

# PART 2: TECHNICAL NOTES

The technical notes are part two of four parts contained in this module, which was previously referred to as Supplementary Feeding. Traditionally, the focus of providing supplementary food to children and women has been to prevent or manage acute malnutrition and prevent individuals with *moderate acute malnutrition* (MAM) from developing *severe acute malnutrition* (SAM). In recent years, greater emphasis is being placed on prevention of MAM. These notes are intended for people involved in nutrition programme planning and implementation. They cover the major technical details, highlighting challenging areas and provide guidance on accepted current practice. Words in italics are explained in the glossary.

#### Summary

This module is about the management of moderate acute malnutrition (MAM) with an emphasis on emergency Supplementary Feeding Programmes (SFPs). These aim to prevent individuals with MAM from developing severe acute malnutrition (SAM), to treat those with MAM and to prevent the development of moderate malnutrition in individuals. Protocols have changed little over the years, however currently management of MAM is attracting considerable review and operational research with on-going initiatives aimed at improving the dietary management of MAM through adjusting the nutrient composition of food supplements used and emphasising more preventative measures. This module summarises key elements of current guidelines and guides readers to best practice based on the diversity of approaches seen in the field.

These technical notes are based on the following references and Sphere standards in the box below<sup>1</sup>:

- Action Contre La Faim/Prudhon, Claudine (2002). *Assessment and Treatment of Malnutrition in Emergency Situations. Manual of Therapeutic Care and Planning for a Nutritional Programme*. Paris: ACF.
- ENN (2009). *Minimum Reporting Package for Emergency Supplementary Feeding Programmes: Guidelines*. London: ENN (Draft).
- Médecins Sans Frontières (2007). *Nutrition Guidelines*. Geneva: MSF (unpublished).
- The Sphere Project (2011). *Humanitarian Charter and Minimum Standards in Humanitarian Response*. Geneva: The Sphere Project.
- UNHCR/WFP (2009). *Guidelines for selective feeding: the management of malnutrition in emergencies*. Geneva: UNHCR/WFP
- WHO (2000). *The management of nutrition in major emergencies*. Geneva: WHO.

#### What is Moderate Acute Malnutrition (MAM)?<sup>2</sup>

*Acute malnutrition*, or “wasting,” is a condition that generally results from weight loss due to illness and/or reduced food intake. The degree of acute malnutrition is classified as either moderate or severe based on *anthropometric* and *clinical* measures. Other forms of growth failure, e.g. *stunting* (*chronic malnutrition*) and *underweight* (acute and/or chronic malnutrition), can also be classified as moderate and severe. While many wasted children also suffer from some degree of stunting, the focus in emergencies is acute malnutrition because of its link with mortality. Children with MAM have a greater risk of dying because of their increased vulnerability to infections as well as the risk of developing *severe acute malnutrition* (SAM), which is immediately life threatening.

<sup>1</sup> This module presents a summary of guidance based on global recommendations and best practice. If national guidelines for the management of moderate acute malnutrition exist, they should be incorporated into the training.

<sup>2</sup> Refer to Module 3 for further detail on individual assessment of acute malnutrition.

**Key messages**

1. In emergencies, moderate malnutrition can be addressed through blanket or targeted supplementary feeding programmes.
2. Blanket supplementary feeding is generally used as a preventive measure among a specific target group for a specific period of time in order to prevent MAM in the population.
3. Targeted SFPs are generally used for treatment of MAM within individuals based on anthropometric admission criteria.
4. Programmes involving take home supplementary rations (dry feeding) are preferable in most situations to on-site (wet feeding) SFPs.
5. Although children under five and pregnant and breastfeeding women are the usual priority target groups, targets groups should be based on nutritional vulnerability.
6. SFP rations are meant to be additional to regular intake. Where household food insecurity and/or general food distributions (GFDs) are inadequate, programme objectives may need to be modified and implementing agencies must advocate for improved GFDs.
7. Rations should always be energy dense, micronutrient rich and culturally appropriate.
8. Targeted SFPs should always include a set of routine medical treatments. Blanket SFPs are an opportunity for nutrition screening and referral, and where needed additional medical care/supplementation, but this is not standard practice.
9. A number of programme indicators should always be monitored and analysed in relation to Sphere standards. Meeting these standards may be challenging in some circumstances due to constraints outside the control of implementing agencies.
10. SFP programming should be done in as integrated manner as possible, with linkages to infant and young child feeding support, livelihoods and health programming where feasible and appropriate.
11. Methods to manage MAM continue to evolve. Key areas include the types of food commodity used, and methods to improve overall performance and impact at individual and population level.

Some children with MAM will recover spontaneously without any specific external intervention, however the proportion that will spontaneously recover and underlying reasons are not well documented. The burden of MAM (wasting) globally is considerable. Moderate wasting affects 11% of the world's children, with a risk of death 3 times greater than that of well-nourished children. Around 41 million children are moderately wasted worldwide and the management of MAM is finally becoming a public health priority, given this increase in mortality and the context of accelerated action towards achievement of Millennium Development Goals (MDGs).<sup>3,4</sup>

### What Approaches are Available to Manage MAM?

MAM can be addressed in many ways, broadly categorized into preventive and treatment approaches. Approaches should be tailored to reflect the context, underlying causes of malnutrition, and available resources. Preventive and treatment approaches can be combined in programming if the context and resources allow. Tackling the underlying causes of malnutrition can include:

<sup>3</sup> Black et al. (2008) *Maternal and Child Undernutrition: global and regional exposures and health consequences*. The Lancet Vol. 371, Issue 9608, pp 243-260.

<sup>4</sup> UNICEF (2008). *State of the World's Children: Maternal and Newborn Health*. New York: UNICEF.

**Sphere Minimum Standards: Management of malnutrition standard 1: Moderate acute malnutrition<sup>5</sup>**

Moderate malnutrition is addressed.

**Key actions**

- Establish from the outset clearly defined and agreed strategies, objectives and criteria for set-up and closure of interventions
- Maximise access and coverage through involvement of the community from the outset
- Base admission and discharge of individuals on assessment against nationally and internationally accepted anthropometric criteria
- Link the management of moderate acute malnutrition to the management of severe acute malnutrition and existing health services where possible
- Provide dry or suitable ready to use supplementary food rations unless there is a clear rationale for on-site feeding
- Investigate and act on the causes of default and poor response
- Address IYCF with particular emphasis on protecting, supporting and promoting breastfeeding

**Key indicators**

These indicators are primarily applicable to the 6-59 month age group, although others may be part of the programme.

- More than 90% of the target population is within <1 day's return walk (including time for treatment) of the programme site for dry ration supplementary feeding programmes and no more than 1 hour's walk for on-site supplementary feeding programmes
- Coverage is >50% in rural areas, >70% in urban areas and >90% in a camp situation
- The proportion of discharges from targeted supplementary feeding programmes who have died is <3%, recovered is >75% and defaulted is <15%

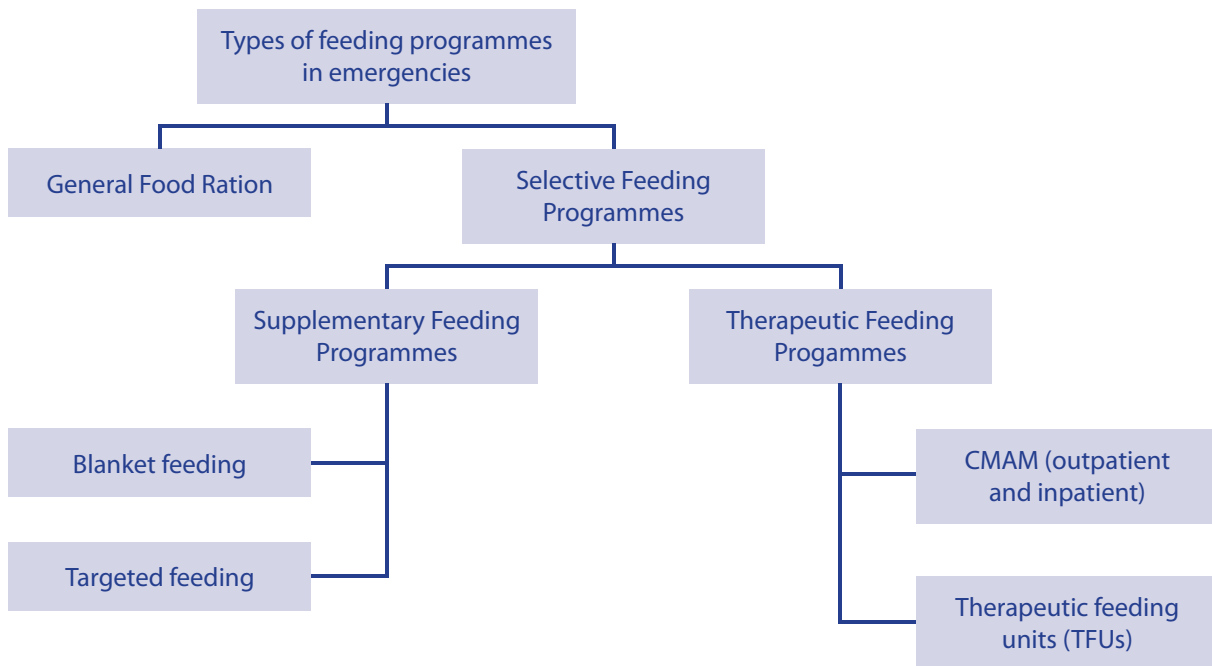
Source: The Sphere Project (2011). *Humanitarian Charter and Minimum Standards in Humanitarian Response. Chapter 3 Minimum Standards in Food Security and Nutrition*. Geneva: The Sphere Project.

- Improving livelihoods and food security (see Module 16);
  - Improving the general food ration or pipeline (see Module 11);
  - Improving access to and provision of health care (see Modules 8 & 15);
  - Improving breastfeeding and complementary feeding practice (see Module 17);
  - Improving sanitation and potable water (see Modules 8 and 15).
- In emergencies, prevention and treatment of acute malnutrition has traditionally been addressed through *general food distribution* (GFD) which targets households with a food ration, and *selective feeding programmes* that target specific groups or individuals (See Figure 1). Selective feeding programmes are usually divided into *Supplementary Feeding Programmes* (SFPs) to manage MAM and inpatient or outpatient/community-based Therapeutic Feeding Programmes (TFPs) for management of SAM (see Module 13). Where possible and appropriate, SFPs should have links with TFPs, health systems, HIV/AIDS and TB networks as well as food security and livelihood programmes including food, cash or voucher assistance<sup>6</sup>.

<sup>5</sup> Note: not all of the Key Actions and Key Indicators of the Sphere Minimum Standards are relevant for blanket SFPs because of different objectives and operational structure compare to targeted SFPs (e.g. individuals are not enrolled in blanket SFPs based on anthropometric information).

<sup>6</sup> The Sphere Project (2011). *Humanitarian Charter and Minimum Standards in Humanitarian Response*. Geneva: The Sphere Project.

Figure 1: Organogram of feeding programmes in emergencies



### Overview and Objectives of SFPs

SFPs need to address a variety of issues in emergencies. Individuals with MAM have additional nutritional requirements for catch up growth. The medically ill have additional nutritional requirements for tissue repair. The GFD, in practice, rarely provides sufficient food to allow for catch-up weight gain for those who are already malnourished, and certain socio-economic groups have restricted access to GFD. SFPs are therefore a “safety net” for those whose families cannot cope and are not sustained by the general ration.

SFPs aim to rehabilitate individuals with MAM or to prevent a deterioration of nutritional status of the most at-risk groups by meeting their additional needs. In practice, SFPs focus on young children, pregnant women and lactating women, due to their nutritional vulnerability.

There are two types of SFPs: **Blanket** or **Targeted**.

**Blanket SFPs** target a food supplement to *all* members of a specified at risk group, regardless of whether they have MAM. Blanket SFPs are usually implemented in combination with the GFD. They can be also be implemented as a standalone programme (while waiting for the GFD to be established) or as short term measure during a seasonal *hunger gap*. In terms of process:

- All individuals in a specific group are registered for the blanket SFP.
- These groups may be defined;
  - By age (e.g. all children between 6-59 or 6-24 months);
  - By status (e.g. all individuals with a diagnosis of tuberculosis, or all pregnant and lactating mothers).
- If possible, screening is done to ensure individuals with SAM and MAM are referred to appropriate therapeutic and supplementary services, but anthropometric status is not a criteria for registration in the blanket SFP.
- All registered individuals receive the same nutritional support. Nutritional support is given over a fixed period, often covering a particularly vulnerable period for the community (e.g. hunger gap, immediately post disaster or displacement).
- Individual nutritional status is not monitored during the duration of the blanket SFP, because the objective is to provide nutritional support at population level (i.e. prevent development and/or deterioration of malnutrition). It is not possible to classify individual outcomes (except, in some cases, for defaulting).

The objectives of blanket SFPs are primarily preventative, aiming:

- To prevent deterioration in the nutritional status of at risk groups in a population.
- To reduce the *prevalence* of MAM in children under five thereby reducing the mortality and *morbidity* (illness) risk.

**Targeted SFPs** provide nutritional support to individuals with MAM. They generally target children under five, malnourished pregnant and breastfeeding mothers, and other nutritionally at-risk individuals. Targeted SFPs are usually implemented in the presence of a GFD. In terms of process:

- Admission depends on diagnosis of MAM through anthropometry. The criteria for admission differ for each group and should be defined by specific programme guidelines (see Admission section).
- On admission and on each distribution day, a standard protocol is followed which includes assessment of nutritional status, micronutrient supplementation, medical management, and health/nutrition promotion.
- Individuals are discharged based on their anthropometric status, according to pre-defined criteria. Some individuals do not reach the criteria to be discharged as recovered. They are classified according to other outcome criteria (*recovered, death, defaulter, non-responder, transfer, etc.*).
- Programme quality is monitored through monthly performance statistics which are based on individual responses to treatment. Performance statistics are calculated for each group, because response to treatment (in terms of weight gain, duration of treatment, etc.) as well as admission and discharge criteria differ between groups (e.g. a small child, a pregnant woman or an older beneficiary with MAM have different expected weight gains under treatment) (see the Admission and Monitoring sections).

The **objectives of targeted SFPs** are primarily **curative** aiming:

- To rehabilitate moderate acute malnourished children, adolescents, adults and older people.
- To prevent moderately acutely malnourished from developing SAM.
- To reduce mortality and morbidity risk in children under five years.
- To prevent malnutrition in selected pregnant and breastfeeding mothers and other individuals at risk.
- To provide follow-up/rehabilitate referrals from treatment of SAM.

Key differences between the two programme types are:

- Blanket SFPs target all those in 'at risk groups' irrespective of nutritional status and serve a predominantly preventative role, while targeted SFPs focus on individuals with MAM and are treatment focussed.
- Targeted supplementary feeding generally requires more time and effort to screen/monitor individuals but requires fewer food resources, whereas a blanket approach generally requires less staff expertise but more food resources.<sup>7</sup>

To be effective, targeted SFPs should always be implemented when there is sufficient food supply or an adequate general ration, while blanket SFPs are often implemented when GFD for the household has yet to be established or is inadequate for the level of food security in the population. The supplementary ration is meant to be **additional to, and not a substitute for**, the general ration.

In practice, targeted SFPs are often implemented without an adequate GFD or adequate analysis and support of *household food security*. In such circumstances, the targeted SFP can only act as a temporary safety net, with little ability to prevent nutritional deterioration over the long term. If the general ration is less than 2100kcal per person per day, and/or household food security is inadequate, efforts should be made to address the shortfall. Once household food security has been achieved, any persistent malnutrition among children should immediately prompt a search for underlying causes and their resolution.

