MODERATE ACUTE MALNUTRITION: A DECISION TOOL FOR EMERGENCIES

Global NUTRITION CLUSTER

MAM Task Force

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Photo: WFP/Challiss McDonough

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LIST OF ACRONYMS

AM	Acute Malnutrition
ARI	Acute Respiratory Infection
BSFP	Blanket Supplementary Feeding Programme
CMAM	Community based Management of Acute Malnutrition
CSB	Corn Soy Blend
FBF	Fortified Blended Foods
GAM	Global Acute Malnutrition
GFD	General Food Distribution
GNC	Global Nutrition Cluster
IASC	Interagency Standing Committee
IDP	Internally Displaced Person
IYCF-E	Infant and young child feeding
LBW	Low Birth Weight
LNS	Lipid-based Nutrient Supplement
MAM	Moderate Acute Malnutrition
MND	Micronutrient Deficiencies
MNP	Micronutrient Powder
NGO	Non-Governmental Organisation
PLW	Pregnant and Lactating Women
RUF	Ready-to-Use Food
RUSF	Ready-to-Use Supplementary Food
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
SBCC	Social and Behaviour Change Communication
SFP	Supplementary Feeding Programme
TSFP	Targeted Supplementary Feeding Programme
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Child's Fund
WFP	World Food Programme
WHO	World Health Organisation

I. Introduction to the MAM Decision Tool

A. Background and rationale for the decision tool:

A review of targeted supplementary feeding programmes in emergencies found that there was very limited data on the effectiveness of these programmes. WHO convened a meeting in 2008 to review dietary management of children with moderate malnutrition. As a result, over the past several years there have been significant changes to strengthen nutrition programming in emergencies including the development of new specialised nutritious foods and a shift to greater emphasis on preventing acute malnutrition.

Different programming approaches have been used for prevention of acute malnutrition and treatment of MAM[1] in recent emergencies (Haiti, Niger, Pakistan, etc.) based on the different situations in these countries. This variation in responses raised questions about how to best guide emergency nutrition responses to prevent acute malnutrition and to treat MAM. To address these concerns, the Global Nutrition Cluster convened a MAM Task Force under the leadership of WFP to develop a decision-making tool and guidance for prevention of acute malnutrition and treatment of MAM in emergencies. The Task Force considered current global thinking and available operational evidence in developing this guidance; however, it is intended as interim operational guidance while further normative guidance is under development. [2,3]

B. Aims and approach of the decision tool:

The decision-making tool aims to:

- guide program managers to identify the most appropriate and feasible programme strategy to address MAM in a particular emergency setting
- harmonize nutrition programme decision-making to MAM in emergency situations
- explicitly incorporate a range of contextual situational factors into the decision-making process, in addition to population level nutrition status before and during the emergency

[1] For the purpose of this document the term 'treatment' is being used, however, treatment of MAM should always be seen as integral component of Community-Based Management of Acute Malnutrition i.e., should be linked to treatment of severe acute malnutrition, whenever possible.

[2] The WHO Nutrition Guidance Expert Advisory Group review of acute malnutrition is ongoing

[3] Further information on MAM can be found in *The Harmonised Training Package (HTP): Resource Material for Training on Nutrition in Emergencies, Version 2 (2011). Nutrition Works, Emergency Nutrition Network, Global Nutrition Cluster*. Module 12: Management of Moderate Acute Malnutrition.

The tool is designed to guide decision-making on the type of programme(s) to implement (e.g., prevention, treatment, both), the programme modality (e.g., food supplement, cash/voucher, social and behaviour change communication (SBCC[4])), the risk groups to target, the specialised nutritious foods to use, the programme duration and the delivery mechanism for the programme(s). There are likely to be existing MAM programmes in the country affected by the emergency and this guide is intended to augment rather than supersede these programmes, as appropriate. The recommendations from this MAM decision-making tool will need to be further developed into an action plan for the emergency response. The tool was developed for addressing MAM in emergency settings and at this stage is not intended to guide decision-making on addressing MAM in non-emergency settings.

C. Information required for using the decision tool:

Different types of **information and data** are required to use this decision-making tool and process effectively, including data on

- prevalence of GAM in the affected area
- information on the nature and severity of the crisis
- baseline health data in the areas affected and expectations of the crisis impact on illness
- food security situation and expectations of crisis impact on food security
- estimates of displacement and population density

D. Audience for the decision tool and guidance:

The primary **audience** for the tool is nutrition staff from national governments and the key international and national organisations involved in nutrition emergencies addressing MAM. The government (or government body) should be the lead or a major partner in establishing the nutrition response in an emergency. In the immediate stages after onset of an emergency, the members of the IASC nutrition cluster at the country level (or a sector coordination structure, sub working group or other equivalent of this group if the cluster is not active) will also be key users of this decision tool as part of an exercise to develop a broader strategy for the overall nutrition response to the emergency. A quorum of key agencies should be at the table to make decisions about addressing MAM, including the national government and WFP as the lead UN agency for MAM, the national cluster coordination or other coordinating body, UNICEF as the nutrition cluster lead, WHO and key potential implementing partners. The decision tool is a guidance note and considerable discussion and interpretation of the context will be required in order to develop the MAM response strategy for the specific emergency.

