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Review of Community-based Management of Acute Malnutrition (CMAM) in the Post-emergency Context: Synthesis of Lessons on Integration of CMAM into National Health Systems

Ethiopia, Malawi and Niger, April – June 2007

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ACKNOWLEDGMENTS

ACRONYMS

CHW	Community Health Worker
CMAM	Community-Based Management of Acute Malnutrition
CSU	CMAM Support Unit
CTC	Community-Based Therapeutic Care
FANTA	Food and Nutrition Technical Assistance Project
GMP	Good Manufacturing Practices
HIS	Health Information System
IMCI	Integrated Management of Childhood Illness
M&E	Monitoring and Evaluation
MAM	Moderate Acute Malnutrition
MOH	Ministry of Health
MUAC	Mid-Upper Arm Circumference
NGO	Non-Governmental Organization
OFDA	Office of U.S. Foreign Disaster Assistance
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WFA	Weight-For-Age
WFH	Weight-For-Height
WHO	World Health Organization

EXECUTIVE SUMMARY

Humanitarian crises are often marked by large-scale, externally funded, and vertically managed responses. National health systems, already weak, are often bypassed by international organizations in the interest of rapid response to save lives. There is growing recognition, however, of the importance of employing more sustainable approaches through existing health system infrastructure to ensure services continue as the emergency subsides and organizations and their resource flows end. It is within this context that USAID requested that FANTA conduct a review of the integration of community-based management of acute malnutrition (CMAM) into the national health systems of Ethiopia, Malawi, and Niger. This report documents the current state of integration efforts, identifies challenges and lessons learned, and suggests ways to move forward on improved integration of CMAM into national health systems.

A comparison of the experiences among the three countries reveals a number of similarities and differences. Similarities include start-up and scale-up of CMAM services during crises; weak health systems with poor access and low coverage of services; dependence on donor support for supplies; and the presence of numerous stakeholders with fragmented referral and treatment networks. Differences in integration revolve around the extent of Ministry of Health (MOH), UNICEF and international NGO leadership and coordination, and on varying strategies for transferring responsibility for CMAM to MOHs. From this review, key elements for integration of CMAM were identified in five domains: 1) an enabling environment for CMAM; 2) access to CMAM services; 3) access to CMAM supplies; 4) quality of CMAM services; and 5) competencies for CMAM (figure 1.).

Figure 1. Five Domains of CMAM Integration
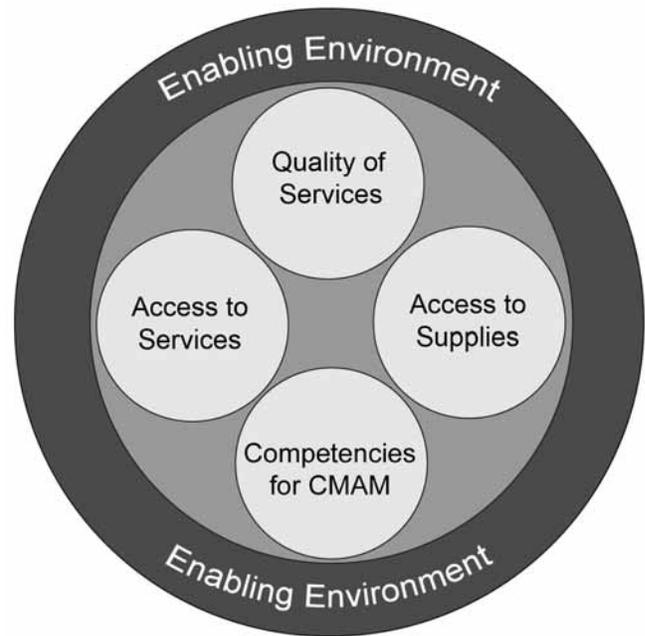
1. The **enabling environment for CMAM** demonstrates the importance of MOH technical leadership and coordination. A support unit to the MOH for technical guidance on CMAM is helpful for capacity development at national policy and district implementation levels. National guidelines serve as an important policy tool and lead to better harmonization of CMAM services. Over the long term, commitment by donors to develop and maintain capacities is needed along with planning for future emergencies and for transition of services post-emergency.

2. **Access to CMAM services** should be assured in priority districts following initial start-up in learning sites and gradual scale-up. Both inpatient and outpatient care needs to be made available by linking with a community-based outreach network of formal and informal healthcare and community systems.

3. In addition to services, **access to CMAM supplies** should also be ensured during and after emergencies. While beyond the means of most developing country budgets, it is critical that CMAM supplies of essential drugs and therapeutic foods be secured by MOHs. As with overall capacity building, long-term donor commitment to provide supplies is necessary.

4. **Quality of CMAM services** can be assured through adherence to national CMAM guidelines, support to and supervision of CMAM services, and harmonized monitoring and evaluation tools that are linked to the national health information system.

5. Finally, **CMAM competencies** can be strengthened through integrating pre- and in-service training for CMAM into national curricula for all levels of health care providers (community health workers, nurses, and physicians). Training should be augmented through practical learning experiences at CMAM learning sites, post-training on-site mentoring support and supervision, and regular experience-sharing at meetings and other fora.

These five domains of successful integration of CMAM, and the key elements within them, should be considered by MOHs, NGOs, and donors that are designing, implementing, or coordinating CMAM programs or providing CMAM services. The importance of a health systems approach – during service introduction, expansion or transition from emergency to development contexts - is especially important to ensure that CMAM is integrated into the national health system while not supplanting other essential services. Accordingly, tools to improve assessment, design, monitoring and evaluation (M&E) of the introduction and scale up of CMAM services are needed.

While this review identifies important elements of CMAM integration into national health systems, more information is needed to expand the knowledge and evidence base for CMAM. For example, there is a need to document in greater detail successful integration experiences, specifically examining the process and context of integrated service introduction and scale-up. Furthermore, evidence of integrated CMAM services and comparison of these experiences to those of other integrated services, such as Integrated Management of Childhood Illness (IMCI), is also important to document. In addition, the various approaches and strategies employed by NGOs and MOHs globally for CMAM service provision should continue to be documented and shared through various channels, including workshops, databases and publications.

INTRODUCTION

Severe acute malnutrition (SAM) affects approximately 20 million children under five years of age and contributes to more than 1 million child deaths in the world each year, even in countries not recently affected by an emergency[1]. In fact, non-emergency levels of global acute malnutrition in some countries are as high as 15 percent during seasonal peaks (e.g., Burkina Faso, Malawi and Niger[2]).

Until recently, the management of SAM has been limited to center-based care with limited coverage. Community-based management of acute malnutrition (CMAM) brings the services for the management of SAM closer to the beneficiaries, thanks to the availability of a ready-to-use therapeutic food (RUTF). CMAM prevents the deaths of many children affected by acute malnutrition in emergency and development settings because of its decentralized community outreach. CMAM involves timely detection and referral of children with acute malnutrition in the community, to outpatient care for SAM without medical complications; inpatient care for acute malnutrition without appetite or with medical complications, or infants under 6 months of age; and programs for treating moderate acute malnutrition (MAM), if applicable (figure 2.). CMAM provides services that are closer to communities by making services available at decentralized treatment points within the existing health facilities, through the use of RUTF, and through community outreach and mobilization.

Figure 2. Community-based management of acute malnutrition
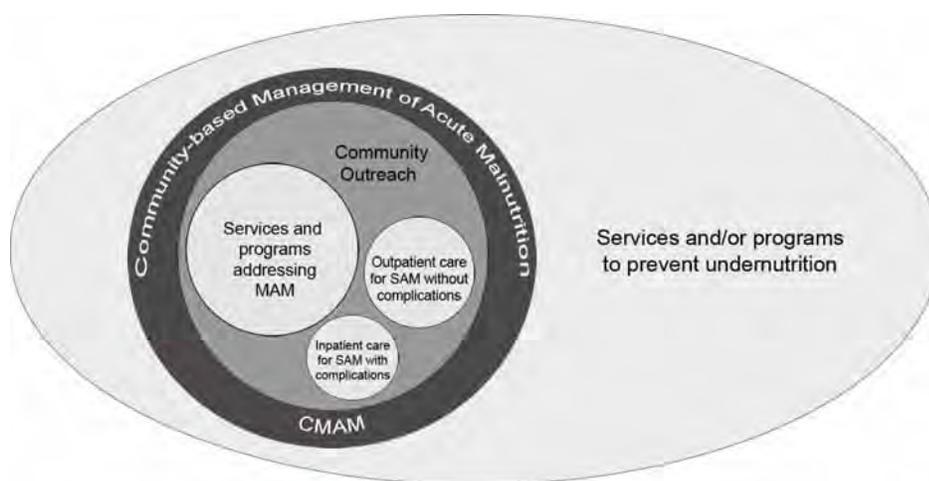
The experience in emergencies

The evidence base for the nutritional impact of CMAM - also referred to as Community-Based Therapeutic Care (CTC) - has been well established in programs run by international NGOs during emergencies. From 2000 to 2003, CMAM was piloted and expanded by NGOs in Ethiopia, Malawi and Sudan, demonstrating CMAM's approach to be highly effective and to

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[1] Community-Based Management of Severe Acute Malnutrition, Joint Statement by WHO, WFP, the U.N. Standing Committee on Nutrition, and UNICEF, May 2007.
[2] Nutrition in Crisis Situations Vol. 10, U.N. Standing Committee on Nutrition, August 2006.

exceed Sphere minimum standards for recovery, case-fatality and coverage rates. These pilot programs, and subsequent emergency nutrition programs in numerous countries, depended upon significant external resources and expertise. The level of integration of NGO-provided CMAM services into the national health system has varied according to the country and program. Historically, however, NGO programs have often been set up as parallel systems, particularly during emergencies.

Potential for integrating CMAM services post-emergency

Although some countries have transitioned from the emergency to the post-emergency context, CMAM services are still needed. Improved survey methods for assessing prevalence of SAM and coverage of services show that post-emergency levels of acute malnutrition, while lower than levels during the emergency, often remain quite high. Under the traditional approach of NGO-run, center-based programs for the management of SAM during emergencies, the NGO often departs and services are closed as the emergency subsides. However, with the shift to the community-based approach, CMAM services remain relevant through the post-emergency period. Children with SAM can be treated through an ongoing service that is integrated into the health system and then, in times of crisis, the health system is better prepared to respond to a sudden increase in the number of children with SAM. CMAM integration should allow services to be scaled up easier and faster because there is already a foundation of CMAM-related knowledge and skills.

Developing countries coping with high levels of acute malnutrition need guidance on good practices for integrating CMAM into their health system with minimal external support. Documentation of the experience in integrating CMAM services into the health system in the post-emergency period and in the development context is needed, with a goal of identifying important factors that lead to improved CMAM integration.

CMAM country review

The objectives of the CMAM country review were to:
- Assess integration of CMAM into national health systems
- Document challenges of integration and lessons learned, and identify factors influencing integration (both strengths and weaknesses)
- Provide recommendations for improved integration and guidance for OFDA proposal guidelines and partner selection.

