



VALID INTERNATIONAL



Republic of Sudan
Federal Ministry of Health



REVIEW OF COMMUNITY MANAGEMENT OF ACUTE MALNUTRITION (CMAM) REPUBLIC OF SUDAN

December 2013

TABLE OF CONTENTS

Acknowledgements

Acronyms

SUMMARY	1
1. INTRODUCTION	3
1.1 Background and purpose.....	3
1.2 Methods.....	4
2. KEY FINDINGS	5
2.1 Modalities	5
2.2 Outpatient programme.....	6
2.3 Inpatient care.....	8
2.4 Management of moderate malnutrition.....	10
2.5 Outreach and prevention	11
2.6 Monitoring and reporting.....	12
2.7 Planning and policy.....	13
3. ACTIONABLE RECOMMENDATIONS	15
3.1 Programme quality and appropriateness in the outpatient management of SAM.....	15
3.2 Programme quality and appropriateness in the inpatient management of SAM.....	16
3.3 Appropriate management of MAM and prevention of acute malnutrition.....	16
3.4 Prioritize community outreach and prevention activities.....	17
3.5 Streamline recording and reporting.....	18
3.6 Federal and state planning and policy.....	18
ANNEXES	20
Annex I: Team itinerary.....	20
Annex II: Key Contacts	22
Annex III: Documents Reviewed.....	24
Annex IV: Methodology.....	25
Annex V: Simplified OTP Card.....	28
Annex VI: Treatment and Prevention Package and Impact Indicators.....	30
Annex VII: Essential Process Indicators in Recording and Reporting.....	31
Annex VIII: Outline Plan for Integration and Scale-up.....	32

List of Tables

Table 1: Sites visited during the review

Table 2: Protocols and modalities in the CMAM programme

Table 3: Current practice and recommendation for admission criteria for OTP

Table 4: Current practice and recommendation for discharge criteria for OTP

Table 5: Current practice and recommendations for admission and discharge criteria for TSFP

Table 6: Package of community based PHC treatment and prevention interventions

Table 7: Scale up of the treatment of SAM (MCH Acceleration Plan 2013-15)

List of Figures

Figure 1: Figure 1: Admissions to SC in North Darfur 2009-13

ACKNOWLEDGEMENTS

Valid International would like to thank the Ministry of Health for its excellent support and organisation throughout this review.. MOH staff at federal and state level led the design of the review and participated in all site visits.

Sincere thanks to UNICEF for setting up and funding the review and for the excellent organisation, technical, administrative and logistical support provided throughout the visit.

This review would not have been possible without the support of UNICEF staff, WFP staff, government health and nutrition staff and NGO implementing partners in North Darfur, North Kordofan, Gedaref and Red Sea. It was an honour and pleasure to work with such dedicated individuals. Many thanks for facilitating the numerous field visits.

Last, but not least, thanks to the numerous CMAM programme staff, beneficiaries, mothers and community members who so willingly gave up their time to participate in interviews, discussions and focal groups.

Valid International

35 Leopold Street
Oxford, OX4 1TV
office@validinternational.org

Valid Team

Caroline Grobler-Tanner
Anne Walsh

FREQUENTLY USED ACRONYMS

ANC	Ante Natal Care
ARI	Acute Respiratory Infection
BCC	Behaviour Change Communication
C4D	Communication for Development
C-IMNCI	Community based– Integrated Management of Newborn and Childhood Illnesses
CMAM	Community based Management of Acute Malnutrition
CSB	Corn Soy Blend
CHW	Community Health Worker
CMW	Community Midwife
CNS	Community Nutrition Surveillance
DHIS	District Health Information System
DSM	Dried Skim Milk
ENP	Essential Nutrition Package
EPI	Expanded Programme on Immunization
FANTA	Food and Nutrition Technical Assistance (2) Project (FHI 360)
FBF	Fortified Blended Food
FHC	Family Health Centre
FMOH	Federal Ministry of Health
FP	Family Planning
GM (P)	Growth Monitoring (and Promotion)
HMIS	Health Management Information System
Ibsfp	integrated - Blanket Supplementary Feeding Programme
ICFI	Infant and Child Feeding Index
IP	Inpatient Programme
IYCF	Infant and Young Child Feeding
KAP	Knowledge Attitudes and Practice
MAM	Moderate Acute Malnutrition
MCH	Maternal Child Health
MICS	Multi Indicator Cluster Survey
MMS	Multi Micronutrient Sachets (Sprinkles)
MNCH	Maternal, Newborn and Child Health
MUAC	Mid Upper Arm Circumference
NGO	Non-Government Organisation
NIPPs	Nutrition Impact Positive Practices
OPD	Out Patient Department
ORS	Oral Rehydration Salt
OTP (OP)	Outpatient Therapeutic Programme (outpatient programme)
PHC	Primary Health Care
PLW	Pregnant and Lactating Women
RUSF	Ready to Use Supplementary Food
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
SC	Stabilisation Centre (also called IP)
S3M	Simple Spatial Survey Method
SHHS	Sudan Household Health Survey
SLEAC	Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage
SMoH	State Ministry of Health
SQUEAC	Semi-quantitative Evaluation of Access and Coverage
SUN	Scaling Up Nutrition
TSFP	Targeted Supplementary Feeding Programme
WFH	Weight for Height
Z score	Standard Deviation (WFH-3Z=SAM: WFH -2Z =MAM)

SUMMARY

In the last three years, the Ministry of Health (MoH) has made concerted efforts to address the high rates of acute malnutrition through a community based approach known as Community based Management of Acute Malnutrition (CMAM). The CMAM programme is largely operated by the MoH. Children with severe acute malnutrition (SAM) without complications are treated in an outpatient therapeutic programme (OTP) at the health facility. Cases of SAM with medical complications are referred to inpatient facilities (stabilisation centres –SC). Much progress has been made with the number of SAM cases treated rising exponentially from 27,000 in 2009 to over 80,000 in 2012. As the MoH prepares for the next planning cycle in 2014, it was opportune to review the CMAM programme. The review was conducted by Valid International with the Federal and State Ministry of Health and UNICEF staff in November 2013. Specifically, the review aimed to explore what is working well and what is not working and to make evidence based recommendations. The review focused on the operational aspects of CMAM with regard to effectiveness, appropriateness, integration and sustainability. The review was conducted in four states: **North Darfur, North Kordofan, Gedaref and Red Sea**. Whilst many of the findings and recommendations are generic, others are context and state specific.

With the exception of the Darfur states, OTP is operated by government nutrition staff. This modality has resulted in a separation of nutrition from ongoing health programming in both policy and practice. Issues include a focus on measurement, inadequate communication with mothers, and confusion in admission and discharge criteria. Whilst overall programme outcomes are generally good and meet Sphere standards, disaggregated data at locality level reveals very high default in some areas, but also very low default in others. Geographic and point coverage was found to be low in most areas. High default and low coverage are primarily due to lack of community outreach activities and limited access. Default was also closely correlated with seasonal factors and migratory or conflict induced population movements. Innovative practices to address high default included mobile outreach and the provision of a two weekly ration. However, reluctance to operate outside of the perimeters of protocol or job description hampered implementation of innovative interventions. Most complicated cases are appropriately referred to inpatient care. However, default from many stabilisation centres is high. Nutritional treatment at the SC is managed by nutritionists and is generally adequate. However, there is little link with medical staff and the critical care pathway is not followed resulting in suboptimal to inadequate clinical care at most sites visited. In most SC's essential drugs are not available free of charge and inadequate supplies of mosquito nets and blankets are placing children at additional risk for disease and death. The majority of deaths occur at key referral SC's during the same peak period every year. There is currently no plan in place for surge capacity to reduce the high mortality rate. The management of moderate acute malnutrition (MAM) is challenging in the context of an MoH implemented programme. Currently, targeted supplementary feeding programmes (TSFP) are largely supported by WFP. In some states, TSFP is operated at the same time as OTP. TSFP using fortified blended food rations can overwhelm staff when run through a health facility, alternative feasible means of managing the MAM caseload are suggested.

Outreach activities are currently a weak component in the CMAM programme. Caseload is relatively low at many sites. However, there are many children with SAM who are not accessing existing services. Community outreach volunteers have been trained in all states but are not active due to lack of incentive payments. Thus relying on volunteers to implement community outreach is not feasible. Other existing community based staff including the new cadre of community midwives represent a large untapped pool of staff that could be mobilized for active case finding and prevention activities. Whilst there is a plethora of health and nutrition education messages, much of this is not useful, practical or appropriate. A package of child health and prevention interventions

exists as part of the MCH accelerated plan. However, this package is not implemented in a way that would impact on behavioural change and reduce prevalence of acute malnutrition and stunting. There are no established set of indicators for measuring impact of prevention activities.

Recording mechanisms are cumbersome with a great deal of unnecessary paperwork. Reports are submitted on a timely basis. However, the recording of information and data at the site level is not always accurate, thus it is essential that paperwork and recording mechanisms are streamlined and organized to reduce inaccurate recording and reporting at the site level. There is little analysis of data at the state level. This is essential in order to address programmatic issues such as high default. Coordination, planning and pooling of resources with other health programmes could be significantly strengthened at the state level. In order to achieve integration in practice, it will be necessary to coordinate planning and align targets and impact indicators with MCH/PHC sectors.