### Mandate to Support SFPs

In addition to Ministries of Health (MOH) and local and international Non-Governmental Organisations (NGOs), the United Nations take a large role in supporting selective feeding programmes. For MAM, the role is split between the World Food Programme (WFP), UNICEF, and UNHCR. WFP has separate memorandum of understandings (MoUs) with UNICEF and UNHCR to outline their respective roles and responsibilities. The decision to implement an SFP and the design of the program (blanket and/or target, year round or seasonal, food commodity, etc.) is to be undertaken jointly. WFP ensures the provision of the GFD, the SFP ration as jointly agreed in the programme design, and logistics. UNICEF ensures the provision of supplementary feeding/registration kits, anthropometric equipment, and supports generation of anthropometric survey data for decision-making, development of national standards, training material, databases, coordination and monitoring. UNHCR's role focuses on coordination of nutrition services to refugees. UNHCR is responsible for implementing SFP in camp settings (largely with an implementing partner), including generation of anthropometric information for action and monitoring and evaluation.

<sup>7</sup> The Sphere Project (2011). *Humanitarian Charter and Minimum Standards in Humanitarian Response. Chapter 3: Food Security and Nutrition*. Geneva: The Sphere Project

## When is an SFP needed?

A decision about whether to implement SFPs should take into consideration:

1. **Malnutrition rates:** current and *previous prevalence of global acute malnutrition (GAM)* and SAM in children 6-59 months, reported in Z scores.
2. **Contextual factors:** including the causes of malnutrition, the socio-economic situation, the food security situation, general ration quantity and coverage, as well as the presence of other humanitarian interventions.

3. **Public health priorities:** whether other priority needs are already being met (shelter, water availability, etc.).
4. Available **human, material and financial resources** and the objectives of the project.

A decision-making framework relating malnutrition rates and suggested actions is outlined below in Table 1. It has been used in practice by implementing partners and donors.

**Table 1: Decision-making framework for Implementing Selective Feeding Programme<sup>8</sup>**

Finding	Action required
Malnutrition rate (GAM) $\geq$ 15% or 10-14% plus aggravating factors	<i>Serious situation:</i> <ul style="list-style-type: none"> <li>• General rations (unless situation is limited to vulnerable groups)</li> <li>• Blanket supplementary feeding for all members of vulnerable groups, especially children, pregnant and lactating women</li> <li>• Therapeutic feeding programme for severely malnourished individuals</li> </ul>
Malnutrition rate (GAM) 10-14% or 5-9% plus aggravating factors	<i>Risky situation (alert):</i> <ul style="list-style-type: none"> <li>• No general rations, but</li> <li>• Targeted Supplementary feeding targeted for individuals identified as malnourished in vulnerable groups</li> <li>• Therapeutic feeding programme for severely malnourished individuals</li> </ul>
Food availability at household level < 2100 kcal per person per day	<i>Unsatisfactory situation:</i> <ul style="list-style-type: none"> <li>• Improve general rations until local food availability and access can be made adequate</li> </ul>
Malnutrition rate (GAM) under 10% with no aggravating factors	<i>Acceptable situation:</i> <ul style="list-style-type: none"> <li>• No need for population interventions</li> <li>• Attention to malnourished individuals through regular community services</li> </ul>

Aggravating factors can include:

- Worsening of the nutritional situation
- Food availability at household level less than the mean energy requirement of 2100 kcal/person/day
- The GFD is below mean energy, protein and fat requirements
- Crude mortality rate more than 1 per 10 000 per day
- Epidemic of measles or whooping cough
- High prevalence of respiratory or diarrhoeal diseases.

The decision-making framework is not prescriptive, and needs to be used relative to local circumstances. For example, in countries in the Horn of Africa, high GAM rates are commonly

reported, while in other countries GAM rates might double but still be below the thresholds listed above (see Case Example 1). Current recommendations are to consider overall trends in GAM and SAM as part of a thorough situation analysis and the context rather than waiting until a certain threshold has been reached, by when it could be too late to implement an effective response.<sup>9</sup> Furthermore, the GAM rate thresholds were based on the 1978 National Centre for Health Statistics Growth Reference (NCHS GR) population. The thresholds are being reviewed to confirm if still relevant based on 2006 WHO Growth Standards (WHO GS). Various agencies including WFP and Save the Children have developed decision-making frameworks for response options and ration types to guide field practitioners but these require consensus and a firm evidence base before further dissemination.

<sup>8</sup> WHO (2000). *The Management of Nutrition in Major Emergencies*, Geneva: WHO

<sup>9</sup> Young, Helen and Susanne Jaspars (2009). *Review of Nutrition and Mortality Indicators for the IPC: Reference Levels and Decision-making*. Geneva: UNSCN.

## Case example 1: Implementing SFPs in areas of chronic emergency: Kenya 1996

MSF Spain began working in Central Mandera north east Kenya in March 1996 following a long period of drought. Nutrition survey results found 32.4% GAM with 4.6% SAM.

The population is mainly ethnic Somali practising traditional nomadic-pastoralism. Central Mandera had been a settlement for refugees since 1991 when many people left west Somalia in search of security and food. During the severe drought of 1991-2, animal holdings were drastically reduced in some population groups in the district rendering many families destitute, and forcing them to migrate to central Mandera. These displaced pastoralists increased the numbers of urban poor as the limited economic growth in Mandera has been insufficient to absorb the unskilled pastoralist labour.

MSF started supplementary and therapeutic feeding in Central Mandera. Five SFPs were opened. Subsequent nutritional deterioration later in the year led to implementation by MSF of a targeted ration through the SFP to families with malnourished children. The family ration consisted of 1110 kcals per person per day. MSF continued operating the programme until August 1998 during which time levels of wasting never fell below 20%.

Although coverage and recovery rates were high (90% and 80% respectively), some children were continuously re-admitted (some estimates of 33%) and rates of malnutrition in the population did not improve. It was believed that the high rates of readmission were in part a reflection of the fact that the food was used partly as an income/food transfer to the entire household and that some children were purposefully starved to get access to the programme's food resources.

MSF concluded that the high prevalence of wasting reflected a chronic problem in the area and the MSF strategy of establishing feeding centres may not be the most cost-effective use of intervention resources.

Source: Vazquez-Garcia, L. (1999) *Supplementary feeding in Mandera. The right intervention?* ENN Field Exchange, Issue 6.

Ideally, issues such as when to intervene, how, and with what modality over time are discussed and outlined as part of development of a nutrition strategy for emergencies at the nutrition cluster level (with agency specific strategies as needed). Such a strategy might include different phases of the nutrition response – for instance in Haiti in 2010, three phases were defined and different foods were used in different phases based on needs and overall changes in the context. A nutrition strategy can also outline the timing of when to start blanket SFPs versus when to start targeted SFPs. For example, in Haiti and Pakistan in 2010, the initial focus was to deliver support through blanket SFPs, which were complemented by targeted SFPs when greater capacity was available on the ground. In Niger, which was a slow onset emergency in a context of elevated GAM rates and recent experience with targeted SFPs, both blanket and targeted SFPs were started simultaneously.

Community engagement in the discussion of appropriateness and design<sup>10</sup> of SFPs should enhance programme success. Women in particular should be involved in decision-making in a culturally appropriate manner. When SFPs are implemented, the whole community should be informed of the SFP objective, and encouraged to ensure that food reaches the targeted needy groups.

Although criteria for closure and an exit strategy should be planned from the beginning of the project and steps taken during the whole project timeline, the final decision should always be made in consultation with the other actors involved in the emergency response, especially local authorities and community representatives. Population level assessment of nutrition status should also be part of the decision to close a programme. Broad criteria for opening and closing blanket and targeted SFPs are summarized in Table 2, and challenges to addressing MAM through SFPs in urban contexts is found in Challenge 1.

The duration of a **blanket SFP** depends on the scale and severity of the disaster, as well as the effectiveness of the initial response<sup>11</sup>. The situation should be assessed at regular intervals and the programme reoriented as needed depending on whether the situation has improved (eg adequate general rations established, epidemics are under control, and safe and sufficient water is present). The nutritional status of the population should be assessed (for example through an anthropometric survey) before the decision to close a blanket SFP is taken. At the end of this period if the situation is still poor, either blanket feeding could be continued or targeted feeding could replace the programme to ensure that the most vulnerable are treated. Timing of assessments and relationship between programmes are ideally outlined in the strategy for nutrition in emergencies mentioned above.

<sup>10</sup> Specific information on programme planning issues, such as estimating caseloads, number and placement of sites, food commodities to use, can be found in the section Management of SFPs.

<sup>11</sup> Initial planning timeframes generally anticipate a duration of 3 months for a blanket SFP.

Table 2: Broad guidance on criteria for opening and closing SFPs

Blanket SFP	Targeted SFPs
<b>When to open</b>	
<ul style="list-style-type: none"> <li>At the onset of an emergency if a reliable pipeline for an adequate GFD is not fully in place.</li> <li>The prevalence of GAM <math>\geq</math>15% or 10-14% plus aggravating factors.</li> <li>An increase in rates of malnutrition is anticipated due to seasonal deterioration in underlying causes of malnutrition, e.g. during a lean season in a highly food insecure or difficult to reach population.</li> <li>To prevent malnutrition in the most vulnerable part of the population e.g. 6-23 months.</li> <li>To prevent malnutrition in newborns through the nutritional support of pregnant and lactating women.</li> <li>The population is difficult to reach due to logistical and/or security problems when more frequent and targeted SFP is not possible due to time, access and implementing partner capacity limitations.</li> <li>In case of <i>micronutrient deficiency</i> outbreaks, to support overall response, through provision of micronutrient-rich food, fortified commodities, or micronutrient supplementation to the target population.</li> </ul>	<ul style="list-style-type: none"> <li>There are large numbers of malnourished individuals resulting in a prevalence of 10% GAM<sup>12</sup> among children (some guidelines stipulate a cut off of 15%<sup>13</sup>).</li> <li>There is an increase in acute malnutrition compared to previous nutritional trends (this is often more sensitive than just relying on absolute numbers).</li> <li>There are large numbers of children who are at-risk of becoming malnourished due to factors like poor food security and high rates of disease, i.e. a prevalence of 5-9% acute malnutrition in the presence of aggravating factors.</li> </ul>
<b>When to close</b>	
<ul style="list-style-type: none"> <li>GFD is adequate and is meeting planned minimum nutritional requirements if there is a specific food in the GFD for young children.</li> <li>Prevalence of acute malnutrition is &lt;15% without aggravating factors.</li> <li>Prevalence of acute malnutrition is &lt;10% with aggravating factors.</li> <li>Disease control measures are effective.</li> </ul>	<ul style="list-style-type: none"> <li>GFD is adequate (meeting planned nutritional requirements).</li> <li>Prevalence of acute malnutrition is &lt;10% without aggravating factors.</li> <li>Control measures for infectious diseases are effective.</li> <li>Deterioration in nutritional situation is not anticipated, i.e. seasonal deterioration.</li> </ul>

It is usual practice to close down a programme when there are less than 30 beneficiaries in a **targeted SFP**. Those that are registered should complete treatment, while all new cases should be referred to other services such as health centres or hospitals and/or livelihood programmes. In some situations where prevalence of acute malnutrition is <5% (in the presence of aggravating factors) or <10% (with no aggravating factors) but the absolute number of malnourished children may still be considerable, the closure of targeted SFPs may not be appropriate. The same may apply in unstable and insecure situations where these programmes may be maintained as a 'safety net'.

When feasible and appropriate, a gradual process of handover and integration into local primary health services, community health programmes like safe motherhood, HIV/ AIDS, immunisation, integrated management of childhood illnesses (IMCI) should be undertaken. Increasingly, agencies and donors are developing strategies and funding mechanisms to facilitate this transition from emergency to post-emergency.

<sup>12</sup> Prevalence of acute malnutrition reflects the proportion of the child population (aged from six to 59 months) whose weight for height is below -2 Z-scores, and or/bilateral oedema (swelling).

<sup>13</sup> WFP (2005). *Food and Nutrition Handbook*. Rome: WFP.



### Challenge 1: Urban Issues

There are several issues related to addressing MAM in urban contexts. The scale of the problem of malnutrition in urban contexts is largely hidden, given that few wide-scale anthropometric surveys are undertaken in these contexts. Disparities in economic status between groups can also be obscured through anthropometric surveys with only a single estimate of GAM for the population, while sampling to get estimates of GAM for separate groups can be resource intensive. Population density, issues of overcrowding and disease transmission, along with higher HIV and TB levels, poor sanitation and limited capacity for household level agricultural production exacerbate the underlying causes of malnutrition. For example, food access is often more of an issue than food availability. A more appropriate response to MAM in that instance could be cash or voucher transfers rather than traditional blanket or targeted SFPs.<sup>14</sup> In cities where household registration is required, this and other socio-cultural issues of urban living can be important. Security issues are also often different in urban settings than in rural or camp settings.

These issues underline how anthropometric survey results need to be complemented by other available information during the assessment and design phase of programmes to address MAM. Given increasing urbanization globally, further clarity on best practice for addressing MAM in urban populations is needed.

### Who are the targeted groups for SFPs?

Target groups should be determined based on contextual analysis of underlying causes of nutrition and nutritional risk of key target groups. It is important to understand that target groups should not be 'set in stone' and that there must be flexibility in defining and prioritising the target groups for each situation. Nutritional vulnerability varies between emergencies and among different population groups. Consequently, there should always be some on going analysis of nutritional vulnerability in any emergency situation. Common target groups are summarized in Table 3, and Case Example 2 illustrates the process of definition of target groups in targeted SFPs:

Priority given to these different groups (in both targeted and blanket SFPs) will depend on several factors, among them: agency resources, the size of population groups and how the emergency and resulting interventions are affecting the food security of different groups.

### When to Admit and Discharge from SFPs?

Admission and discharge criteria for **blanket SFPs** do not rely on anthropometric indicators. Once the targeted groups have been defined, individuals who meet those criteria are admitted and after a specific time period or when the blanket SFP is closed all individuals are effectively "discharged".

Admission and discharge criteria for targeted SFPs (Table 4) rely on anthropometric indicators of acute malnutrition and/or indicators of vulnerability.<sup>15</sup> Cut off points used to define the degree of acute malnutrition should be in agreement with national policies and guidelines, taking into consideration capacity and resources for running the programme.<sup>16</sup> For example, if resources are limited then cut off points may need to be raised so there are fewer individuals enrolled in the programme. Currently there is still debate about discharge criteria for MAM. Usually discharge is based on the same criteria for admission (e.g. if admitted based on *weight-for-height* (WFH)<sup>17</sup> then not discharged based on MUAC).

Prior to 2006, the internationally accepted population for calculating nutrition indices like WFH among children 0-59 months was the 1978 NCHS GR. In 2006, WHO introduced a new growth standard (WHO GS) for children 0-60 months of age.<sup>18</sup> The WHO GS were endorsed in 2009 over the NCHS GR to identify SAM in children 6-59 months.<sup>19</sup> While percentage of the median has been commonly used in the field as the basis for admission criteria into selective feeding programmes, global recommendations issued in 2009 recommend the use of Z score instead of percentage of the median for admission and discharge criteria for programmes that treat acute malnutrition. Some operational issues in this transition are outlined in Challenge 2.

<sup>14</sup> Food and Nutrition Technical Assistance II Project (FANTA-2) (2008). *Emergencies in Urban Settings: A technical Review of Food-based Program Options*. Washington, DC. FANTA-2, Academy for Educational Development.

<sup>15</sup> WFH for children 6-59 should be calculated based on the 2006 WHO Growth Standards while nutrition indices for children 5-19 years should be based on 2007 WHO Growth Reference, and both presented as Z scores.

<sup>16</sup> Nutrition indices used to define MAM include: children 6-59 months (WFH and mid upper arm circumference (MUAC)), body mass index (BMI) for age for 5-19 years, MUAC and BMI for adults, MUAC for pregnant and lactating women, BMI for older people. Additional guidance is under development for children under 6 months, people living with HIV/Aids or TB, and older people.

<sup>17</sup> Length rather than height is measured in children less than 2 years of age (less than 87cm). See Module 6 for more detail.