To meet these objectives, FANTA organized visits to Ethiopia, Malawi, and Niger between April and June 2007. The country visits found a range of variation among center-based and community-based approaches to the management of acute malnutrition. Key elements for quality programming and effectiveness of CMAM services were identified within an analytical framework for CMAM integration that was applied in each country and consisted of five domains:

1. Enabling environment for CMAM;
2. Access to CMAM services;

3. Access to CMAM supplies;
4. Quality of CMAM services[3]; and
5. Competencies for CMAM.

The CMAM country review consisted of document reviews; field visits with direct observation of CMAM services; semi-structured interviews with key informants at national, regional, district and community levels; and discussions with health system staff, community health workers, community volunteers, beneficiaries and non-beneficiaries. The FANTA team met with representatives of all relevant stakeholders, including the national governments, the UN, NGOs, community-based organizations, community members, and CMAM beneficiaries and non-beneficiaries. While sites were not randomly selected for visits, efforts were made to visit a variety of CMAM sites to appreciate the diverse operations of the programs. Some sites were selected based on service availability on the day of the visit by the FANTA team.

Application of the framework, analysis and recommendations

This report provides a synthesis of the elements and challenges contributing to the integration of CMAM into national health systems in the post-emergency phase.

Section I presents a summary of each country review, describing the context of CMAM introduction and level of integration with the health system, along with notable strengths, weaknesses, opportunities and challenges in this area. The section ends by highlighting similarities and differences in integration across the three countries.

Section II introduces key elements in five domains to describe the integration of CMAM and highlights factors contributing to integration in different contexts.

Section III provides recommendations for integration of CMAM, including specific steps donors, MOHs, the UN and NGOs can take to facilitate the integration process.

Section IV outlines the next steps needed to expand the knowledge and evidence base for CMAM integration.

The individual country reports contain more detailed, country-specific information and are available upon request. Excerpts from these reports can be found in **Annexes II, III** and **IV**, providing a look at integration of CMAM in Ethiopia, Malawi and Niger through the lens of the domains described in Section II of this report.

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[3] Quality of CMAM services includes adherence to the treatment protocol, favorable outcome of individual care, and adequate performance of services. CMAM performance indicators include recovery, case-fatality, default and coverage rates that are based on internationally agreed cut-offs for emergency programs.

1. COUNTRY REVIEWS

1.1 Ethiopia

Ethiopia is a country with a long history of recurrent droughts and large-scale nutrition emergencies. CMAM programs were piloted in 2000 in two sites and demonstrated evidence of quality services and strong program performance. The 2003 nutrition emergency served as a catalyst for scaling up CMAM programs, with NGOs transitioning therapeutic feeding centers for treatment of SAM to community-based management of SAM.

Ethiopia has benefited from strong international (external) support in CMAM service provision and capacity building. However, there is a need for stronger engagement by the MOH to take on CMAM responsibility. Integrating CMAM services into the health system has been facilitated by a UNICEF and NGO-supported CMAM Support Unit (CSU) which provides regional and district-level support for MOH CMAM scale-up, and there is momentum to replicate integrated CMAM relying on minimal external support while maintaining staff capacity and service quality. The potential for building or strengthening links beyond CMAM to other program contexts, such as Integrated Management of Childhood Illness (IMCI), the Enhanced Outreach Strategy for Child Survival and the Health Extension Programme, provides additional opportunities for CMAM integration into the health system.

The motivation, interest, and capacity created within the MOH by the presence of NGOs and UNICEF is at risk of stagnation or decline, given the recent closure of numerous NGO programs as some emergency funding came to an end. The sudden departure of NGOs endangers CMAM services and risks the collapse of CMAM in certain areas of Ethiopia where the MOH is not sufficiently engaged. As long as the MOH does not take a leadership role and CMAM is not integrated into MOH policies and plans, job descriptions of health care providers and pre-service training for professional qualifications, there will be limited ownership and sustainability.

1.2 Malawi

In 2002, when Malawi was heavily affected by drought, CMAM pilot programs were initiated and demonstrated to be effective. Another drought in 2005 served as a catalyst to scale up CMAM services throughout the country, with NGO and MOH programs transitioning from center-based to community-based services for SAM.

MOH engagement and leadership, as well as district-level motivation, have contributed to significant success in Malawi. The MOH has been engaged in CMAM from the start, informed by the evidence of the pilot programs. Moreover, the MOH had access to CMAM technical assistance through significant NGO support, which later was institutionalized by creating the CSU. During the 2005 drought emergency, the MOH took the lead role in guiding the gradual expansion of CMAM programs and further encouraged involvement of district-level MOH managers and staff. The early recognition of the need for a CMAM technical support unit seconded to the MOH has been beneficial for CMAM scale up and will be important for sustainability.

Malawi CMAM programs serve as important national as well as international learning sites for CMAM good practices and integration of services. There are a variety of experiences and strategies employed by the NGOs in integrating CMAM into the health system. One NGO with specific skills in strengthening health systems has been very successful in integrating CMAM during the emergency phase. Other examples of successful MOH-managed CMAM services with minimal external support were observed.

1.3 Niger

Niger is subject to recurrent droughts and frequent food insecurity. Prior to the 2005 nutrition emergency, treatment of SAM was mainly restricted to NGO programs outside of MOH facilities. During the 2005 crisis, national CMAM guidelines were developed and community-based services were rapidly expanded by numerous NGOs.

Niger houses a patchwork of large- and small-scale CMAM programs with wide-ranging quality and staff experience. During the 2005 emergency, most NGOs implemented top-down strategies and started CMAM programs that were, and continue to be, implemented in parallel to the MOH health system. These emergency efforts did not engage the MOH, which has remained disconnected. A few NGOs did actively involve the MOH in program set-up, in-service training, support and supervision, and program monitoring. In these instances, MOH staff has provided the CMAM services as part of routine health services at MOH health facilities, with limited NGO logistical and supervisory support.

NGOs face numerous difficulties in adapting their programs so that the CMAM services can be integrated into the health system. The discussion around the integration of CMAM services in Niger underscores two public health dilemmas. One is the question of managing health services in emergency versus development contexts and of treating high case loads through high levels of external resources and the set-up of parallel systems versus achieving integrated, sustainable services. The second is the tension between achieving high-quality care and expanded coverage.

Despite major efforts in humanitarian relief, the nutritional emergency in Niger continues. Levels of SAM remain high[4] and access to services for the management of SAM low. Only one CMAM program visited by the FANTA team had quality community outreach, attaining high coverage and thus documenting the true extent of the emergency.

1.4 Similarities and Differences in CMAM Integration across the Three Countries

The CMAM programs in the three countries visited were each initiated during an emergency crisis. Similarities and differences in CMAM integration in the three countries are briefly described below.

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[4] Nutrition in Crisis Situations, Vol. 14, U.N. Standing Committee on Nutrition, September 2007.

1.4.1 Similarities in CMAM integration across the three countries

- **CMAM pilot programs were in place before the latest emergency, and provided lessons on context-specific practices and program performance.** The humanitarian crises in Ethiopia (2003), Malawi (2005) and Niger (2005) were opportunities for scaling up of pilot CMAM programs. International NGOs that participated in the humanitarian response efforts and started CMAM programs had been present in-country or came to the country for humanitarian response efforts. Of the NGOs that were already in-country, some remained in the catchment area of their development programs and hence had an established relationship with government bodies and communities; others began implementing CMAM in new areas. NGOs involved in CMAM had widely variable expertise, and were engaged in programs aimed at strengthening health, nutrition, food security and/or livelihoods.

- The World Health Organization (WHO) SAM treatment protocol was introduced in the three countries in 2001-2. The countries transitioned to national CMAM guidelines in 2005-6. As a result, the scaling up of CMAM involved a change in SAM management (treatment protocol and strategy) for the services sites that fell in the CMAM catchment areas, while the WHO SAM protocol was maintained outside of the CMAM catchment areas. To date, use of **both protocols persists in all three countries**. Moreover, use of both protocols in the same health facility was observed in all three countries.

- **Health systems are weak, suffering from lack of qualified staff and high turn-over of health managers, planners, and health care providers at the different levels.** Health facilities often find it difficult to provide routine health services.

- **Access to health care and thus to CMAM is poor** due to: 1) long travel time to health facilities with CMAM services (i.e., not decentralized enough); 2) poor resourcing and limited or inconsistent provision of quality MOH health care (e.g., staff is absent, drugs are not available, there are long waiting times); 3) erratic community outreach; and 4) lack of guaranteed free treatment at the health facility for children with SAM. **Although all three countries have policies allowing for free treatment of children under five years of age, the reality on the ground is different.**

- With few exceptions, **CMAM inpatient and outpatient care are provided or supported by different partners due to differing expertise**. The referral of children between inpatient and outpatient care is not well established, resulting in a separation of two services that should be operationally linked for optimal case management of SAM.

- **When community outreach (and therefore CMAM service coverage) is adequate, a high case load was observed**, even though the timing of the field visits did not coincide with the lean period. This suggests high endemic levels of acute malnutrition. **Where coverage is good, health facilities' capacities are mostly overstretched by the weekly or bi-weekly scheduled outpatient care.** Some health facilities take the initiative to treat children with SAM on a daily basis instead of on a weekly or bi-weekly schedule, or find other context-appropriate solutions to manage the high case load.

- **Malnutrition is traditionally not perceived as a medical or dietary problem.** This allows unfavorable feeding and caring practices for infants and young children to persist. The influence of traditional healers and religious leaders is strong but CMAM services do not adequately involve these actors.

- **The resources needed to cover CMAM supplies and continued capacity development far exceed available MOH resources.** No long-term plans with donor, UN or NGO partners exist to address these needs.

- **Supply interruptions are common and interfere directly with the quality of CMAM services** and, consequently, the public health impact**.** Moreover, CMAM supply transportation systems remain in the hands of the NGOs or UNICEF. Some instances of success were observed where district MOH staff found local solutions to deliver supplies to the health facilities.

- **Health care providers struggle to sustain the quality of CMAM services and maintain competencies.** A wide range of service quality was observed, even within one district or within one partner agency, and was not necessarily explained by the amount of external financial and technical support.

- **Reporting on performance indicators of inpatient and outpatient care is incomplete.** It is difficult, therefore, to correctly gauge the performance of individual CMAM services at the district level (inpatient care, outpatient care and both combined) or performance of overall CMAM services at the national level.

- **Many MOH district health staff receive initial in-service training for CMAM, but high staff turnover necessitates continuous capacity-building efforts.** CMAM is not integrated into health professionals' pre-service training curricula at the national level.

- **CMAM is not included in the MOH job description for most health care providers.**

1.4.2 Differences in CMAM integration among the three countries

- **The three countries represent three distinct scenarios of MOH involvement in CMAM and highlight major differences in leadership and coordination roles**.
  - The strongest MOH leadership for CMAM is found in *Malawi*, where the MOH, with NGO support, took a leadership role as soon as the CMAM pilot started and continues to guide district health offices to include CMAM as part of their routine health services. The MOH first received considerable support from a technically strong NGO for managing and planning CMAM services, and then from the CSU for scaling up integrated CMAM services.
  - *Ethiopia* provides an intermediate scenario: the regional and district MOH serves as the decision maker, UNICEF as the coordinator, and NGOs as the implementers. The district MOH learned and received support from various NGOs for providing CMAM services and now receives support from a CSU for scaling up integrated CMAM.

o In *Niger*, the MOH remains weak at all levels and neither UNICEF nor NGOs have assumed the technical lead or support roles. No CSU is envisaged by any partner.

