**PH12.4**	
PH9.5		**PH10.5**		**PH11.5**		**PH12.5**	
PH9.6		**PH10.6**		**PH11.6**		**PH12.6**	
PH9.7		**PH10.7**		**PH11.7**		**PH12.7**	
PH9.8		**PH10.8**		**PH11.8**		**PH12.8**	

INSERT DK where the answer is "Don't Know"

PH13	**How many CMAM community volunteers are currently active at your OPT?**	_____ □ DK
PH13N	**How much money in total did you spend in July, August and September to collect RUTF from the LGA?**	_____₦ □ DK
PH14	**How much money is spent every month to run this health clinic (not including salaries)?** *This includes money health workers contribute from their own pockets or find other ad hoc solutions. Divide annual budget estimate by 12 if necessary.*	_____₦ □ DK

Health Management/ CMAM Information

I am now going to ask you some questions about patient numbers over the past three months. Please provide the monthly HMIS summary forms, the monthly CMAM summary forms, and the stock summary forms for the past three months (July, August, and September) to help answer these questions.

INSERT "DK" IF THE ANSWER IS "DON'T KNOW"

In the past 3 months	**ANSWER**			**SOURCE**	
	OCT	**NOV**	**DEC**		
General out-patients seen	PH15.1	PH15.2	PH15.3	OPD Attendance **Total** Line 2 in version 2013	**HMIS Monthly summary form**
Total antenatal attendance	PH16.1	PH16.2	PH16.3	Antenatal **Total attendance** Line 3 in version 2013	
Total deliveries	PH17.1	PH17.2	PH17.3	Deliveries **Total** Line 19 in version 2013	
Total number of **measles** vaccinations	PH18.1	PH18.2	PH18.3	(Measles 1) - **Total** Line 64 in version 2013	
Total inpatient admissions	PH19.1	PH19.2	PH19.3	Line 128 in version 2013	
New admissions for CMAM have been made	PH20.1	PH20.2	PH20.3	(D) Total admissions	**CMAM monthly summary form**
CMAM patients have been seen at this PHC	PH21.1	PH21.2	PH21.3	Total End of Week (A+D-G) **TAKE LAST NUMBER**	
CMAM patients were cured	PH22.1	PH22.2	PH22.3	**Total** cured	
CMAM patients were referred to a stabilization center	PH23.1	PH23.2	PH23.3	**Total** to outpatient/inpatient care	
CMAM patients defaulted	PH24.1	PH24.2	PH24.3	Total defaulter	
CMAM patients died	PH25.1	PH25.2	PH25.3	Total Death	
CMAM patients were not cured	PH26.1	PH26.2	PH26.3	Total Non-Recovered	
RUTF **Cartons** issued	PH27.1	PH27.2	PH27.3	Add up for each month	**STOCK summary form**
RUTF **packets** issued (in addition to cartons)	PH28.1	PH28.2	PH28.3	Add up for each month	

CMAM Patient Cards Information

I would like to sample at least 10 cards each of "Cured" and "Defaulter" CMAM Patients that have visited the OTP in the last 3 months (October – December)

*Interviewer: Pick cards randomly **from different sections** in the stack. Review the sampled cards to populate the tables below. If there are records of twins, count number of sachets for only one child.*