<sup>18</sup> A standard is based on prescriptive criteria and involves value or normative judgments. In contrast, a reference reflects the expected values in a reference population.

<sup>19</sup> .....

Table 3: Target groups for Blanket and Targeted SFPs

Blanket SFPs	Targeted SFPs
<p><b>All children between 6 months and 59 months or two or three years of age</b> depending on the need, context and resources. The first two years of life are critical because nutrient needs are high due to rapid growth and frequent illness, in addition to the transition from frequent breastfeeding to fewer, largely plant-based, meals per day. It is difficult to catch up on poor growth and reduced mental development accumulated during early life unless circumstances (diet and environment) change significantly.</p> <p><b>Pregnant and lactating women (PLW):</b> Women in this group have higher nutritional needs because of the growth and development of the foetus, and the provision of breast milk for their infant. Many women start pregnancy with a suboptimal nutritional status and therefore need nutritional support both for themselves as well as for their baby.</p>	<p><b>Children 6-59 months of age</b> classified with MAM. (Note that children 6-59 months who are moderately acutely malnourished but severely ill, for example with associated measles, pneumonia or diarrhoeal disease, should be considered for management of SAM).</p> <p><b>PLW:</b> Rations are usually given to pregnant women from the time of confirmed pregnancy (although some guidelines advocate from the third trimester of pregnancy), and breastfeeding mothers until a maximum six months after delivery after which the infant is measured and transferred to the SFP if malnourished.</p>
<p>Although children under five are normally the primary target group for blanket and targeted SFPs, other vulnerable groups can be considered for admission if the context and situation indicate that this is appropriate (see also Case Studies 1&amp;2):</p> <p><b>Older children, Adolescents and Adults showing signs of malnutrition or at-risk groups</b> (e.g. chronically sick such as people suffering from HIV/AIDS or tuberculosis (TB) and older persons). For these individuals, medical treatment should be combined with good nutrition and the safeguarding of food security for these individuals and their family members.</p> <p><b>Referrals from a therapeutic programme treating SAM.</b> Although these children often enter targeted SFPs when they are discharged as recovered from treatment of SAM, it is important to enrol them for nutritional surveillance (weight, <i>mid upper arm circumference</i> (MUAC), presence of bilateral oedema) and to continue to provide a ration to avoid relapse. This includes infants less than 6 month old, who benefit from weight monitoring but not a ration. Guidelines advocate a minimum of 2 months following discharge from a therapeutic inpatient or outpatient feeding programme.</p>	

### Case example 2: Adopting flexible targeting criteria during floods: Bangladesh 1998

Save the Children UK (SC UK) conducted a nutritional survey in six severely flood affected districts of Bangladesh in August 1998 and a follow up survey in December 1998. In order to assess the extent to which the interventions during the flood influenced nutrition, a secondary analysis was carried out on the situation of the same 180 children in both surveys. Nutrition interventions included SFPs for households with a malnourished child and targeted food distributions for the poorest in the community.

The analysis found that 90% of malnourished children had improved by December with 82% returning to normal nutritional status. However, over half of children who were well in August saw their nutritional status worsen so that by December 9% had fallen into the malnourished category.

These findings suggest that a family that coped and survived well during the flood might have exhausted all their assets and be more vulnerable in the rehabilitation phase compared to a poorer and more vulnerable family that was assisted during the flood.

SC UK concluded that criteria for targeting should be established for both the crisis and recovery phase right at the start of any relief programme to ensure that the impact of interventions is sustained. Furthermore, targeting malnutrition during an emergency of large scale in which everyone is affected may not always be appropriate.

Source: Hossain, Moazzem, and Elizabeth Stevens (2000). *Lessons learnt from the 1998 Bangladeshi floods*. Field Exchange Issue 11, p 19.

Table 4: Summary of admission and discharge criteria into targeted SFPs

	Admission	Discharge
<b>Children 6-59 months with MAM</b>	<p><b>WFH</b> less than -2 Z scores and greater than or equal to -3 Z scores based on WHO GS<sup>20</sup></p> <p>or</p> <p><b>MUAC</b> of less than 12.5cm (125mm) and greater than or equal to 11.5cm (115mm)<sup>21</sup></p> <p>and</p> <p>Appetite, clinically well, alert</p> <p>also</p> <p>Children discharged from TFP. These children are admitted regardless of anthropometric status and discharged after a specific time period, assuming their nutritional status does not deteriorate.</p> <p>Children with MAM based on MUAC or WFH who also have bilateral oedema should be referred for treatment of SAM rather than into a targeted SFP. Children with MAM with severe medical complications should be referred for immediate medical care.</p>	<p>For those admitted based on WFH, greater than -2 Z score for 2 consecutive visits<sup>22</sup></p> <p>or</p> <p>For those admitted based on MUAC, the discharge criterium is still under discussion. WFP/UNHCR recommending MUAC greater than or equal to 12.5cm (125mm) for 2 consecutive visits</p> <p>and</p> <p>Minimum 2 months treatment</p> <p>Children discharged from therapeutic feeding should stay in the SFP for a minimum of 2 months, depending on national guidelines.</p>
<b>Pregnant and lactating women</b>	<p>Suggested cut off points for risk vary by country and range from 210 to 230 mm. UNHCR/WFP recommend either 230 mm or 210 mm as the cut off, but do not detail the specific rationale under which circumstances one is more applicable than the other. Sphere recommends 210 mm as an appropriate cut off for selection of women at risk during emergencies<sup>23</sup>.</p> <p><i>Pregnant women</i></p> <p>MUAC less than 210mm (or 230mm) and second or third trimester</p> <p><i>Lactating women with infant &lt; 6 months</i></p> <p>MUAC less than 210mm (or 230mm)</p> <p>and/or <i>Lactating women with infant &lt; 6 months</i></p> <p>If they have breastfeeding problems or if the infant is not gaining weight adequately</p>	<p>For pregnant women, MUAC of greater than or equal to 210mm (or 230mm) is recommended.</p> <p>For postpartum lactating women, MUAC of greater than or equal to 210mm (or 230mm) or when their baby reaches 6 months of age is recommended.</p> <p>When the infant reaches 6 months of age, they should be assessed for MAM and SAM and referred as appropriate.</p>
<b>Adolescents with MAM</b>	<p>Adolescents should be assessed using <b>Body Mass Index (BMI)</b><sup>24</sup> -for-age, and results presented based on Z scores based on the WHO Growth Reference for children and adolescents 5 to 19 years of age.<sup>25</sup> While there are cut offs for thinness (<math>\geq -3</math> Z score and <math>&lt; -2</math> Z score), specific anthropometric criteria for admission and discharge are not defined under Sphere nor the 2009 UNHCR/WFP guidelines.</p>	

<sup>20</sup> While the use of z-scores is becoming more widespread and is recommended, some programmes still admit based on less than 80% and greater than or equal to 70% of the median.

<sup>21</sup> MUAC has recently been accepted as an admission criteria into targeted SFPs in the 2009 UNHCR/WFP guidelines. MUAC measurement is a quick procedure and can identify most malnourished children in a short space of time, though measurement error is possible and thorough training and supervision is recommended.

<sup>22</sup> Previously >85% of median weight for height.

<sup>23</sup> Many agencies use less than 210mm, and that has also been recommended by Sphere. Agencies also vary as to whether or not they include trimester.

<sup>24</sup> Body Mass Index defined as the (weight in Kg)/(height in m) for assessing the nutritional status adults (see Module 6 for more detail)

<sup>25</sup> Technically the 2007 Growth Reference covers from 5 years and one month (61 months) upwards to 19 years.

Table 4: Summary of admission and discharge criteria into targeted SFPs (continued)

	Admission	Discharge
<b>Chronically ill adults with MAM</b>	<p>UNHCR/WFP 2009 recommend for adults: <b>BMI</b> greater than or equal to 16 and less than 17 Or <b>MUAC</b> for men: MAM: MUAC &gt; 224mm and &lt;231 mm <b>MUAC</b> for women: MAM: MUAC &gt; 214mm and &lt;221 mm<sup>26</sup></p> <p>Specific MUAC cut offs have also been proposed for adults with HIV though there is little data on relationship between functional outcomes and MUAC in adults at this time.<sup>28</sup></p>	<p>Discharge criteria are defined as those that have attained a stable and satisfactory nutritional status and who are free from disease.</p> <p>WFP/UNHCR recommend discharge for adults as <b>BMI</b> greater than or equal to 18.5</p>
<b>Older people with MAM</b>	<p>UNHCR/WFP 2009 recommend: <b>MUAC</b> &gt;160 mm and &lt;185mm <b>And</b> none of the following clinical signs (those presenting with these signs should be referred for medical care)</p> <ul style="list-style-type: none"> <li>• Bilateral oedema</li> <li>• Inability to stand/immobile</li> <li>• Extreme weakness or dehydration</li> <li>• Anorexia</li> </ul> <p>And at least one of the following:</p> <ul style="list-style-type: none"> <li>• Living alone without family support or</li> <li>• Physical or mental disability or</li> <li>• Not strong enough to engage in household activities or</li> <li>• Very low socioeconomic status or</li> <li>• Psychologically traumatised</li> </ul>	<p>HelpAge recommends discharge of older persons to depend on anthropometric (MUAC &gt; 185mm), clinical and social risk factors<sup>28</sup></p>

Individuals can be admitted under several circumstances. Some programmes report admission rates by type. Broad definitions for admission categories are<sup>29,30</sup>

- A *new admission*, defined as an individual directly admitted to the programme because he/she meets entry criteria. New admissions can be separated by criteria where relevant (e.g. WFH, MUAC, etc).
- A *re-admission*, defined as an individual admitted to the programme after having been successfully discharged in the last 2 months (sometimes called çrelapseé), or an individual being re-admitted after having defaulted from the programme in the last few weeks and still meeting entry criteria.

For those that have moved in from other SFP sites, these individuals are not counted as admissions to the programme, as they were already on treatment in another SFP site. For this reason, the total number of admissions is calculated separately as “*Total admissions*” (new admissions plus re-admissions) and “*Total in*” (total number of beneficiaries taken charge of in the SFP site).

<sup>26</sup> UNHCR/WFP (2009). Guidelines for selective feeding: the management of malnutrition in emergencies. Geneva: UNHCR/WFP

<sup>27</sup> Turmilowicz, Alison (2010). Guide to Screening for Food and Nutrition Services Among Adolescents and Adults Living with HIV. Washington DC, FANTA-2.

<sup>28</sup> HelpAge International (2001). Addressing the Nutritional Needs of Older People in Emergency Situations in Africa: Ideas for Action. Nairobi: HelpAge International.

<sup>29</sup> ENN (2009). Minimum Reporting Package for Emergency Supplementary Feeding Programmes: Guidelines. London: ENN (Draft).

<sup>30</sup> ‘Individual Nutritional Support’ is used to classify beneficiaries that are admitted on specific vulnerability criteria but not MAM and where some follow up of nutritional status might take place. Examples include nutrition support for HIV+ve individuals where weight and MUAC can be monitored and children discharged recovered from Therapeutic Feeding but requiring follow up to avoid relapse; including infants <6 months where their weight can be monitored and the ration given to the mother.

## Challenge 2: New 2006 WHO Growth Standards: What Will They Mean for Nutrition Programmes?

The new 2006 WHO GS (see modules 6 and 7) have important practical implications for emergency selective feeding programmes. The new standards can lead to a small increase or, in some cases, a slight decrease in the recorded prevalence of GAM depending on the height profile of the surveyed populations and the relative contribution of SAM to GAM.

Furthermore, with application of the WHO GS, cut off points for SFP discharge will be reached with a lower weight gain so children will, on average, be discharged earlier. The effects of this change on relapse, re-admission or case fatality rates are currently unknown. One recent review of 560 surveys found that with WHO GS, there was a 9% increase in the number of situations where blanket SFPs would be considered according to thresholds in Table 1. The number of situations where targeted SFPs were indicated barely changed. The caseload and cost implications of the WHO GS appear to be manageable (approximately 4% additional costs for SFP globally), largely due to the increased proportion of blanket SFPs implemented.

Staff will need additional training and support in the use of the WHO GS in classification of MAM, including a shift to Z scores as opposed to percentage of the median. The percentage of the median statistic has long been used for the admission of children to SFPs, however global recommendations in 2009 endorsed the use of Z score as opposed to percentage of the median in the detection of cases of SAM.<sup>31</sup> Continued use of percentage of the median with the new WHO standards is not recommended because their estimations show a decrease in the number of children admitted and an earlier discharge weight, which could negatively affect relapse rates.

Finally, there are unresolved issues concerning the discharge criteria to be used when managing MAM beneficiaries using the WHO GS. In all cases, the use of the new standards will have resource implications, both in terms of funding programmes and in terms of personnel managing programmes, but these will be greater for the management of SAM than MAM.

Source: Seal, Andre and Marko Kerac (2007). *Operational implications of using 2006 World Health Organization growth standards in nutrition programmes: secondary data analysis*. BMJ, doi:10.1136/bmj.39101.664109.AE (published 23 February 2007)

Kerac et al. (2009). *New WHO growth standards: roll-out needs more resources* Lancet letter Vol. 374 July 11.

Discharge categories can be broadly defined as:<sup>32</sup>

- **Cured**<sup>33</sup>, defined as an individual that has reached the discharge criteria defined for the programme.
- **Death**, defined as an individual that died from any cause while registered in the programme<sup>34</sup>.
- **Defaulter**: defined as an individual that is absent for 2 consecutive service or programme rounds (two weeks if the rounds are weekly, one month if the rounds are bi-weekly, and so on). Ideally a home visit is arranged in order to determine the reason and encourage participation in the SFP. If during the home visit the beneficiary decides to re-enter the programme, the beneficiary is re-admitted and the readmission classified as explained above.
- **Non-cured/non-responder**, defined as an individual who has not reached discharge criteria after a pre-defined length of time (usually 3 or 4 months) despite all investigations and transfer options. If an individual does not show any improvement after the first weeks, or if a

beneficiary that was improving shows a decrease in rate of in weight gain, it is important that all appropriate investigations are undertaken immediately to establish a reason for the lack of recovery (see Challenge 4).

Individuals that are referred for complementary services to a medical facility or a therapeutic feeding programme (inpatient or outpatient) for treatment of SAM in the event of deterioration in their nutrition status have not ended the treatment. They will either continue treatment or return to continue the treatment later. Individuals transferred out to other sites have not ended the treatment and should not be included in performance indicators. Those that have been moved to other SFP sites, or who have been transferred out are generally recorded separately<sup>35</sup>.

Every emergency has a unique combination of factors and circumstances that may lead to situation-specific objectives and approaches for SFPs. Some examples of SFPs with unusual designs or objectives are presented in Case Example 3.

<sup>31</sup> WHO and UNICEF. (2009). WHO child growth standards and the identification of severe acute malnutrition in infants and children A Joint Statement by the World Health Organization and the United Nations Children's Fund. Geneva: WHO and UNICEF.

<sup>32</sup> ENN (2009). Minimum Reporting Package for Emergency Supplementary Feeding Programmes: Guidelines. London: ENN (Draft).

<sup>33</sup> This category is referred to as "recovered", "nutritionally recovered" or "discharged successfully" in different guidelines.

<sup>34</sup> Deaths rarely occur while the beneficiary is physically at the centre. However, as SFPs are community based, sources of information for the death will usually be a relative or neighbour. Ideally this should be confirmed by a home visit. Until the death is confirmed, the beneficiary may be classified as "Defaulter non-confirmed – Unknown outcome".

<sup>35</sup> The Sphere Project (2011). *Humanitarian Charter and Minimum Standards in Humanitarian Response*. Geneva: The Sphere Project.