- **The degree and type of CMAM support in terms of technical assistance and supplies provided by UNICEF and NGOs are different in each of the three countries.**
  o In *Malawi*, the UNICEF office fulfills the role of *moderator*, while the MOH, with NGO support, takes the technical leadership role in CMAM. UNICEF does not provide CMAM supplies to the MOH or NGOs, and did not during the emergency intervention, either, with the exception of some CMAM drug supplies. Respective NGOs are the main providers of CMAM supplies and technical assistance, while one donor provides funds to the MOH to cover national RUTF needs for one year.
  o In *Ethiopia*, UNICEF is the CMAM *coordinator*. UNICEF leads the technical assistance for inpatient care while the NGOs lead for outpatient care. UNICEF is the main supplier of CMAM drugs, therapeutic foods, and other supplies, but the supply system relies on NGOs to fill in the gaps.
  o In *Niger*, UNICEF fulfills an *administrative support role* at the national level (i.e., putting into place policies and procedures that include CMAM). Its role in capacity development for the MOH is limited. The vast majority of CMAM services is provided by NGOs. UNICEF is the main CMAM supply provider.

- **Strategies for transferring responsibility for CMAM outpatient care to the MOH vary widely.**
  o The most homogeneous transition process is ongoing in *Malawi*, where the national MOH, with NGO support, provides guidance to the district MOH and NGOs, and encourages and enables the district health office to increase responsibilities and strengthen and maintain services. Interestingly, the districts that have integrated quality CMAM services are those that have only recently started and received minimal external NGO support for CMAM, or those that have been receiving long-term minimal external NGO support to strengthen their health system.
  o *Ethiopia* provides a less-successful example of integration and transfer of services. The hand-over of CMAM services to the MOH is largely driven by the cessation of funding and can best be described as a gradual withdrawal of support that eventually results in a termination of services. There are, however, exceptions to this pattern, such as when CMAM is integrated into long-term comprehensive development programs (e.g., strengthening health and nutrition, food security and livelihoods), or when CMAM continues to receive minimal external support.
  o In *Niger*, NGOs seem to work in parallel and implement their nutrition intervention strategies in line with their own mandates, protocols and capacities. Most NGO-led CMAM programs are managed top-down and operate in parallel to the MOH health system. There are some NGOs, however, that successfully support the MOH in providing outpatient care.

- **Strategies for transferring responsibility for CMAM inpatient care vary widely as well.**
  o Inpatient care in *Malawi* was operated within health facilities from the beginning, using the existing network of nutrition rehabilitation centers that received multi-year NGO and UNICEF support. That support is decreasing, however, and many shortcomings in

performance were observed (e.g., non-adherence to treatment protocols, use of a non-standardized monitoring system). Moreover, inpatient care is inadequately linked to outpatient care.

o In *Ethiopia*, inpatient care operates in selected MOH health facilities, with support almost entirely provided by UNICEF. The quality of inpatient care is generally weak, although some successes were observed. Inpatient care operates independently from outpatient care with few exceptions.

o In *Niger*, inpatient care is organized as either a major parallel system resembling center-based care (therapeutic feeding centers) with few exceptions; or as small-scale services integrated into MOH regional and district hospital pediatric wards with minimal external support from an NGO. The links between inpatient care and outpatient care are, in many cases, not well established.

2. KEY ELEMENTS FOR INTEGRATION OF CMAM

The CMAM country review identified key elements that are critical for successful integration of CMAM into the health system. The challenge is addressing these critical elements in countries with weak health systems, chronically high levels of SAM, and recurrent spikes of SAM to emergency levels. In this situation, there is a significant tension between capacity and coverage of services.

The CMAM integration framework is organized into five domains (figure 1.). Within each of these, key elements are defined and examined based on their contributing effect on CMAM integration into the health system and on sustainability of health care.

Figure 1: Five Domains of CMAM Integration

2.1 Enabling Environment for CMAM

MOH leadership: The technical leadership role of the MOH is essential for putting into place or adopting CMAM policies, systems and procedures in line with national health and nutrition policies[5] and according to the country's priorities. For CMAM to be successfully implemented and integrated, the MOH needs to take a lead role from the start, regardless of how challenging the process will be in the often-delicate environment of overstretched health systems. MOH involvement is the only long-term and sustainable solution. Even if addressing acute malnutrition is new for the country, the MOH should take the leadership and coordinating role for the implementation of CMAM services (or nutrition interventions, in the case of an emergency response) with appropriate support from UNICEF or another specialized agency.

MOH coordination: Creation of a task force at the national and sub-national levels helps with coordination of CMAM partners as well as support and implementation activities. MOH-chaired task forces provide opportunities for stakeholders to share good practices and experiences in promoting high-quality, effective services. Moreover, a coordinated process can address resource gaps and (re)allocate resources, strengthen planning, reduce the risk of disrupting ongoing essential health and nutrition services and programs, and enhance harmonization and sustainability of CMAM service provision.

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[5] Integration of CMAM into health systems in countries with weak or absent governance will require different approaches to achieving an enabling environment, and will probably emphasize other aspects of leadership. FANTA will conduct a review of CMAM programs in Darfur, Sudan in 2008 that will contribute to understanding how to address the enabling environment in these situations.

Integrating CMAM into national health and nutrition policies and strategic plans: Strategies for introducing or strengthening CMAM should be designed in ways that build upon existing health and nutrition policies and plans; this ensures that there is a recognized and defined place for curative care of malnutrition within the arena of preventive nutrition. CMAM should be integrated into the essential health care package as a matter of policy. This helps to ensure that CMAM receives the appropriate priority and resources relative to other health and nutrition interventions. A necessary step is a situational assessment at the national or sub-national level to investigate the magnitude of the acute malnutrition problem, existing capacity and the feasibility of providing services for the management of SAM. This assessment can help to design the CMAM integration strategy to the specific context. In the case of a humanitarian crisis, emergency nutrition interventions should not be implemented in a vertical, parallel manner; rather, program strategies should be tailored to the existing national policies and structures and integrated into district plans to strengthen sustainability of services and enhance MOH ownership. This leaves districts better positioned to integrate CMAM services into their routine health services and to include CMAM service and support activities in district health plans and budgets during the post-emergency period. Emergency-prone areas should have CMAM contingency plans.

National CMAM guidelines: National guidelines for CMAM describe the strategy or *modus operandi* and treatment protocols for the management of SAM in inpatient care, outpatient care and community outreach that are tailored to the country's needs. They provide standardized monitoring and evaluation tools and further promote adherence to the strategy and treatment protocols. National CMAM guidelines are a powerful tool for promoting, strengthening, supporting, and maintaining harmonized CMAM services.

CMAM Support Unit: Creating a temporary CMAM Support Unit (CSU) to develop the capacity of the MOH and partners has proven to be successful for introducing and integrating CMAM. Through creating an enabling environment for CMAM and effectively introducing CMAM services into initial implementation or learning sites, the CSU builds a sound basis for scaling up and integrating CMAM into the health system. The CSU is a technical support arm to the MOH and has a dual mandate to provide technical support to: 1) national-level policy making, strategic planning, national guidelines, and capacity development; and 2) district-level planning and setting up of services, and in-service training and mentoring. The CSU's mandate includes integrating CMAM into the health system rather than developing a vertical structure. During emergencies, the CSU is well positioned to support the MOH in coordinating nutrition interventions and promoting harmonized approaches. Moreover, the CSU is in a position to document and analyze CMAM service performance information and to facilitate information-sharing. The CSU is staffed and supported by CMAM experts who could be seconded from different agencies; the CSU itself, however, should be located in, managed and steered by the MOH.

Table 1: Framework for Integration of CMAM: Domains and Key Elements

1. Enabling Environment for CMAM
MOH leadership
MOH coordination
Integrating CMAM into national health and nutrition policies and strategic plans
National CMAM guidelines
CMAM support unit
Sustainability of funding
Free treatment for children with SAM
Contingency planning
2. Access to CMAM Services
Initial implementation of learning sites and gradual scale up of CMAM services
Inpatient care in hospitals (or health facilities with 24-hour care capacity)
Expanded outpatient care in decentralized health facilities
Referral system between inpatient and outpatient care
Qualified health care providers
Community outreach for community assessment and mobilization, active case finding and referral
CMAM integration into routine health services
CMAM linkages with other community services
3. Access to CMAM Supplies
Procurement of CMAM supplies
Management of CMAM equipment and supplies
National production capacity for RUTF
4. Quality of CMAM Services
Adherence to CMAM guidelines with standardized treatment protocols
Support and supervision
Monitoring and evaluation
5. Competencies for CMAM
Pre-service training
In-service training
Learning visits
Accountability for health care providers
Information exchange
Research

Sustainability of funding: Committed and long-term funding is essential for CMAM integration, as is a long-term perspective to providing support for CMAM capacity development and supplies. Most MOH budgets cannot cover all of the costs related to CMAM. In post-emergency or development contexts, support for CMAM capacity development could be obtained by linking with health and nutrition development initiatives. However, health systems may not immediately have a national source (or cost-recovery system) for funding costly CMAM supplies. Sustainable access to CMAM supplies, especially F75 and RUTF, should be secured at

the national level through national financial planning and committed and long-term donor funding. UNICEF has been very supportive in enabling local production systems for RUTF. National production of RUTF helps to promote and support political awareness of treatment of SAM and could be a motivating force to attract funding. When national production of CMAM supplies is not feasible, exemption from duties on the importation of those supplies is important.

Free treatment for children with SAM: Free health care for all children under five years of age is a health policy that has important implications for access to CMAM services. Free health care is especially important for treatment of children with SAM, who are usually from the poorest families. In practice, free health care is not always sustainable when health facilities depend upon receipts to procure supplies, maintain the facilities and pay their staff. Consequently, regardless of the national health policy, health facilities may charge for services, including for CMAM services. Alternatively, the lost income from providing free health care may result in health facilities cutting back on purchases of other health care supplies or in staffing, which consequently will have an impact on quality of care.

Contingency planning: In many of the emergency-prone countries that are already in the process of integrating CMAM, it is necessary to plan on how to scale up CMAM services and the capacities of health facilities for CMAM in response to a surge in the prevalence of SAM. CMAM contingency planning, including the use of implementation sites as learning sites and mobilization of resources (e.g., supplies and qualified staff) for rapid scale-up in emergencies, should be part of overall emergency preparedness planning.

2.2 Access to CMAM Services

Initial implementation of learning sites and gradual scale up of CMAM services: CMAM services that start in a priority district covering one inpatient care site and a limited number of outpatient care sites are ideal learning grounds for tailoring good practices to the context, testing CMAM protocols, and developing capacities of staff. As a next step, services gradually expand to cover larger geographical areas, replicating good practices. Learning sites are selected with different environmental or health contexts or different health systems. During an emergency, the scale-up process is accelerated with increased external financial and technical support. A common practice is to expand CMAM services to all health facilities in the district for improved access and coverage.