Clinic visits by "cured" patients

INSERT "DK" if unknown/incomplete records

S/N	Child Reg-Number	Total # of clinic Visits	Total RUTF sachets given	Mebendazole Yes=1, No=2	Amoxycillin Yes=1, No=2	Antimalarial Yes=1, No=2	Vitamin A Yes=1, No=2
1	PH29.1	PH30.1	PH31.1	PH32.1	PH33.1	PH34.1	PH35.1
2	PH29.2	PH30.2	PH31.2	PH32.2	PH33.2	PH34.2	PH35.2
3	PH29.3	PH30.3	PH31.3	PH32.3	PH33.3	PH34.3	PH35.3
4	PH29.4	PH30.4	PH31.4	PH32.4	PH33.4	PH34.4	PH35.4
5	PH29.5	PH30.5	PH31.5	PH32.5	PH33.5	PH34.5	PH35.5
6	PH29.6	PH30.6	PH31.6	PH32.6	PH33.6	PH34.6	PH35.6
7	PH29.7	PH30.7	PH31.7	PH32.7	PH33.7	PH34.7	PH35.7
8	PH29.8	PH30.8	PH31.8	PH32.8	PH33.8	PH34.8	PH35.8
9	PH29.9	PH30.9	PH31.9	PH32.9	PH33.9	PH34.9	PH35.9
10	PH29.10	PH30.10	PH31.10	PH32.10	PH33.10	PH34.10	PH35.10

Clinic visits by "defaulter" patients

INSERT "DK" if unknown/incomplete records

S/N	Child Reg-Number	Total # of clinic Visits	Total RUTF sachets given	Mebendazole Yes=1, No=2	Amoxycillin Yes=1, No=2	Antimalarial Yes=1, No=2	Vitamin A Yes=1, No=2
1	PH36.1	PH37.1	PH38.1	PH39.1	PH40.1	PH41.1	PH42.1
2	PH36.2	PH37.2	PH38.2	PH39.2	PH40.2	PH41.2	PH42.2
3	PH36.3	PH37.3	PH38.3	PH39.3	PH40.3	PH41.3	PH42.3
4	PH36.4	PH37.4	PH38.4	PH39.4	PH40.4	PH41.4	PH42.4
5	PH36.5	PH37.5	PH38.5	PH39.5	PH40.5	PH41.5	PH42.5
6	PH36.6	PH37.6	PH38.6	PH39.6	PH40.6	PH41.6	PH42.6
7	PH36.7	PH37.7	PH38.7	PH39.7	PH40.7	PH41.7	PH42.7
8	PH36.8	PH37.8	PH38.8	PH39.8	PH40.8	PH41.8	PH42.8
9	PH36.9	PH37.9	PH38.9	PH39.9	PH40.9	PH41.9	PH42.9
10	PH36.10	PH37.10	PH38.10	PH39.10	PH40.10	PH41.10	PH42.10

PH43	**Do you have any suggestions to improve the CMAM program?**	
PH44	**End time** (use 24-hr clock)	__ __ : __ __

Thank you for your responses. They are very important to us in our efforts to ensure the sustainability of the CMAM program. Do you have any questions for me?

CMAM Study Questionnaire: CMAM FOCAL PERSON AT THE SC – Wave IV

S_SH	**Serial Number**	**SH**_____ [Insert first letter of state, then serial number]				
SH1	**Date** (dd/mm/yy)				_ _ / _ _ / _ _	
SH2	**Start time** (use 24-hr clock)				_ _ : _ _	
SH3	**CMAM Focal Person Phone**				_____	
SH4.1	**GPS coordinates: Latitude** (Direction, degrees, minutes, seconds. Ex: N10°22'15.8")		Dir.	Deg°	Min'	Sec"
SH4.2	**GPS coordinates: Longitude** (Direction, degrees, minutes, seconds. Ex: E120°22'15.8")		Dir.	Deg°	Min'	Sec"

SH5	**LGA**	☐ 1 Dambam ☐ 2 Katagum ☐ 3 Kirfi	☐ 4 Bichi ☐ 5 Sumaila ☐ 6 Kano Municipal	☐ 7 Wamakko ☐ 8 S/South ☐ 9 Goronyo	☐ 10 Guri ☐ 11 Roni ☐ 12 Gwiwa
SH6	**State**	☐ 1 Bauchi ☐ 2 Kano	☐ 3 Sokoto ☐ 4 Jigawa	**Other LGA:** (explain in field notes)	
SH7	**Facility**	☐ 1 SC Dambam ☐ 2 SC Katagum ☐ 3 SC Kirfi	☐ 4 SC Bichi ☐ 5 SC Sumaila ☐ 6 H/Bayero	☐ 7 Orth. Hosp Wamakko ☐ 8 UDUTH, Specialist Hosp and WC ☐ 9 Gen Hosp Goronyo	☐ 10 SC Guri ☐ 11 SC Roni ☐ 12 SC Gwiwa
		☐ 13 Other, specify _____			

SH8	**How many SAM patients are currently admitted in this hospital/stabilization center?**	_____ ☐ DK

I am going to ask you some questions about staff time spent on the CMAM program, starting with you.