### Case example 3: Unusual emergency supplementary feeding programmes

- An on-site SFP for the Rohingya refugees in Myanmar was established in order to provide a full ration for women and children. This unusual type of programme was justified on the grounds that the general ration was often taken and sold by men and that this was contributing to the high levels of wasting found in the camp.
- A form of prison SFP was established by a number of agencies in Rwanda during 1997. Many of the detainees in the prisons were awaiting trial and were dependent on families or friends visiting with food. An objective of these SFPs was to reduce demands on families who were voluntarily assisting the prisoners and thereby improve their food security.
- At the height of the civil war in Liberia, many of those affected by the conflict asked humanitarian agencies to provide food in the form of a SFP rather than as a general ration. Their rationale was that a GFD would place them at too great a security risk as such large quantities of food would probably be looted. This was less likely to be the case with a SFP. This programme became the means of getting food out into the general population.
- In 2002 Concern Worldwide conducted a targeted food distribution to women and children in northern Afghanistan following a lengthy period of drought and conflict. All households with at least one malnourished woman or child under five received a full ration of cereal, beans and oil for all household members over a five month period. BP5 biscuits were also distributed for a short period to selected children. The primary aim of the programme was to bolster household food security and to target limited food resources to those most in need.

Source: WFP (2005). *Food and Nutrition Handbook*. Rome: WFP.

## Challenging Cases

### Malnourished infants under six months of age

The current evidence base for assessment and management of acute malnutrition in infants under 6 months is relatively weak. The majority of protocols that do specifically detail assessment of malnutrition in infants under 6 months recommend the same cut offs for WFH (e.g. less than -2 Z score and greater than or equal to -3 Z scores) as 6-59 months, based on Z scores and the 2006 WHO GS. MUAC is not currently recommended in anthropometric assessment of infants under 6 months. Admission criteria tend to rely on current size as opposed to growth.

A review<sup>36</sup> of 14 international and 23 national guidelines for management of acute malnutrition found wide variation in the way acute malnutrition in infants under 6 months is addressed. Some only implicitly recognized the problem. While both inpatient and community-based guidelines recommended inpatient care for SAM in infants under 6 months, very few guidelines gave details of MAM management in infants or infant and young child feeding/breastfeeding support. Exceptions were ACF Assessment and Treatment guidelines (2002)<sup>37</sup> and Infant Feeding in Emergencies Module 2<sup>38</sup>.

In all cases, the factors contributing to MAM in infants under six months need to be assessed and addressed in a rehabili-

tation programme. Breastfeeding mothers of acutely malnourished infants <6 months should be admitted to supplementary feeding, independent of maternal nutrition status. For breastfed infants under six months, nutritional rehabilitation of MAM should include both nutritional support to the breastfeeding mother and skilled breastfeeding support. If admitted to a targeted SFP, the mother should receive the food ration while the infant should be monitored for weight gain. Discharge criteria for the infant should be based on serial weight gain and exclusive breastfeeding. For infants who have stopped breastfeeding, every effort should be made to re-establish breastfeeding. This will need skilled support for the mother to help her start to breastfeed again.

For infants who have never breastfed, re-lactation should always be considered if skilled expertise is available, the mother or carer is willing to try breastfeeding, and especially where resources to safely manage artificial feeding are limited. For infants who require infant formula, the carer's capacity for safe home preparation of a breast milk substitute (including infant formula supply, fuel, water and time) will need to be assessed. On-site feeding with a *breast milk substitute* (BMS) may be initially required, and could need the support of a therapeutic care facility if not possible at a SFP site. Carer training on safe home preparation of BMS is essential prior to discharge. See module 17 for more details about infant feeding in emergencies.

<sup>36</sup> ENN, UCL-CIHD, ACF (2010). Management of Acute Malnutrition in Infants (MAMI) Project: Technical Review: Current evidence, policies, practices and programme outcomes. London: ENN.

<sup>37</sup> Action Contre La Faim/Prudhon, Claudine (2002). Assessment and Treatment of Malnutrition in Emergency Situations: Manual of Therapeutic Care and Planning for a Nutritional Programme. Paris: ACF.

<sup>38</sup> ENN et al (2007). Infant Feeding in Emergencies Module 2. London: ENN.

#### Case example 4: Discharge criteria for patients with AIDs: Malawi 2003

Medecins San Frontieres (MSF) implemented home based care (HBC) and nutrition programmes for people with AIDS in Thyolo district, Malawi from 2003 onwards. Each month a nutrition team joined the HBC team and patients were screened using BMI while waiting for treatment from HBC nurses. When a patient had a BMI of < 17.0 they received a monthly ration of 10 kg of Likuni Phala (Malawian fortified blended food). Discharge criteria were established as a weight gain of >10% during two consecutive visits, a BMI > 17 and good general health. However, it proved impractical to get staff to work out a 10% weight gain so criteria were revised to achieving BMI >18.5 for more than two consecutive visits. Generally, patients remained 5.5 months on the programme.

Source: Moens, Mieke (2005). *Nutritional support through HBC in Malawi*. Field Exchange Issue 25 pp 39-40.

The review found the burden of care for infants under 6 months is significant with the implications of the roll out of the 2006 WHO GS increasing the caseload. In contrast, the current evidence base for treating malnourished infants is relatively weak and many programmes do not give clear guidance. Currently WHO is commissioning more research around this age group.

#### HIV/AIDS and TB

Various studies have looked at children and adults who are HIV+ve to try to work out whether a different approach or food product is required. Available evidence makes it clear that stronger links are required between nutrition and HIV programmes. Case Example 4 outlines one such linkage.

Increasingly HIV programming is providing more nutritional support to malnourished individuals with HIV and PEPFAR<sup>39</sup> aims to integrate nutrition into national HIV responses. Nutrition assessment, counselling, and support (NACS), is the cornerstone of food and nutrition programming within PEPFAR. The Food by Prescription (FBP) programme is the specific mechanism through which NACS is implemented. This includes provision of a number of services including nutrition assessment, counselling and support using FBP, specialised food products, micronutrient supplementation, water purification and hygiene and food security/livelihood support. FBP involves take home food packages prescribed in daily doses to those attending HIV clinics for antiretroviral treatment and identified as having SAM or MAM. Programmes are carried out in Kenya, Tanzania, Uganda, Zambia but more research is needed into whether HIV+ infected children with MAM need different or additional foods to other children with MAM, and also into the effectiveness and cost-effectiveness of different food products – especially in different service delivery settings.

Operational issues in the management of MAM in the HIV context require more attention to integrated nutrition and HIV guidelines as in many countries these are currently inconsistent within and between countries, with multiple admission cut offs and rejection issues, causing confusion to care providers and caretakers/beneficiaries alike. In some countries, various commodities, including *Ready to Use Therapeutic Food* (RUTF), are being used in the treatment of MAM in HIV+ children but the evidence base is being developed and is not globally recommended.

New WHO guidelines for an integrated approach to the nutritional care of HIV-infected children (6 months to 14 years) have been released, including nutrition and HIV care handbook, chart booklets and a guide to aid adaptation in local contexts. The guidelines borrow from other approaches and cover assessment and development of a nutritional care plan, implementation of the plan, and guidance on special cases. This preliminary version is being rolled out at country level, and may be adapted based on further evidence from the field<sup>40</sup>.

#### Older people

This vulnerable group often gets forgotten in emergencies. HelpAge International and other agencies are raising the profile of older people in emergencies. MUAC is the recommended nutrition index to use. Anthropometric assessment with BMI is not always feasible when an older individual cannot stand due to infirmity, in addition to changes in height that occur with age. Demispan is sometimes used instead as a proxy measure. Case Example 5 gives an example of these issues in practice.

<sup>39</sup> President's Emergency Plan for AIDS Relief

<sup>40</sup> WHO (2009). Guidelines for an integrated approach to the nutritional care of HIV-infected children (6 months-14 years). Geneva: WHO.

## Case example 5: Including older people in SFPs: Ethiopia 2000

Agencies have faced many challenges when including older people in targeted SFPs. HelpAge Ethiopia found that BMI measurements were problematic as different ethnic groups had different sitting:standing height ratios while MUAC cut offs recommended at the time were found to be very low and had to be adjusted. Oxfam working in Bolosso Sore, Ethiopia in 2000 enrolled over 200 older people (greater than 50 years) in their SFP. The criteria used for selection was MUAC <18.5 cm. Almost all (98%) of those admitted were female – mostly widows without access to land. Many had lost their community support networks and had no relatives nearby to support them. Their nutritional problems were compounded by poor use of food and chronic illness. Forms of welfare in Ethiopia at the time such as the employment generation scheme, were not available to them as many were displaced. In this case, anthropometric indices as well as vulnerability criteria could have been appropriate to define the target group.

Source: Borrel, Annalies (2001). *Addressing the needs of older people in emergency situations*. Ideas for Action. Field Exchange 12 p3.

## Food Commodities for SFPs

Supplementary food can be distributed in two ways:

- Take-home (dry ration) through regular (weekly or fortnightly) distribution of food in dry form or “premix” (i.e. mixture of fortified flour with oil or oil and sugar) to be prepared at home. In such programmes it may be necessary to increase the amount of food to compensate for sharing within a household. This is the main modality practiced in the field.
- On-site feeding (wet ration) through daily distribution of cooked food/meals at feeding centres. The number of meals provided can vary in specific situations, but a minimum of two or three meals should be provided per day. Two meals are needed to provide this amount of energy and protein given the small stomach size of children. Food is also needed for caregivers. On-site feeding should be timed so as not to clash with family meals.

*Take-home rations should always be considered first* as these programmes require fewer resources and there is no evidence to demonstrate that on-site SFPs are more effective. Other advantages of dry ration feeding are that it:

- Carries less risk of cross-infection as large numbers of malnourished and sick children do not have to sit in close proximity while feeding.
- Takes less time to establish than on-site feeding programmes which require setting up and equipping centres.
- Is less time consuming for mothers and carers who only have to attend every week or fortnight. This leads to better coverage and lower default rates.
- Keeps responsibility for feeding within the family.
- Is particularly appropriate for dispersed populations many of whom would have to travel long distances to attend, which may be too much of a time burden on a daily basis.

On-site wet feeding may be justified when:

- Food supply in the household is extremely limited (especially if the GFD is erratic) so it is likely that the take-home ration will be shared with other family members.
- Cooking fuel/firewood and cooking utensils are in short supply and it is difficult to prepare meals in the household.
- The security situation is poor and beneficiaries are more at-risk when returning home carrying weekly supplies of food than they are to travel to the site on a daily basis.
- There are a large number of unaccompanied/orphaned children or young adults.

In some instances it may be appropriate to offer both on-site and take-home feeding and allow participants to select the type of programme in which they enrol. Some agency guidelines are more directive and state that as MAM is not an acute life-threatening condition, daily supervision is not necessary so that SFPs should always be conducted on an outpatient basis. These same guidelines do however caution that as fortnightly visits allow less frequent opportunity for medical assessment, it is important that beneficiaries and their caregivers are encouraged to attend a clinic if illness occurs rather than delaying until the next SFP visit.

## Types of Rations and Requirements

Foods consumed should provide the nutrients required to prevent or recover from malnutrition for each of the target groups. For example, foods provided to children suffering from MAM should provide nutrients required for growth of muscle, skeletal and skin tissue and fat mass, energy for physical activity, and adequate vitamins and minerals to allow for good health and mental development.



Supplementary foods must be energy dense and rich in micro-nutrients, culturally appropriate, easily digestible and palatable (tasty). Rations may be made up of one commodity or multiple commodities, depending on the needs, resources and context. It is possible to calculate the energy, protein and nutrient content of the entire ration by hand using food tables, as well as a downloadable excel sheet that will automatically calculate these values based on user input<sup>41</sup> (see Annex 1 for nutrient content/100g of various commodities used in rations).

The energy density of the food is critical as the majority of those registered in the programme are likely to be small children. To ensure that the food is eaten, it must be palatable and rich in energy and nutrients, but also low in bulk. A one year old can usually only consume a maximum of 300mls of food at a meal, therefore a porridge used for feeding should provide at least 1 kcal/ml with at least 30% of the energy coming from fat. Often dry rations are mixed with oil and sugar before distribution to provide a “premix” to increase energy or these ingredients are added to porridges for wet feeding. Occasionally dried skimmed milk powder is added to increase protein and energy. Care also needs to be taken when different products are in use that children receive one Recommended Nutrient Intake (RNI) of micronutrients.

There are standards in terms of the energy and nutrient density for the rations, depending on which target group and which distribution method is used (see Annex 5 for example rations and nutrient content).

- Dry (take-home) rations for targeted SFPs for children 6–59 and other groups besides PLW should provide from 1,000 to 1,200kcal per person per day and 35–45 grams of protein (12%) and 34–45g of fat (30%) in order to account for sharing at home. They are generally pre-fortified and do not require the addition of any additional micronutrients.
- On-site feeding (wet rations) for targeted SFPs should provide from 500–700kcal (500kcal recommended but up to 700kcal to account for sharing with siblings at the centre) of energy per person per day, including 15–25 grams of protein (12%) and 15–25g of fat (30%). The energy density should be 1kcal per 1ml, and may be additionally fortified with micronutrients through CMV (Complex Mineral Vitamin). Food is also needed for caregivers.
- Targeted SFP rations for PLW are generally smaller. Women need an additional 350kcal per day from the third month of pregnancy and 550kcal per day for breastfeeding.

- Rations for blanket SFPs are more variable compared to the standardized ration for targeted SFPs. A number of factors are reviewed in setting the ration for the blanket SFP, namely level of household food insecurity and availability of the GFD and availability of cooking facilities.

There are a wide range of commodities currently in use to treat MAM. They generally fall into two categories: dry rations/premixes (such as fortified blended foods like *Corn Soy Blend* (CSB)) or *ready to use foods* (RUF). Dry rations/premixes require some additional preparation in the home, while RUFs can be eaten directly from the package without any additional preparation. While numerous trials are on-going, there is no clear evidence about whether RUFs have more impact than dry rations/premixes or are more cost effective.

Powdered milk—also known as *dry skim milk* (DSM), *non-fat dry milk* (NFDM) or *dry whole milk*—should never be distributed alone in a take-home ration. The risk of dilution and germ contamination are very high and the milk could be used as a breast milk substitute. Powdered milk can be added to *fortified blended foods* (FBFs) before distribution but not when FBFs are pre-mixed with oil, unless the client is directed to use the FBF within two weeks to avoid spoilage.<sup>42</sup> Neither RUFs nor blended food rations are appropriate for use with infants under 6 months of age<sup>43</sup>.

### Dry rations or premixes

*Blended food* – for the past 30 years, FBFs such as CSB, *Wheat Soy Blend* (WSB), UNIMIX or locally made equivalents (e.g. FAMIX, Ethiopia, Likuni Phala, Malawi) have been provided to any group with higher nutritional needs eg MAM, PLW. They were also provided to give a reasonably good source of micro-nutrients to the general population. FBFs contain relatively good quality protein – due to the addition of soy, which has a very high protein quality value (i.e. soy contains all the essential amino acids in almost the right amounts) in addition to carbohydrates – and the fact that it was fortified with vitamins and minerals. It was also affordable, with a cost comparable to other commodities in the food basket.

<sup>41</sup> Refer to <http://www.nutval.net> for the excel sheet to calculate nutrient density of rations.

<sup>42</sup> FANTA (2008). Training guide for community-based management of acute malnutrition (CMAM). Washington DC. FANTA.

<sup>43</sup> ENN (2002) Operational Guidance on Infant Feeding in Emergencies 5.1.5 Module 2. London: ENN.