Inpatient care in hospitals (or health facilities with 24-hour care capacity): Inpatient care for SAM with complications should be provided in centrally accessible facilities, according to the need and capacity of the health facility and staff. In the absence of (or inaccessibility to) outpatient care sites, and if RUTF is available, stabilized cases can be referred from the inpatient ward to the hospital's outpatient department to continue their treatment until recovery. This enhances integration of CMAM services, as it makes a better use of limited resources, promotes adherence to protocols and avoids misunderstandings between health care providers and caregivers, among others. Hospitals are expected to identify and treat SAM for all patients admitted, regardless of the primary cause of admission or age of the patient.

Expanded outpatient care in decentralized health facilities: Outpatient care for children with SAM without complications should be established and provided in decentralized health facilities. Expanded and decentralized CMAM services improve geographical coverage and enhance coverage of services (investigating and addressing barriers to access will be needed; see below), decrease burdens on health care in general, and decrease burdens on health care providers in particular. The level of decentralization is determined by the presence of qualified staff. For most children with SAM (i.e., those identified and referred from the community or those seeking treatment for another medical problem), the outpatient care site will serve as the point of entry to CMAM services, simply because this is the closest health care site to their home. For mobile or dispersed populations, mobile outpatient care units are an appropriate strategy. However, they are difficult to sustain outside of emergency contexts because of the additional human resource and transportation needs.

Referral system between inpatient and outpatient care: CMAM effectiveness depends on a good referral system between inpatient and outpatient care, both of which are needed for CMAM. A child diagnosed with SAM needs an evaluation of the medical condition by a clinically skilled health care provider, who will decide whether to refer the child to inpatient or outpatient care. In emergencies, NGO-run programs may decide to provide only outpatient care because it is faster to set up, requires less expertise, and addresses the majority of the cases, among other reasons. This practice should not be encouraged, however, because it undermines a core approach of CMAM: any child with SAM that develops a complication needs immediate referral and access to inpatient care.

Qualified health care providers: Availability of an adequate number of qualified health care providers is key to providing effective CMAM services. CMAM guidelines include sections on evaluation of a child's medical and nutritional condition, medical judgment for referral of SAM cases with complications, medical treatment protocols and nutritional rehabilitation protocols. SAM case management therefore requires health care providers with certain credentials - based on national health system regulations and job descriptions – to fulfill responsibilities at the CMAM sites. The chronic lack of qualified health care providers and high turnover are common and serious obstacles to maintaining quality services in resource-poor environments. There is no obvious solution to the chronic shortage of health professionals. Field solutions include an upward shift or re-classification of clinical staff so that community health workers take over tasks from nurses and volunteers assume responsibilities of community health workers. A revision of the CMAM treatment protocol for SAM cases without complications could be envisaged, whereby community health workers are trained on how to correctly refer new cases with SAM to clinicians for treatment of underlying infections and evaluation of complications. This practice has been effectively implemented in many health facilities with shortages in staff.

During emergencies, when external financial resources are available, the problem of availability of qualified health care providers is partially addressed through temporarily re-assigning staff from health facilities elsewhere in the country (thereby potentially weakening health systems in their areas of origin); recruiting new staff and upgrading their knowledge and skills through rapid and focused capacity-building efforts; or temporarily assigning students and new graduates. These scenarios -- utilized, for instance, during the 2003 Ethiopia crisis -- are effective for areas

in crisis if strong in-service training programs are set-up. The impact of the re-assignment of health staff on their place of origin is not well documented.

Community outreach for community assessment and mobilization, active case finding, and referral: Enhanced community outreach is essential for successful CMAM services, allowing for community assessment and mobilization, early detection and referral of children with SAM, and follow-up of problem cases, as well as linking with formal and informal community channels. In addition to detection and referral of children with SAM, community outreach promotes understanding of SAM and SAM treatment, and identifies and addresses common barriers to access to CMAM services (e.g., distance, cost of transport, mistrust of health care, ingrained cultural practices.)

Community outreach that includes links with the informal health sector and involvement of traditional healers and religious leaders in CMAM outreach is critical, given the role and influence the informal health care sector has on care-seeking and caring behaviors. Integrated community outreach is possible through skillful planning and linking of CMAM community outreach with other community activities. Quick and visible outcomes of CMAM services can be a powerful engine for strengthening community participation in general. A horizontal, integrated approach should be used to avoid vertical programs overwhelming the community outreach efforts. There are typically three key actors at the community level, with each playing a role in sustaining community outreach for CMAM. *These actors are described in Box 1, below.*

CMAM integration into routine health and nutrition services: CMAM services have great potential to be integrated into routine health and nutrition services. Preventive care should incorporate early detection of wasting and bilateral pitting oedema through the use of MUAC readings and bilateral pitting oedema checks, and referral. Curative care should incorporate SAM management. Moreover, a child at any contact with the health system should be evaluated for acute malnutrition and access treatment, if identified with SAM.

CMAM linkages with other community services: Other complementary services include those that enhance household food security, healthy environments and strengthened livelihoods. Although integrating and linking programs with different targets and objectives is challenging, it can support the improved targeting of the most vulnerable (e.g., prioritizing families with children with SAM during emergencies).

Box 1: Community Outreach Key Actors

Community Health Workers (CHWs) are part of the health system and provide preventive health care at health facilities and/or in the communities. In some countries, they also offer basic curative care. The community outreach coordinator at the district MOH or a community health nurse based at the health facility provides support to the CHW in their catchment area. Experience has shown that CHWs, in practice, fill service gaps at the health facility and often spend limited time in the communities. They are in charge of many preventive community outreach activities, often top-down managed vertical health programs. For example, in Ethiopia the "Health Extension Worker" is responsible for 16 activities, and in Malawi "Health Surveillance Assistants" are involved in 11 preventive community health care activities and limited curative care. The catchment area of the community health worker usually covers several villages that are often remote or difficult to access. In the case of CMAM, the CHWs are in charge of sensitizing communities on acute malnutrition and its treatment, as well as of community screening and referral of children with SAM. They perform home visits for SAM problem cases. They link CMAM community outreach with the CMAM volunteers, if applicable. In reality, their support to the volunteers may not be strong unless they receive district support, have specific CMAM community outreach activities integrated into their job description or are NGO-supported.

Community Volunteers for CMAM sensitize communities on acute malnutrition and its treatment, conduct community screening and referral of children with SAM, and conduct home visits for SAM problem cases. CMAM volunteers are initially well trained and supervised by the NGO-supported CMAM program. By definition they are not remunerated but receive benefits that can take different forms across programs, districts or countries. There are those who are rewarded for their work in the form of community respect, access to training, possibility of being upgraded to CHW, improved access to health care, or a certificate that provides recognition. Often NGOs in emergency situations, because of the heavy work load, provide incentives to volunteers that can be in the form of a t-shirt, lunch allowance during service days, and training, among others. These latter incentives tend to be more motivating, often resulting in more active CMAM volunteers who fill service gaps at health facilities. However, the MOH cannot sustain a system of incentives for volunteers unless access to an external budget is guaranteed; usually this is not feasible or sustainable. The CMAM volunteer system is therefore prone to rapid collapse after NGO withdrawal unless a support framework remains in place. Volunteers are often already recruited for specific, NGO- or donor-supported vertical programs, with high risk of overburdening the volunteer with additional responsibilities, as vertical programs do not always make the needed horizontal linkages at the community level, including for CMAM.

In general, the community volunteer is an active community member who is appointed or chosen by the community because of his or her social engagement (except in cases when access to special incentives and favoritism come into play.) Unlike community health workers, they have no status within the health system, but are in practice a great asset and extra pair of hands to fill gaps in the health care delivery system. Volunteers operate in parallel to other services unless there is a system of capacity building and supervision. This is usually the terrain of the NGOs, as is the case with NGO-led CMAM programs. Many health systems discourage the use of volunteers and hence do not budget or plan for any training or supervisory activities. In both Ethiopia and Malawi, national health policy discourages the use of volunteers, which is unfortunate because they can be a valuable work force to sustain CMAM services. For specific activities such as National Immunization Days, the same volunteers can be involved with community mobilization and receive remuneration.

Community Members have an important role to play in CMAM, regardless of whether they are community leaders, community health committee members, or members of other formal and informal

community groups (e.g., traditional healers, religious leaders, and caretakers of beneficiaries and non-beneficiaries.) Communities do not always recognize SAM as a medical or dietary problem that can be treated at the health facility. The successful recovery of a child with SAM has an immediate and powerful impact, as does the understanding that detecting children with SAM early enables successful treatment in the community without facing opportunity costs for the caretaker and family. Therefore, sensitizing communities and providing them with the understanding of good care and feeding practices is essential to prevent and treat acute malnutrition early. Moreover, communities that understand and have recognized the benefits of the services will create a demand for these services from the bottom up and help overcome financial and cultural barriers and mistrust of health services and thus CMAM. For CMAM to be sustainable and effective as part of a national health system, the link with the formal and informal sectors of communities needs to be maintained.

2.3 Access to CMAM Supplies

Procurement of CMAM supplies: Sustainable and integrated procurement systems for CMAM supplies are necessary, and should be an integral part of MOH strategies for ensuring long-term funding for CMAM. For CMAM services integrated into existing health systems, essential CMAM equipment and supplies are therapeutic foods, additional supply of essential drugs, and mid-upper arm circumference (MUAC) tapes, assuming that other supplies are in place as part of existing routine health services. The most significant obstacle in CMAM supply provision is the cost of therapeutic foods such as therapeutic milks (F75 and F100) and RUTF (the cost of RUTF is US$50 per full treatment on average). Other problems with supplying therapeutic foods are difficulty in transportation and storage due to their heavy and bulky nature, and difficulty in forecasting the quantity of product stores needed given limited shelf life (up to six months for nationally produced RUTF in pots or jars, and two years for RUTF in sachets).

Management of CMAM equipment and supplies (distribution, storage and stock management): National procedures are needed to take over these logistics, with particular focus on the therapeutic food supply systems for the reasons mentioned above (e.g., cost, weight, bulk and shelf life). The distribution system for CMAM supplies will need continuous support until reliable systems are identified in the public or private health sector, or both. One solution for improving access to supplies that has been discussed in several countries is to include CMAM supplies on the national essential drug and supply list. The disadvantages of this approach, such as strict control measures for national production of RUTF and increased import and sales taxes, would need to be evaluated at the national level before decisions are made. Opportunities for engaging the private sector to create or assist with a CMAM supply system can be investigated. Other examples of innovative local supply systems exist, such as a local distribution network organized by communities or the district health authority through combining available transportation means (e.g., transportation of goods during market days or patients with ambulances.)

