

# Community-based Management of Acute Malnutrition Using Community Health Activists in Angola

November 2012–December 2013

## Angola Report



*World Vision Angola and Partners*



*This report summarises the final project evaluation conducted by Ellie Rogers of ACF UK.*

# Community-based Management of Acute Malnutrition (CMAM)

## The CMAM Model

*was developed by Valid International and has been endorsed by WHO and UNICEF. CMAM was designed as an alternative to the traditional model of rehabilitating all severely malnourished children through in-patient care at Therapeutic Feeding Centres. In the CMAM approach, community volunteers are trained to identify and initiate treatment for children with acute malnutrition before they become seriously ill. Caregivers provide treatment for the majority of malnourished children in the home using Ready-to-Use Therapeutic Foods (RUTF) and routine medical care, usually accessed from an Outpatient Treatment Centre. Severely malnourished children who have medical complications are referred to in-patient facilities, known as Stabilisation Centres, for more intensive treatment. Children with moderate acute malnutrition receive take-home rations and basic health services through the Supplementary Feeding Programme. CMAM programmes also work to integrate treatment with a variety of other longer-term interventions, designed to reduce the incidence of malnutrition.*





*In response to high rates* of Global Acute Malnutrition (GAM) following the 2012 drought in Angola, World Vision initiated a CMAM project, working in partnership with UNICEF, the Ministry of Health, Africare and People in Need. The project recruited and trained Community Health Activists (CHAs) to screen children for acute malnutrition, provide treatment and referrals, and deliver nutrition education, following a Community Case Management (CCM) model. This innovative approach was selected since the conventional CMAM approach of using outpatient treatment centres for distribution and monitoring was not considered feasible in the local context. In rural Angola, health infrastructure is weak and many communities do not have access to a health centre where outpatient services could be based. Inpatient care for severe acute malnutrition (SAM) cases with medical complications was provided at facilities set up by UNICEF.

An independent evaluation of the project conducted in late 2013 found that the CHA model had been successfully implemented, with coverage estimated at 82.1% in areas reached by the programme. The cure rate for SAM was 93.8%. The CHA approach made CMAM more accessible to the communities. Strong advocacy by the implementing partners strengthened the previously low profile of malnutrition with the national government. Key challenges were the inconsistent supply of RUTF, inadequate number of CHAs to cover all target areas, unclear incentive protocols, and inability of the Ministry of Health (MOH) to assume responsibility for CMAM activities at the close of the project.

Very few projects to date have implemented CMAM using a CCM model. The Angola experience demonstrates the potential of this approach, particularly in contexts where health system capacity is very low. Further operational research is recommended to refine this approach and identify solutions to implementation challenges.

## Summary



## Acronyms & Definitions

### **GAM**

#### **Global Acute Malnutrition**

The combined prevalence of moderate and severe acute malnutrition in a population, assessed through a survey or MUAC screening. CMAM is needed when GAM >10%.

### **MAM**

#### **Moderate Acute Malnutrition**

A child with MUAC >115 to <125 mm or WHZ  $\geq$ -3 to <-2 is moderately malnourished.

### **MUAC**

#### **Mid-Upper Arm Circumference**

An indicator of acute malnutrition, measured with an arm band tape.

### **OTP**

#### **Outpatient Treatment Centre**

SAM cases without medical complications receive RUTF, family rations and follow-up monitoring at OTPs set up at health centres and other accessible locations.

### **RUTF**

#### **Ready-to-Use Therapeutic Food**

An individually packaged food product which can be eaten directly by the child with no preparation required, and is specially formulated to treat acute malnutrition.

### **SAM**

#### **Severe Acute Malnutrition**

A child with MUAC <115mm or WHZ <-3 is severely malnourished and at high risk of mortality.