Table 5: Specifications of CSB + and CSB ++

Product	Target Group	Purpose and Target Group	Nutritional Value/100g dry product	General Issues
CSB + (WSB +):	For older children (>2 years) and adults	<ul style="list-style-type: none"> <li>To better meet micronutrient needs of older children and adults the vitamin and mineral premix has been enhanced with additional or elevated levels of micronutrients (B6, D, E, K, iron, iodine, calcium, potassium, phosphorus)</li> <li>Target groups: children 2 years and older, adolescents, PLW, adults, those with chronic illnesses. For &lt;2 years if CSB ++ not available</li> <li>Oil and sugar should be added to increase energy density and palatability (eg 200g CSB+, 20g oil, 15g sugar)</li> </ul>	Energy: 380kcal Protein: 14% (min) Fat: 6% (min) Crude fibre: 5 (max) Moisture: 10% (max)	<ul style="list-style-type: none"> <li>WFP has informed CSB producers of new premix requirements</li> <li>Upgraded MN premix replaces conventional CSB start 2010</li> <li>No change in packing</li> <li>~US\$ 500-650/MT</li> <li>Shelf life: 12 months</li> </ul>
CSB ++	For <2 years	<ul style="list-style-type: none"> <li>Higher and more digestible levels of essential macronutrients (fats and proteins), a reduction in fibre content and enhanced inclusion of vitamins and minerals</li> <li>Fibre reduction due to dehulling of soya beans</li> <li>Protein quality improved by inclusion of 8% dry skimmed milk (DSM). Source of animal protein, but specific peptides (proteins components) may have a positive impact on immune and digestive systems</li> <li>Sugar added for palatability and energy and oil provides energy density</li> <li>Fine flour very palatable for young children with higher protein and fat and lower fibre levels than CSB+. MN profile same.</li> <li>Tighter microbiological specs good for &lt;2 years.</li> </ul>	Energy: 420kcal Protein: 16% (min) Fat: 9% (min) Crude fibre: 3 (max) Moisture: 9% (max)	

FBFs continue to be revised as understanding of nutritional needs, specific properties of certain foods, and bioavailability of nutrients evolves. FBFs contain nutrients (protein, vitamins, minerals, etc.), and also anti-nutrients (phytate, polyphenols, a-amylase inhibitors, etc.) that negatively impact digestion and utilization of food consumed. CSB and UNIMIX only have a fat content of 6% and as a consequence approximately 10 grams

of oil should be added to 100 grams of blended food during preparation and be distributed as a dry pre-mix or cooked porridge. If any other commodity is added to the FBF (such as oil or sugar), it is best to distribute these already mixed with the FBF for dry take-home rations to prevent sale or being taken by other family members. The addition can however reduce shelf life.

The previous formulations of CSB/WSB and UNIMIX are increasingly considered to be “ineffective” in addressing MAM because their composition is not effective enough and sharing of the ration frequently occurs at household level. Due to these considerations previous formulations are being replaced by the WFP with CSB+ (improved micronutrient profile) or CSB++ (improved micronutrient profile, better protein quality, higher energy concentrations and better bioavailability of vitamins and minerals) (see Table 5). WFP and UNICEF have taken UNIMIX out of use as it is no longer considered adequate.

### Ready to Use Foods (RUFs)

RUFs can be defined as “energy-dense, mineral and vitamin-enriched foods that can be eaten directly from the package without preparation.” Currently, *ready to use supplementary foods* (RUSF) are mostly oil seed or peanut-based pastes (although recipes using different ingredients e.g. soy, sorghum, rice are being tested in the field). Precise quantities of macro and micronutrients can be delivered through this route, and

there may be potential for RUSFs to provide *essential fatty acids*.<sup>44</sup> An increasing range including Supplementary Plumpynut®, Lipid based nutrient supplement (LNS)/Nutributter, Plumpydoz® (preventative), and locally produced equivalents are being produced.

Even though the evidence base is still being developed, increasingly RUSFs are being used in the field to address MAM. Advantages include greater energy concentration, no need for cooking or dilution by caretakers, leading to a reduction in labour and fuel demands on poor households, and ability to be eaten directly from the packet. The low moisture content of RUSFs also enhances shelf life and reduces risk of contamination at home from unsafe preparation with other materials. Products can be stored for at least a year, although locally produced RUSF often has a shorter shelf life.

Due to cost considerations and popularity of certain commodities like BP5 biscuits leading to over-demand, these have not been recommended for long-term use (see Case Example 6).

#### Case example 6: Use of BP5 biscuits: Afghanistan 1995-1996

MSF implemented a SFP in internally displaced people (IDP) camps in eastern Afghanistan between July 1995 and February 1996. A dry ration including BP-5 biscuits was used. Following an assessment it was discovered that 65% of children attending the programme were well nourished and met the discharge criteria. The reason for this ‘over attendance’ was believed to be due to the high degree of cheating on the part of participants and some staff. The BP-5 biscuits were found to be the most attractive of the food commodities and were believed to have attracted people outside the target groups to try and become enrolled on the feeding programme. Many were selling their BP-5 ration.

MSF concluded that BP-5 biscuits should only be used when blended foods are unavailable – perhaps in the early stages of a programme, and that programmes that use BP-5 are prone to cheating, corruption and in extreme cases, purposive starvation of children so that they can be enrolled in programmes.

Source: Assefa, Fitsum (1997). *The use of BP-5 biscuits in supplementary feeding programmes*. Field Exchange Issue 2 p20.

### Medical Management in SFPs

Generally no routine medical care is provided through blanket SFPs. In some cases where the context requires and resources are available, blanket SFP distributions can be used for screening and referral for malnutrition and medical issues as well as micronutrient supplementation (see Case Example 7).

Targeted SFPs, in contrast, should provide the following routine treatments. It is important to bear in mind that individuals referred from a TFP will already have received most of these treatments. It is also important to identify National recommendations for which drugs and dosages to use, and that these frequently follow local IMCI dosages.

#### Vitamin A (see Annex 2 for dosages):

- **Children 6-59 months:** Supplementation status should be checked on admission. Routine supplementation with vitamin A on admission is recommended if the child has not received vitamin A in the past 6 months. Children who are referred from a TFP or health facility where vitamin A has already been given within the last 6 months, or in areas where vitamin A supplementation campaigns achieved high coverage in the last 6 months, are likely to have received vitamin A. A child showing clinical signs of vitamin A deficiency should be referred immediately to the nearest health facility for treatment according to World Health Organisation (WHO) guidelines.

<sup>44</sup> Chaparro, Camila and Kathryn G. Dewey (2009). Use of Lipid-based Nutrient Supplements (LNS) to Improve the Nutrient Adequacy of General Food Distribution Rations for Vulnerable Sub-groups in Emergency Settings. Washington DC: FANTA-2.

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- **Pregnant women:** Since vitamin A is *teratogenic* (can cause foetal abnormalities), it can only be given in small doses to pregnant women (25,000 IU weekly). In practice, most SFPs avoid giving doses to pregnant women due to the risk of overdosing.
- **Breastfeeding women:** a single dose of 200 000IU Vitamin A 6 weeks postpartum is recommended to increase Vitamin A supplied to the infant through breast milk.<sup>45</sup>

**De-worming (dosages are in Annex 2):**

- **Children 12-59 months:** To ensure adequate weight gain, it is necessary to treat all children 12-59 months routinely for worm infections with Mebendazole or Albendazole (or other appropriate antihelminth/ de-worming drug).
- **Pregnant women** should not be treated for worm infections (due to teratogenicity).
- **Individuals discharged from TFPs** will have received deworming treatment so a repeat dose is not needed.
- Dosages can be repeated after 6 months, following National recommendations.

**Measles vaccination:**

- All **children between nine months and fifteen years of age** (six months to 12-15 yrs according to some guidelines<sup>46</sup>) should be immunised with measles vaccine. The vaccination status of the child should be checked on admission and where no record exists, referral should be made to a vaccination site or clinic. Where no facilities are available for referral, the vaccination should be provided within the programme at the SFP site.

**Iron and folic acid (see Annex 2 for dosages):**

- Supplementation of iron and folic acid can be undertaken on admission for individuals six months and greater, and then administered weekly or fortnightly in both dry or wet ration SFPs. However, iron supplementation should only be given where malaria can be treated effectively as iron may worsen malarial infection and folic acid may reduce effectiveness of some antimalarial treatments.
- Some guidelines state that preventive daily (recommended by WHO) or weekly doses of iron and folic acid are difficult to provide in SFPs due to the lack of follow-up, and so should be avoided unless they are specifically included in a national protocol. However, health workers should examine for anaemia, especially in areas with high malaria prevalence and high worm infestation (see anaemia below).

- **Pregnant and lactating women:** Supplementation should be given according to WHO and national guidelines.

**Specific medical problems**

If a significant illness is suggested by initial assessment, the individual should be referred to a physician. In practice SFPs are often run by mobile teams or in areas without effective healthcare. In these situations a basic medical kit for common illnesses and the engagement of a health worker as part of the SFP team can both save lives and improve the effectiveness of the SFP. Key maladies include:

- **Anaemia:** Children with anaemia should be treated according to WHO and IMCI guidelines (e.g. daily dose of iron sulphate). Children with severe anaemia should be referred to a health facility for treatment. This should include malaria testing and treatment in endemic areas. In malaria endemic areas, prevention should be an important part of the intervention.
- **Malaria:** Some guidelines advocate for early effective malaria treatment with routine checking on admission (rapid test/paracheck or thick/thin blood films). If the initial test is positive, treatment under observation should be given on admission. Where the beneficiary shows signs of severe malaria, referral to an inpatient facility for treatment is indicated. Whenever possible, provide an insecticide treated bed net to all individuals in the programme.
- **Diarrhoea:** children with acute or chronic diarrhoea should receive a daily supplement of zinc for 10 days and dehydration should be prevented and beneficiaries treated with oral rehydration solution as per routine IMCI protocols. Zinc supplementation (see Annex 2) is not required when RUSF is used, as it contains enough zinc.
- **Skin and eye infections:** due to poor hygiene or limited access to clean water and fly infestation, children often suffer from eye infections, skin infections or scabies. It is useful for SFPs to carry basic ointments, in line with National recommendations for treatment.
- **HIV co-infection:** prophylaxis cotrimoxazole or septrin should be given routinely for HIV+ve individuals with MAM

Children and adults who have not shown signs of improvement should be assessed to find out the cause and if required should be referred for medical and community care. Home visits can also help to check the environment, source of drinking water and hygiene etc.

<sup>45</sup> UNHCR/WFP (2009). Guidelines for selective feeding: the management of malnutrition in emergencies. Geneva: UNHCR/WFP

<sup>46</sup> MSF (2007). Nutrition Guidelines. Geneva: MSF (unpublished).

### Case example 7: Blanket Supplementary Feeding in Haiti

Following the earthquake in Haiti on January 12, 2010, Save the Children in coordination with other cluster partners implemented blanket supplementary feeding programs (BSFP) in selected areas in Leogane and Port-au Prince. The BSFP aimed to prevent a deterioration of nutritional status amongst children and PLW displaced by the earthquake who were living under conditions that could potentially increase the risk of malnutrition. The BSFP formed part of a minimum nutrition response designed by cluster members comprising support to appropriate infant and young child feeding; community based management of acute malnutrition and micronutrient support. It was initiated as the GFD distributions were being strengthened.

The BSFP aimed to address needs in an estimated population of 161,121 people. Save the Children also implemented programmes in primary health care and reproductive health, livelihoods, WASH, and education. The programme involved door to door identification and registration of beneficiaries in communities followed by separate distributions.

During door to door registration, children were screened for MUAC below 115mm and the presence of bilateral oedema and referred for treatment if necessary. Mothers with children 0-24months were given basic screening for breastfeeding practices and those needing further support were referred to baby tents. Vitamin A was given to eligible children alongside antihelminthics. Community mobilisation and health and nutrition education sessions were organised on days leading up to the distribution and covered topics such as the use of the commodities, child care practices and hygiene messages. During distributions children 6-35 months received one sachet (92g) of supplementary plumpy per day and children 36-59 months and PLWs received CSB (200g), Oil (20g) and sugar (15g) per day. A one month supply was given at each distribution. All households targeted received mosquito nets.

While not normally part of BSFP programmes, the screening, referral and additional treatment was added in to address the needs of the most vulnerable in a context where programming was slow to scale up due to the very challenging conditions in terms of logistics and coordination.

Although measuring the impact of a programme like this is difficult due to challenges in attribution, the nutrition survey conducted 5 months post-earthquake reported low levels of GAM suggesting the combination of nutrition interventions, complemented by other sector programmes have contributed to averting a nutrition crisis following the devastating January earthquake.

Source: Susan Thurstan, Save the Children, Haiti August 2010 (unpublished)

### Practical Organisation of a Targeted SFP

Practical organization of blanket SFP distributions depends on the distribution channel. At times it is distributed through the same channels used for the general food distribution, while in other cases Blanket SFPs are stand alone distributions. Where possible, feasible and appropriate, basic screening should be available to refer very sick or children with SAM or MAM to more appropriate follow up services.

Practical organization of targeted SFPs should include:

#### Planning:

- If possible targeted SFPs should take place at or near a local health facility to avoid duplication of services. If large numbers are anticipated for the targeted SFP, simple structures are often constructed a short distance away to avoid overwhelming the health facility and its usual beneficiary load.
- It is important to discuss with community and health professionals about how the SFP services will be run in relation to other services, in particular regarding fees for service versus free healthcare, to ensure that expectations are realistic and appropriate.
- Many times in emergencies, healthcare is lacking and SFPs are run by mobile services. It is important to assess the context and what is available when planning the organisation and set up of SFPs and include additional medical staff to the SFP team and essential medical supplies if no health services are available
- Sites should be selected that are easily accessible and well distributed geographically to ensure that beneficiaries are less than a day's walk to and from the site including distribution time.<sup>47</sup> Site should be selected with consideration of personal safety of caretakers and children, especially in insecure areas. Climatic context e.g. whether the area is likely to flood, if there is a river to cross, etc., may dictate site changes to ensure that the SFP is accessible.

<sup>47</sup> The Sphere Project (2011). *Humanitarian Charter and Minimum Standards in Humanitarian Response*. Geneva: The Sphere Project.

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- Distributions can be run on a weekly or fortnightly basis. Weekly distributions have the benefit of more frequent follow up on health and nutrition status, while fortnightly distributions entail less opportunity cost for caretakers. Monthly distributions are usually not possible as the premix given turns rancid after 2 weeks.

### Screening/waiting time

Smooth and rapid beneficiary flow is crucial to an efficient and organised distribution with minimal waiting times. Beneficiaries should not have to stay more than two hours. If large numbers of beneficiaries are expected, the use of ropes to mark areas and beneficiary flow and someone to help with crowd control can be beneficial. However, in all cases these staff should be polite to families and not carry sticks or guns.

- Ideally **adequate shade** (trees, simple shelters made from local materials), a supply of **drinking water** and somewhere for caretakers and children to sit (benches or mats) helps keep the situation calm and more manageable. Latrines should be available. Health education can take place while caretakers are waiting their turn for assessment.
- During the distribution, the waiting areas should be checked regularly to identify ill, weak or severely malnourished individuals requiring immediate care or transfer to therapeutic care prior to routine medical screening for beneficiaries.
- A **screening system** outside the gate should be established to assess new beneficiaries for MAM and to avoid potential beneficiaries who do not meet the admission criteria from waiting too long without receiving anything. New arrivals in a refugee camp should be screened during registration. Sick children attending health clinics should also have their nutritional status assessed for potential referral to the SFP.
- Ideally a check should be made to see whether beneficiaries have **access to other food distributions**. The list of beneficiaries admitted to the SFP can then be cross-checked with other food aid agencies involved in GFD. Sometimes if there is no GFD, an additional weekly family ration can be distributed, in particular in the case where several children from the same family are admitted to the SFP.

### Admission procedure:

- New beneficiaries should be examined (clinically and anthropometrically). If admitted, the treatment should be explained in detail to the parent, caretaker or beneficiary to ensure that the importance of adherence to treatment is understood. Cultural norms should be taken into consideration when defining the place for weighing without clothing.

- If admission criteria are met, the beneficiary is registered for admission. **Individual beneficiary cards** are filled out for each person and are kept by that person. The same information is kept in a **register** which stays at the health facility or centre (see Annex 3). Some organisations keep the card at the centre but it is preferable for it to be kept by the family in case they move areas or to another centre to preserve individual information, including immunisation status and routine medication.