Key recommendations:

- Strengthen the quality and appropriateness of the management of SAM without complications through: a) use of MUAC only to simplify admission and discharge criteria and recording systems; b) improve communication with mothers; and c) reduce default and expand coverage through mobile outreach, active case finding and follow up and use of bimonthly rations where appropriate.
- The inpatient management of SAM with complications should be viewed as a subsector within paediatric care. WHO must take a lead role in the inpatient management of SAM to ensure appropriate training, quality of care and deployment of medical staff within the hospital. Contingency planning should be put into place for peak periods. This includes planning for overflow caseload and surge capacity.
- Pilot test cost effective and feasible options for managing MAM and preventing SAM including: a) managing both SAM and MAM using RUTF in an integrated programme; b) use of sprinkles in available local foods; and c) proven community based treatment and prevention models such as Nutrition Impact Positive Practices (NIPPs).
- Outreach and prevention activities must be given immediate priority attention in order to increase coverage and impact including; a) the use of MUAC at all points of including growth monitoring, IMCI, EPI and during child health weeks; b) orientation to CMAM and use of MUAC included in the training of all health workers and community based staff; c) outreach and prevention activities at community level must be included in the job descriptions of nutrition staff and existing (and new) cadres of staff working with mothers and children; d) develop a standardised prevention package in line with the PHC essential package with a standard set of indicators linked to the HMIS; and e) mobilize mothers through community based support groups.
- Recording and reporting must be simplified and streamlined. This includes use of MUAC and oedema only, and a simplified OTP card. Programme data should be analyzed at the state level and used to address programmatic issues such as high mortality and high default.
- The next planning cycle should give attention to; a) use of S3M data to map areas of high prevalence and location/coverage of health facilities; b) determination of priority states and localities based on prevalence; c) establish model sites that include a focus on coverage, integration, outreach and the prevention package; d) Coordinate planning effectively with MCH/PHC sectors to ensure coverage, harmonisation and effective pooling of resources

1. INTRODUCTION

1.1 Background and purpose

For many years, Sudan has had high rates of acute malnutrition exceeding emergency thresholds. Rates of severe acute malnutrition (SAM) are particularly high with a national average of 5.3%.¹ A conflation of factors has contributed to this persistently high rate including natural disasters, conflict, and displacement. It is estimated that some half a million children in Sudan have SAM. Addressing this high burden is critical in meeting the MDG 4 goals (reduction of mortality). The community management of acute malnutrition (CMAM) was initially piloted in Sudan in 2001 and adopted as an emergency intervention. In 2009, a comprehensive strategy was developed which included quality assurance and technical assistance from Food and Nutrition Technical Assistance (FANTA2).² National Guidelines were finalized in 2009.³ Local production of Ready to Use Therapeutic Food (RUTF) began in 2011. In the last three years, the outpatient management of SAM has been scaled-up and implemented in public health facilities. The numbers of cases treated has risen exponentially from 27,000 in 2009 to over 80,000 in 2012.⁴ With the exception of the Darfur states, the departure of international NGO's from Sudan has resulted in a predominantly Ministry of Health (MoH) implemented programme.

As the Ministry of Health prepares for the next strategic planning cycle, it was opportune to take stock and review the current programme. The review was conducted by Valid International with the Federal and State Ministry of Health and UNICEF staff in November 2013. The specific objective was to uncover what is working well and what is not working and to make evidence based recommendations. The review focused on the operational aspects of CMAM with regard to effectiveness, appropriateness and sustainability, and sought to uncover barriers to effective integration and scale up. Specifically the teams explored the following key areas in line with the Terms of Reference as determined in discussions with the Ministry of Health:

- The strength and weaknesses of programme modalities
- Programme quality, relevance and appropriateness
- Adherence to national and state policy and guidelines.
- Critical gaps and/or issues that hamper integration and scale-up.

Two review teams visited CMAM treatment and prevention programmes in four states; **North Darfur, North Kordofan, Gedaref and Red Sea**. The selection of the states and sites was determined by the Ministry of Health and UNICEF. Full briefings and debriefings were held with the Federal Ministry of Health, UNICEF and key stakeholders at the national and state level. Opportunities were also taken to provide capacity building support and technical strengthening to MoH staff. The Itinerary can be found in *Annex I*. Key contacts and people met during the review can be found in *Annex II*.

¹ National Ministry of Health and Central Bureau of Statistics. Sudan Household Health Survey. Second Round 2010. Prevalence rate reported is for is severe wasting and does not include oedematus malnutrition.

² FANTA 2. Interagency review of Selective Feeding Programmes in the Darfur States, 2009.

³ National Guidelines for the Management of SAM, 2009.

⁴ National CMAM data base. Accessed November 2013.

This report presents the key findings of the review and actionable recommendations. Whilst most of the findings and recommendations are generic and can be applied nationally, others are context and state specific. It is anticipated that the review findings will be used by the federal and state level MoH to strengthen existing programmes and to inform plans for integration and scale-up in 2014. The scope and time limits of the review did not permit analysis of the costs of CMAM or analysis of RUTF production and supply chain management.

1.2 Methods

The teams used quantitative and qualitative methods to collect and collate data and information. The essential principles for determining effective and quality CMAM programming were assessed according to the OECD/DAC criteria.⁵ In addition to site visits, the team conducted informant interviews and semi-structured focus group discussions with programme managers, health and community workers, community members (both male and female) and beneficiaries in order to assess programme quality and perceptions. The teams used checklists to collect and document information from different programme components. This enabled the various team members to simultaneously assess many aspects of programming while maintaining a standard methodology. The teams collected and reviewed relevant reports, strategies, guidelines and operational plans (*Annex III*). The methodology used during the review can be found in *Annex IV*.

The selection of stabilisation centres (SC's), outpatient therapeutic programme (OTP), targeted supplementary feeding programme (TSFP) and integrated blanket supplementary feeding programme (iBSFP) sites was based on various criteria including; differing operational modalities, cultural and geographical factors, security and accessibility. The teams visited some sites without pre-arrangement. Sites visited by the team are noted in Table 1.

Table 1: Sites visited during the review

State	Modality	OTP	SC	TSFP	iBSFP	Implementing partner (s) at sites visited
N. Darfur	IDP camps NGO	2	2	2	1	NGO partners (Kuwaiti Patients Help Fund, Relief International) OTP/SC operated by NGO staff
	Mobile	1		1	1	CBO (Fasher Rural Development Programme) Operated by CBO staff
	MOH	1	1			MOH staff OTP/SC operated by Nutrition officer/assistants
N. Kordofan	MOH	6	3	None operating	None operating	MOH staff OTP/SC operated by Nutrition officer/assistants
	NGO	1				NGO partner (Save the Children Sweden) OTP operated by Save staff
Red Sea	MOH	9	4	8	1	MOH staff OTP/SC/TSFP operated by Nutrition officer/assistants iBSFP operated by MOH and WFP staff
Gedaref	MOH	5	3	1	None operating	MOH Staff OTP/SC/TSFP operated by Nutrition officer/assistants

⁵ Organisation for Economic Cooperation and Development/ Development Assistance Committee. Principles for Evaluation of Development Assistance, 1991.

2. KEY FINDINGS

2.1 Modalities

CMAM implementation varies according to the context, funding and implementing agency. In the Darfur states, NGO operated programmes adopt the 'complete package' of components as per the traditional emergency model. This includes OTP for SAM without complications, inpatient care (stabilisation centres) for SAM with complications, targeted supplementary feeding for MAM cases and community outreach. In some programmes, the package also includes the provision of a food ration for acutely malnourished pregnant and lactating women (PLW). Integrated blanket supplementary feeding programmes (iBSFP) aim to prevent acute malnutrition and stunting and promote behavioural change. IBSFP is implemented by WFP and implementing partners. IBSFP is implemented only in priority areas. In MOH operated programmes, OTP is located in health facilities/family health centres and managed by MOH nutrition staff. The MoH package includes OTP, SC and sometimes TSFP. The programme is currently treatment focused with little community outreach. There are some examples of mobile and satellite programmes although these were not common in the states visited. Target groups, ration levels and routine protocols are standardised according to the National Guideline and WFP protocol for TSFP and iBSFP (Table 2). However, the availability of drugs for the routine medical treatment in OTP is erratic and in most sites visited there were no routine drugs. RUTF supplies are provided through UNICEF and distributed by the SMOH to the site. SC's are supported by UNICEF.

Table 2: Protocols and modalities in the CMAM programme

Component	SC (IP)	OTP (OP)	TSFP	iBSFP (prevention)
Target group	0-59 months SAM with complications	6-59 months SAM without complications MUAC < 11.5cm WFH < -3Z	6-59 months MAM MUAC <12.5cm WFH < -2Z Pregnant (2 nd trimester) women and lactating with infant < 6 m MUAC <21cm	ALL children 6-36 months ALL pregnant (2 nd trimester) and lactating women with infant < 6 months
Nutritional treatment	Standard according to National protocol	Standard RUTF by weight according to National Guideline	CSB + (140g); Oil (20g) DSM (20g) Premix 2.7kg/15 days OR CSB++ (200g) 3kg/15 days	CSB+ (120g); Oil (10g) =130g/d 3.9kg a month OR CSB++ (100g) 3kg/month
Medical treatment	Standard according to National protocol. (in most sites, some not following standard protocols)	Use and availability of routine drugs erratic Referral to medical officer if needed (erratic)	None	Iron /folate erratic Multi micronutrient tabs erratic Micronutrient sachets (planned)
Operating	12- 24 hours a day Referral hospital and district level rural hospital	Weekly and occasionally every 2 weeks Health facility	Every 2 weeks Health facility designated site in IDP camp	Monthly Health facility or designated site
Supply and logistics	UNICEF/MOH	UNICEF (RUTF) MOH (supply chain)	WFP	WFP
Technical support	UNICEF	UNICEF	WFP	WFP

2.2. Outpatient Therapeutic Programme (SAM without complications)

With the exception of the Darfur states, the outpatient therapeutic programme (OTP) is operated by government nutrition staff and volunteer assistants. This modality is somewhat unique and has certain advantages and disadvantages. The review teams found staff to be generally well trained and motivated. The caseload of SAM was manageable with good availability of RUFF and basic supplies. In Kordofan, the OTP sites were exceptionally well organized reflecting good training and supervision. In all states, the number of staff and the condition of the facility was not associated with the quality of programming. Where it is known, OTP is well regarded by communities. However, in several instances the teams found that OTP was not known or understood in the community.