SH10.1 **What is your designation/cadre within this facility?**

SH11.1 **What is your current grade level?**

SH12.1 **How many total hours in a week do you typically work?**

(INSERT INFORMATION IN TABLE ON NEXT PAGE)

Bead and show card activity

SH10.1

Please write your different activities on these cards, starting with CMAM. Please divide these 20 beads among the cards that represent activities you may do while at work, distributing the cards corresponding with how you divide your time among the activities. → Record number of beads on "CMAM" card in SH10.1

I am going to now ask you questions about other staff members who work on CMAM. Please answer the following questions for each staff member at the PHC who works on CMAM.

SH7.2-8 **What is his/her designation/cadre within this facility?**
SH8.2-8 **What is his/her current grade level?**
SH9.2-8 **How many total hours in a week does he/she typically work?**

How would you divide the 20 beads among the cards that represent activities of this staff member?
Record number of beads on "CMAM" card in SH10.2-8

INSERT DK WHERE THE ANSWER IS 'Don't Know'

	Designation		Grade level		Total h worked per week		No. of beads allocated to CMAM (0 to 20)
SH10.1		**SH11.1**		**SH12.1**		**SH13.1**	
SH10.2		**SH11.2**		**SH12.2**		**SH13.2**	
SH10.3		**SH11.3**		**SH12.3**		**SH13.3**	
SH10.4		**SH11.4**		**SH12.4**		**SH13.4**	
SH10.5		**SH11.5**		**SH12.5**		**SH13.5**	
SH10.6		**SH11.6**		**SH12.6**		**SH13.6**	
SH10.7		**SH11.7**		**SH12.7**		**SH13.7**	
SH10.8		**SH11.8**		**SH12.8**		**SH13.8**	

SH14 Drugs given for free

SH14	**Which drugs are usually given to CMAM patients free of charge at this facility?**	**Tick circles in table below.**
SH15	**How many weeks was the drug available in October, November and December (best estimate)?** *Probe for drugs that are marked with an * if not mentioned.* *If respondent mentions weeks with **stock-out**, subtract the number of weeks with stock out from 12.*	

Data Entry: *Code 1=yes (checked); 2= no (unchecked)* Code SN14.Oth1-SN14.Oth07 as *name of drugs*.

SH14	SH15	SH14	SH15	SH14	SH15
Drug	Weeks	Drug	Weeks	Drug	Weeks
☐ 1 **AA (AA1, AA2)***		☐ 14 **Chloramphenicol**		☐ 27 **RUTF**	
☐ 2 **Abendazole***		☐ 15 **Co-trimoxazole**		☐ 28 **Slow K**	
☐ 3 **AL (AL1, AL2)***		☐ 10b **Cough Syrup***		☐ 29 **Vitamin A**	
☐ 4 **Amoxycilin**		☐ 16a **F-75***		☐ 30 **Vitamin B**	
☐ 5a **Ampiclox (Syrup)**		☐ 16b **F-100***		☐ 31 **Zinc gluconate/sulphate***	
☐ 5b **Ampiclox (IV, IM)**		☐ 16c **Fortified Pap**		☐ 32 **Vitamin C**	
☐ 6 **(Antimalarial)***		☐ 17 **Flagyl**		☐ 33 **Magnesium Sulphate**	
☐ 7 **Antipyretics / Analgesics ***		☐ 18 **Folic acid**		☐ 34 **Fansider**	
☐ 8a **Artesunate Syrup/tablets**		☐ 19 **Formula milk**		**Other, specify**	
☐ 8b **Artesunate (IV, IM)**		☐ 20 **Gentamicin**		☐ O1	
☐ 9 **Astymin**		☐ 21 **IV Fluid, IVF**		☐ O2	
☐ 10a **Benylin**		☐ 22 **Nystatin**		☐ O3	
☐ 11 **Calamine lotion**		☐ 23 **ORS (ReSoMal)***		☐ O4	
☐ 12 **Calcium**		☐ 24 **Paracetamol (PCM)***		☐ O5	
☐ 13a **Cefuroxime (Syrup)**		☐ 25 **Quinine***		☐ O6	
☐ 13b **Cefuroxime (IV, IM)**		☐ 26 **Robitussin**		☐ O7	