National production capacity for RUTF: National production of RUTF can serve as a strong advocacy tool and attracts the attention of in-country policy makers. Nationally produced RUTF could have a financial advantage over imported RUTF if it can be produced and made available at lower cost. However, experiences so far have shown that this is not the case. Moreover, the locally produced RUTF has a shorter shelf life than imported RUTF (six months versus two

years, respectively) unless a nitrogen flush technique is used in a foil sachet packaging system. For this, the local producer needs to procure and import a costly packaging machine. Quality assurance of national production of RUTF and availability of reliable laboratories has been an issue, as nationally produced RUTF needs to pass an audit to gain UNICEF good manufacturing practices (GMP) certification before certain donors or agencies will be able to purchase it. Moreover, even if approved, RUTF is not likely to become a commercially profitable product, although other peanut-based pastes and products could be commercially viable and profitable, and may justify national RUTF production for selected companies. The feasibility of national production should therefore be assessed on a country-by-country basis.

2.4 Quality of CMAM Services

Adherence to national CMAM guidelines with standardized treatment protocols: Well defined, comprehensive and clear guidelines on CMAM, based on good practices, enhance harmonization and quality of services. Dissemination of national guidelines, accompanied by training, promotes adherence to and reduces misinterpretation or maladaptation of SAM treatment protocols and monitoring tools, thereby enhancing integration. The MOH can use guidelines to promote adherence to treatment protocols, and health care providers can use the guidelines to strengthen their performance, knowledge, and skills, and to avoid confusion which can lead to inconsistent care. Misclassification and non-adherence to admission and exit criteria are common, and increase case loads as well as unnecessarily burden health systems.

Support and supervision: Support and supervision on clinical case management and organization of services at the health facility level are necessary for improved performance and integration of CMAM services. Supervision should focus on case management, service provision and staff performance rather than on administrative issues. Support and supervision can help to share good practices and lessons learned from other health facilities. To be sustainable, support and supervision for CMAM must be integrated into the overall district supervisory responsibilities of the MOH, rather than relying on parallel or NGO support systems. Support and supervision is an essential tool in identifying weaknesses and strengths and can provide critical qualitative information needed to interpret the services' performance. Moreover, support and supervision play a role in creating motivation and promoting positive attitudes among service provider staff. Thus, quality support and supervision influences integration and sets the scene for increased use of services.

Monitoring and evaluation: A standardized monitoring and evaluation (M&E) system is a key element of national CMAM guidelines. Quality control of CMAM services is essential and should be possible through a simplified M&E system included as part of the national health information system (HIS).

Monitoring and evaluation of service performance relies on both qualitative and quantitative information to identify opportunities to enhance integration. The M&E system should track performance indicators and include information on other aspects of quality of services, obtained through qualitative investigation. The adapted HIS can serve as a nutrition surveillance tool that has the potential to detect changes in acute malnutrition trends.

Documenting the evaluation of effectiveness and coverage of services -- including analysis of barriers to service use – is important for CMAM integration because it can define weaknesses and help to refine the integration of CMAM.

2.5 Competencies for CMAM

Pre-service training: Medical and nursing teaching institutions and community health worker education and qualifications should include training on CMAM and on the WHO SAM management protocols. Including CMAM in the pre-service curricula of health professionals will reduce the need for continued capacity building of inexperienced staff and will broaden the base of knowledgeable and skilled health managers and health care providers.

In-service training: Considering the continuous need for building the capacity of health professionals for CMAM services planning and start-up as well as strengthening implementation in both emergency and development contexts, there is a need for long-term in-service training, including individual mentoring and refresher training sessions. Learning sites can build new knowledge and facilitate skills transfer at the start of CMAM service and provide for continued support to maintain quality of services. In-service training with in-service tutors, similar to the clinical teaching of health professionals, has proven to be very successful for training of health staff assigned to inpatient care, outpatient care, and community outreach. In-service training at the different health professional levels will need to be maintained, but is expected to decrease in importance over time (e.g., refresher trainings, updates of new evidence) when pre-service training is well established.

Learning visits: Learning sites provide real-time learning and rapid transfer of skills in emergencies as well as more stable situations. The pre-emergency set-up of CMAM pilot programs and learning sites for inpatient care, outpatient care, and community outreach has proven to be very effective for the sensitization and orientation of health policy makers and managers and for the in-service training of health care providers. The learning sites make it possible to learn lessons for context-specific adaptations of management and protocols, and prepare for rapid scale-up. Learning visits for staff from other districts or countries not yet involved in CMAM have positive benefits and enhance start-up of services.

Box 2: Training for CMAM

An essential element of capacity development for CMAM is health professionals' acquisition of knowledge and skills on the entire CMAM package. This is to ensure a thorough understanding of CMAM in general and of the management of SAM with and without complications specifically. Intrinsic parts of this training are essentials on nutrition, acute malnutrition and its patho-physiology, and the management of complications. The training should also be adapted based on the trainees' academic qualifications, their work experiences and their positions in the health system.

In the past when only center-based care for the management of SAM was in place, training for the management of SAM was all-inclusive, and covered all relevant aspects of inpatient care. In recent years, training and implementation practices have been changing. CMAM programs tend to spilt implementation, and thus training, for inpatient care and outpatient care. This is partially acceptable as different audiences are targeted. Health care providers involved in outpatient care usually receive a few days of in-service theoretical training followed by 2-4 weeks of in-service practical training and continued mentoring. A minimal package of knowledge accompanies the start-up of SAM management in outpatient care, with the assumption that the essentials in nutrition and acute malnutrition are covered in pre-service training. However, the management of SAM based on the 1999 WHO protocols is not yet part of medical and nursing school curricula in many parts of the world. Thus, outpatient care start-up provides a minimal training package on the clinical management of SAM without complications to the health care providers. In emergencies, when time is scarce and case loads high, this approach can be justified. An effort should be made during the post-emergency period to help these health care providers complete their knowledge and skills so that they can be better prepared to make medical judgments and referrals in the case of SAM with complications. On the other hand, training for inpatient care, covering in-depth SAM management including treatment for medical and life-threatening complications, tends to be handed over to specialized experts or agencies. Moreover, there is a growing belief that training for in-patient care only (excluding outpatient care) is more suitable for inclusion in the curricula of medical teaching institutions, as it focuses on clinical management of SAM complications. However, both inpatient care for SAM with complications and outpatient care for SAM without complications need to be integrated into these curricula.

The split in training packages for in- and outpatient care for the management of SAM brings a high risk of health care providers having incomplete knowledge and skills. This could lead to CMAM expertise becoming bifurcated between health care providers in inpatient care and in outpatient care, or between MOH and NGO staff. This strategy may be justified in emergencies but should be addressed as soon as possible in non-emergency situations.

Accountability for health care providers: Initial training, adequate supplies, monitoring tools, and consistent guidelines at the national level are essential to enable health care providers to provide quality CMAM services. Moreover, refresher trainings and continued mentoring by in-service tutors and supervision are well-recognized strategies to keep staff engaged and to foster a positive, confident outlook. A positive work and learning environment empowers and motivates staff, and is likely to be decisive in maintaining and integrating quality CMAM services. CMAM itself is a powerful tool for engaging health care providers because the positive feedback from the caretaker and the child who has improved and recovered is extremely rewarding. Including CMAM in the health care providers' job description makes them more responsible and

accountable for the services, as well as more motivated. Having CMAM as an official duty may also stimulate the health care provider to take innovative approaches for integration of services.

Information exchange: Information sharing and exchange of experiences is also essential for CMAM implementation and integration. Sharing of knowledge and lessons, especially peer information, can be stimulating, motivating, and rewarding, and can have a direct impact on improving current practices and quality of services. Monthly or quarterly staff meetings at district levels are opportunities for the exchange of knowledge and information, and should not be limited to administrative planning. The need for continuous learning and information sharing on good practices is also relevant during emergencies.

Research: Formative research is essential for improving the effectiveness of services, promoting good practices, learning lessons, and fostering program integration and scale-up. Findings must be shared at the district, national and international levels.

3. RECOMMENDATIONS FOR INTEGRATION OF CMAM

Introducing, integrating and supporting CMAM services in the emergency and development contexts should be done in a way that contributes to strengthening the overall health system. When CMAM services are introduced, regardless of the context, a health systems-strengthening approach should be used to ensure that: 1) CMAM services are integrated into the health system; 2) quality and effectiveness of CMAM services and competencies will be maintained; and 3) CMAM services are allocated resources proportional to need and with respect to other essential health care and nutrition services.

Successful integration of CMAM revolves around the capacity of the health system to sustain quality CMAM services. Therefore, a set of context-specific key elements in five domains – an enabling environment for CMAM, access to CMAM services, access to CMAM supplies, quality of CMAM services, and competencies for CMAM - needs to be considered and addressed when introducing or integrating CMAM. A comprehensive capacity assessment of these elements, including a costing and planning tool, will help to identify which elements need to be strengthened.

In countries with a high burden of acute malnutrition, national health policies will have to carefully assess the need for and situate CMAM within other essential health care and nutrition services. National health policies will have to identify context-specific strategies on how to best address high levels of acute malnutrition. CMAM services may be prioritized in certain highly vulnerable areas with a chronic burden of acute malnutrition, in emergency-prone areas, and/or as a nationwide service.

Introducing, integrating, and supporting CMAM is a part of the emergency prevention and preparedness strategy in settings and contexts where levels of SAM are high. Countries or areas with recurrent needs for emergency nutrition interventions are prime candidates for emergency preparedness investments that put the necessary pieces in place to strengthen the country's capacity to provide CMAM services as part of routine health services and rapidly scale up CMAM in case of an emergency. Contingency planning for CMAM is key to enable more rapid and effective emergency response and may include strengthening of community outreach, pre-positioning of RUTF supplies, and identification of qualified health care providers, among other elements. On the other hand, CMAM programs that transition from the emergency setting would benefit from a national strategy or guidance for integrating CMAM services into routine health care in the post-emergency context.

Global-level recommendations

▪ **Advocate and attract technical and financial support from donors to integrate CMAM into national health policies and strategic plans**. This enables CMAM to become a part of the essential health care package.

▪ **Support country initiatives to invest in the key elements** identified for successful integration and sustainability of CMAM.

- **Invest in developing tools for improving assessment, design, and M&E of CMAM.** These could include a capacity assessment tool to improve the design and strategy tailored to the context; a costing tool to improve planning; and M&E tools that are adapted to the competencies of the health professionals and the national HIS, and serve as a nutritional surveillance system.

- **Update donor project proposal guidelines for CMAM programming and include guidance based on the key elements for improved integration identified in this review.** For example, prioritize partners with an established relationship with the MOH or the communities in which it operates; encourage proof of linkage with development programs, national policies or MOH strategies; and encourage coverage of key elements of CMAM integration in the design of the project and the formulation of exit strategies.

- **Broaden the base of NGOs providing CMAM support** and include grantees that are in a position to best address key elements for integration and scaling up of CMAM through their expertise in strengthening health systems.

- **Expand the knowledge and evidence base for integrated and scaled-up CMAM.**

4. FURTHER ACTIONS NEEDED TO EXPAND KNOWLEDGE AND EVIDENCE BASE FOR CMAM

Review specific successes of integration and scaling up of CMAM

This review identified key domains that contribute to successful integration of CMAM. More work is needed, however, to refine all the factors and processes that influence quality. Health systems that are more advanced than others in terms of integrating CMAM should be studied in more detail based on the analytical framework of CMAM key elements, focusing on processes and wider operational context.