When analyzed nationally and by state, outcomes for OTP are within Sphere standards. This is well documented in the national data base and nutrition updates.⁶ NGO implemented programmes in Darfur report very high cure rates exceeding 95% and low default rates at less than 5%. These outcomes are reflective of a successful intervention with strong community outreach and active case finding. However, emergency focused NGO operated programmes are highly resource intensive. Attempts to estimate the difference in cost found that MoH programmes were approximately three times cheaper than NGO programmes with primary cost differences attributed to staff and transport costs.⁷ Whilst many of the key health staff working in Darfur are (or were) MoH staff, they are paid significant top ups and this is not standardized or regulated.

MoH programmes maintain adequate standards as determined by performance indicators with cure rates within Sphere standards (cure > 75%). Death rates in OTP are very low (less than 2%). However, whilst compiled national data suggests a default rate within Sphere standards (default < 15%), disaggregated data revealed very high default rates in some locations.⁸ In some areas of North Kordofan for example, default rates exceeded 35% during several months of the year. Key reasons for high default were found to be limited community outreach, poor communication with mothers and insufficient coverage. Default was also closely correlated with seasonal factors such as harvesting and planting and migratory or conflict induced population movements. Innovative practices to address high default were found in North Kordofan and Gedaref. This included mobile outreach and the provision of a two weekly ration in situations where distance, conflict and/or planting and harvest season limited access to the facility. However, on the whole, there was reluctance to operate outside of the perimeters of protocol or job description and as such; innovative interventions were few and far between.

In some cases, attempts to address programme issues were detrimental. The SMOH in El Fasher attempted to reduce sale of RUTF on the market by operating OTP on a daily basis. The review team found complete chaos at OTP sites in El Fasher locality and high default rates. The large caseload was not manageable on a daily basis. Mothers had entirely lost confidence in the

⁶ CMAM data base 2012-2013 data by state and compiled. FMOH/UNICEF Nutrition Updates 2012/13

⁷ Cost analysis conducted during the review was based on rough estimates using NGO budgets and SMOH budget data for 2012. RUTF is the same is the largest programmatic cost. This was not factored in as RUTF is supplied by UNICEF to all programmes. Transport and staff costs account for the large difference in cost per child treated. A detailed cost analysis is required to determine cost effectiveness.

⁸ In the Darfur States not covered by this review, default rates often exceed 30% primarily due to conflict and population movement/displacement. Provision of rations for longer periods and mobile outreach is essential in this context to reduce default.

programme. No evidence was found that mothers were selling RUTF, rather some quantities of RUTF were being diverted from other sources and ending up on the market. The SMOH was strongly advised to rectify this situation and revert to weekly OTP.

The management of SAM without complications by nutrition staff has resulted in a de-medicalisation of the OTP model. There is no medical check or routine drugs and use of appetite test whilst good in some sites, is ad hoc in many and not repeated at each follow up visit. However, most cases of SAM with complications are referred appropriately to medical staff or directly to SC.

The focus on nutrition has resulted in a compulsion towards measurement and recording at the cost of communication with mothers. In all sites, measurement of weight for height (WFH) is conducted routinely but it is time consuming, prone to error, hard for the carer to understand, and unnecessary. Cases admitted by WFH were found to be moderate or normal cases by MUAC. Many of the cases admitted by weight for height had been admitted in error. Currently, approximately 20% of the cases at OTP are not SAM cases. This has significant resource implications. Current admission practice and suggested changes are noted in Table 3.

Table 3: Current practice and recommendation for admission criteria for OTP

National Guideline (2009)	Current Practice	Recommendation
MUAC <11.5cm	Most cases admitted using MUAC	MUAC < 11.5cm
WFH < -3Z	WFH taken for ALL cases irrespective of MUAC admission Cases admitted using WFH are often in error. WFH percentile often used instead of Z score	<i>WFH not used</i>
Bilateral oedema + and ++	Used	Oedema +/-
Appetite test passed	Appetite test used erratically on admission and rarely at follow up	Appetite test checked on admission and each follow up visit
No medical complications	Used sometimes without medical examination	Complications according to action protocol refer to SC Medical issues requiring treatment refer to nurse/doctor for assessment

Whilst protocols have been simplified, there are misunderstandings and lack of standardisation. Discharge criterion is absent from many of the protocol booklets available at OTP sites and in practice is inconsistently applied. The discharge criterion as suggested in the National Guideline is not followed. In practice, fifteen percent weight gain was used very erratically as a discharge criterion in all four states. Use of a minimum period of stay is applied in some cases. The use of MUAC and WFH for discharge adds to this confusion. This has resulted in many cases being discharged too early and contributes to the unusually high relapse rate and extremely variable average length of stay.⁹ For the majority of cases, at least 4-6 weeks of treatment is required for sustainable recovery. Current discharge practice and suggested changes are noted in Table 4.

⁹ Length of stay was found to vary considerably from 14 days to 90 days. Short length of stay was due to reaching MUAC of 11.5 and being immediately discharged without any other criteria applied. Longer lengths of stay were associated with frequent absence and returning after default.

Table 4: Current practice and recommendations for discharge criterion for OTP

National Guideline (2009)	Current Practice	Recommendation (WHO 2013)
Fifteen percent weight gain for two consecutive visits	Percent weight gain used erratically	<i>Not used</i>
Sustained weight gain for last three visits	Not used	<i>Not used</i>
No bilateral oedema for two consecutive visits	Rarely used	No oedema
	MUAC \geq 11.5cm often used as sole criteria for discharge for children admitted on MUAC	MUAC \geq12.5cm
	WFH \geq 2 Z used for children admitted on WFH	<i>WFH not used</i>
	Minimum length of stay of at least one month used erratically	<i>No minimum length of stay</i>

OTP is currently not well integrated into primary health care. In large part this is due to nutrition being implemented as a separate activity and by nutrition staff rather than health workers. There is little evidence of increased uptake of other services such as family planning, EPI and antenatal care. In Kordofan, EPI and growth monitoring take place at the Health Insurance Centre which is located a short distance from the health facility. In many cases there is also another OTP at this centre. Thus services are duplicated and in some cases the same children are treated. The result of this duplication and lack of integration is inefficient use of staff time and missed opportunities to improve uptake of health and prevention services. Furthermore, nutrition staff spend a disproportionate amount of time measuring children (often the same children repeatedly) at sites and no time in community based outreach prevention activities which could have significant impact. The focus on measuring and recording also means that the promotion and prevention aspects of growth monitoring are very limited. The teams found numerous records of weight and height in notebooks but no plotting on the GM charts. MUAC is currently not included on GM cards. This should be added.

2.3. Inpatient management of SAM with complications (stabilisation centres)

Inpatient care is implemented at the tertiary level and in rural hospitals. SC's were all found to have good supply of therapeutic milk (F 75 and F100) and RUTF. In North Darfur, NGO implemented SC's provided a high standard of care. However, outside of the camp setting, this resource and staff intensive programming is not sustainable.

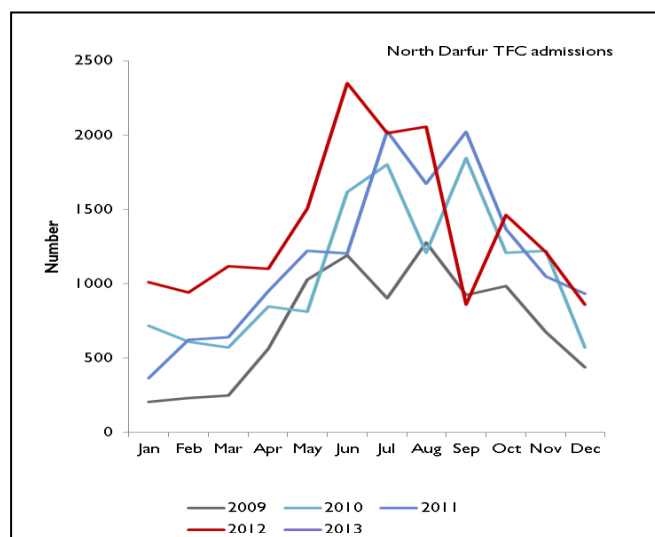
In MoH operated inpatient sites, nutritional protocol was followed albeit inconsistently. The number of milk feeds for example varied between 4 and 12 feeds a day. The same MoH nutritionists who manage OTP are also managing inpatient care. There is little link between the nutrition staff and medical staff. As a result there is inadequate linkage between the nutritional and medical management of cases and little nursing care in many sites. In many SC's visited there was no nursing supervision during the night. Mothers were left to prepare milk themselves.

In most inpatient care facilities, the critical care pathway is not followed. Procedures are not currently meeting standards for care of the sick SAM child with overuse of cannula and nasogastric tubes, lack of medical supervision and inappropriate prescriptions. Inadequate supplies of mosquito nets and blankets are placing sick children at further risk for disease and death.

With the exception of the NGO operated SC's in Darfur, the protocol for the management of infants less than 6 months is generally not followed. Extensive follow up in the community and discussions with health facility staff suggest that there are significant numbers of malnourished infants less than 6 months who are currently not presenting at sites or refuse inpatient care. Cases of SAM with complications, including infants who refuse inpatient care are not currently followed in OTP and are lost to follow up.