SH16 Patient Records

I would like to sample at least 10 cards of CMAM Patients that have been admitted in your Hospital in October, November, and December and have been discharged. We will treat the records confidentially and never record any identifiers."

*Interviewer: Pick cards randomly **from different sections** in the stack. Review the sampled cards to populate the table below.*

Review records of 10 discharged children and record length of stay in hospital.

IF NO PATIENT RECORDS ARE AVAILABLE, RECORD IN FIELD MANUAL.

TABLE 2. Records of random SAM patients in last 3 months

SAM Patient Reg. Number	Length of Stay in days (number of days from admission to discharge)	SAM Patient Reg. Number	Length of Stay in days (number of days from admission to discharge)
	SH16.1		SH16.6
	SH16.2		SH16.7
	SH16.3		SH16.8
	SH16.4		SH16.9
	SH16.5		SH16.10

Fill out the tables below based on the records of 5 randomly selected CMAM children who have been admitted to the stabilization center in the past 3 months (October, November, December).

TABLE 3: Insert the codes for the drugs given to patients that are free of charge in this facility (see SH11 above)

	Patient 1	Patient 3	Patient 5	Patient 7	Patient 9
Drug 1	SH17.1	SH18.1	SH19.1	SH20.1	SH21.1
Drug 2	SH17.2	SH18.2	SH19.2	SH20.2	SH21.2
Drug 3	SH17.3	SH18.3	SH19.3	SH20.3	SH21.3
Drug 4	SH17.4	SH18.4	SH19.4	SH20.4	SH21.4
Drug 5	SH17.5	SH18.5	SH19.5	SH20.5	SH21.5
Drug 6	SH17.6	SH18.6	SH19.6	SH20.6	SH21.6
Drug 7	SH17.7	SH18.7	SH19.7	SH20.7	SH21.7
Drug 8	SH17.8	SH18.8	SH19.8	SH20.8	SH21.8
Drug 9	SH17.9	SH18.9	SH19.9	SH20.9	SH21.9
Drug 10	SH17.10	SH18.10	SH19.10	SH20.10	SH21.10
Drug 11	SH17.11	SH18.11	SH19.11	SH20.11	SH21.11
Drug 12	SH17.12	SH18.12	SH19.12	SH20.12	SH21.12

Hospital Statistics

SH22	**How many patients were admitted in this hospital <u>in total</u> yesterday?**	_____ ☐ DK
SH23	**How many <u>functional beds</u> are there in this hospital, including baby cots?**	_____ ☐ DK
SH24	**What is the monthly allocation in Naira that this hospital receives (not including salaries)?** *If none, write 0.*	_____ ☐ DK
SH25	**What percentage of this allocation do you estimate is used for CMAM?**	_____ ☐ DK

SH26	**Do you have any suggestions to improve the CMAM program?**	
SH27	**End time** (use 24-hr clock)	__ __ : __ __

Thank you for your responses. They are very important to us in our efforts to ensure the sustainability of the CMAM program. Do you have any questions for me?