In addition, a more in-depth analysis of successful programs or services, and the elements and processes in place in contexts where they work, would help to elaborate on these contributing factors for CMAM quality and integration. Moreover, as many of the stronger programs are set up in the post-emergency phase with minimal external support, it would be valuable to assess their sustainability over time and their performance during a next crisis.

Document evidence on performance, impact and sustainability of integrated and scaled-up CMAM services

This review captures efforts of CMAM integration at a specific point in time in each of the three countries, where certain strategies and approaches to transition CMAM programs to the MOH in the post-emergency phase have been employed. CMAM programs that started as emergency interventions are now facing challenges in retooling their strategy and *modus operandi* to adapt to low-resource and integrated health care without evidence on good practices or harmonized guidance. Numerous initiatives are ongoing to integrate CMAM into the health system and to scale-up services at the national level. An evaluation of the impact and longer-term sustainability of these approaches is needed. It is critical to document evidence on the sustainability of integrated and scaled-up CMAM services in the post-emergency or development context, as well as performance during the next emergency. Documentation of good practices will be needed to guide integration and scale up.

Review lessons learned from community-based health care and its relevance to CMAM integration and scale-up

CMAM is evolving as another essential health service that is integrated in the wider health system. Other services have followed this path before. A review of lessons learned from introducing and supporting community-based primary health care (e.g., IMCI, Community-IMCI, EPI), and an analysis of their relevance to CMAM, will be valuable for providing guidance on good practices.

Strengthen partnerships for continued sharing of experiences and evidence on CMAM

Effective strategies for sharing of experiences and evidence on CMAM have been used to date. Numerous publications on the evidence base of CTC are available. National and international workshops have provided presentations on the performance of CTC and have discussed the

challenges of scaling up. National and sub-national CMAM coordination or technical meetings have been effective information-sharing fora.

Systems and mechanisms for continued sharing of experiences and evidence on CMAM need to be strengthened at international and national levels. Although a wealth of rapidly evolving information and documentation on performance, experiences, lessons and good practices on CMAM is available, it remains largely in the "gray literature" domain. Experiences from implementation and operational research could be aggregated and made available faster.

On behalf of USAID, FANTA will host an international workshop in Washington, DC on April 28-30, 2008 to review current practices on CMAM integration and scale-up. Next, an accessible repository of CMAM documentation and information could be established at a nutrition website (e.g., Emergency Nutrition Network or the U.N. Standing Committee on Nutrition). Advocacy to encourage and improve information sharing is a responsibility of all partners involved in CMAM.

ADDITIONAL RESOURCES ON CMAM

Gross, Webb: Gross, Rainer, and Patrick Webb, "Wasting time for wasted children: Severe child undernutrition must be resolved in nonemergency settings," *The Lancet*, Vol. 367, No. 9517, 8 April 2006, pp. 1209–1211.

UN Joint Statement: Community-based Management of Severe Acute Malnutrition, Joint Statement by WHO, WFP, the UN Standing Committee on Nutrition, and UNICEF, May 2007, www.who.int/child-adolescent-health/New_Publications/CHILD_HEALTH/Severe_Acute_Malnutrition_en.pdf.

WHO SAM Treatment Guidelines: Management of Severe Malnutrition: A Manual for Physicians and Other Senior Health Workers, WHO, Geneva, 1999. www.who.int/nutrition/publications/en/manage_severe_malnutrition_eng.pdf.

CTC Field Manual: Community-based Therapeutic Care (CTC): A Field Manual, Valid International, Oxford, 2006, www.fantaproject.org/ctc/manual2006.shtml.

NICS: Nutrition in Crisis Situations, UN Standing Committee on Nutrition, www.unsystem.org/SCN/Publications/html/rnis.html.

OFDA: www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/

IMCI: www.who.int/child-adolescent-health/integr.htm

ENN: www.ennonline.net

FANTA: www.fantaproject.org.

Annex 1: Definitions

Acute Malnutrition	Acute malnutrition is a form of undernutrition. It is caused by a decrease in food consumption and/or illness resulting in sudden weight loss or bilateral pitting oedema.
Center-Based Care for Severe Acute Malnutrition (SAM)	Center-based care for SAM refers to the management of SAM, with or without complications, in an inpatient setting until weight recovery. Prior to the development of CMAM or in the absence of the CMAM approach, children with SAM are exclusively managed as inpatients receiving medical treatment and nutritional rehabilitation until weight recovery.
Community-Based Management of Acute Malnutrition	Community-based management of acute malnutrition (CMAM) refers to the management of acute malnutrition through: 1) inpatient care for children with SAM with complications and infants under 6 months of age with visible SAM, 2) outpatient care for children with SAM without complications, and 3) community outreach. Services or programs for children with moderate acute malnutrition (MAM) may be provided depending on the context. CMAM evolved from Community-Based Therapeutic Care (CTC), which is a community-based approach for the management of acute malnutrition in emergency settings and comprises inpatient or stabilization care, outpatient therapeutic care, supplementary feeding and community outreach. Other variants include Ambulatory Care or Home Care for SAM.
Community Outreach	Community outreach for CMAM includes community assessment, community mobilization, active case finding and referral, and case follow-up.
Coverage	*Geographical coverage* refers to the physical availability of CMAM services (geographical access) through the decentralization of health facilities and services providing the care. *Program or service coverage* refers to the use of CMAM services by those in need of care. Period coverage is the preferred indicator to express program or service coverage. *Point coverage* is the ratio of children with SAM in treatment (a) to the total number of children with SAM identified in the community at a particular time. Children with SAM identified in the community is calculated as children with SAM in treatment (a) plus children with SAM not in treatment (b). [Point coverage = a/a+b]. *Period coverage* is the ratio of all children attending SAM treatment services—i.e., children with SAM in treatment (a) plus children recuperating from SAM and still in treatment (c)—to the number of children in treatment (a+c) plus the number of children with SAM not in treatment (b). [Period coverage = (a+c)/(a+c+b)].
Essential Health Care Package	Essential health care package refers to the set of services provided at health facilities, as mandated by MOH policy. The package varies based on the health facility type (e.g., health center versus health post).
Hand-Over	Hand-over refers to the actual transfer of roles and responsibility for CMAM services from the NGO to the MOH. While the NGO or other partner may continue to provide some financial or technical support (e.g., purchase and transport of supplies, provision of training) following the hand-over, MOH staff conducts CMAM planning and provides CMAM services.
Health Care	Health care is the prevention, treatment and management of illness and the preservation of mental and physical well-being through the services offered by health care providers. Health care embraces all the goods and services designed to promote health, including preventive, curative and palliative interventions, whether directed to individuals or to populations.
Health Care Provider	Health care provider refers to medical, nursing and allied health professionals, including community health workers.
Health System	A health system consists of all structures, resources, policies, personnel, services and programs involved in the promotion, restoration and maintenance of health.
Inpatient Care for the Management of SAM With Complications	Inpatient care is a CMAM service treating children with SAM with complications until their medical condition is stabilized and the complication is resolving (usually four to seven days). Treatment then continues in outpatient care until weight recovery. Inpatient care for SAM with complications is provided in a hospital or health facility with 24-hour care capacity.
In-Service Training	In-service training prepares health professionals to provide CMAM services, developing specific knowledge and skills according to their job qualification, accounting for prior learning and work experience. It includes theoretical and practical training (e.g., on-the-job training, tutoring or mentoring, refresher training sessions).
Integration of CMAM	*Integration of CMAM* refers to the incorporation of CMAM into the national health system.
Minimal External	Minimal external support refers to financial and technical support to the MOH for capacity

Support	strengthening and access to supplies.
Moderate Acute Malnutrition (MAM)	MAM is defined by moderate wasting (WFH $\geq$ -3 z-score and < -2 z-score of the median of the NCHS reference or WHO standards, or by a WFH $\geq$ 70% and < 80% of the median [NCHS], or by a MUAC $\geq$ 110 mm and < 125 mm [cutoff being debated]). MAM can also be used as a population-level indicator defined by WFH $\geq$ -3 z-score and < -2 z-score of the NCHS reference or WHO standards. In this case, it excludes % WFH median and MUAC.
Outpatient Care for the Management of SAM Without Complications	Outpatient care is a CMAM service treating children with SAM without complications, through the provision of routine medical treatment and a nutritional rehabilitation with RUTF. Children will attend outpatient care at regular intervals (usually once a week) until weight recovery (usually two months).
Pre-Service Training	Pre-service training is conducted at a teaching institution as part of the curriculum for a professional qualification. It can be at the pre-graduate, post-graduate or diploma level (e.g., in medical or nursing schools). It includes theoretical and practical training. Practical training sessions can be simulations, demonstrations, on-the-job training, mentoring, etc.
Ready-to-Use Therapeutic Food (RUTF)	RUTF is an energy-dense, mineral/vitamin-enriched food specifically designed to treat SAM. RUTF has a similar nutrient composition to F100, which is the therapeutic food used in hospital settings. RUTF is soft, crushable food that can be consumed easily by children from the age of six months without adding water. Unlike F100, RUTF is not water-based, meaning that bacteria cannot grow in it and that it can be used safely at home without refrigeration and in areas where hygiene conditions are not optimal. It does not require preparation before consumption. Plumpy'nut® is an example of a commonly known lipid-based RUTF.
Referral	A referral is a child who is moved to a different component of CMAM (e.g., from outpatient care to inpatient care for medical reasons) but has not left the program.
Routine Health Services	Routine health services refer to those services provided at health facilities based on staff capacity and facility resources. These services include the essential health care package as well as others.
Scale-Up	Scale-up involves the expansion of services, e.g., from the pilot to the program phase, or as part of a strategy to expand geographical program coverage to the targeted area or nationally.
Severe Acute Malnutrition (SAM)	SAM is defined by severe wasting (WFH < -3 z-score of the NCHS reference or WHO standards, or WFH < 70% of the median [NCHS], or MUAC < 110 mm) or the presence of bilateral pitting oedema. A child with SAM is highly vulnerable and has a high mortality risk.
Transition	Transition refers to the process leading up to hand-over, including the planning and preparation for the gradual transfer of roles and responsibilities for CMAM services from the NGO to the MOH until hand-over is complete.
Underweight	Underweight is a composite form of undernutrition including elements of stunting and wasting and is defined by a weight-for-age (WFA) < -2 z-score of the median of the NCHS reference or WHO standards. This indicator is commonly used in growth monitoring and promotion (GMP) and child health and nutrition programs aimed at prevention and treatment of undernutrition.

Annex 2: Ethiopia Country Review (excerpt)

Ethiopia is a country with a long history of recurrent droughts and large-scale nutrition emergencies. CMAM programs were piloted in 2000 in two sites and demonstrated evidence of quality services and strong program performance. The 2003 nutrition emergency served as a catalyst for scaling up CMAM programs, with NGOs gradually transitioning therapeutic feeding centers for treatment of SAM to community-based management of SAM.