## Angola CMAM Project Overview

### Phases

Dates	Project Donor
November 2012–January 2013	Central Emergency Response Fund
February–December 2013	ECHO

### Partners



#### **World Vision**

Lead agency  
Project management  
Implementation: Huambo province  
National level advocacy



#### **UNICEF**

Initial RUTF supply  
Set up UENs and PTPA  
Recruit and train staff  
Provide training materials  
National level advocacy



#### **Angola Ministry of Health**

Establish nutrition policy and approve treatment protocols  
CHA selection (some districts)  
RUTF supply  
Operate health centres and hospitals for in-patient care



#### **Africare**

Implementation: Kwanza Sul, Zaire provinces  
National level advocacy



#### **Czech Republic**

Implementation: Bie province



## Acronyms & Definitions

### SFP

#### *Supplementary Feeding Programme*

*SFPs provide take-home rations to families of children with MAM, and to other vulnerable groups such as pregnant and lactating women.*

### WHZ

#### *Weight-for-Height Z-score*

*A measure of acute malnutrition which compares the child's weight for height with a healthy reference population.*

## Contextual Acronyms

### CHA

#### *Community Health Activist*

*A non-medical volunteer from the community who is trained to provide basic health and nutrition education and deliver some basic services; equivalent to Community Health Worker in other settings*

### UEN

#### *Unidade Especial de Nutricao*

*An inpatient therapeutic centre treating SAM with complications*

### PTPA

#### *Programa Terapeutico para Pacientes em Ambulatorio*

*A traditional OTP and SFP treating SAM without complications and MAM within a 3 km radius*





## Community Health Activists

### *An innovative model for CMAM implementation*



*During the project design phase*, it was recognized that it would be difficult to achieve high coverage and significantly impact GAM using the typical CMAM model of community screening and OTP sites for distribution and follow up. The health system is weak and has limited reach into rural areas of Angola, resulting in an insufficiency of both physical infrastructure and human capacity to deliver a quality CMAM project. An alternative model was therefore proposed, in which CHAs would be recruited, trained and supervised to deliver RUTF and perform follow-up monitoring in the communities. This innovative approach was modelled on the Community Case Management (CCM) model, in which community volunteers are trained to identify and treat common illnesses. CHAs are used by NGOs in Angola and by the MOH for campaigns such as polio immunisation, but are not a recognised cadre of workers for delivering routine health and nutrition services. Despite the lack of policy support for CHAs, the MOH approved the trial of this approach in the CMAM project.

The project aimed to mobilise a total of 2,016 CHAs. Data is not available for Zaire Province, but 2,050 CHAs were initially recruited for the other three provinces. By the end of the project, this number had dropped to 1,865. On average the project had 2,044 active CHAs. Each CHA served two to five villages, depending on the context, with responsibility for screening, treatment, referral, follow up and nutrition education. They were supported by *Communa* Supervisors who in turn were supported by Municipal Supervisors. The project covered 76 *Communas* in 21 municipalities. Operations in Zaire Province closed in August 2013 due to low caseload.

This strong community-based implementation model was supported by a network of in-patient treatment centres called *Unidades Especial de Nutricao* (UENs) set up by UNICEF to provide care for SAM cases with medical complications. When UENs were not available, patients were referred to general hospitals or to health centres with beds if there was no hospital close by. In some areas, *Programa Terapeutico para Pacientes em Ambulatorio* (PTPA) were also set up by UNICEF, and functioned as conventional OTP and SFP facilities, treating MAM and SAM cases without medical complications, within a 3 km radius. The intention was that CHAs would focus on the areas outside the 3 km radius, which other projects have found to be the maximum distance families can reasonably travel to access CMAM services.

The CHAs were well accepted by the communities, particularly when local leaders were involved in the recruitment process, and made CMAM services more accessible. However, despite the recruitment target being met, there were not enough CHAs to adequately cover the intervention area. This is because the population figures provided to World Vision during the planning phase were inaccurate. The shortage of CHAs led to incomplete coverage and higher workloads.

## The impact of CMAM programmes can

be estimated by looking at both the coverage and cure rates, and assessing changes in malnutrition prevalence in the target population.

**Coverage:** Coverage surveys were undertaken in all three provinces, although due to the patchiness of coverage it was not possible to identify an overall coverage figure. In those areas where CHAs were particularly active, coverage was estimated to be 82.1%. Therefore programme impact had the potential to be high, although due to various programmatic constraints this was not consistently achieved.