Name of data collector: _____Signature

SUPERVISOR NAME AND SIGNATURE _____

Supervisor telephone no.:

CMAM Study Questionnaire: QUESTIONNAIRE FOR THE SNO – Wave IV

S_SN	Serial Number	SN_____ [Insert first letter of state, then serial number]	
SN1	**Date (dd/mm/yy)**		__ __ / __ __ / __ __
SN2	**State**	☐ 1 Bauchi ☐ 3 Sokoto ☐ 2 Kano ☐ 4 Jigawa	
SN3	**Start time (use 24-hr clock)**		__ __ : __ __
SN4	**CMAM Focal Person name**		_____
SN5	**CMAM Focal Person phone number**		_____
SN6	**CMAM Focal Person email address**		_____
SN7	**CMAM Focal Person designation**		_____

Part 1: CMAM Human Resources

We would like to find out how much time State level staff usually spend working on the CMAM program. I am going to ask you some questions about staff time spent on the CMAM program, starting with you.

SN10.1 **What is your designation/cadre within this facility?**
SN11.1 **What is your current grade level?**

Bead and show card activity

SN12.1
We will write the different types of activities you are involved in on post-its. Please divide these 20 beads among the cards that represent activities you may do while at work, distributing the cards corresponding with how you divide your time among the activities. [*Record number of beads on "CMAM" card in SN10.1]*

I am going to now ask you questions about other staff members who work on CMAM. Please answer the following questions for each staff member at the PHC who works on CMAM.

SN10.2-8 **What is his/her designation/cadre within this facility?**
SN11.2-8 **What is his/her current grade level?**

SN12.2-8

Please divide the 20 beads among the cards that represent activities this staff member may do while at work, distributing the cards corresponding with how this person divides his/her time among the activities.

Record number of beads on "CMAM" card in SN12.3-8

INSERT GRADE LEVEL **STEPS** AFTER a **SLASH**, (eg. 7/3). If step is not known, write X (eg. 7/X).

	Designation		Grade level		No. of beads allocated to CMAM (0 to 20)
SN10.1	State Nutrition Officer	SN11.1		SN12.1	
SN10.2		SN11.2		SN12.2	
SN10.3		SN11.3		SN12.3	
SN10.4		SN11.4		SN12.4	
SN10.5		SN11.5		SN12.5	
SN10.6		SN11.6		SN12.6	
SN10.7		SN11.7		SN12.7	
SN10.8		SN11.8		SN12.8	

[Insert DK if the respondent is unable to provide answer.]

SN11	**Are State staff involved in monitoring of the CMAM program (Y/N)?**		☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to Part 2] ☐ DK [Go to Part 2]
SN12	**How many monitoring visits have taken place in July, August, September**?		_____ ☐ DK
SN13	**What is the estimated cost in Naira incurred in <u>one typical</u> CMAM monitoring visit by all State officers together? Do not include staff time.** Insert 0 if no cost.	1 Vehicle hire _____~~₦~~ ☐ DK 2 Fueling of vehicle _____~~₦~~ ☐ DK 3 Communication _____~~₦~~ ☐ DK 4 Token for driver _____~~₦~~ ☐ DK 5 Field allowance(s) _____~~₦~~ ☐ DK	6 Other _____~~₦~~ ☐ DK 6_1 Specify _____ 7 Other _____~~₦~~ ☐ DK 7_1 Specify _____ 8 Other _____~~₦~~ ☐ DK 8_1 Specify _____

Part 2: CMAM Supply Chain Costs

We would like to determine supply chain related costs borne by the State for the CMAM program.