There are no routine essential drugs available at SC sites. Whilst ostensibly treatment of the SAM child is free according to national policy, all cases at the SC are obliged to pay for drugs. Thus many cases refuse inpatient care or default. The default rate from SC was found to vary considerably. In some sites in Gedaref and Red Sea, default exceeded 50%. Default was directly correlated with cost, quality of care and whether the environment was perceived to be supportive by mothers. Mothers are currently not actively engaged in the care of their children in the SC. During the visit the teams did not find any prevention based activities or mother to mother support groups at the SC sites.

The majority of relapse cases were found to be from areas without an OTP (and thus no follow up after discharge). Key reasons for relapse were repeated infection and poor care and feeding practices. During the review the teams found examples in North Kordofan and North Darfur where community based mother to mother support had significantly reduced the number of complicated cases and relapse. This was attributed to early case finding, good feeding and care practices and early health seeking behaviour.



Caseload at the MoH SCs was linked directly to seasonal peaks. Analysis of data shows that the majority of deaths occur during peak periods at the major referral SC's. In North Darfur, during August, the mortality rate exceeded 30% at the major referral SC in El Fasher. This was due to poor conditions due to the rainy season, overcrowding, nosocomial infections, late presentation and insufficient staff. Whilst these trends can be clearly documented, there is currently no planning in place for surge capacity.

Figure 1: Admissions to SC in North Darfur 2009-13

Ensuring quality of care, training and supplies in the inpatient management of SAM is the purview of the World Health Organisation (WHO). However, due to funding issues and lack of coordination, this responsibility has not been taken up, thus leaving a critical care gap.

2.4. Management of moderate acute malnutrition

The management of moderate acute malnutrition (MAM) is challenging in the context of an MoH implemented programme. The targeted supplementary feeding programme (TSFP) is largely supported by WFP. In some states, TSFP is operated at the same time as OTP. In Darfur, TSFP is managed at the same time as the integrated blanket supplementary feeding programme (iBSFP). The current supplementary ration consists of fortified blended food (FBF), oil and sometimes dried skim milk as shown in Table 2 above. Admission and discharge criteria are somewhat confused. Both MUAC and weight for height are used with a maximum length of stay of three months used erratically.

The inclusion of acutely malnourished pregnant and lactating women in TSFP only occurs in Darfur. There are large numbers of admissions to this component. PLW are admitted with a MUAC < 21cm. The discharge criterion for this programme is problematic. As MUAC changes very slowly in pregnant women, more than 80% of cases are non-responders within four months. Discharge criteria must be based on a defined period of stay and MUAC > 21cm. The teams found this intervention to be resource intensive, costly and suggest that it be discontinued since it is redundant with the iBSFP which targets the same group.

Current practice in admission and discharge and recommended changes are noted in Table 5.

Table 5: Current practice and recommendations for admission and discharge criteria for TSFP

	Admission criteria		Discharge criteria	
	Current Practice	Recommendation	Current Practice	Recommended
6-59m	MUAC < 12.5cm	MUAC <12.5	MUAC >12.5cm for two consecutive visits	MUAC >12.5
	WFH <-2Z WFH percentile also used No oedema	<i>Not used</i> No oedema	WFH >-2Z Discharged from OTP 3 months stay used in some cases	<i>Not used</i> Discharged from OTP
PLW	MUAC <21cm	MUAC <21cm	MUAC >22.5cm 3 months stay	MUAC >21cm 3 months stay

The criterion for TSFP is not generally understood by communities and the impact of a programme using FBF appears to be limited in Sudan.¹⁰ Moreover, such a programme is not feasible in the context of MoH programs. Thus alternative cost-effective means of managing MAM must be found. In OTP sites in North Kordofan children found to be MAM by MUAC (MUAC < 12.5cm) are referred for growth monitoring and asked to return to the site in two weeks. However, growth monitoring is rarely done and loss to follow up of MAM cases is very high. The teams found examples of innovative programming including mobile outreach in

¹⁰ Substantial evidence has shown that TSFP using fortified blended foods is not effective. In Sudan, these programs have been implemented for years with little change in prevalence. Navarro-Colorado C. et al. Measuring the effectiveness of supplementary feeding programs in emergencies. HPN Network Paper. No. 63. 2008. The use of CSB++ is preferred nutritionally but is a costly intervention and not feasible or sustainable in the context of an MoH implemented integrated programme.

North Kordofan which combined SAM and MAM treatment using RUTF for both (according to weight for SAM and one sachet a day for MAM). This intervention served a displaced population and only continued for 3 months. It apparently achieved very good outcomes and low default and was well received by the community. Other promising cost-effective practices for addressing MAM and preventing SAM include the use of micronutrient sachets in local foods and the Nutrition Impact Positive Practices (NIPPs) model which focuses on use of local foods and practical prevention interventions through mother support circles.¹¹

2.5. Outreach and prevention

Outreach and prevention activities are currently a weak component in the CMAM programme. Caseload is relatively low at many sites. However, rapid assessments conducted during the review found that there are many children with SAM who are not accessing existing services. Coverage surveys indicate average point coverage of 40% in the Darfur states.¹² One survey in Gadaref has a 32% coverage, whilst in other states, point coverage in many areas is estimated to be less than 20%. Very little outreach is currently conducted in MoH programs. However, with efficient consolidation of services, streamlining of paperwork and simplification of protocols, the current nutrition staff at OTP sites would have ample time to conduct critical activities including community awareness, mobile outreach, follow up and prevention activities in the community.

Community outreach volunteer workers have been trained in all states but are not active due to lack of incentive payments. Thus relying on volunteers to implement community outreach is not feasible. Other existing community based health staff represent a large untapped pool of staff including the new cadre of community midwives that could be mobilized for active case finding and prevention activities. Community midwives interviewed during the review had not been trained in CMAM or use of MUAC. Mothers of children in the CMAM programme present an under-exploited resource and could be mobilised and provided MUAC tapes to identify acute malnutrition in their own children and other children in the community

The teams found several examples of good infant and young child feeding (IYCF) practice led by MoH staff including breastfeeding circles led by midwives at the community level. However there was no overlap between these activities and the CMAM programme.

Whilst there is a plethora of IYCF and health and nutrition education messages, much of this is not useful, practical or appropriate. There is currently no simple set of messages and practices that can be used for prevention focused activities. A package of child health and prevention interventions exists in theory as part of the MCH accelerated package (Table 6).¹³ However, the treatment component of package is implemented erratically. The prevention side is rarely implemented in a way that would impact on behavioural change and reduced prevalence of acute malnutrition and stunting. There are no established set of indicators for measuring the impact of prevention activities.

¹¹ Practical approaches through mother support groups aimed at promoting strong care and feeding practices can also successfully impact on stunting if focused on pregnant and breastfeeding women and children 0-12 months.

¹² Coverage survey data base. Point prevalence ranges from 71% in IDP camps in N Darfur (Relief International) to 36% in S. Darfur (MoH/Merlin). In many areas, geographical coverage is less than 20%.

¹³ Federal Ministry of Health/Maternal and Child Health Directorate. Sudan National Acceleration Plan for Maternal and Child Health. 2013-15.

Table 6: Package of community based PHC treatment and prevention interventions

Package of child health key cost effective interventions implemented at PHC level	
<ul style="list-style-type: none"> • Case management of neonatal sepsis, pneumonia, diarrhoea and jaundice. • Child case management: <ul style="list-style-type: none"> – Pneumonia case management and prevention – Diarrhoea case management and prevention – Malaria case management and prevention – Malnutrition case management 	<ul style="list-style-type: none"> • Early initiation of breastfeeding • Promotion of exclusive breastfeeding • Promotion of sound complementary feeding • Improving care seeking • Increasing immunization coverage • Vitamin A supplementation.

Source: MCH Acceleration Plan 2013-15

The iBSFP program supported by WFP and implemented by NGOs/CBOs has shifted from an intervention primarily conducted during the hunger season to an ongoing year round programme for all children 6-36 months and all pregnant and lactating women. In line with the 1000 days approach, it aims to prevent both acute malnutrition and stunting through nutritional support and prevention activities. Children enrolled in OTP and TSFP are not included in iBSFP causing confusion and issues with mothers. The iBSFP has good coverage. During the review most eligible beneficiaries were found to be registered. Prevention activities which proved to be particularly effective include the preparation and use of practical use of local foods which are readily available in the home. In some cases, mother support groups initiated under the iBSFP showed effective use of MUAC by mothers to identify and refer SAM cases and demonstrable changes in breastfeeding practices at the community level.

Anecdotal evidence suggests significant impact on behavioural change. However, whilst evaluations have looked at beneficiary acceptance of the food commodities, impact in terms of behaviour change, reduced prevalence of acute malnutrition and birth outcomes has not been measured. Whilst iBSFP appears to be a promising intervention, it is resource intensive and unlikely to be feasible in the context of an MoH implemented integrated programme

2.6. Monitoring and Reporting

Recording mechanisms are cumbersome with a great deal of unnecessary paperwork. The use of more than one criterion for admission and discharge of SAM and MAM cases is problematic in that it is time consuming and causes error in recording and reporting.

The use of attendance sheets, record books, registers and ration cards is unnecessary. Extensive interviews with staff at OTP sites suggest that a simplified OTP card is the preferred recording mechanism. North Kordofan sites were exemplary in filling out OTP cards and organisation of records and files. In other states, this was not the case and in part was due to a larger caseload and an overload of paperwork but is also reflective of insufficient supervision.

Reporting systems are generally working well with timely submission. However, the recording of information and data at the site level is not always accurate, thus it is essential that paperwork

and recording mechanisms are streamlined and organised to reduce inaccurate data in the reporting from the site level.