- Programmes with high numbers of beneficiaries have also used **identification bracelets** attached around the wrist or ankle with the registration number and centre abbreviation attached if resources allow. This can speed up registration and help avoid double registration of families in numerous centres, although is not fool proof as they can be removed and given to another child.

### During distribution:

- Once inside the waiting area, health promotion discussions can be organised. These can include cooking demonstrations or instructions on how to prepare porridge, especially for new admissions.
- Weight is measured at each distribution and recorded on the card. MUAC measurements should be re-checked regularly and height taken once a month. If used, target weight must be recalculated each month when height is updated.
- Attendance is recorded in the registration book and the individual beneficiary card completed.
- Registrars should look at the individual weight progression and calculate whether the beneficiary is ready for discharge, has deteriorated and requires transfer to a therapeutic centre, or is not responding to treatment.
- Clinical staff members should perform a medical assessment, including assessment of bilateral pitting oedema, review of weight progression, and administration of systematic medicine under observation (see section above) or referring to TFCs. If situated near a health centre, sick children can be referred for services, but often in emergencies SFP teams keep a basic kit of essential medicines, including antibiotics, antimalarials, ORS, ointment for skin or eye infections etc.
- Beneficiaries receive the ration and then leave the centre with clear instructions about the next visit.
- The main difference in organisation between take home and on-site feeding is that beneficiaries usually remain at the SFP for several hours daily as they consume meals on site. Meals are taken under direct observation. An example of the organisation of onsite feeding with two meals per day is as follows:

Hour	Activities
8.30	Arrival of beneficiaries, weight measurement, nurse round and medical care
10.00	Porridge and drug distribution Nutrition education
11.00	Departure home
15.00	Arrival of beneficiaries
15.30	Porridge and drug distribution Nutrition education
16.30	Departure home

### Data Collection/Tallying:

- At the end of the distribution staff should note the number of new admissions, absentees, defaulters and the number of rations given. Outreach visits should be arranged to trace absentees and defaulters.
- Simple tally sheets can be used to help calculate numbers of new admissions and discharges to help with monthly reporting (see Annex 4).

## Monitoring and Evaluation

A review of blanket and targeted SFPs in emergencies led by SCUK and ENN assessed statistics from 82 programmes and 16 agencies in Africa, Asia, and Central America<sup>48</sup>. The study found a large number of gaps and lack of standardization in reporting. Following the review, a Minimum Reporting Package was drafted and presented to a wide range of agencies. Guidelines and software is in the process of field testing and modification. The study highlights the importance of ensuring comprehensive monitoring and evaluation systems. Broad guidance and minimum standards for assessment at individual, programme and community level are outlined below:

### Individual assessment/follow up is only applicable to targeted SFPs

Monitoring of individual progress is essential. It will identify children who have recovered and can be discharged, those that have deteriorated and require referral to therapeutic (see Module 13) or medical services, and those that are not responding to treatment and need additional follow up. The following information is recorded on the individual treatment card and in the registration book that remains at the targeted SFP site:

- Anthropometric measures and bilateral pitting oedema are taken on admission and on each distribution to monitor changes in nutrition status.

- Height is taken every month.
- All information including medications dispensed is routinely recorded on the individual beneficiary card including the beneficiary's target weight.

Effective monitoring and close coordination between SFP and TFP, as well as the SFP and nearest antenatal clinic, are critical for ensuring a smooth referral process. This coordination is especially important where different agencies are managing the different components managing acute malnutrition and perinatal care.

### SFP programme assessment

This relies on information gathered through individual assessment. SFP performance and effectiveness can be assessed using a range of standard indicators.

**Performance statistics:** overall performance of a targeted SFP programme can be measured through monitoring the discharge categories of children 6-59 months admitted to the programme. Statistics are calculated on a monthly basis, specifically:

- Percentage of children recovered
- Percentage of deaths
- Percentage of defaulters (leaving the programme before recovery)
- Percentage of non-recovered

Performance statistics are only calculated based on children 6-59 due to differences in admission and discharge criteria as well as different progression during treatment for other age groups. The exit categories are defined below in Table 6:

<sup>48</sup> Navarro-Colorado, Carlos, F Mason and J Shoham (2008). Measuring the effectiveness of supplementary feeding programmes in emergencies. HPN.

### Challenge 3: On-going Operational Issues in SFPs

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There are several on-going operational issues related to SFPs in emergencies. These include:

**Targeted SFPs in the Absence of GFD:** In many situations, targeted SFPs are not implemented in conjunction with adequate GFDs. Food aid agencies may justify this for a number of reasons including:

- SFPs act as a temporary 'holding' measure to minimize loss of life amongst the most nutritionally vulnerable, until the general ration can be improved;
- The implementing agency is already present in the emergency location due to some other activity and personnel feel that they must 'do something'. However, given limited size and access to resources, the agency only has the capacity to run a small-scale targeted SFP.

These modified objectives should be explicitly stated so that programme performance can be evaluated realistically. The effectiveness of the targeted SFP will be limited under these circumstances. Implementing agencies should advocate strongly to donors, government and food aid agencies to ensure GFD provision.

**Managing MAM in the Absence of Targeted SFPs:** There are instances where there is no targeted SFP available. This is likely to be the case when outpatient care for SAM is part of routine MOH health care in a post-emergency situation or in a food-secure environment, or when resources are no longer available for targeted SFPs or there are only agencies treating SAM active in an area. However, MOH logistic capacity and human resources are usually insufficient to also manage cases of MAM at the health facility level. This can cause dilemmas for health workers who have resources for SAM but not for MAM cases of malnutrition and it can be difficult for staff to offer treatment services to one malnourished group and turn away another. In some instances, admission criteria to therapeutic services are raised or discharge reduced to include some MAM cases. Otherwise cases of MAM should be given basic healthcare, immunisation if required and referred to any livelihood or welfare programmes.

**Integration Issues:** Previously, treatment of acute malnutrition was almost exclusively implemented by NGOs as an emergency response programme. Nowadays, with simpler protocols available, some countries are in the process of integrating management of MAM into routine health care services, although due to personnel and resource restrictions this is usually limited to management of SAM.

**Cultural preferences and ration sharing:** While the SFP ration is intended for the specific individual, in many cultures it is impolite and disrespectful not to share food with others in the family. In this case, the ration is shared and individual progress is often less optimal because the intended individual does not consume the entire ration. In practice, some programmes have included additional counselling of families on the medical aspect of the SFP ration, while others have increased the ration size to take sharing into account at household level or providing a family ration.

**Access and opportunity costs of participation:** Travel to and from the distribution takes the time of the individual and caregiver. In this case, there are fewer resources available at household level for care of younger siblings, household chores such as gathering of water and firewood, or productive labour. In particular during the rainy season or periods of heavy agricultural activity, individuals are not able to participate or choose to spend their time on other issues that are more pressing. This is often reported as increased default rates. Some modifications have included distribution of double rations, decentralization of distribution sites and mobile distribution teams that deliver care closer to homes to address this.

**Double registration:** This can be a frequent problem where large numbers of beneficiaries are present, and when sites run distributions on concurrent days or close by. Some agencies use identification bracelets, others use gentian violet to mark children's fingers to avoid double registration, but whatever method selected it is important to ensure the dignity of both child and caretaker is maintained. It can be useful to note admission and discharge dates, centre code and criteria on the individual beneficiary card/road-to-health card as it is less likely that caretakers have more than one per child. This is also a useful reference for checking immunisation status.

**Missed opportunities with community engagement and programme utilisation:** If community members are not aware of the aims of the programme, nor the criteria for admission and discharge, or there is limited community prioritization of treating moderate acute malnutrition (because it may be harder to detect within the household as compared to SAM), the community is unlikely to utilize the SFP services. In addition to consultation with community members during the design of the SFP, community members such as traditional healers can be engaged in community outreach programmes, strengthening programme coverage.

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## Challenge 3: On-going Operational Issues in SFPs (continued)

**Limited understanding of effective health and nutrition promotion in SFPs:** While it is common to have a lecture or presentation on a health or nutrition topic, there is little evidence of the effectiveness or impact of these sessions. Use of local teaching methods: song, dance, radio, or more innovative practice e.g. child to child teaching or community conversations can be more effective, but needs to be developed based on some understanding and research into best practice for that culture.

**Access issues:** Targeted beneficiaries may periodically lack access to feeding centres due to episodes of insecurity, leading to default or poor attendance. Implementing agencies may be unable to deliver food stocks leading to interruptions in food supply resulting in beneficiaries leaving empty-handed, and staff may be unable to attend on some days leading to weak programme management and monitoring. Where such conditions prevail, agencies may make a number of adaptations, e.g. decentralised feeding centres so beneficiaries have better access, ensuring a cadre of staff to follow up on defaulters, strengthening communication with communities, local leaders and authorities who in turn take greater responsibility for screening and sensitisation and providing health and community education to improve understanding of the rationale for SFP. Adaptations to standard SFP practice may be necessary in conflict situations. At the same time it may be appropriate to lower expectations in terms of programme outcomes.

Table 6: Exit categories for targeted SFPs

Exit category	Definition	Calculation
<b>Cured/recovered</b>	Child 6-59 months meets discharge criteria	$\frac{\text{Number of 6-59 recovered}}{\text{number discharged}} \times 100\%$
<b>Death</b>	Child 6-59 months dies while registered in targeted SFP	$\frac{\text{Number of 6-59 died}}{\text{number discharged}} \times 100\%$
<b>Defaulter</b>	Child 6-59 months is absent for 2 consecutive distributions	$\frac{\text{Number of 6-59 defaulted}}{\text{number discharged}} \times 100\%$
<b>Non-recovered /non- response</b>	Child 6-59 months does not reach the criteria after 4 months in treatment and medical investigation has been done	$\frac{\text{Number of 6-59 non-recovered}}{\text{number discharged}} \times 100\%$
<b>Referred to outpatient or inpatient care</b>	The 6-59 months old child's health condition deteriorated and child meets outpatient or inpatient care admission criteria for SAM	Not calculated as a performance statistic

These percentages are expressed in relation to the total number of children discharged each month (eg recovered, died, defaulted, not recovered, and transferred). Individuals that are referred for complementary services (such as health services) have not ended the treatment and will either continue treatment or return to continue the treatment later. Individuals transferred out to other sites have not ended the treatment and should not be included in performance indicators. Individuals admitted after being discharged from therapeutic care should be reported as a separate category to not bias results towards better recovery<sup>49</sup>. Sphere minimum standards for these performance statistics are found in Table 7.

Targets may not always be achievable in all contexts, in particular in areas of insecurity or inadequate GFD (see Case Example 8 and Challenge 5). There is some debate over whether there needs to be greater flexibility in defining targets. If a programme is implemented in a highly insecure environment or with erratic weather conditions or flooding, default rates are likely to be high and programme logistics constrained, and recovery rates will almost certainly be compromised, with overall programme performance undermined by factors outside of the control of implementing agencies. It is important that programme managers are aware of the context both in planning and understanding the functioning of their programmes and in interpreting the results and in sharing with other stakeholders, MOH and donors.

<sup>49</sup> The Sphere Project (2011). Humanitarian Charter and Minimum Standards in Humanitarian Response. Chapter 3 Minimum Standards in Food Security and Nutrition. Geneva: The Sphere Project.

Table 7: Typical target levels for recovery, mortality and defaulting rates of Targeted SFPs

Targeted SFP indicators	Acceptable	Alarming
Recovery (cure) rate	> 75%	<50%
Death rate	< 3%	> 10%
Default rate	< 15%	>30%
Non-response rate*	No threshold	No threshold

\* NOTE: Non-response has been recently added into monthly performance statistics by Sphere. Previously omitted, this category can make up a significant proportion of discharges and if not counted, unfairly increase the recovery rate. No threshold has been defined to date, but should trigger further investigation in the situation if elevated or increasing. Challenge 4 summarizes some of the issues in reporting related to default and non-response.

#### Challenge 4: High Defaulting and failure to respond

Analysis of high default rates: Default often occurs in response to constraints faced by potential beneficiaries. The Defaulter Access Study led by ENN is currently examining children 6-59 months in SFPs in order to:

- Describe the baseline and nutritional characteristics of beneficiaries likely to default from nutrition programmes;
- Understand the determinants of defaulting from nutrition programmes in a variety of emergency settings;
- Compare the determinants of defaulting between different emergency settings;
- Translate the observations into strategy and policy recommendations to adapt nutrition programming in emergencies;
- To develop field tools to understand defaulting in particular settings and response with appropriate programme adaptations.

Results are anticipated early 2011.

**Analysis of Non-response/non-recovery (e.g. Failure to respond):** This category of discharge is gaining more attention given the high percentage of discharges this category makes up. Reasons for failure to respond can be classified as

- Problems with the application of the protocol;
- Nutritional deficiencies that are not being corrected by the diet supplied in the SFP;
- Home/social circumstances of the beneficiary;
- An underlying physical condition/illness;
- Other causes

Golden and Grellety have proposed a step by step approach to manage failure to respond, starting with addressing protocol problems, then changing the diet to correct nutritional deficiencies, followed by checking for problems with the home environment/social problems, checking for underlying medical conditions and checking for other more unusual paediatric conditions. Obviously this procedure will depend on resources and capacity.

Source: Golden, M. And Grellety (2008) *Failure to Respond to Treatment in Supplementary Feeding Programmes*. Field Exchange Issue 34.

Table 8: Additional indicators for targeted SFPs for children 6-59 months

Indicator	Definition	Calculation	Target
Mean length of stay	Average length of stay for recovered children 6-59 months	Sum of the number of weeks of admission of recovered children 6-59 months/ number of children 6-59 months who recovered	< 3 months
Average weight gain	Average number of grams that recovered children 6-59 months gained per kg per day since admission into SFP	Sum of the [(weight on exit (g) minus minimum weight (g))/weight on admission (kg)] x duration of treatment (days)/number of recovered children 6-59 months	≥3g/kg/day

**Attendance rate, re-admission rate, mean length of stay, average weight gain, and gender distribution of admissions** can also be calculated on a monthly basis, although weight gain is no longer an indicator in Sphere. Definitions are found in Table 8.

Appropriate data collection forms should be carefully designed at the programme start to ensure assessment of whether the programme is meeting stated objectives, while at the same time not overwhelming health workers with unnecessary form filling. A tally sheet of the number of individuals admitted under each criterion and the numbers discharged under each category should be completed after each distribution and compiled on a monthly basis (see Annex 4). These should then be consolidated and analysed to obtain an overview of programme performance as well as discrepancies between SFP sites.

Monitoring of additional information related to the programme as well as the context is also recommended by Sphere. This includes community participation, acceptability of the programme (reflected in part through default and coverage statistics), quantity and quality of the good provided, and underlying reasons for transfers out of the programme. External factors ideally monitored or included in the analysis include morbidity patterns, population level nutrition status, household food insecurity in the population, and availability of complementary interventions and their delivery capacity.

### Community level assessment: for both blanket and targeted SFPs

**Repeat Anthropometric Surveys:** The impact of the programme on the nutritional status of the affected population can be monitored by periodic *anthropometric* (nutrition) surveys. However, improvements in nutritional status may be due to factors other than the blanket or targeted SFP, for example changes in overall food security and health situation. Ideally surveys should be carried out in the same geographical area and same time of year to allow fair comparisons, and should be part of wider situation analysis.

**Coverage of programmes:** Coverage refers to those that need treatment against those actually receiving treatment. It is a critical indicator that is often overlooked during implementation of SFPs. Coverage is important to monitor when the programme objective is to reduce prevalence of moderate acute malnutrition at the population level. If programme performance in terms of recovery, mortality and default rates are

good, but coverage is low, then there will be little programme impact at population level. Sphere minimum standards are that coverage should be:

- > 50% in rural areas
- > 70% in urban areas
- > 90% in camp situations

It is recommended that > 90% of the target population is within less than one day's return walk (including time for treatment) of the distribution centre for dry ration SFPs and no more than 1 hour's walk for on-site SFP distributions. Many programmes achieve far lower levels of coverage in practice<sup>50</sup>.