SN14	**Does the State handle any logistics for CMAM related supplies? (e.g. RUTF, Resomal etc.)?**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to Part 3] ☐ DK
SN15	**Does the State pay for CMAM commodity transportation <u>from the UNICEF Zonal Store to State Store</u>, including labor cost, to load and offload the CMAM commodities? [If yes] How much has the State paid in total for this during July, August and September?**	SN15.1 ☐ 1 **Yes** SN15.2 _____ ₦ ☐ 2 **No** ☐ DK
SN16	**Does the State pay for CMAM Commodity transportation <u>from State store to OTP or to LGA store</u>, including Labor cost, to load and offload the CMAM commodities? [If yes] how much has the State paid in total for this during July, August and September?**	SN16.1 ☐ 1 **Yes** SN16.2 _____ ₦ ☐ 2 **No** ☐ DK
SN17	**Does the State pay for CMAM <u>Commodity storage at the State store</u>? [If yes] how much has the State paid in total for this during July, August and September?**	SN17.1 ☐ 1 **Yes** SN17.2 _____ ₦ ☐ 2 **No** ☐ DK
SN18	**Does the State pay for <u>other</u> supply chain costs? If so, how much has the State paid in total for these during July, August and September?** **What are these costs?**	SN18.1 ☐ 1 **Yes** SN18.2 _____ ₦ **<u>Specify other</u>** SN18.1_1 ☐ 2 **No** ☐ DK

Part 3: CMAM related commodities (e.g. routine drugs)

→ *Question should be directed to the Essential Drug Staff*

We would like to determine the costs of procurement and supply of CMAM related drugs.

SN 18.3 Does the state procure and supply drugs for the CMAM programme? □ 1 **Yes** (Continue) □ 2 **No (Go to part 4)**

SN19.3-28.3 **How many bulk units (carton, boxes etc) with this drug did you buy in the last three months (Oct-Dec)**

SN19.4-28.4 **How many doses are in each bulk unit for this drug?**

SN19.2-28.2 **What is the cost per dose?**

{Calculate if necessary: Divide the cost per bulk unit by number of doses per bulk unit}

	COMMODITY	***Number* of Bulk units bought (eg. Cartons, boxes)**	***Number of Doses per bulk unit***	**Cost per dose**
All fields must have an entry (insert 0 if necessary)	Amoxicillin (Suspension)	SN19.3_1	SN19.4_1	SN19.2_1
	Amoxicillin (I.V.)	SN19.3_2	SN19.4_2	SN19.2_2
	Albendazole / Mebendazole	SN20.3	SN20.4	SN20.2
	Anti-malarial drugs	SN21.3	SN21.4	SN21.2
	Paracetamol	SN22.3	SN22.4	SN22.2
	Other antipyretics	SN23.3	SN23.4	SN23.2
	Vitamin A	SN24.3	SN24.4	SN24.2
	Cough Syrup	SN25.3	SN25.4	SN25.2
	Choramphenicol	SN26.3	SN26.4	SN26.2
	Septrin	SN27.3	SN27.4	SN27.2
	Others, Specify SN28.1_1 _____	SN28.3	SN28.4	SN28.2

Enter DK if the answer is "Don't know".

Part 4: MIS Tools (Management Information System)

SN31	**Does the State pay anything for the development and distribution of <u>CMAM specific</u> MIS tools?**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to SN39] ☐ DK

FOR EACH TOOL MENTIONED IN THE TABLE ON THE NEXT PAGE:

SN32.1-37.1 **What is the quantity <u>printed</u> in October, November and December?**
SN32.2-37.2 **What is the quantity <u>distributed</u> in October, November and December?**
SN32.3-37.3 **What is the unit cost of production?**

IF A BREAKDOWN IS NOT POSSIBLE
SN38 What was the total amount of money spent on the production of CMAM MIS tools between October - December?

Enter "DK" if answer is "I don't know"

MIS Tool	**Quantity <u>printed</u> in Oct, Nov and Dec**	**Quantity <u>distributed</u> in in Oct, Nov and Dec**	**Unit cost for production (per copy) ₦**
CMAM Admission Cards	SN32.1	SN32.2	SN32.3
CMAM Hand Cards	SN33.1	SN33.2	SN33.3
Others: Specify SN34.1_1 _____	SN34.1	SN34.2	SN34.3
Others: Specify SN35.1_1 _____	SN35.1	SN35.2	SN35.3
Others: Specify SN36.1_1 _____	SN36.1	SN36.2	SN36.3
Others: Specify SN37.1_1 _____	SN37.1	SN37.2	SN37.3
Lump Sum(use only if breakdown is not possible)	SN38 ₦		