1.1   Elements and challenges influencing CMAM integration

Enabling environment for CMAM
At the national level, the MOH Nutrition Unit has limited capacity to provide leadership or play a significant role in CMAM. In fact, the government has not yet decided which ministry will be responsible for nutrition. National health policies and plans address nutrition, but not CMAM specifically. CMAM is not included in MOH health action plans or budgets at any level. National CMAM guidelines were developed and approved in 2007 with major UNICEF and NGO support, however, at the regional level, MOH involvement in CMAM varies depending on the priorities and engagement of the health staff. CMAM is not included in job descriptions of health professionals, who are therefore not held accountable to, or responsible for, providing CMAM services. The UNICEF and NGO-supported CMAM Support Unit (CSU) is providing regional and district-level support for CMAM scale-up. Otherwise, support for CMAM services is provided by NGOs mainly for outpatient care and community outreach and by UNICEF for inpatient and outpatient care. Various informal integration strategies and procedures have been applied with widely variable success.

There are many good opportunities for sharing program and research information and experiences through coordination mechanisms at the national and regional levels such as regional Child Survival Working Group meetings and national and regional CMAM workshops. This has enhanced strategies and initiatives for the integration of CMAM programs into the health system.

Numerous external resources have supported the development of national CMAM strategies, guidelines and services in Ethiopia since 2003. Short funding cycles without certainty of renewal have resulted in short-term strategies for CMAM integration. Consequently, NGOs have been insufficiently prepared to hand over CMAM programs to the MOH, resulting, in many instances, in service disruption or termination.

Access to CMAM services
The health system has a well-defined structure of health facilities and management committees at the regional, district and village levels, providing a foundation on which to integrate CMAM. However, this same system suffers gravely from staff shortages and high turnover. Much of CMAM inpatient and outpatient care is currently provided within MOH health facilities. However, the geographical coverage still coincides largely with the 2003 NGO emergency response area. While UNICEF provides major support for inpatient care at hospitals and health centers and is supporting expanded coverage of outpatient care, most outpatient care is managed by and reliant on NGOs. The MOH and the CSU are planning for outpatient care expansion with minimal external support.

Community outreach is achieved in NGO programs through support for volunteer networks and tends to decline with the departure of the NGO. District MOH staff lack resources for supervision, training and transportation to maintain outreach at the community level – either to support volunteers or to follow up on specific problem cases with SAM. Referral and transportation of children with SAM to inpatient or outpatient care is similarly weak. Health extension workers provide community-level health care and nutrition services, as part of the national Health Extension Programme, but are limited by their qualification and job description in providing outpatient CMAM services. The informal health system and local community administration are opportunities to improve outreach and hence coverage of integrated CMAM services.

Links with other health and development programs are limited to the Enhanced Outreach Strategy for Child Survival, which conducts biannual health and nutrition prevention activities and screening and referral for treatment of SAM and supplementary feeding for MAM. Integration of CMAM into Integrated Management of Childhood Illness (IMCI) is under consideration.

Access to CMAM supplies
Most CMAM supplies are purchased by UNICEF or by NGOs. Without their commitment, much of the CMAM system would fail. Access to supplies and transportation of supplies are major issues, as frequent delays and stock outs of essential drugs and CMAM supplies due to long transportation routes from the capital to the region to the zone to the district to the facility are common. Distribution systems for CMAM supplies are maintained as parallel systems.

There is no clear donor commitment to continue funding CMAM supplies over the long term, nor are CMAM supplies included in MOH health action plans or budgets. National production of RUTF is currently limited to one UNICEF-certified manufacturer, which has the capacity to cover the national needs.

Quality of CMAM services
National guidelines for inpatient care of SAM were in place in 2003 and then updated into CMAM guidelines with outpatient and inpatient treatment protocols in 2007. However, multiple protocols are still in use in the various NGO and UNICEF-supported programs and services, threatening the quality of CMAM and hindering effective capacity building of regional and district health staff.

The implementation of CMAM services (e.g., organization of patient flow and service days) also varies substantially between programs, with no national-level guidance provided. The MOH lacks capacity and staff to support and supervise CMAM activities, and CMAM supervision has not been integrated into the existing supervision schedule beyond occasional instances of joint NGO-MOH supervision visits at the district level.

National patient and service monitoring forms exist but are not uniformly used. Satisfactory monitoring of CMAM performance occurs when NGOs are active and generally ceases upon NGO departure. CMAM inpatient and outpatient care data are not linked, except when an experienced NGO supports and reports on both services. UNICEF provides summaries of

performance indicators of national CMAM programs. As inpatient and outpatient care are not always covered simultaneously in a given district, the overall reporting of CMAM performance indicators is incomplete and therefore difficult to interpret. CMAM data may refer to exclusive inpatient care (through therapeutic feeding centers), to joint inpatient and outpatient care, or to inpatient and outpatient care separately. These distinctions are not maintained in the summarized performance indicators. The government-based Emergency Nutrition Coordination Unit coordinates nutrition surveys and collates the national data on prevalence of acute malnutrition. Coverage of CMAM services is only being measured by a couple of NGOs, with no national capacity to do so.

Competencies for CMAM
There is a great degree of technical knowledge, experience, and research that has been developed over the years among MOH, UNICEF and NGO staff in Ethiopia with respect to management of SAM in general and to CMAM in particular. This constitutes a great opportunity for learning. However, national pre-service training of health professionals in CMAM does not exist with the exception of two medical schools that have incorporated SAM treatment protocols into their training curricula. After the 2003 emergency, UNICEF launched a major SAM management capacity-building effort and provided in-service training on the management of SAM in inpatient care. To date, in-service training for outpatient care and community outreach depends largely upon NGOs, while UNICEF is expanding inpatient and outpatient care training. Health staff shortages, high turnover and limited access to funding for capacity development constrain CMAM expansion. Ongoing health system reform will result in an increasing need for higher-level health care providers (e.g., nurses), placing an ever greater strain on the health system.

Health care providers often have negative attitudes towards treating children with SAM because the service is traditionally perceived as an NGO activity and responsibility. Insufficient MOH involvement in service implementation, supervision and capacity building is exacerbated by the fact that CMAM is not a part of job descriptions.

1.2   Conclusions

Ethiopia has benefited from strong international support in CMAM service provision and capacity building. Integrating CMAM into the health system has been facilitated by the UNICEF and NGO-supported CSU that provides regional and district-level support for MOH CMAM scale-up, and there is momentum to replicate integrated CMAM relying on minimal external support while maintaining staff capacity and service quality. The potential for building or strengthening links beyond CMAM to other program contexts, such as IMCI, the Enhanced Outreach Strategy for Child Survival and the Health Extension Programme, provides additional opportunities for CMAM integration into the health system.

The motivation, interest and capacity created within the MOH by the presence of NGOs and UNICEF is at risk of stagnation or decline, given the recent closure of numerous NGO programs as some emergency funding came to an end. The sudden departure of NGOs endangers CMAM services and risks the collapse of CMAM in certain areas of Ethiopia where the MOH is not sufficiently engaged. As long as the MOH does not take a leadership role and CMAM is not

integrated into MOH policies and plans, job descriptions of health care providers and into pre-service training for professional qualifications, there will be limited ownership and sustainability.

Annex 3: Malawi Country Review (excerpt)

In 2002, when Malawi was heavily affected by drought, CMAM pilot programs were initiated and demonstrated to be effective. Another drought in 2005 served as a catalyst to scale up CMAM services throughout the country, with NGO and MOH programs transitioning from center-based to community-based therapeutic care.

2.1 Elements and challenges influencing CMAM integration

Enabling environment for CMAM
At the national level, the Malawian MOH has demonstrated strong political will and leadership in developing and expanding CMAM. The MOH Nutrition Unit and its NGO-supported CSU – referred to in Malawi as the CTC Advisory Service - have further strengthened and supported CMAM services at the district level.

National nutrition policies and plans position CMAM as part of essential health and nutrition activities. National CMAM guidelines have been developed. While CMAM is not yet officially included in health implementation plans, the MOH encourages district-level personnel to do so. In fact, there is the risk that the MOH at the district level may overemphasize the importance of CMAM in comparison to other essential services due to the strong emphasis and sizeable resources CMAM is given on the national level.

Stakeholder participation has been strong since CMAM was piloted, with national dissemination workshops held on pilot findings for MOH, NGO and UNICEF staff, and many district-level CMAM orientation meetings for MOH, NGO and local officials. National-level coordination of CMAM activities through monthly MOH-led Targeted Nutrition Program meetings further strengthens program management and harmonization among NGOs and the MOH. District coordination is informal, depending in part upon NGO and MOH personnel. Program information and research are also shared among MOH, NGO and UN partners through the CTC Learning Forum, which issues a monthly publication.

Funding of CMAM services relies heavily on bilateral donors, NGOs and UNICEF support. The MOH has guided district-level MOH staff to incorporate CMAM activities (but not supplies) into annual action plans and budgets. However, donors have not committed long-term support to the CSU or to scaling up CMAM services. Donor funding of RUTF is currently committed only until July 2008.

Access to CMAM services
Malawi benefits from a well-developed health infrastructure with qualified health care providers. More than half of the districts in the country are covered by inpatient and outpatient CMAM care with NGO support. Further expansion of services is being planned by the MOH with CSU and UNICEF support. The CSU has developed a health facility capacity assessment tool for expansion of integrated CMAM services.

Community outreach for CMAM is variable, and tends to be strongest (high activity with high program coverage) where NGOs have invested significant resources to support volunteer training

and activities. Despite sizeable resources for CMAM at the national level, outreach is threatened by insufficient resources available to district MOH offices in the absence of an NGO. Moreover, the MOH discourages the use of CMAM volunteers and plans to expand community health activities through the use of health surveillance assistants (community health workers.) This strategy may be more sustainable but may negatively affect the effective CMAM community outreach system.

The frequent turnover of policy makers and planners at the MOH slows and threatens the expansion of CMAM. The chronic lack of health staff, particularly of nurses and physicians at the district level, undermines the integration and sustainability of CMAM services. While the MOH plans to scale up the number of health surveillance assistants, these health care providers will not be able to conduct all the CMAM services, and therefore will still have to rely on nurses for certain CMAM responsibilities.

Despite the decentralization of services, distance remains an important barrier to entry to CMAM services. Transportation of referred children with SAM from health facilities to inpatient care depends on the availability of district hospital ambulances or NGO vehicles, and is commonly facilitated by the NGO. Traditional beliefs play an important role in the management of malnutrition in the communities, and traditional healers and herbalists serve as the initial source of medical care. Involvement of the informal health system for screening and referral to CMAM is not developed, serving as another barrier to access. Links with other health care and nutrition services are also limited.

Access to CMAM supplies
As in other countries, the budgeting of expensive RUTF is the main threat to the sustainability of CMAM in an integrated system. In Malawi, where programs have had access to supplies through NGOs and UNICEF, there is no national strategy for long term provision of RUTF. Because one donor has stepped forward to cover the cost of RUTF for the current fiscal year, the availability of RUTF has encouraged districts to expand CMAM services. Malawi's CMAM services are dependent on external resources for transport of CMAM supplies: CMAM drugs are transported to the districts through the UNICEF supply system, while NGOs transport RUTF to the health facilities. Some initiatives providing context-specific solutions for transportation at the district level are ongoing. National production of RUTF is well established and has received UNICEF certification.