There are several methods for assessing coverage. The 'direct' method assesses coverage through anthropometric surveys. This involves adding a question to the anthropometric questionnaire about whether or not a child is currently enrolled in a feeding programme. Using that definition, coverage equals:

$$\frac{\text{Number of eligible children found attending the programme during the survey}}{\text{Number of eligible children found during the survey}} \times 100$$

Confidence intervals should always be calculated for an estimate of coverage.

The 'indirect' method compares the estimated number of children with MAM in the population based on malnutrition rates reported in the anthropometric survey to the actual number of children attending the programme.

Increasingly a new methodology known as Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) is being used as an on going monitoring tool to look at barriers to uptake in selective feeding programmes. It is based on gathering anecdotal evidence on key issues, complemented quantitative information from routine programme monitoring and small scale surveys based on lot quality assurance (LQAS) sampling. Centric systematic area sampling (CSAS<sup>51</sup>) provides an overall estimate and a spatial distribution map of programme coverage, and a ranked list of programme-specific barriers to service access and uptake. CSAS is not considered suitable for calculating coverage in SFPs, and as CSAS is resource intensive, it tends to be used in programme evaluation rather than in planning. CSAS is recommended instead for estimating programme coverage for other types of intervention, especially management of SAM.

<sup>50</sup> A recent study by SC UK and ENN of 81 emergency SFPs conducted by 16 agencies in 22 countries between 2002-5 found that average coverage rate was only 21 per cent.

<sup>51</sup> The Centric Systematic area sampling (CSAS) method adopts active case findings. The project area is split into quadrants (squares of approximately equal area) and cases of malnutrition are sought. A single count is made of cases enrolled in the programme, compared with cases not enrolled in the programme. The figure can be compiled for all the quadrants to give an overall project coverage figure, or used separately to estimate coverage in each area. As more cases can be seen using the CSAS method the confidence intervals are much narrower than when you use the standard approach. See module 7 for more details.

### Challenge 5: Cost-effectiveness and impact of SFPs

Over the years there has been some controversy regarding the overall cost-effectiveness of SFPs in terms of impact. Critics of SFPs have raised questions about their appropriateness in the absence of adequate general rations (a frequent occurrence in emergencies) and the relative cost-inefficiency of setting up a separate infrastructure from the general ration programme in order to allocate small quantities of food to vulnerable groups. Agencies like the International Committee of the Red Cross (ICRC) have for many years adopted a policy of providing an expanded general ration of 2,400 kcal per capita in order to overcome the need for SFPs (A GFD would normally provide 2,100 kJals per capita). Given the many factors which can undermine SFP performance (absence of, or unreliable GFDs, insecurity, opportunity cost to carers) it has been of some concern that there has, until recently, been no overall appraisal of the effectiveness of emergency SFPs. However, a recently completed study in 2007, the first of its kind, consisted of a retrospective (i.e. looking back at programmes that have already taken place) analysis of SFPs implemented between 2002 and 2005.

Analysis of programme statistics for 67 programmes across a representative range of emergency events in 22 countries and implemented by 16 international humanitarian agencies showed that, despite 69% of children recovering overall, less than 40% of the programmes attained acceptable recovery rates as defined by Sphere indicators. The main factor undermining the rate of recovery was defaulting indicating that current design of SFPs may be creating a dilemma for beneficiaries, having to choose between attending the SFP to obtain food for a member of the family, and other economic activities related to the wellbeing of the rest of the family.

The study also found that 12.5% of participants were classified as non-responders to treatment suggesting some remaining margin for improving management of these types of programme i.e. improving nutrition protocols, rations and treatment of disease. Significantly, nutrition survey data and data on coverage did not demonstrate any impact of emergency SFPs at population level.

These findings suggest that if the primary objective of SFPs is to treat individuals with MAM, then SFPs are succeeding for large numbers of children. However, most programmes do not result in either a reduction in prevalence of MAM or prevent severe malnutrition in populations even though this is a stated objective for many programmes. This raises a number of questions over whether alternative interventions, for example expanded general ration programmes or cash transfers that target the wider population with an additional food supplement or income – especially in situations where default is likely to be high, may be more effective in securing nutritional impact at this level

**Further research into alternative approaches to the treatment of MAM are urgently needed.**

Source: Navarro Colorado, Carlos (2007). *A retrospective study of emergency supplementary feeding programmes*. London: ENN and SCUUK.

### Case example 8: Variations in programme performance: Sudan 2006

Concern Worldwide implemented a community based management of acute malnutrition (CMAM) programme in Darfur with an SFP for moderately acutely malnourished individuals in 2006. Recovery rates were found to be low with significant differences between areas.

In El Geneina the cumulative cure rate for the period June to November 2006 was 27% largely due to high default rates. In contrast, in Mornei, the recovery rates had nearly reached minimum standards by the end of the same six month period (61%).

A number of reasons were identified for these differences. The El Geneina programme covered a larger more diverse population of camp based IDPs and IDPs living amongst the host population. In contrast those in Mornei were largely camp based. Also, El Geneina has a more developed cash economy so not only did beneficiaries have further to travel but also more competing demands, e.g. income earning opportunities. Another factor was that GFD coverage was almost 100% in Mornei whereas only about 60% of SFP participants in El Geneina were in receipt of a general ration. Finally, it appears that access to/use of protected water sources was poorer amongst non-recovering children in El Geneina than in Mornei, i.e. there was probably more water borne diseases in El Geneina.

Source: Cotes, Gwyneth Hogley (2006). *Delivering supplementary and therapeutic feeding in Darfur: Coping with insecurity*. Field Exchange, Issue 28, p.10.

## Practical Issues Around Implementation and Management of SFP Programmes

### Estimating Caseload

For planning purposes, the estimated caseload of beneficiaries needs to be defined in order to effectively plan space, human resources, and food needs. This can be challenging in emergency situations when information access is low.

Basic information includes an estimate of the prevalence of MAM, and the estimated number of people in the target group. When recent anthropometric survey data and demographic (population) data are available, estimations are more easily made for the target group of children under five. If demographic information is not available, and in the absence of data on prevalence of malnutrition, it can be anticipated that children under five comprise 15-20% of the population, and that in a nutritional emergency 15-20% may suffer from MAM and that about 2-3% might be severely malnourished.

For example for an SFP targeting children under five in a camp population of 30,000 people aiming to cover 90% of the children with MAM:

- Estimated number under five (15-20% of 30,000) = 4,500-6,000
- Estimated prevalence of MAM in children under five (15% of 4,500-6,000):
- number of MAM children = 675-900
- Estimated prevalence SAM in children under five (2% of 4,500-6,000):
- number of SAM children 90-120
- Estimated coverage of the SFP (90% of number of children with MAM) = 608-810

It is important to note that these are only estimations based on prevalence, which describes the situation at one point in time. *Incidence* refers to the number of new cases over a period of time, which cannot be directly estimated from prevalence data. Individuals with MAM may recover without interventions, others may have more than one episode where they are defined with MAM in one year, duration of programming will vary between blanket (generally 3 months) and targeted SFPs, and recovery times/duration of MAM will vary. Some conversion factors are being reviewed to help in translating prevalence to incidence for this type of estimation, but are not yet adopted internationally.

### Location and Timing of Services

Deciding where to set up SFP sites is critically important as this will largely determine accessibility and coverage. It is very important not to locate centres simply on the basis of ease of management, but on the basis of need. In planning, it is also vital to consider the need for referrals between services and whether transport will be needed and if so, how this will be provided. It is also important to ensure caretakers do not have long or dangerous journeys which might compromise their safety, especially in insecure environments (see Case Example 9).

### SFP as a component of CTC/CMAM

*Community based management of acute malnutrition* (CMAM) is a relatively new approach to treating acute malnutrition (previously known as *Community-based Therapeutic Care/CTC*). It utilises community mobilisation, simple medical and nutritional check ups at decentralised health facilities close to family's homes and RUTFs for uncomplicated SAM which are consumed in the household. This approach has far higher coverage rates than programmes which are centre based. (See Module 13 for more details about therapeutic care of the severely malnourished in both inpatient and outpatient care).

Within the CMAM programming context, the supplementary feeding component aims to support children with MAM without complications as well as discharges those recovered from SAM. Where SFP is not implemented entry and discharge criteria for the management of SAM can be raised to compensate for the follow-up that would have been given in the SFP.

CTC guidelines (Valid International 2006<sup>52</sup>) advocate that the *Outpatient Therapeutic Programme* (OTP) (treating uncomplicated cases of SAM) and SFP components are implemented through a large number of decentralised or smaller sites, ideally at existing health facilities, within a maximum of three hours walk for all target communities. Having SAM and MAM services in the same vicinity facilitates transfer between the two modalities, and similar referral to the health facility if immunisation or treatment or testing for other illnesses is required. CMAM guidelines advocate that the local community should be involved in the planning process in order to encourage case referral, maximising coverage and to avoid problems such as defaulting and non-response, sharing of food at household level and inappropriate timing of programme days. Furthermore, these community-based programmes should, where possible, be linked with other community health and nutrition programmes and services like IMCI and safe motherhood.

<sup>52</sup> Valid International (2006): *Community Based Therapeutic Care – a field manual*. First Edition 2006. Valid International and Concern Worldwide

**Case example 9: Modifying programmes to adapt to conflict situations: Sudan 2004**

GOAL provided targeted SFP and CMAM services on a bi-weekly schedule over a wide area in West and North Darfur in 2004. Many areas were affected by insecurity with no way to communicate with participants when services were interrupted. Restricted access to conflict affected areas resulted in limited screening in rural communities, low numbers of children followed up after default and limited numbers of staff allowed into programme sites. This resulted in reduced programme coverage and increased default rates. There were also occasional service interruptions due to fighting or insecurity with long gaps in between food distributions. This resulted in increased length of stay in programmes, and reduced cure rates. Furthermore, the general conflict led to population movements which increased defaulter rates and also meant that women feared travelling far from homes thereby reducing coverage.

GOAL implemented a number of measures to tackle these problems. They decentralised centres, e.g. in Jebel Mara, they operated out of one central hub with four primary programme centres. In each a food store was built to hold supplies with enough food stored to cover at least two distributions. Every two weeks nutrition workers travelled by car from the primary town in the region and stayed in secure overnight accommodation. Each programme hub was used as a base to serve 2-3 SFP sites and all sites were served during 3-4 day overnight visits. Caretakers kept registration cards with them so record-keeping was also decentralised.

Between 4 and 8 outreach nutrition workers operated out of each programme hub. On distribution days the outreach workers helped provide SFP services. During the rest of the 2 weeks cycle, they visited the homes of children who had been absent at the distribution to reduce default and conducted screening and community sensitisation. Outreach workers were selected from local communities. Although they were still subject to some danger while travelling in rural areas, they had better knowledge of the local security situation and were better able to access rural communities.

Source: Sibson, Vicky and Kate Golden (2007). *Constraints to achieving Sphere minimum standards for SFPs in West Darfur: a comparative analysis*. Field Exchange, Issue 30; pp 2-4.

Children with MAM with severe medical complications (characterised by anorexia and life-threatening clinical illness) are sent to an inpatient facility for stabilisation. During their time in inpatient care children referred from the SFP should also receive RUTF rather than F75 which is a commodity only suited to treatment of SAM (refer Module 13).

The number of beneficiaries attending an outpatient care service may vary from 30 per session to several hundreds. When too many children are attending on the same day, a decision should be taken as to whether it would be more appropriate to open new facilities or increase the number of service days for existing facilities.

**Requirements for the Setup of SFPs**

Ideally SFPs should be set up at or close to health centres or in especially dedicated sites. If new sites are opened, all support systems (supply, referrals, supervisions) must be carefully planned and in place before starting case management activities to prevent staff and populations get discouraged and having a negative impact on the uptake of the services.

In emergencies, SFPs are often organised in the same facilities as for the management of SAM cases, though in some cases health services may be interrupted during the emergency. Where there are problems of access, or insufficient staff, mobile services may be planned for a limited period of time. One mobile team can visit up to five sites in a week (implementing weekly or fortnightly distributions at each site).

It is increasingly encouraged to use existing health facilities - health centres, schools, and temporary buildings if numbers overwhelm or in relief camps. Mobile teams can enable more centres to be managed by the same team and for distributions to be brought closer to the affected communities.

**Linkage with other interventions**

SFPs are frequently implemented in areas of chronic food insecurity following some form of shock, e.g. drought, flood, crop loss and subsequent surveys showing high levels of wasting. However, once the shock has passed levels of wasting may still remain unacceptably high and at a level which indicates a need for an SFP. This is because there are a set of chronic factors which are endemic to the situation, e.g. large destitute and poor populations who are chronically food insecure, conditions of poor hygiene and sanitation, high levels of infectious disease. Under these circumstances agencies may feel compelled to continue implementing the SFP recognising that there is no obvious exit strategy. However, unless, such programmes are implemented in conjunction with programmes which address the underlying causes of malnutrition, these programmes can effectively become open-ended and a form of welfare programme. Furthermore, it is likely that programme performance will be weak as food resources will be shared at household level while many of those discharged will be readmitted as the nutritional threat remains.

**Case example 10: Fresh Food Vouchers for Refugees in Kenya 2009**

Three refugee camps were managed by UNHCR in Daadab, North Eastern Kenya. A general dry ration of cereal, legumes, oil and sugar was provided by WFP and either SFP or OTP for MAM and SAM cases by 2 different NGOs. Although acute malnutrition levels had fallen considerably, lack of nutritional diversity in the diet was identified as an on-going underlying cause of malnutrition.

Between September 2007 and April 2009 ACF-USA aimed to increase consumption of fresh foods by the refugee population through implementation of a voucher programme that was linked with vendors specialised in the sale of fresh fruit and vegetables. Households with a child with SAM, MAM or mothers with babies at complementary feeding age were targeted. The value of the voucher was calculated on market prices and enabled access to fruits, vegetables, eggs or cow's milk.

Some 6,000 households with a child with MAM were enrolled in this scheme. Results showed improved dietary diversity, increased awareness of certain foods e.g. use of sukuma wiki, a dark green leafy vegetable, improved market supply and business for vendors. In addition, there was improved coverage of nutrition programmes as the food voucher had a strong influence on mothers' motivation to bring their children and their willingness to stay. Associated agencies reported a decreased need for active case finding and admissions rising, although this could also have reflected a recent influx into the camp. Overall the results were positive and showed benefits to the refugee community although this method is recognised as not being a long term, sustainable option.

Trenouth, L, Powel, J, Pietzsch, S (2009). *Fresh Food Vouchers for Refugees in Kenya* Field Exchange Issue 36, p 20

Unfortunately it is often the case that such populations are the most politically marginalised with governments reluctant to address the underlying causes of high levels of wasting. Where this applies, implementing agencies may need to take responsibility for investing in programmes which strengthen livelihoods, water and sanitation, health education, or health provision per se, or collaboration with other agencies who have such expertise. Increasingly, agencies are looking into post-emergency strategies that can comprise of Food for Work or Cash for Work or voucher schemes to help families rebuild lost assets (see Case Examples 10 and 11).

Advocacy is an important element of agency programming.

**Research and On-going Research Questions**

This module outlines information and approaches that are used today but it should be recognised that management of MAM is undergoing significant review. Changes in approach and delivery system, products used and preventive versus curative emphasis are likely to occur in the forthcoming years.