**Cure rates:** During the project lifetime, 23,865 children were admitted for SAM treatment and 53,229 for MAM. This represents 9.3% of all children under five in the intervention areas. Over 90% of these cases were cured, as shown in the Figure 1 graphs.

Performance results for SAM treatment by province are presented in the table below:

	Bie	Huambo	Kwanza Sul	SPHERE
Cured	94.2%	93.9%	98.4%	>75%
Death	0.7%	1.2%	1.1%	<10%
Defaulted	4.9%	3.8%	0.5%	<15%

The default rate was higher in Bie due to a seasonal spike in defaults in September-October when many families migrated to their traditional farmlands. Resignations of CHAs may also have been a factor. However, overall the Default rate remained well below the SPHERE standard of <15%.

Other indicators of effective implementation: The median MUAC on admission for SAM cases was 114 mm (Huambo), 113 mm (Bie), and 112 mm (Kwanza Sul), demonstrating excellent screening procedures. The low death rates also suggest that the CHAs were effective in early case finding, and that referrals to in-patient facilities were timely.

### GAM Prevalence

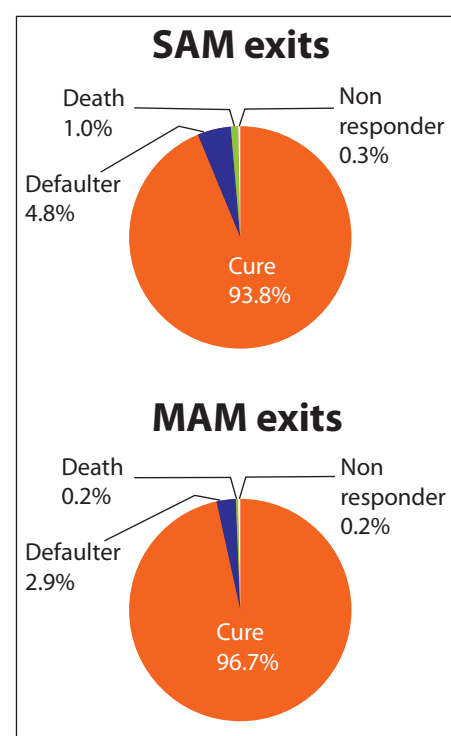
Project screening data showed the following changes in malnutrition prevalence:

	February 2013			September 2013		
	GAM	SAM	MAM	GAM	SAM	MAM
Bie	14.7%	4.5%	10.3%	8.2%	2.5%	5.7%
Huambo	15.7%	2.9%	12.7%	12.2%	4.1%	8.2%
Kwanza Sul	7.3%	2.0%	5.4%	13.0%	3.0%	9.9%

Although these GAM rates can only serve as an estimate, they generally show a reduction in the rate of acute malnutrition in the implementation areas. Further investigation of the increase in SAM in Huambo and MAM in Kwanza Sul is recommended. RUTF stock outs may have been a factor.

## Results

### Programme exits:



**Figure 1: Overall programme exits**

There are limitations to the reliability of data collected by CHAs as the monitoring system was very demanding and not all CHAs were literate. However, even allowing a 10% margin of error, these results remain impressive.

## Successes



### Accessibility of Services

The CHA model brought CMAM services directly to the communities. Even though the typical OTP approach brings care closer to the community than earlier facility-based treatment models, there is still a distance for families to travel. This can be a significant barrier to accessing treatment, particularly when travel more than 3 km is required. In rural Angola, where few health facilities exist, an alternative strategy was essential. Over 2,000 CHAs were recruited, and a strong on-the-job training and supervision component was implemented to ensure quality of implementation despite low levels of CHA education and literacy.

In addition to the CHAs, the project used local administrative and church leaders for social mobilisation. This proved a very effective strategy for engaging the communities in the CMAM project and in understanding the problem of malnutrition. CHAs also coordinated with churches and other community gatherings for MUAC screenings and nutrition education sessions in order to maximise participation and accessibility.