Quality of CMAM services
Overall, the quality of CMAM services is acceptable. However, the existence of numerous SAM treatment protocols and monitoring tools leads to confusion and inconsistent care. Incorrect application of the national treatment protocol and tools, and misclassification of cases, was frequently observed, emphasizing the importance of continuous training and technical support and supervision.

The implementation of CMAM services (e.g., organization of patient flow and service days) also varies substantially from one district to the next and results in variation in the quality of services, determined by the management skills or innovative attitudes of the health staff.

Supervision is very much focused on administrative issues and not on services and staff performance. Integrated CMAM supervision tools are not in place and supervisory systems vary greatly by the supporting partner. Some districts are divided into supervision zones, resulting in better integrated supervision systems.

An excessive reliance on reporting of quantitative information (i.e., performance indicators of recovery, case-fatality, default and coverage rates) to evaluate the quality of CMAM services risks missing important qualitative aspects of service performance. Thus, the reporting system, which is not uniformly applied at the service sites, does not allow for proper evaluation of quality of services. Moreover, the system does not link inpatient and outpatient care reporting limiting an overall view of CMAM performance.

The MOH benefits from nutrition surveying capacity, with surveys conducted regularly by the MOH and NGOs, and data collation by the Malawi Vulnerability Assessment Committee, which serves as a national nutrition surveillance resource. Coverage surveys are not conducted by the MOH, but instead by international NGO experts.

Competencies for CMAM
A large base of MOH and NGO staff has developed skills in CMAM through in-service training and extensive work experience. Pre-service training on the management of SAM is included in the curriculum of one medical school, while CMAM is a part of the national masters in public health curriculum. Nurses and community health workers, however, lack CMAM pre-service training.

Prior to introducing CMAM services, in-service training is provided by the CSU or by the respective NGO. The CSU has also developed a CMAM training manual. Both the training curriculum and the manual, however, rely heavily on the emergency model of CMAM and use of outreach volunteers. Often health care providers in new programs are sent on learning visits to a district with CMAM services. Learning Forum meetings provide important opportunities for information exchange regarding programs as well as research. However, these opportunities tend to benefit national MOH and NGO staff more than district-level health staff. Overall, district health planners and health care providers have a positive attitude toward CMAM and accept CMAM as part of their duties despite the fact that CMAM is not a part of their job descriptions.

2.2   Conclusions

MOH engagement and leadership, as well as district-level motivation, have been significant keys to success in Malawi. The MOH has been engaged in CMAM from the start, informed by the evidence of the pilot programs. Moreover, the MOH had access to CMAM technical assistance through significant NGO support, which later was institutionalized by creating the CSU. During the 2005 drought emergency, the MOH took the lead role in guiding the gradual expansion of CMAM programs and further encouraged involvement of district-level MOH managers and staff. The early recognition of the need for a CMAM technical support unit seconded to the MOH has been beneficial for CMAM scale up and will be important for sustainability.

Malawi CMAM programs serve as important national as well as international learning sites for CMAM good practices and integration of services. There are a variety of experiences and strategies employed by the NGOs in integrating CMAM into the health system. One NGO with specific skills in strengthening the health system has been very successful in integrating CMAM during the emergency phase. Other examples of successful MOH-managed CMAM services with minimal external support were observed.

Annex 4: Niger Country Review (excerpt)

Niger is subject to recurrent droughts and frequent food insecurity. Prior to the 2005 nutrition emergency, treatment of SAM was mainly restricted to NGO programs outside of MOH facilities. During the 2005 crisis, national CMAM guidelines were developed and community-based services were rapidly expanded by numerous NGOs.

3.1 Elements and challenges influencing CMAM integration

Enabling environment for CMAM

To date, center- and community-based management of acute malnutrition have been largely driven by the NGO community, which has initiated services in parallel to the health system. The MOH Nutrition Division lacks leadership capacity and technical expertise to guide and support CMAM programs and it has been difficult for the MOH to take a lead role in CMAM at the national level. National nutrition policies, including for CMAM, have been put into place with UNICEF support. National CMAM guidelines have been developed, as has a national guidance note on integration of CMAM services into the health system. There is, however, no concrete action plan at the national or district level.

CMAM stakeholders are principally NGOs, very few of whom have partnered with the MOH to build capacity. Consequently, MOH coordination of CMAM partners, programs and activities is minimal and coordination capacity is weak. Coordination meetings were begun at the national and regional levels during the emergency phase and have primarily served as fora for exchanging minimal "statistical" information rather than for bringing stakeholders together to discuss challenges and lessons learned, or to mutually develop capacities. There is, however, currently great momentum to collate the country-level information and document lessons learned on good practices, based on evidence from the multiple operations research initiatives that have been conducted or are ongoing in Niger. A wealth of expertise and information is generated by the current emergency, both from academic and NGO sources, and represents an untapped resource that could contribute to improved CMAM capacity development.

NGOs generally have short-term funding with limited guarantees of renewal, which discourages the development of long-term plans for CMAM capacity development and service integration. Given the dependence on NGO and UNICEF support for CMAM services, there has been little experience with transitioning of NGO CMAM programs to the MOH.

Access to CMAM services

There is a well-defined health system in Niger, with clearly delineated health structures, staff, and management committees at the national, regional, district and community levels. Inpatient and outpatient care for CMAM were defined during the 2005 crisis, but only exist and survive in the presence of NGO support. Many NGO-run CMAM services are provided outside of the health system, and even those physically located at an MOH facility most often operate independently of the facility. Only a few NGOs have built the capacity of MOH staff to conduct CMAM services themselves, albeit while still relying on NGO logistical, financial, and supervision support.

CMAM-specific community outreach is weak, except where NGOs have invested significant efforts and resources. Within the health system, community health outreach is the responsibility of health post-based community health workers who are not able to conduct outreach far from their posts due to lack of transportation and populations spread over great distances. Numerous community-based services and community volunteer networks do exist in Niger (e.g., child and animal vaccination services) but are not linked to CMAM services.

The MOH has qualified, trained staff at district hospitals, health centers and health posts countrywide, though the numbers of staff are not adequate, particularly in more remote areas where turnover is more frequent. MOH-run health facilities with CMAM services are staffed with trained health care providers although in much smaller numbers than at NGO-run services.

The referral system for children with SAM is not successful due mostly to the long geographical distances to services, and only works when it is NGO-organized. This often results in non-referral of children with SAM.

The informal health sector, with traditional healers and religious leaders as primary community health care providers, is often the entry point for children with SAM or any other illness. However, informal health care providers are rarely included in CMAM services planning or screening activities. The presence of other services developed specifically to reach nomadic groups (e.g., veterinarian services and mobile health strategies) is an opportunity for CMAM service provision that is being considered by certain regional MOH offices.

Access to CMAM supplies
Most of the CMAM supplies are purchased and distributed by UNICEF. UNICEF's commitment to provide therapeutic products and drugs has made implementation of CMAM services affordable for many partners with limited resources. Without this commitment, a major part of the CMAM delivery system would collapse, because only a few NGOs are able to afford CMAM supplies. RUTF is produced in-country by one manufacturer that has received UNICEF certification.

Quality of CMAM services
At the national level, the MOH, with UNICEF support, has been successful in putting into place national CMAM guidelines with standardized treatment protocols. However, there is a significant lack of adherence to the national CMAM guidelines, due largely to the presence of NGO-specific protocols and variation and misinterpretation of the national guidelines. This leads to confusion, misclassification of cases, and inefficient use of resources.

The implementation of CMAM services (e.g., organization of patient flow and service days) also varies substantially from one program to the next, and is not always well adapted to the unique context of each program. The level of interaction between government-run health facilities and NGO-run outpatient care is usually low -- and in many cases non-existent -- as they most often run in parallel to each other with little collaboration. Consequently, the MOH lacks the opportunity to improve its capacity to supervise CMAM services.

The performance of outpatient care run by the MOH with minimal external support (i.e., NGO training support) is weaker than the outpatient care run directly by NGOs. Nevertheless, because of the long-term presence and support of these NGOs, and because of their engagement in development and community work, these minimal external programs provide a better basis for durable capacity development and create a positive environment for MOH to take ownership and run CMAM services.

Overall, systematic CMAM information collection and analysis is weak country-wide, ranging from poor nutrition surveillance, to a lack of coverage surveys, to poor program monitoring. Quantitative information on nutritional status, CMAM programs and service performance is collated by UNICEF. CMAM data linking inpatient care and outpatient care does exist, but depends on NGO expertise. At the national level, data on inpatient and outpatient care are combined without distinguishing the kind of service provided. This prevents adequate monitoring of the performance of CMAM services.

Competencies for CMAM
Technical knowledge, expertise and experiences with CMAM have been developed over the past two years among the MOH, UNICEF and NGO health staff in Niger. However, CMAM is not included in pre-service curricula of any health professional qualifications. UNICEF and NGOs have supported a national training unit that provides in-service training on CMAM. This group of skilled staff is an enormous asset for the national health system.

Exchange of information, knowledge and experience is very weak at all levels in Niger. Most expertise in CMAM is accumulated within NGOs, and sharing of information among NGOs -- as well as between NGOs and MOH CMAM service providers -- is lacking. Moreover, there has been a lot of research conducted in Niger on acute malnutrition, much of which has not been disseminated within the country.

The quality of the CMAM services run with minimal external support from NGOs depends enormously on the motivation and interest of the staff involved, as there are limited institutional mechanisms to ensure quality. A change in key staff can therefore mean a complete change in the availability and quality of services. Motivation, in turn, depends a lot on the presence of a dynamic NGO and the relationship between the NGO and the MOH.

3.2   Conclusions

Niger houses a patchwork of large- and small-scale CMAM programs with wide-ranging quality and staff experience. During the 2005 emergency, most NGOs implemented top-down strategies and started CMAM programs that were, and continue to be, implemented in parallel to the MOH health system. These emergency efforts did not engage the MOH, which has remained disconnected. A few NGOs did actively involve the MOH in program set-up, in-service training, support and supervision, and program monitoring. In these instances, MOH staff has provided the CMAM services as part of routine health services at MOH health facilities, with limited NGO logistical and supervisory support.

NGOs face numerous difficulties in adapting their programs so that the CMAM services can be integrated into the health system. The discussion around the integration of CMAM services in Niger underscores two public health dilemmas. One is the question of managing health services in emergency versus in development contexts and of treating high case loads through high levels of external resources and the set-up of parallel systems versus achieving integrated, sustainable services. The second is the tension between high-quality care and expanded coverage.

Despite the major efforts in humanitarian relief, the nutritional emergency in Niger continues. Levels of SAM remain high[6] and access to health and CMAM services low. Only one CMAM program visited by the FANTA team had quality community outreach, attaining high coverage and thus documenting the true extent of the emergency.

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[6] Nutrition in Crisis Situations, Vol. 14, U.N. Standing Committee on Nutrition, September 2007.