[4] SBCC is a term that reflects the understanding that behaviours are grounded in a particular socio-ecological context and change usually requires support from multiple levels of influence (Manoff Group). Activities that fall under the scope of SBCC are advocacy, social or community mobilization, and behaviour change communication (BCC). SBCC is sometimes referred to as nutrition communication or BCC although it should be noted that these terms are not necessarily interchangeable as their definition can depend on the organization.

E. Caveats for using the tool:

For the purpose of this tool, the primary objective of MAM programming is to prevent mortality and morbidity, reduce the incidence of SAM, and the increase in acute malnutrition that often occurs in emergencies.

MAM cannot be addressed in isolation in emergencies; therefore, the decision-making process presented in this guidance note should be seen as a part of a broader nutrition response and as part of a multi-sectoral response to nutrition in an emergency[5]. For instance, treatment of SAM in emergencies is an essential component of an emergency response and this guidance follows the internationally recognized community based management of acute malnutrition (CMAM**)** approach, which calls for integration of management of SAM and treatment of MAM. Support for IYCF-E and SBCC is also an essential component of an emergency response. Finally, linkages to food security interventions, health and water/sanitation programming are also important in order to help ensure the multi-sectoral causes of nutrition are being addressed simultaneously. There should be strong advocacy and support where feasible for these other essential components of the MAM and broader nutrition response. Some of these potential linkages are briefly described in this guidance note (Section C).

As the emergency situation evolves, the nutrition response may need to be adjusted. The decision-making tool can be used to re-evaluate the context and make programme adjustments accordingly. It can be used ultimately to provide direction for nutrition programming in the recovery phase. Plans for a clear exit strategy for MAM programming once the emergency is stabilised should also be developed as part of the response. For instance, if key nutrition problems prior to the emergency are stunting and micronutrient deficiencies, the response plan should help the national government to ultimately transition back to programmes that address these issues.

The decision-making tool can be used in different types of emergencies, including rapid or sudden onset, slow onset, protracted or acute emergencies within a chronic emergency situation. The tool can be equally applied to localised or very large-scale emergencies but the scale of the emergency is likely to influence where to implement (prioritisation) and other steps in the process (e.g., delivery). In emergencies that involve IDPs or refugees the decision-making process should be similar[6] but there are some additional issues to consider in terms of coordination.[7] For refugees inside and outside of camps, nutrition issues fall under the leadership and coordination of UNHCR and the host government. IDPs still remain

[5] As guided by the nutrition cluster or equivalent group in the particular country and through planning with other IASC clusters, particularly health, water sanitation and food security.

[6] In refugee emergency situations the MAM decision-making tool should be used in conjunction with the UNHCR Operational Guidance on the Use of Special Nutritional Products to Reduce Micronutrient Deficiencies and Malnutrition in Refugee Populations. UNHCR. Geneva. 2011, which also takes the indicators of stunting and anaemia into account in the decision making processes.

[7] For further information, see the Global Nutrition Cluster Handbook (2012).

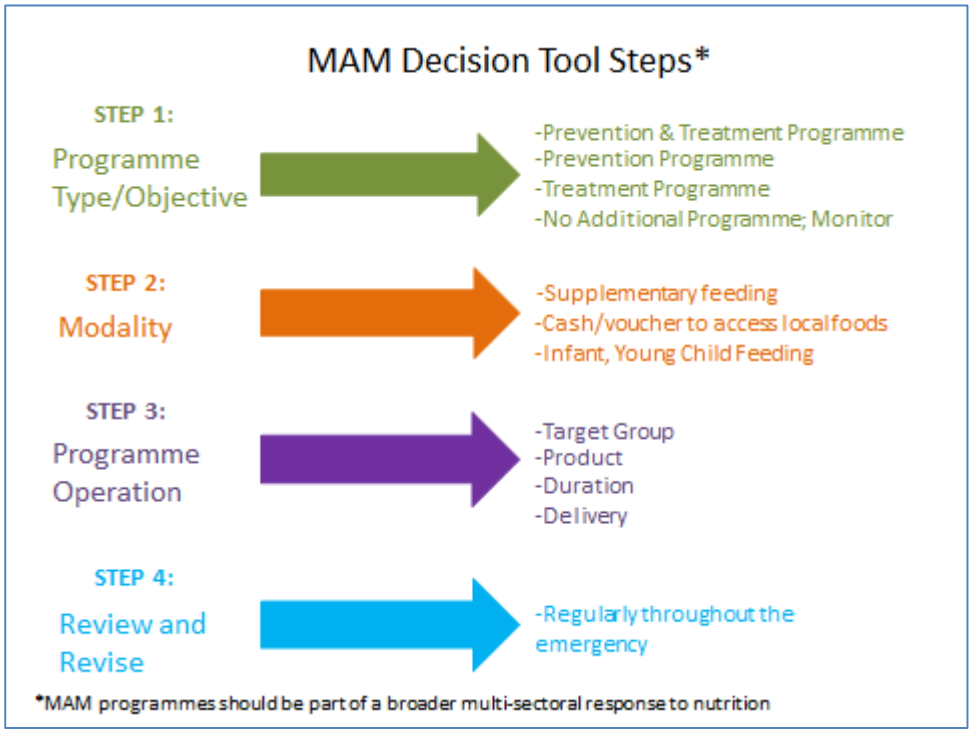
legally under the protection of their own government and under the coordination of the Nutrition Cluster led by UNICEF. However, given its expertise on displacement, UNHCR (with IFRC), under the cluster approach has been designated the lead role in overseeing the protection and shelter needs of IDPs as well as coordination and management of camps (with IOM).