Reporting formats and the data base is simple; however, analysis of data is weak. Whilst data is fed up to federal level from the state, little analysis is conducted at the state level that would be useful to address programmatic issues. For instance, high default rates in some OTP and SC sites were not uncovered until this review and thus no action had been taken to rectify it. Similarly, SC and OTP data are only reported in a compiled report. It is necessary to report SC data separately as well as in a combined report. Separate reporting of SC allows tracking of high mortality rates and admission trends and thus can be effectively used for programmatic intervention and planning.

Currently a set of impact indicators for the treatment and prevention aspects of CMAM for inclusion in the health information system (HMIS) has not been determined.

2.7. Planning and Policy

Current planning and prioritisation of activities and pooling of resources with other health programmes is not strong at the state level. Current focus of the state nutrition programmes on interventions such as school feeding is not a good use of staff time or resources. Evidence has demonstrated that such interventions to have no impact on acute malnutrition or stunting.¹⁴

The rationale for choosing sites is based on key administrative centers rather than areas of high prevalence. There is currently no mapping of sites or coherent scale-up plan at the state level. The 3SM (spatial mapping) will allow for effective targeting using prevalence data and ensure better coverage and appropriate allocation of staff.

There is generally good adherence to national guidelines. However, the current National Guideline for SAM (2009) is extremely complex and not practical. Thus it is essential to ensure simplified protocols and reporting mechanisms are in place at the operational level. The Guideline requires some updating and changes to admission and discharge criteria.

CMAM planning and policy is currently somewhat disconnected from overall planning in Maternal Child Health and Primary Health Care. In order to achieve integration in practice, it will be necessary to ensure harmonization in planning, targets and impact indicators. The MCH plan for 2013-15 suggests some actions for scale up of the treatment of SAM (Table 6) . This requires adjustment.

¹⁴ Maternal and child undernutrition 3. What works? [Lancet Series](#), January 2008.

Table 7: Scale up of the treatment of SAM (MCH Acceleration Plan 2013-15)

GOAL: Increase access to CMAM from 13% to 50%	% malnourished under 5 covered by CMAM
Conduct Mapping of prevalence of malnutrition at level of localities	Report of survey (2013)
Train additional (6,000) health cadres (MAs, nutrition educator, vaccinator and CHWs on the Outpatient care treatment of SAM(in certain locality) (250 courses /25 participant)	# of trained health cadre #health facilities with trained health cadre
Provision of supplies :RUTF for 3400 PHC facilities , (Therapeutic Milk for 107 locality hospital)	% PHC facility with no stock out of supplies
Strengthening community outreach approach through training of additional 10,000 Volunteer on community awareness , screening and referral system (250 courses /40 participant)	# of volunteers trained # of community with trained Volunteer
.Conduct massive screening and referral campaigns (120 communities) for active case finding and community mobilization	# of campaigns conducted # OF children referred

Source: MCH Acceleration Plan 2013-15

Training of nutrition staff in CMAM is comprehensive. However training is not part of an overall strategic integrated plan and as such training on CMAM runs in parallel to other health training rather than being incorporated into it.

Coordination is effectively chaired by the MoH at the state level. Where close links to primary health care and the Director General Health are in place, this proves to be highly advantageous to integration and the pooling of resources and training. CMAM cannot be viewed as a nutrition activity separated from overall PHC/MCH planning and implementation.

3. ACTIONABLE RECOMMENDATIONS

3.1. Programme quality and appropriateness in the outpatient management of SAM

In order to strengthen the quality and appropriateness of the management of SAM without complications, the following actions are recommended;

- MUAC and oedema only should be used as admission criteria. With monitoring of individual child progress by weight and MUAC. Use of WFH is unnecessary and is not recommended.
- A suggested discharge criterion is MUAC \geq 12.5cm for SAM cases in line with the new WHO guidelines. Some children will be in the programme longer but recovery will be sustained. Percent weight gain, minimum length of stay and WFH become redundant.
- Adopt a de-medicalised model for SAM without complications. In practice this will include; streamlined recording mechanisms including the use of a simplified OTP card and eradication of registers, attendance cards. Only those with suspected medical issues will be referred to a medical professional and treated on a case by case basis.
A suggested simplified OTP card can be found in *Annex V*.
- Staff at OTP should focus on communication with mothers and delivering clear and consistent messages. Messages regarding the use of RUTF must be revised and clearly delivered. RUTF alone should be used for at least the first 3 weeks of treatment. If the child is gaining weight, other local foods can be added thereafter.
- Cases refusing inpatient care must be treated and followed in OTP. Mothers and their infants less than 6 months returning from inpatient care and mother/baby pairs refusing inpatient care must be followed in OTP.
- Proven effective means of reducing default and expanding coverage should be encouraged. This includes :
 - The provision of RUTF every 2 weeks where appropriate.
 - Mobile and satellite programming from existing sites to improve outreach and coverage.
 - Outreach activities in the community including active case finding, follow up of absent cases and defaulters and mother to mother support groups. These activities should be conducted by nutrition staff/assistants and existing cadres of community health workers and not volunteers.
- Simplified protocols in Arabic should be developed (or modified) for use at the site level and in training. The current national guideline does not need to be revised. An addendum on the changes to admission and discharge criteria, mobile outreach and use of 2 weekly rations can be added.

3.2. Programme quality and appropriateness in the inpatient management of SAM

In order to strengthen the quality and appropriateness of the inpatient management of SAM with complications, the following actions are recommended;

- The inpatient management of SAM with complications should be viewed as a subsector within paediatric care. Nursing supervision should be provided 24 hours a day and the critical care pathway followed according to WHO guidelines for the inpatient management of SAM and pocket book for hospital care of the sick child.
- WHO must provide comprehensive medical support and ensure the availability of basic supplies and essential drugs for the inpatient care of the SAM child in accordance with their mandate. WHO must be brought into the planning and coordination for the inpatient management of SAM to ensure the necessary training of medical staff, quality of care and deployment of medical staff within the hospital.
- Mothers should be fully engaged in the care of their children whilst in the SC. Mother to mother support groups should be activated at the SC to create a supportive environment and promote good care and feeding practices.
- Planning for scale up must consider the appropriate coverage of SC sites. Over expansion of SC sites should be avoided. Outside of the camp setting, SC sites should only function in the pediatric ward at MoH run hospitals.
- Contingency planning should be put into place for peak periods. This includes planning for overflow caseload and surge capacity. In Darfur, trained and experienced NGO staff may be mobilized during peak periods to work in key referral hospitals.

3.3. Appropriate management of MAM and prevention of acute malnutrition

Targeted supplementary feeding programmes using fortified blended foods are not sustainable or feasible in a MoH integrated programme and are not recommended. The following actions are suggested:

- Potentially cost-effective and feasible options for managing MAM and preventing SAM should be pilot tested and replicated:
 - Managing both SAM and MAM using RUTF in an integrated programme.
 - Use of widely available local foods with micronutrient sprinkles.
 - Proven effective community based treatment and prevention models such as Nutrition Impact Positive Practices (NIPPs).
- TSFP and iBSFP using fortified blended foods should not operate at the same time. This is neither sustainable nor an appropriate use of resources. Children in OTP should not be exempt from participation in iBSFP, but messages regarding the use of RUTF only for at least 3 weeks of treatment must be clear. TSFP for pregnant and lactating women is redundant where iBSFP is operating. An integrated programme for treatment of MAM using RUTF is significantly preferred.

- Where TSFP is operating, MUAC only should be used for admission and discharge. The use of weight for height is not recommended. The discharge criteria for PLW must be changed.

3.4. Prioritize community outreach and prevention activities

Outreach and prevention activities must be given immediate priority attention in order to increase coverage and impact. The following actions are recommended:

- MUAC should be included at all points of contact including growth monitoring, IMCI, EPI and during child health weeks.
- Basic orientation to CMAM and use of MUAC for identification and referral of children with SAM and MAM should be included in the training of all health workers and community based staff.
- Community outreach and prevention at community level must be included in the job descriptions of existing (and new) cadres of staff working with mothers and children including nutrition programme staff, nutrition assistants, community health workers and midwives. Sufficient time must be allocated during the month for outreach activities by health facility managers.
- A standardized prevention package linked to the PHC essential package should be developed. A suggested package with linked impact indicators can be found in *Annex VI*.
- A manual of simple, practical and feasible messages/actions should be developed to ensure the effective practical application of the prevention package. Practical guidance on leading mother to mother support groups/circles should be provided.
- Mothers should be provided with colour coded MUAC tapes and practice how to use the tapes to monitor their own children as well as other children in the community. Mothers that are particularly motivated and emerge as natural leaders can be mobilized as leads of support groups and as peer counselors.
- Impact of outreach and prevention activities can be measured against an established set of impact indicators. Indicators must be consistent with MCH and PHC programming and fed into the HMIS. Indicators must be captured in monthly reporting as well as in surveillance and surveys. These must be the same indicators for all programming to ensure integration and harmonisation. Recommended process indicators can be found in *Annex VII*. Impact indicators are noted in *Annex VI*. Knowledge Attitudes and Practices (KAP 'lite'), rapid assessment and S3M can be used to assess impact.

3.5. Streamline recording and reporting

In an integrated programme, recording and reporting must be simplified and streamlined. The following actions are recommended:

- Use of MUAC only for admission will reduce workload, paperwork and errors in recording and reporting.
- A simplified standard MoH card should be used for OTP and TSFP and filed and stored appropriately. Attendance sheets, record books, registers and ration cards are not needed.
- Programme data should be analysed at the state level and used to address programmatic issues such as high mortality and high default.
- Separate reporting of SC allows tracking of high mortality rates and admission trends and thus can be effectively used for programmatic intervention and planning. Reporting does not need to be disaggregated by sex.