### Advocacy

Improving nutrition has not been a priority issue on the MOH agenda in Angola. Previous initiatives to provide treatment services for SAM have not been sustained. The CMAM project partners therefore worked hard to advocate for greater recognition of nutrition issues, including acute malnutrition, within national policy. A significant success was the government's commitment to provide RUTF to MOH-run UENs and PTPAs in 2014, assuming this responsibility

from UNICEF. Furthermore, nutrition has been named as one of three priority health areas for the government in 2014.

In addition to national level advocacy, all partners built strong relationships with the municipal and provincial government staff. This encouraged a sense of ownership of the CMAM project and opened up avenues to discuss continuation of the activities and the CHA approach.

### Partnerships

The implementing partners of the CMAM project maintained strong and supportive relationships. This enhanced advocacy efforts and created an enabling environment for resolving implementation challenges such as the monitoring and evaluation system. The partners also built strong relationships with the MOH at national, provincial and municipal levels. This trust and partnership allowed the CHA approach to be implemented on a significant scale despite lack of national policy support.



## Challenges

### RUTF supply

The supply of RUTF was inconsistent, with long stock out periods for all provinces, which negatively affected care-seeking and encouraged defaulting. This challenge arose because of an unrealistic expectation that the MOH would manage the RUTF supply. UNICEF received donor funding for the initial supply, but the MOH did not have the capacity to take over after this.

**Recommendations:** Implementing partners need to assure buffer stocks are in place before proceeding with a CMAM project. Advocate for supply chain blocks to be addressed and ensure lines of responsibility for RUTF supply are clearly delineated and that capacity to deliver is adequate.

### Human resources

Although the target number of CHAs were mobilised, this was insufficient to achieve full coverage of the intervention area. This discrepancy was due to the lack of maps and inaccuracy of government population data provided to World Vision for use in the planning phase. The resulting shortage of CHAs increased workloads, reduced coverage and therefore compromised impact.

The shortage of competent personnel within the health system, particularly in rural areas, was another challenge. Where UENs were not easily accessible, in-patient care was provided at health centres where staff knowledge on treatment protocols was weak, compromising quality of care.

**Recommendations:** Where population planning figures are questionable, plan for a review and readjustment of CHA numbers early in the implementation phase. This requires adequate budget flexibility to allow for additional recruitment, training and supervision costs if necessary. Improve coordination among key stakeholders to ensure all staff providing SAM treatment are adequately trained and supervised.

### Incentives

The project did not have a clear, contextually developed policy for providing incentives for CHAs. Initially the plan was to offer mobile phone credit but this was found to be of low value in many areas due to poor mobile phone reception. At the mid-term evaluation, the importance of incentives for CHA motivation and retention was highlighted but the project budget was insufficient to implement an adequate response. Consequently, each of the project partners devised unique incentive schemes for their respective implementation areas, which were resourced using private funds.



# Challenges

An additional challenge was that incentives were planned based on CHAs working two days per week. In reality they worked significantly more, even up to full-time hours.

**Recommendations:** In the planning phase, formative research should be conducted to determine a contextually-appropriate incentive or compensation scheme, which must be implemented consistently. Consider income generating activities as incentives. Ensure the incentive scheme is compatible with other initiatives, including other NGO programmes and MOH protocol for frontline workers.

## *Transportation*

The project provided bicycles to CHAs to assist them in accessing communities and transporting RUTF. However, many bicycles arrived late or in poor condition, and in many cases were not used. In some areas the terrain is too rough, and the bicycles could only carry one box of RUTF at a time, which was inadequate. Some CHAs spent hours walking to communities, carrying boxes of RUTF, or used their own motorbikes and fuel at their personal expense. One partner solved the transportation challenge by hiring local three-wheeled motorbikes and their drivers to distribute RUTF to communities, although some were still too remote to access this way.

**Recommendations:** Develop a realistic RUTF distribution plan in consultation with communities. Implement pre-paid transportation solutions for reaching the community level.