Part 4: Other costs not mentioned before

SN29	**To determine other CMAM related costs outside those detailed in previous sections, are there any other costs related to CMAM that we might have forgotten? {Probe!}**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to SN31] ☐ DK/Not sure
SN30	**How much do you spend in Naira on Communication (apart from monitoring visits captured above)?**	SN30.1 _____ ₦ ☐ DK
	What is another CMAM-related cost type? **How much do you spend in Naira?**	SN30.2_1 _____ SN30.2 _____ ₦ ☐ DK
	What is another CMAM-related cost type? **How much do you spend in Naira?**	SN30.3_1 _____ SN30.3 _____ ₦ ☐ DK
	What is another CMAM-related cost type? **How much do you spend in Naira?**	SN30.4_1 _____ SN30.4 _____ ₦ ☐ DK
	What is another CMAM-related cost type? **How much do you spend in Naira?**	SN30.5_1 _____ SN30.5 _____ ₦ ☐ DK

SN39	**Do you have any suggestions to improve the CMAM program?**	
SN40	**End time** (use 24-hr clock)	__ __ : __ __

Thank you for your responses. They are very important to us in our efforts to ensure the sustainability of the CMAM program. Do you have any questions?

Name of data collector: _____ Signature of data collector:

I have reviewed the questionnaire, and it is completed clearly, completely and consistently
SUPERVISOR SIGNATURE

Name of supervisor: _____ Phone number supervisor:

CMAM Study Questionnaire: UNICEF

UN1	**Date (dd/mm/yy)**	__ __ / __ __ / __ __
UN2	**CMAM/Nutrition Focal Person name**	_____
UN3	**CMAM/Nutrition Focal Person phone number**	_____
UN4	**CMAM/Nutrition Focal Person email address**	_____
UN5	**CMAM/Nutrition Focal Person designation**	_____

Part 1: STAFF COSTS

We would like to establish the level of effort of UNICEF staff - both permanent and temporary - working on the CMAM program. In the table below please provide the following information about UNICEF staff and consultants working on CMAM.

What is the designation of each staff involved in CMAM that are employed by UNICEF (including all staff in warehouse/zonal store)? Note: please begin with yourself.
What is their grade level?
What percentage of their time is spent on CMAM activities? Note: if staff/consultant only works on CMAM, write "100."
What is their annual income?

	Designation		Grade level		Percent of work time spent on CMAM activities		Annual Income (₦)
Staff 1	**State Nutrition Officer**	**UN6.1**		**UN7.1**		**UN8.1**	
Staff 2		**UN6.2**		**UN7.2**		**UN8.2**	
Staff 3		**UN6.3**		**UN7.3**		**UN8.3**	
Staff 4		**UN6.4**		**UN7.4**		**UN8.4**	
Staff 5		**UN6.5**		**UN7.5**		**UN8.5**	
Staff 6		**UN6.6**		**UN7.6**		**UN8.6**	
Staff 7		**UN6.7**		**UN7.7**		**UN8.7**	
Staff 8		**UN6.8**		**UN7.8**		**UN8.8**	
Staff 9		**UN6.9**		**UN7.9**		**UN8.9**	
Staff 10		**UN6.10**		**UN7.10**		**UN8.10**	

Please add more rows as applicable.