3.6. Federal and state planning and policy

The upcoming planning cycle should give attention to:

Effective planning and coverage

- Scale up of OTP should include expansion of coverage at existing sites prior to further phased scale up of additional sites. The S3M data should be used to identify and map areas of high prevalence and location/coverage of health facilities.
- Prevalence by MUAC should be used for planning estimated caseload and for supply planning.¹⁵ Mobile/satellite outreach should be factored in to planning in some locations where appropriate.
- Collaboration with Director General (DG) Health, primary health care and maternal child health programmes is essential to avoid the current perception in both policy and practice that nutrition is a parallel activity. This integration at the planning stage is essential as the foundation for integration in practice. An outline plan can be found for scale up based on the current MCH Acceleration plan can be found in *Annex VIII*.
- In the emergency context where cluster is functional, there must be collaboration between health and nutrition clusters in CMAM programming. Cluster should be chaired by the DG Health or an appropriate designate.
- Training is a core component of a scale up plan. The curricula for training on outpatient management should be standardized and shortened with attention given to the training

¹⁵ Survey data base 2012 -2013. Data from 3SM in Gedaref for example shows that WFH results in significantly higher prevalence of MAM and SAM compared to MUAC. MUAC is used in the community surveillance system and this data provides accurate data for estimating caseload.

needs of different cadres of staff. Cycles of training and refresher training must be included at plans at state level. Model sites can be used for practical training and mentoring. Training for inpatient management of SAM must be planned in collaboration with WHO.

Consolidation of resources and prioritisation of programming

- Effective integration means consolidating resources. In practice this means avoiding duplication of services and training and looking for opportunities to merge with other health and nutrition programmes to make use of common resources and capacity.
- Prioritisation of programming and use of resources must clearly articulated by the MoH. Thus it is recommended that TSFP for children and pregnant/lactating women using fortified blended foods do not operate at the same time as iBSF. OTP coverage should be prioritized over any scale up of SC. High impact interventions aimed to reduce prevalence of acute malnutrition and stunting in children less than 24 months should be prioritised over interventions such as school feeding which have no impact in nutritional terms.
- Planning for integration and scale up should focus on priority states and priority localities within states according to S3M mapping. Model sites can be established that included a focus on coverage, integration, outreach and the prevention package. These sites can be used to test the waters and make necessary adjustments prior to scale up in other areas.
- Significant capacity exists within NGO programmes in Darfur. These staff can be used for short periods for training/mentoring in MoH sites and to provide surge capacity in the SC during peak periods.

ANNEX 1: Review Itinerary

DATE	TRAVEL		LOCATION	TEAM	
Nov 10	Travel to Khartoum			Tanner/Walsh	
Nov 11		Meetings with NGO implementing partners Meeting with UNICEF Meeting with implementing partners	Khartoum		
Nov 12		Planning meetings with Federal Ministry of Health			
North Darfur					
Nov 13	Travel to El Fasher			Team A Caroline Tanner (Valid) Waffa Badari (FMOH) Muna Gawhar (FMOH) Howeida Yousif (SMOH) Jasinta Achen (UNICEF) Afaf Briema (UNICEF)	
	Travel to IDP camps	Meetings with UNICEF staff Meetings with SMOH Site visits to OTP, TSFP, SC and iBSFP Focal groups with mothers Interviews with community members Focal groups with women's groups	El Fasher Abu Shock/ Al Salam		
Nov 14	Travel to Zam Zam	OTP/TSFP/SC sites Focal group with home visitors; focal group with mothers; discussions in community focal group with breastfeeding support group	Zam Zam		
	Travel to El Fasher	El Shohad OTP/PHC Centre Discussions with Staff Focal group with mothers of children in the program	El Fasher locality		
Nov 15	Team A 1 (Badari/Gawhar/ Briema/Yousif) Travel to Azagrafa	OTP/TSFP mobile site iBSFP sites Focal groups with women's groups, mothers and community members	Azagrafa		
	Team A2 (Tanner/Achen El Fasher)	Site visit to El Fasher SC Observation of treatment protocol; discussions with staff and mothers	El Fasher town		
Nov 16		Debriefing with SMOH, key stakeholders and implementing partners	El Fasher		
	Travel to Khartoum				
North Kordofan					
Nov 17	Travel to El Obeid		El Obeid		Team A Caroline Tanner Muna Gawhar Najlaa Osman Khidir (UNICEF) Dr. Ahmed Babiker Ali (UNICEF) Mukhtar Abded Fadeel (SMOH) Adam Mohammed Adam (SMOH) Salma Abdelrahman (SMOH)
Nov 18	Travel to Bara	Meetings with Director General Health and SMOH Meetings with UNICEF Site visit to Bara OTP: Health Insurance Centre Focal group with mothers Focal group with community members	El Obeid Bara		
Nov 19	Travel to Hai Elnazir	Site visit to Hai Elnazir OTP Discussions with midwives and breastfeeding counselors Interviews with community based midwives	Hai Elnazir		
	Travel to El Obeid	Site visit El Kuwaiti hospital OTP and SC Focal group with mothers	El Obeid		
Nov 20	Travel to Bartoul	Site visit to OTP and SC Site visit to OTP at Health Insurance Centre Interviews with community members Interviews with programme beneficiaries Interviews with mothers	Bartoul		
Nov 21	Travel to Umruwaba	Site visit to Umruwaba OTP and SC Interviews with mothers Discussion with community members	Umruwaba		
	Travel to El Obeid	Debriefing and discussion with DC and SMOH	El Obeid		
Nov 22	Travel to Khartoum				

Gedaref				
Nov 13	Travel to Gedaref			Team B Anne Walsh (Valid) Tarig Mekkawi (UNICEF) Amira Al Munier (FMOH) Ibrahim El Tahir/ Ehsan Saed (UNICEF KAS) Tomader Abdulrhman Nada Ahmad Abraham, Nada Mohammed SirAlkhatim (SMoH)
		Meetings with SMOH (Afaf Omer Abdelhafeez and team) Site visit to El Rahad OTP	Gedaref	
Nov 14	Travel to Galaa Einahal	Site visit to Salmeen OTP and TSFP Site visit to Ban OTP	Galaa Einhal	
Nov 15		Site visit to Gedaref SC Site visit to El Showak SC	Gedaref	
Nov 16		Site visit to Galbi Hospital Site visit to Elmafaza OTP Site visit to Galaa Alnahal OTP and SC	Gedaref	
Nov 17	Travel to Port Sudan			
Red Sea				
Nov 17	Travel to Port Sudan	Site visit to Altagadum SC	Port Sudan	Team B Anne Walsh (Valid) Tarig Mekkawi (UNICEF) Amira Al Munier (FMOH) Ibrahim El Tahir/ Nader Mohammed (UNICEF KAS) Tahani (SMOH) Hafiz Ibrahim (WFP)
Nov 18		Briefing with SMOH (Sarah Omar) Site visit to Altagadum OTP and TSFP Site visit to Dar Alneem OTP Meeting with Dr Ahmed, Altagadum hospital	Port Sudan	
Nov 19	Travel to Tokar	Site visit to Sinkat Alengaz OTP/TSFP Site visit Sinkat Alreaya OTP Site visit to Ashat OTP and SFP Site visit to Tokar SC	Port Sudan Tokar	
Nov 20	Travel to Marafeet	Site visit to Tokar OTP Site visit to Dolobeyi OTP and TSFP Site visit to Marafeet OTP and TSFP	Tokar	
Nov 21	Travel to Port Sudan	Site visit to Suakin SC Site visit to Suakin OTP Site visit Port Sudan SC Debriefing and discussions with SMOH	Port Sudan	
Nov 22	Travel to Khartoum			
Nov 23		Meetings with UNICEF Debriefing preparation	Khartoum	
Nov 24		Debriefing and discussion with UNICEF Debriefing presentation and discussion with SMOH Debriefing and discussion with Nutrition Cluster partner		
Nov 25	Depart Khartoum			

ANNEX II: Key Contacts

Khartoum		
Government- Federal		
Fatima Abdilziz	Acting Director of Nutrition	FMOH
Salwa Abdelrahim	National Nutrition Programme Director	FMOH
Wafaa Badari Mohammed	National Nutrition Programme	FMOH
Amira Almonier	National Nutrition Programme	FMOH
Muna Gawhar	National Nutrition programme	FMOH
Manal Hassan Taha	Maternal Child Health (IMCI)	FMOH
Nada Gaafer Osman	Maternal Child Health Director	FMOH
Siham Elamin	Maternal Child Health (PHC expansion)	FMOH
UN Agencies		
Susan Lilicrap	Head Nutrition	UNICEF
Mona Nyawo	Nutrition Suveillance Officer	UNICEF
Tareg Abduljadin	Nutrition Programme Officer	UNICEF
Talal Maahgoub	Nutrition Programme Officer/Prevention	UNICEF
Salma Alawad	Nutrition Programme Officer-	UNICEF
Najlaa Osman Khidir	Nutrition Programme Officer	UNICEF
Louran Ali	Consultant MCH-PHC	UNICEF
Amal Abdullah	Nutrition Officer	World Food Programme
John Mukisa	Nutrition Officer	World Food Programme
Elman Hassan Mohammed	Nutrition Officer	World Health Organisation
North Darfur		
Government		
Fatima El Serif	Nutrition Director N.Darfur	SMOH
Howeida Yousif	El Fasher Locality Nutritionist	SMOH
Manal Mustafa	Nutrition Programmes	SMOH
Ekhlas Adam Idriss	Nutrition Programmes	SMOH
Dr. Adam Musa	Medical Director/El Fasher Hospital	SMOH
UN Agencies		
Jasinta Achen	Nutrition Officer	UNICEF
Afaf Mohammed Briema	Nutrition Officer	UNICEF
Amna Ali Elzein	Nutrition Officer	World Food Programme
Manahil Adam	Nutrition Officer	World Food Programme
Abdelrahman Sharif	State coordinator	World Health Organisation
Implementing partners		
Mark Wamalwa	Nutrition Coordinator	Relief International
Ruwader Hassan	Nutrition Officer	Relief International
Adam Abubaker	Medical Director	Kuwaiti Patients Help Fund
Margrit Schenkel	El Fasher Hospital	Swiss Care (independent)
Adam Sabeel Adam	Programme Coordinator	El Fasher Rural Development
North Kordofan		
Government		
Nasir Mohammed Hassan	Director General -Health	SMOH
Elamin Adam Osman	Head of Nutrition Department	SMOH
Salma Abdelrrahman Hamad	CMAM Focal Point	SMOH
Mukhtar Abdul Fadeel	CMAM Focal Point	SMOH
Adam Mohammed Adam	Nutrition Information System	SMOH
UN Agencies		
Dr. Ahmed Babiker Ali	Health and Nutrition Officer	UNICEF
Other organizations		
Maha El Rashid Bakari	Health Coordinator	Save the Children Sweden