**Case example 11: Preventative rather than Curative Approaches****Preventative Targeting of Food Assistance**

A cluster randomized trial in Haiti in 2008 found a preventative model of targeting food assistance and behaviour change and communication earlier in life, before children become malnourished, proved more effective for the reduction of childhood undernutrition than the traditional recuperative model. The targeted programme provided food assistance for 9 months to underweight children (WFA z-scores <-2) while the preventative model provided up to 18 months of food for all 6-23 month olds (8kg micronutrient-fortified WSB and 2kg oil) and a family ration. A set of 13 learning sessions was developed on topics including health pregnancy, breastfeeding, child caring and feeding practices, hygiene in food handling and storage and cooking demonstrations. At the end of the 3-year intervention children from preventative communities had significantly higher mean z scores for height-for-age (stunting), weight-for-age (underweight), and WFH (wasting) than the recuperative group.

Another study used 1 sachet of Plumpynut compared to no intervention in 6-60 month olds with weight-for-height >80% percentage of the median to prevent incidence of SAM for 3 months in rural Niger during the agricultural lean season. The incidence of wasting and severe wasting was reduced in the intervention group compared to no intervention; there was no difference in mortality, impact on morbidity or on incidence of stunting.

Source: Ruel M et al (2008). Age-based preventative targeting of food assistance and behaviour change and communication for reduction of childhood undernutrition in Haiti: a cluster randomized trial. *Lancet* 371: 588-95.

Isanaka, et al (2009). Effect of Prevention Supplementation With Ready-to-Use Therapeutic Food on the Nutritional Status, Mortality, and Morbidity of Children Aged 6-60 Months in Niger. *Journal of Nutrition* 301 (3): 277-285.

On-going research questions include:

### **Population versus Individual Targeting of Nutritional Programmes:**

In a population with a MAM prevalence >5%, are nutritional interventions applied to all children age 6-59 months more cost effective than those targeted to children with MAM?

### **Detection of MAM Children**

#### a) Coverage of Screening

In a population with a MAM prevalence > 5%, is detection of MAM with MUAC more effective than MAM detection based on weight for height?

#### b) Efficacy of Screening

Do MAM children selected with MUAC (< 125 and > 115mm) and those selected with weight for height (z-score >- 3 and < -2) benefit from MAM intervention in the same way?

### **Discharge from Programmes**

Among possible discharge criteria for MAM children, which one is associated with the lowest relapse rate?

### **Technical specifications for supplementary foods for the dietary management of MAM**

Effectiveness and safety of a food supplement formulated along the proposed technical specifications.



**Annex 1: Nutrient Value per 100g of potential ration commodities**

Nutrients per 100 grams of raw portion

Food Type	Food Commodities	Energy (kcal)	Protein (g)	Fat (g)	Calcium (mg)	Iron (mg)	Iodine (µg)	Vit. A (µg RE)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg NE)	Vit. C (mg)
Pulses&oilseeds	Beans, black (USA)	341	21.6	1.4	123	5.0		5	0.80	0.19	6.2	0
Pulses&oilseeds	Beans, blackeye/ cowpeas (USA)	336	23.5	1.3	110	8.3		15	0.90	0.20	6.2	2
Pulses&oilseeds	Beans, dried	335	20.0	1.2	143	8.2		0	0.50	0.22	6.2	0
Pulses&oilseeds	Beans, great northern (USA)	339	21.9	1.1	175	5.5		1	0.70	0.20	6.3	5
Pulses&oilseeds	Beans, kidney, all types (USA)	333	23.6	0.8	143	8.2		2	0.50	0.20	6.6	5
Pulses&oilseeds	Beans, navy/ pea beans (USA)	335	22.3	1.3	155	6.4		1	0.65	0.23	6.5	3
Pulses&oilseeds	Beans, pink (USA)	343	21.0	1.1	130	6.8		0	0.80	0.20	6.0	0
Pulses&oilseeds	Beans, pinto (USA)	340	20.9	1.1	121	5.9		2	0.60	0.20	5.6	7
Pulses&oilseeds	Beans, small red (USA)	350	22.0	1.0	150	7.0		0	0.70	0.20	6.2	0
Pulses&oilseeds	Beans, soya	416	36.5	19.9	277	15.7	6	7	0.87	0.87	10.4	6
Miscellaneous	BP-5 compact food	458	14.7	17.0	600	10.0	100	470	0.52	0.52	6.5	40
Pulses&oilseeds	Chickpeas	364	19.3	6.0	105	6.2		20	0.48	0.21	4.6	4
Blended foods	Corn soy blend (WFP specs.)	400	18.0	6.0	181	12.8	2	501	0.44	0.70	10.0	50
Blended foods	Corn soy blend, (USA)	376	17.2	6.9	831	17.5	569	784	0.53	0.48	6.2	40
Blended foods	Corn soy masa flour (USA)	365	9.3	3.8	110	2.9		662	0.44	0.26	3.5	0
Blended foods	Corn soy masa flour, instant (USA)	363	11.4	3.7	110	2.9		662	0.44	0.26	3.5	0
Blended foods	Corn soy milk (USA)	375	21.4	6.8	1,020	17.5	56.9	785	0.59	0.71	6.4	41
Blended foods	Corn soy milk, instant (ICSM)	380	20.0	6.0	900	18.0	56.9	510	0.80	0.60	8.0	40
Milk&products	Dried skim milk (DSM)	348	36.1	0.6	1,280	0.3	0	9	0.38	1.63	9.5	13

## TECHNICAL NOTES

Nutrients per 100 grams of raw portion (continued)

Food Type	Food Commodities	Energy (kcal)	Protein (g)	Fat (g)	Calcium (mg)	Iron (mg)	Iodine (µg)	Vit. A (µg RE)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg NE)	Vit. C (mg)
Milk&products	Dried skim milk (DSM), fortified	360	36.0	1.0	1,257	1.0	0	1,500	0.42	1.55	9.5	0
Milk&products	Dried whole milk (DWM)	500	25.0	27.0	912	0.5		280	0.28	1.21	6.8	0
Blended foods	Famix (Ethiopia)	402	14.7	7.0	100	8.0			0.10	0.40	5.0	30
Pulses&oilseeds	Groundnuts, dry	567	25.8	49.2	92	4.6	20	0	0.64	0.14	16.2	0
Miscellaneous	High energy biscuits (WFP specs.)	450	12.0	15.0	250	11.0	75	250	0.50	0.70	6.0	20
Pulses&oilseeds	Lentils	338	28.1	1.0	51	9.0		12	0.48	0.25	6.8	6
Cereals	Maize grain, white	350	10.0	4.0	7	2.7		0	0.39	0.20	2.2	0
Cereals	Maize grain, yellow	350	10.0	4.0	13	2.7		141	0.39	0.20	2.2	0
Cereals	Maize meal, fortified (WFP specs.)	366	8.5	1.7	110	5.3		141	0.83	0.46	5.5	0
Cereals	Maize meal, fortified (USA)	366	8.5	1.7	110	2.9		662	0.44	0.26	4.8	0
Cereals	Maize meal, white, degermed	360	8.5	1.7	5	1.1		0	0.14	0.05	1.3	0
Cereals	Maize meal, white, whole grain	360	9.0	3.5	6	2.4		0	0.39	0.20	2.0	0
Cereals	Maize meal, yellow, degermed	360	8.5	1.7	5	1.1		124	0.14	0.05	1.3	0
Cereals	Maize meal, yellow, whole grain	360	9.0	3.5	6	2.4		141	0.39	0.20	2.0	0
Vegetables	Maize, fresh	86	3.2	1.2	2	0.5		84	0.20	0.06	0.9	7
Oils and fats	Oil, vegetable (WFP SPECS.)	885	0.0	100.0	0	0.0		900	0.00	0.00	0.0	0
Oils and fats	Oil, vegetable, Unfortified	890	0.0	100.0	0	0.0		0	0.00	0.00	0.0	0
Oils and fats	Oil, vegetable, Vit. A fortified (USA)	884	0.0	100.0	0	0.02		1,800	0.00	0.00	0.0	0
Oils and fats	Palm oil, red	875	0.0	98.9	6	0.0		6,000	0.01	0.02	0.0	0
Pulses&oilseeds	Peas, dried	341	24.6	1.2	55	4.4	2	45	0.70	0.20	2.9	2

Nutrients per 100 grams of raw portion (continued)

Food Type	Food Commodities	Energy (kcal)	Protein (g)	Fat (g)	Calcium (mg)	Iron (mg)	Iodine (µg)	Vit. A (µg RE)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg NE)	Vit. C (mg)
Pulses&oilseeds	Peas, dried, split	341	24.6	1.2	55	4.4	2	45	0.70	0.20	2.9	2
Cereals	Rice, lightly milled, parboiled	364	7.0	0.5	7	1.2		0	0.20	0.08	4.9	0
Cereals	Rice, polished	360	7.0	0.5	9	1.7		0	0.10	0.03	5.6	0
Blended foods	Rye soy blend	400	19.5	7.5	535	8.0		528	0.33	0.53	6.0	30
Sugar and salt	Salt	0	0.0	0.0	0	0.0	0	0	0.00	0.00	0.0	0
Sugar and salt	Salt, iodised (WFP specs.)	0	0.0	0.0	0	0.0	6,000	0	0.00	0.00	0.0	0
Cereals	Sorghum	335	11.0	3.0	26	4.5		0	0.34	0.15	5.0	0
Pulses&oilseeds	Soya bean meal, defatted	339	45.0	2.4	244	13.7		12	0.69	0.25	13.5	0
Pulses&oilseeds	Soya beans	416	36.5	19.9	277	15.7	6	7	0.87	0.87	10.4	6
Cereals	Soya flour, full fat, raw	436	34.5	20.7	206	6.4		36	0.58	1.16	12.7	0
Blended foods	Soya fortified bulgur wheat (USA)	350	17.0	1.5	110	2.9		662	0.44	0.26	3.5	0
Blended foods	Soya fortified maize meal (USA)	390	13.0	1.5	110	2.9		662	0.44	0.26	3.5	0
Blended foods	Soya fortified rolled oats	380	20.0	6.0	81	5.3		0	0.74	0.14	4.0	0
Blended foods	Soya fortified sorghum grits (USA)	360	16.0	1.0	110	2.9		662	0.44	0.26	3.5	0
Blended foods	Soya fortified wheat flour	360	16.0	1.3	211	4.8		265	0.66	0.36	4.6	0
Sugar and salt	Sugar	400	0.0	0.0	0	0.0	0	0	0.00	0.00	0.0	0
Cereals	Wheat flour, fortified (USA)	364	10.3	1.0	110	4.4	662	0.76	0.44	8.7	0	0
Cereals	Wheat flour, fortified (WFP specs.)	350	11.5	1.5	15	4.1		0	0.56	0.30	6.9	0
Cereals	Wheat flour, white	350	11.5	1.5	15	1.2		0	0.12	0.04	3.4	0
Blended foods	Wheat pea blend (Danaert)	425	15.0	6.0	100	8.0		500	0.13	0.45	4.8	48

Nutrients per 100 grams of raw portion (continued)

Food Type	Food Commodities	Energy (kcal)	Protein (g)	Fat (g)	Calcium (mg)	Iron (mg)	Iodine (µg)	Vit. A (µg RE)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg NE)	Vit. C (mg)
Blended foods	Wheat soy blend (USA)	355	21.5	5.9	842	17.9	56.9	697	0.54	0.50	8.2	40
Blended foods	Wheat soy blend (WFP specs)	400	20.0	6.0	159	12.0	1	600	0.41	0.66	7.9	49
Blended foods	Wheat soy blend (WSB)	370	20.0	6.0	750	20.8	498	1.50	0.60	9.1	40	
Blended foods	Wheat soy milk (USA)	357	25.1	5.8	1,031	17.9	56.9	699	0.60	0.73	8.3	41

Source: Nutval 2006 <http://www.nutval.net/>

## Annex 2: Dosages for micronutrients and de-worming drugs

### Vitamin A

Dosage vitamin A, capsule 200 000 IU, single dose

Age	Retinol (vitamin A)
Children from 6-12 months	100, 000 (3-4 drops)
Children over one year and adults	200, 000 (1 capsule)

A single high-dose supplement of up to 200,000 IU to breast-feeding women is safe up to 8 weeks post-delivery. For non-breast-feeding women, a single high-dose supplement of up to 200,000 IU is safe up to 6 weeks post-delivery

### De-worming

Any of the following 4 drugs can be used to treat soil-transmitted helminths:

Drugs	Dose by age		Comment
	1-2 years	2 years and above	
Albendazole 400 mg tablet	1/2 tablet	1 tablet	These two are particularly attractive because they are single doses and there is no need to weigh the children.
Mebendazole 500 mg tablet	1 tablet		

### Iron

Dosage Iron treatment; 200 mg tab (= 65mg of elemental iron + 0.25 mg folic acid)

Age	Tablets
6-24 months	Quarter tablet once weekly
2-5 years	Half tablet once weekly
> 6 years	One tablet once weekly
Adolescents and adults	One tablet once weekly
Pregnant women	One to two tablets once weekly

### Zinc

Dosage Zinc tablets containing 20 mg zinc daily for 10-14 days for children with acute diarrhoea

Age	Tablets
Children < 6 months	Half a tablet
Children > 6 months	One tablet

**Annex 3: Individual ration card**

SFP RATION CARD

Mother's Name				Registration Number	/	/	SFP
Child's Name				Sex (M/F)			
Date of Admission				Age (months)			
Distribution Site				Address			
Admission Category	New admission	Referred from inpatient/ outpatient care for SAM	Referred from other SFP site	Readmission after default			
ADMISSION DATA			DISCHARGE DATA		DISCHARGE STATUS		
Weight			Weight		1. Cured 2. Died 3. Defaulted 4. Non recovered 5. Referred out		
Height			Height				
WFH			WFH				
MUAC (mm)			MUAC (mm)				
			Length of stay (days)				
Drugs given once	Date	Remarks					
Vitamin A							
Deworming							
Measles							
EPI update							
Date							
Weight							
Height							
MUAC							
WFH							
REMARKS							

Source: Based on FANTA (2008). *Training guide for community-based management of acute malnutrition (CMAM)*. Washington DC. FANTA. Information in the shaded area is ideally collected, but information in the non-shaded areas is essential.

**Annex 4: Monthly centre tally sheet**

	CATEGORIES					
	6-59 months	> 5 years	Pregnant women	Lactating women	TOTAL	
Total at end last month (A)						
New admissions:						
WFH $\geq$ -3 Z score and < -2 Z score (2006 WHO) or MUAC $\geq$ 115mm and < 125mm (B) <sup>53</sup>						
Other criteria (C)						
Total new admissions (D)						
Re-admissions (E)						
Total admissions (F) = D + C						
Discharged in this period:						TARGETS AS A PER CENT OF EXITS For < 6-59 months
Discharges (G)						Recovered > 75% G/K * 100 =
Deaths (H)						Deaths < 3% H/K * 100 = (,3%) (< 3%)
Defaulters (I)						Defaulters < 15% I/K * 100 = (< 15%)
Non-responder (J)						Non-responders J/K * 100 =
Total discharged (K) = G + H + I + J						
New total at month end (L) = A + F - K = A + D - H						

<sup>53</sup> During the transition to the use of the 2006 WHO Growth Standards, and the shift to the use of Z scores as opposed to percentage of the median, some programmes will continue to admit based on percentage of the median. In this case, it would be WFH  $\geq$ 70% and <80% of the median.

### Annex 5: Examples of typical daily rations for targeted SFPs (in grams per person per day)

Commodity in grams	Take-home ration			On-site ration		
	Example 1	Example 2	Example 3	Example 1	Example 2	Example 3
FBF	250	200			125	100
Soy-Based RUSF			92			
Fortified biscuits				125		
Fortified vegetable oil	25	20			10	10
Pulses						
Sugar	20	15			10	10
<b>Nutritive Value</b>						
Energy (kcal)	1250	1000	500	560	605	510
Protein	45	36	12.5	15	23	18
Fat	30	30	32.9	30	26	29

Source: UNHCR/WFP (2009). Guidelines for selective feeding: The Management of Malnutrition in Emergencies. Geneva: UNHCR/WFP