Part 2: Costs for monitoring of CMAM activities

UN9	**Are UNICEF staff involved in monitoring of the CMAM program in the state?**		☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to Part 3]
UN10	**How many monitoring visits have taken place in the past year**?		_____
UN11	**What is the estimated cost in Naira incurred in one typical CMAM monitoring visit by all UNICEF officers together? Do not include staff time.** Insert 0 if no cost.	1 Vehicle hire _____ ₦ 2 Fueling of vehicle _____ ₦	6 Other _____ ₦ 6_1 Specify _____ 7 Other _____ ₦
		3 Communication _____ ₦ 4 Token for driver _____ ₦ 5 Field allowance(s) _____ ₦	7_1 Specify _____ 8 Other _____ ₦ 8_1 Specify _____

Part 3: Costs for commodities related to CMAM program

UN12	**What is the unit cost of RUTF in Naira (per sachet)?**	_____

Part 4: CMAM Supply Chain Costs

We would like to determine supply chain-related costs borne by UNICEF at State level for the CMAM program

UN13	**Does UNICEF pay for CMAM-related commodities for OTPs?**	☐ 1 **Yes** [Continue] ☐ 2 **No** [Go to UNXX]

Please fill in the table below by answering the following questions:
What CMAM-related commodities does UNICEF provide for the OTPs?
What is the annual cost of each commodity borne by UNICEF?

	Commodity		**Cost**
UN14.1		**UN15.1**	
UN14.2		**UN15.2**	
UN14.3		**UN15.3**	
UN14.4		**UN15.4**	
UN14.5		**UN15.5**	
UN14.6		**UN15.6**	
UN14.7		**UN15.7**	

What are UNICEF's costs for the following supply chain activities in the past year?

	CMAM supply chain activity	**Cost (₦)**
UN16	Transportation from Central/Lagos store to Zonal stores	
UN17	Transportation to State stores	
UN18	Storage at Zonal store (include warehouse maintenance, guards-security, electricity etc.)	
UN19	Transportation to SC	
UN20	Transportation to OTP	
UN21	Other (specify)	
UN22	Other (specify)	
UN23	Other (specify)	

Please add more rows as applicable.

Part 5. CMAM Training for Health Workers

Please provide training logs and related costs for all CMAM health workers.
TRAINING COSTS AT CMAM INCEPTION

Name/Description of CMAM Training conducted at inception of CMAM	Date of training	Location	Number of health workers trained	Total cost of training	
				UN24	
				UN25	
				UN26	
				UN27	
				UN28	
				UN29	

Please add more rows as applicable.

Please provide training logs and related costs for all CMAM health workers in the state for refresher trainings that have occurred in the past year.
REFRESHER TRAINING COSTS

CMAM refresher training conducted	Date of training	Location	Number of health workers trained	Total cost of training	
				UN30	
				UN31	
				UN32	
				UN33	
				UN34	
				UN35	

Please add more rows as applicable.

Part 6. START-UP EQUIPMENT COSTS

Please provide information on one-off equipment procured and supplied to CMAM facilities by UNICEF (e.g. weighing scales, motorcycles, measuring boxes, etc.)

Equipment Type	Number Procured	Number Distributed to CMAM sites		Unit Cost	
		UN36.1		UN36.2	
		UN37.1		UN37.2	
		UN38.1		UN38.2	
		UN39.1		UN39.2	
		UN40.1		UN40.2	
		UN41.1		UN41.2	
		UN42.1		UN42.2	
		UN43.1		UN43.2	
		UN44.1		UN44.2	
		UN45.1		UN45.2	

Please add more rows as applicable.

Part 7: Overhead and Other Costs

UN46	**What is the total UNICEF overhead cost charged to the CMAM project? (Exclude other costs described above)**	_____

Please list in the table below any expenditures associated with social mobilization as part of activating OTP sites in the last 3 months.

EXPENDITURE TYPE	**AMOUNT**	
	UN47	
	UN48	
	UN49	
	UN50	
	UN51	
	UN52	

Please add more rows as applicable.

Please list any other CMAM-related expenditures that UNICEF has had in the past year.

EXPENDITURE TYPE	**AMOUNT**	
	UN53	
	UN54	
	UN55	
	UN56	
	UN57	
	UN58	

Please add more rows as applicable.

Thank you for your responses. They are very important to us in our efforts to ensure the sustainability of the CMAM program.

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RESULTS FOR DEVELOPMENT