Mohammed Idris	Nutritionist	Save the Children Sweden
Rabab El Tahir	Nutritionist	Kuwaiti Hospital
Gedaref		
Government		
Afaf Omer Abdelhafeez	Nutrition Director	SMOH
Tomader Abdalrahman	Nutritionist	SMOH
Nada Ahmad Abraham	NIS Focal Person	SMOH
Nada Mohd SirAlkhatim	Training Focal Person	SMOH
UN Agencies		
Ibrahim El Tahir	Nutrition Officer	UNICEF KAS
Ehsan Saed	Nutrition Officer	UNICRF Gedaref
Red Sea		
Government		
Sarah Omer	Nutrition Director	SMOH
Tahani	Nutritionist	SMOH
UN Agencies		
Ibrahim El Tahir	Nutrition Officer	UNICEF KAS
Nader Mohammed	Nutrition Officer	UNICEF Red Sea
Hafiz Ibrahim	Head of Programmes	World Food Programme

ANNEX III: Documents Reviewed

National CMAM Guideline 2009

Sudan Household Survey, MOH 2010

World Food Programme Ration Guidelines for TSFP and iBSF

National Nutrition Programme Biennium Plan 2014-15 (outline draft)

National Acceleration Plan for Maternal and Child Health 2013-15

Health Sector Strategic Plan 2012-16

Primary Health Care Mapping Report, 2011

Promoting Access to High Quality Primary Health Care Services, MOH ,2012

The Problem of Malnutrition in Sudan. Policy Brief (Draft), 2013

National CMAM data base 2009- 2013

Nutrition surveys Darfur (actual and planned) data base 2012

State CMAM database 2011-13

Nutrition surveys non Darfur states (actual and planned) data base 2012

Rapid assessments data base 2012

CMAM centres Red Sea 2012/13

CMAM centres North Darfur, 2012/13

CMAM centres North Kordofan, 2012/13

CMAM centres Gedaref, 2012/13

Sudan Nutrition Updates FMOH, 2012

Concern. Report of a coverage survey in Mornei, Darfur, 2012

SMOH/UNICEF/Merlin. Coverage survey Adiela, Darfur, 2012

Relief International. Coverage survey in Zam Zam Displaced Camp, 2012

Coverage surveys actual and planned data sheet, 2012

WHO. Updates on the Management of Severe Acute Malnutrition, 2013

WHO. Pocket Book of Hospital Care of Children: Guidelines for IMCI, 2013

FANTA 2. Interagency review of Selective Feeding Programmes in the Darfur States, 2009

FANTA 2. Community Outreach for CMAM A Review of Experience and the Development of a Strategy, 2010

Sudan Food Security Outlook. FewsNet July –December 2013

S3M Data Mapping Report Kassala (Draft)

Common Humanitarian Fund. Annual Report 2012

Common Humanitarian Fund Updates and Programmes Funded 2013

OCHA Humanitarian Monthly Dashboard, Darfur 2013

UNICEF simplified protocols for OTP, 2011/12

Collated IEC and IYCF materials

ANNEX IV: Methodology

Quantitative data:

The team compiled and reviewed quantitative data from secondary sources including current and previous survey reports to determine trends. The CMAM data base was used to attempt to assess incidence, current caseload, seasonal variation and trends over time. Coverage survey reports were reviewed to determine quality and programme effectiveness. Preliminary data from the S3M national survey was reviewed. Data on the number of trainings conducted for health workers and community staff such was also collated.

Qualitative data and information:

The teams conducted semi-structured interviews with the key stakeholders at national and state level and at the programme implementation level. This included meetings, discussions and interviews with the SMOH, NGO implementing partners, Nutrition Cluster, UNICEF and WFP. Field level informant interviews and semi-structured focus group discussions were held with CMAM programme staff, community based staff, community members (both male and female), mothers and families of children in the programme and mother support groups in order to assess quality of the programme. Qualitative data found in the SQUEAC coverage surveys was used to determine barriers to access and uptake of services. Knowledge Attitude and Practice (KAP) surveys (where they existed) and S3M data was looked at to determine behavioural changes at community level.

Informative and contextual information:

The teams looked at the current National Guideline (2009) and existing strategic frameworks and operational plans such as the Maternal Child Health Accelerated Plan 2013-15. The team also considered any the appropriateness and relevance of current and proposed policy (policy brief draft) and any operational research.

Triangulation:

The teams used multiple sources of quantitative and qualitative data and information to circumvent bias that comes from single informant, data source or concept. The extent to which donor requirements and priorities are harmonious or conflict with national and state priorities was also appraised by exploring multiple viewpoints. In order to avoid bias and ensure key issues were addressed, the teams used quick assessment checklists during site visits and at community level.

Data and Information collection methods

Objective	Source of data/information	Purpose	Nature of data
Program relevance and appropriateness	Strategies, policies, proposals and reports at national and provincial level	Appropriate and relevant response to needs and priorities and possible redundancy/duplicity of strategies and operational plans	Informative/contextual
	Observation of intervention modalities and activities	Appropriate response to need as determined by high levels of acute malnutrition in specific target groups	Qualitative
Programme effectiveness and coverage	Informant interviews with programme staff, beneficiaries and community	Relevance to local authorities and communities, caregivers (perceived need)	Quantitative
	CMAM data and reports	Determine programme effectiveness by outcome and coverage data	
	SQUEAC survey reports	Determine referral between components	
	S3M data/maps	Accuracy and use of targets and screening	
	Caseload data	Incidence rates for SAM and MAM	
	Training sessions conducted	Contribution of programme to capacity building of health system	
	KAP surveys, S3M survey information	Extent to which prevention interventions have impacted on caring and feeding practices	Qualitative
	Observation of treatment at SC/OTP/TSFP sites/attitude of staff	Effectiveness of training and mentoring applied in practice	
	SQUEAC survey analysis	Barriers to access and uptake of services and reasons for default	
	Interviews and focus group discussions at community level	Cross check extent to which IYCF, IEC and prevention components have impacted on caring and feeding practices and identify gaps and cultural constraints	Quantitative
Programme efficiency and quality of services	Availability of RUTF at site	Reliable supply pipeline management	
	Track reporting mechanism from site to state and national level	Suitability of current monitoring and reporting mechanisms, identification of gaps and need for streamlining	
	Review of SC/OTP/TSFP cards/registers	Cross check on reliability of data, reasons for default	
	Observation and key informant interviews on regularity of OTP services	Verification of reliable supply pipeline, storage, quality of nutritional treatment	Qualitative
	Observation of supply pipeline and storage of RUTF/RUSF/CSB+ and F75/100/Essential drugs and equipment such as MUAC tapes	Utilization and effectiveness of nutritional treatment, sibling ration, key messages and impact on breastfeeding/complementary feeding	
	Observation of use of nutritional products/medications at household level and key informant interviews	Analysis of demand driven service and quality of components from user view and possible reasons for default	
	Focus groups on community understanding of services (wait times, criteria, access, rations)	Possible reasons for absence and default/use and misuse of treatment/rations	
	Observation and key informant interviews regarding innovations to improve efficiency or quality	Seek out best practice and lesson learned and factors contributing (or not) to quality standards	Informative/contextual
	Review of monitoring records and	Identify gaps and assess the need for streamlining of	Quantitative

Sustainability and scale up	reports	monitoring and reporting	
	Tracking supply chain and long term commitments to procurement/local or in-country production	Feasibility of scale up	
	Observation and interviews on of RUTF/essential drugs use and availability	Reliable and sustainable supply pipeline and channels	Qualitative
	Observation at SC/OTP/TSFP sites at health facility	Feasibility of CMAM integration into health services in given context	
	Observation and interview with community health workers and community key informants	Determination of capacity at community level for potential scale up	
	Interviews with SMOH Analysis of funding cycles (NGO, WFP/UNICEF PCA/FLA and government funding cycles)	Determination of capacity gaps at government level Determine I feasibility of scale up	Informative/ contextual
Programme Impact (actual and potential in raising nutrition profile)	Analysis of funding allocation by district and programme component	Determine feasibility ad appropriateness of funding prioritisation of components, target groups and localities	
	Observation and key informant interviews in the community	Programme contribution to raising awareness of acute malnutrition in the communities and health sector	Qualitative/ Informative
	Historical trends and interviews with programme staff	Extent to which CMAM programme has placed nutrition on the policy and development agenda and uncovering of gaps potentially hindering sustainability and scale up.	
Cross cutting issues	Semi- structured interviews with key stakeholders at national and state level	Commitment to national and global scale up initiatives and priorities	
	Observation of and participation in coordination mechanisms	Frequency and effectiveness of vertical and horizontal coordination and involvement of other sectors in planning and implementation in response to demonstrated needs.	
	Observation at sites and in the community	Equity issues in service delivery, participation/access and staffing	
Policy issues	Analysis of available causal analysis information	Assessment of principle causes of acute malnutrition (food insecurity/care/health)	
	Observation and cross check on use of national protocols at site	Adherence or adaptation to national guidelines and identification of need for adaption to the national guidelines	