## *Monitoring and Evaluation*

Routine monitoring and reporting was a significant challenge in this project. The initial plan was that UNICEF's SMS-based reporting system would be implemented, but due to minimal mobile network coverage, a paper system was agreed upon after the project had started. This led to CHAs being trained on multiple forms as they were field tested and improved. Although partners requested literate CHAs during recruitment, this was not always possible. Furthermore, the nutrition register forms did not have a space for recording MUAC, which was the principal indicator used for screening, diagnosis, monitoring and discharge of MAM and SAM cases. In most cases MUAC data was recorded in the 'weight' column, but in Kwanza Sul where weight measurements were also taken, MUAC data was often unrecorded.

**Recommendations:** Design and pre-test a simplified monitoring and evaluation system, suitable for low literacy volunteers to use, before the intervention begins. Ensure register forms include key indicators for the project and limit expectations for additional data collection.

## MOH integration and handover

CMAM activities were best integrated with routine MOH services when pre-existing CHAs were recruited for the project. In these cases, nutrition education was integrated with ongoing health education sessions. MOH staff were invited to all CHA trainings and participation levels were high. In Bie province, MOH health centre staff served as *communa* supervisors. This allowed the project to build MOH capacity in the assessment and management of acute malnutrition, as well as in supervision and logistics.

Although expectations were high that MOH would take over the CMAM interventions at the end of the project, this was not formally arranged and planned from the outset. World Vision and People in Need encouraged provincial level MOH to advocate with the municipal administrators to use their primary health care budget to fund the continuation of the project. However, this was constrained by the fact that CHAs are not recognized in national policy, and therefore the budget could not be spent in that way. In these circumstances, the most realistic option was an ad hoc approach in which CHAs who wished to could continue CMAM activities. However, this carries significant risks related to consistency and quality of care in the absence of a formal supervision structure.

**Recommendations:** Incorporate integration and sustainability planning from the start of future projects, with clear expectations and a capacity transfer plan.

## Challenges





## Areas for Further Research

### *Treatment Protocol Compliance*

**RUTF** – The quantity of RUTF provided to a child is normally determined based on his or her weight on admission to the CMAM programme. In the Angola project, most CHAs used only MUAC to screen and follow up children, which was most suitable for the context. Accurately measuring weights requires greater skill and transporting the scales to different villages is challenging, so it was not reasonable for CHAs to do this. In the absence of weight measurements, individualised RUTF distribution was not possible. All SAM patients were supplied with two packages of RUTF per day, and MAM patients with one packet of Ready-to-Use Supplementary Food (RUSF) per day. This protocol was based on the estimation that the majority of children with SAM were likely to be in the 3.5 to 5.9 kg range, and was agreed with UNICEF prior to implementation. The accuracy of this estimation and the impacts of the distribution protocol were not monitored, although overall cure rates were very high.

**Medical services** – All SAM cases not requiring in-patient treatment should receive routine medical care including vitamin A supplementation, albendazole and antibiotics, according to standard treatment protocols. CHAs were not permitted to administer these in Angola, and the alternative plan was to refer children with SAM to the government mobile health clinics in each municipality. However, this proved infeasible and no other solution was found, despite extensive discussions. The project relied on either MOH-run campaigns or health centre administration of vitamin A and albendazole. It is unclear to what extent antibiotics were provided through these mechanisms, but it is likely many SAM patients did not receive them. Future community-based CMAM initiatives will need to identify realistic mechanisms for providing medical services to all children with SAM.

**RUSF** – During RUTF stock outs, RUSF was distributed to children with SAM. This allowed for provision of some treatment and continuity of care while RUTF was restocked, but the impacts of this protocol are unknown and should be carefully evaluated.

### *Ratio of CHAs to population*

The CMAM project planned to recruit sufficient CHAs so that each would cover two to five villages, working two days per week. However, the lack of accurate population planning figures and transportation challenges resulted in an overall shortage and greatly increased workload for the CHAs. It is difficult to establish a recommended ratio of CHAs per population as this depends heavily on contextual factors, including the caseload, distance between houses and communities, and transportation options. Comparison of different programming experiences will help build the evidence base to guide future human resources planning.

## For Further Information

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