ANNEX V: Suggestion for Simplified OTP Card for Integrated Programme (front)

ADMISSION DETAILS: OUTPATIENT PROGRAMME

Name					Reg. N°			
Address						Phone No.		
Age (months)		Sex	M	F	Date of Admission			
Admission	Direct from Community	From TSFP	From SC	From OPD	Infant < 6 months	SC Refusal		
Admission Anthropometry								
Weight (kg)		MUAC (cm)						
Oedema	+	++	+++	Other reason for admission (specify)				
History								
Diarrhoea	Yes	No	Vaccination complete (Y/N)		Stools / Day	1-3	4-5	>5
Cough	Yes	No				Referred to EPI (Y/N)		
Appetite (based on appetite test)	Good	Poor	None		Breastfeeding		Yes	No
Mother counseled on breastfeeding	Yes	No			Mother/caregiver counseled on complementary feeding		Yes	No
Reasons for medical check	Watery diarrhoea (more than 5 times/day) Cough Suspected fever Little or no appetite			Blood in stool Rapid breathing Skin rash/eye or ear problems Other complications according to Action Protocol				
Referral for medical check								
Refer for medical check	Yes	No	Refused					
Outcome	Admit to OTP		Transfer to SC		Other (Describe)			
Medication given								
	Drug	Date	Dosage		Drug	Date	Dosage	
	Amoxicillin				Vitamin A			
	Anti malarial				Albendazole			
	Measles vaccine (> 6months)				Other			

OTP Card (Back)

FOLLOW UP: OUTPATIENT THERAPEUTIC PROGRAM

Visit	ADM	2	3	4	5	6	7	8	9	10	11	12
Date												
Anthropometry												
Weight (kg)												
Weight loss * (Y/N)			*		*							
MUAC (cm)												
Oedema (+ ++ +++)												
<p>* Weight changes: If below admission weight on week 3 refer for home visit. If no weight gain by week 5 refer to SC. Absence: If absent two visits (or one visit if OTP is every 2 weeks) follow up at home</p>												
Clinical Exam and Action												
Clinically well? Yes/No?												
If No action taken												
Transfer to SC (date)												
RUTF and IYCF												
RUTF Appetite Test Good/Poor/None												
RUTF (# sachets)												
Mother counseled on breastfeeding (Y/N)												
Mother/caretaker counseled on compl. feeding (Y/N)												
Mother attending support group (Y/N)												
Mother provided MUAC tape (Y/N)												
OUTCOME												
<p>A= Absent D= Defaulter (3 consecutive absences) . If providing ration every two weeks defaulter is absent for two consecutive visits T SC= Transfer to SC X= died DC Discharge Cured write through column in red – "discharged cured" NR= Non responder (not cured after 4 months) HV=Home visit</p>												
** Additional notes												

ANNEX VI: Treatment and Prevention Package and Impact Indicators

	What	Where	Suggested Impact indicators (HMIS)
Treatment	Treatment of SAM without complications	Health facility/family health center/OTP	% cured % death
	Treatment of SAM with complications	Hospital Stabilisation Center	% coverage
IYCF	Breastfeeding promotion, support and counseling	Health facility/OTP	%mothers exclusive breastfeeding to 6 months
	Appropriate feeding practices 6 - 23 months	Community outreach mother-mother support groups Child Health weeks	Children 6-23 months % 3 or more meals a day (frequency) % animal source in food (diversity) %Breastfeeding at 18 months (continued breastfeeding) *See Note
Deficiency Prevention	Micronutrient sachets (sprinkles) 6-24 months for 2-3 months (All children not enrolled in OTP)	Health facility/OTP iBSFP	% reduction in anemia (against baseline) 6-24 months
	Iron/folate, to all pregnant women		% reduction in anemia (against baseline) PLW
	Vitamin A to post partum women and children 6-59 months	Campaigns/health weeks	% vitamin A coverage (against baseline)
	Deworming all children 12-59 months		% children dewormed (against baseline)
Health and Hygiene	Hand-washing with soap	Health facility Community groups	% reduction in watery diarrhea against baseline
	Water purification	Child health weeks Campaigns/ health days	
	ORS and Zinc to children < 5 with diarrhea		
	Measles vaccination all children above 6 months		% vaccination coverage against baseline

*Note: Indicators are the same as the composite indicators used to determine 'good IYCF' practices in S3M and the community surveillance system

ANNEX VII: Essential Process Indicators in Recording and Reporting in an Integrated Programme (includes iBSFP)

<i>Captured on OTP/ TSFP card</i>
<ul style="list-style-type: none"> • Mother counseled on exclusive breast feeding • Mother counseled for appropriate complementary feeding • Child referred to EPI • Mother attending community based mother to mother support group • Mother provided MUAC tape
<i>Captured in ANC register/card (Pregnant women)</i>
<ul style="list-style-type: none"> • Received iron/folate • Counseled in early initiation of BF and exclusive breastfeeding
<i>Captured in community midwife register</i>
<ul style="list-style-type: none"> • Mother counseled on exclusive breast feeding • Mother counseled for appropriate complementary feeding • PLW Counseled in early initiation of BF
<i>Captured in report format (CMAM and iBSFP)</i>
<p><u>Process indicators</u></p> <p>#Community based mother to mother support group sessions held this month:</p> <p>#Mothers initiated on use of MUAC and provided tapes:</p> <p># Mothers counseled on exclusive breast feeding (< 6 months)</p> <p>#Mothers/caretakers counseled for appropriate feeding practices (6-23 months)</p>

Note: ANC data on PLW is reported separately in an integrated system. The following indicators should be reported through ANC:

- # of pregnant women attending ANC who received iron /folic acid supplementation
- # PLW counseled in early initiation of breastfeeding and exclusive breastfeeding

ANNEX V111: Outline Plan for Integration and Scale-up

GOAL	Overall Goal: Increase treatment coverage of SAM from 13% to 50% by 2017	
PLANNING	Map prevalence of malnutrition (<i>use MUAC to estimate prevalence</i>), coverage of existing sites and coverage of health workers and community workers by state	Mapping exercise completed by April 2014
	Develop scale up plan at national and state level Ensure harmonization of training, transport and resources with MCH/IMCI	Scale up plan completed by June 2014
	Revise job descriptions of core OTP staff (nutrition officers and assistants) to include outreach and prevention activities	Revised job descriptions completed by April 2014
	Develop agreed and harmonized prevention package and indicators Develop simplified and practical messages and guidance in line with prevention package	(See Annex VI and VII) Messages and guidance package for nutrition and community based staff developed by April 2014 Package field tested and ready for use by June 2014
	Develop KEY indicators in line with overall scale up goal and in line with MCH/PHC planning (examples below) <i>(note these are process/impact indicators not programme performance indicators)</i>	Indicators developed by April 2014
	Objective	Indicator
COVERAGE	Increase OTP sites from X (baseline) to X (end line goal in 2017) <i>(include mobile and satellite sites in addition to static sites)</i>	# OTP sites (per year) against baseline
	Increase children treated for SAM without complications	# children treated for SAM against baseline
	Increase geographical coverage from X to X in priority areas (<i>select high prevalence priority areas at state level</i>)	#/% health facilities with functioning OTP in priority districts (against baseline)
	Increase SC (IP) sites from X (baseline to x (end line goal (<i>set a realistic goal of no more than one SC per locality or key administrative district – focus should be on outpatient coverage</i>))	# SC (IP) sites (per year) against baseline
	Outreach visits conducted by MoH nutrition staff based at health facility increased from X a month (baseline – <i>which is currently 0% in most places</i>) to X a month (<i>suggest 4 – once a week</i>)	# outreach visit conducted a month by MoH nutrition staff
	Increase number of mothers in community actively mobilized to identify and refer children from X (baseline – <i>which is currently 0</i>) to X (endline)	# mothers trained in use of MUAC and provided tapes and actively identifying children
	Increases screening conducted during EPI and child health campaigns from X (baseline to X (end line)	# screenings conducted during EPI and Child Health Campaigns (against baseline)
TRAINING	Train X (<i>number</i>) health workers/nutrition staff in outpatient management of SAM, outreach and prevention package (number and length of courses)	#/%nutrition staff trained in outpatient management of SAM, outreach and prevention package
	Train X (<i>number</i>) community midwives, CHWs IMCI, EPI PHC community based staff in identification, referral and management of SAM and prevention package	#/%community midwives, CHWs, IMCI, EPI PHC staff on identification, referral and management of SAM and prevention package

PREVENTION	<p>Practical prevention sessions held at community level by MoH nutrition staff increased from X (baseline) to X (end line) in select priority localities</p> <p>Number mother to mother support groups established at community level increased from X (baseline) to X end line in select localities</p>	<p># practical prevention sessions held by nutrition staff in community in select localities (<i>name them</i>)</p> <p># mother to mother support groups established at community level and active (against baseline)</p>
SUPPLY	<p>Provision of RUTF for X health facilities (by state)</p> <p>Provision of F75/F100 for X health facilities</p>	<p>#/% target health facilities supplied with RUTF</p> <p>#/% target health facilities supplied with F75/F100</p>
SURGE CAPACITY	<p>Increase surge capacity pool of qualified staff for peak periods at referral SC from X (baseline) to X end line in select sites in priority localities (by state)</p>	<p># trained surge staff deployed to priority SC (IPs) during peak period</p>