The guidance note is structured as follows: Section II describes how to use the tool, section III summarises some information on different new specialised nutritious foods (including a product sheet in Appendix C) and Section IV summarises information on parallel programming in health, water/sanitation and food security that is often needed to address the multi-sectoral causality of undernutrition.

II. How to Use the Decision Tool

Four steps are described for making decisions to prevent acute malnutrition and address MAM in emergencies in Figure 1: 1) Programme type/objective; 2) Modality; 3) Programme Operation and 4) Review and Revise. Section A of this chapter describes how to decide on the programme type. In section B, the decision-making steps for modality and programme operation are presented for each programme type.

Figure 1: Steps for Decision-Making in Nutrition Emergencies for Preventing Acute Malnutrition and Addressing MAM



A. Determine the appropriate programme type/objective

The decision tool (Figure 2 and Appendix B) leads to four different end points or interventions:

- Prevention and Treatment
- Prevention alone
- Treatment alone
- No additional intervention than strengthening IYCF-E and monitoring the situation[8]

To determine the most appropriate programme type/objective for MAM the decision tool presents two different levels of factors to consider: a) historical information and b) risk of deterioration. With this analysis, a programme recommendation can be obtained.

1) Situational Analysis

The first considerations are pre-crisis vulnerability or historical information. The current or historical prevalence of GAM in the affected population is a key indicator of vulnerability. For the decision making process, GAM prevalence (low weight-for-height) is considered high when prevalence is above 15%, medium when between 10 -15% and low when it is < 10 %. Trend analysis, including an understanding of seasonality of GAM in the emergency affected population, is also critical in classifying the GAM prevalence. GAM prevalence can also be corroborated by the number of children with MAM and SAM in treatment if we have a clear understanding of the coverage and therefore met need. If data is not available or data is not recent, older data and available screening data may be used to make a judgement on GAM prevalence. When these are not available, the decision-making process can start with information on risk of deterioration.

2) Risk of deterioration

Once the emergency has been characterised by historical GAM prevalence the risk of deterioration should be evaluated and a sum score for the emergency agreed upon.

a) <u>Evaluate the risk of deterioration:</u>

Four key factors that can predict a risk of deterioration of the situation (and thus suggest that an increase in GAM is likely) need to be considered. These include:

[8] Ongoing preventive interventions e.g. micronutrient deficiency control would continue

Increased morbidity**:** Diarrhoea, acute respiratory infection, malaria and measles in non-immune populations are the most common childhood illnesses that occur and the incidence is then expected to increase in emergencies. They can have a large impact on childhood mortality and undernutrition. Some emergency types (e.g., flooding, earthquake) are more likely to cause an increased risk of morbidity. The type of setting (e.g., vulnerability, capacity) where the emergency occurs (e.g., urban areas where the baseline sanitation conditions are already poor) can also increase the risk of morbidity. Baseline information on vaccination coverage[9] as well as vitamin A supplementation coverage can provide insight on whether increased risk of morbidity and impact on GAM is likely. An assessment of the population's access to water (quantity and quality), sanitation and hygiene services and crowding is also an important component in determining morbidity risks. Scoring for increased risk of morbidity should be based on an expected likelihood of increased incidence and/or outbreak of illnesses and an outbreak will have an important impact on GAM.

Three categories of expected/predicted risk are defined as:

- Epidemic: high score (3);
- Increasing incidence/ high levels: moderate score (2);
- Stable incidence/low levels: low score (1)

Decreased food security (disrupted food availability, access or utilization): A crisis that impacts food production such as a drought, one that causes damage to markets or one that negatively impacts on household income or food prices can have a significant impact on GAM. The magnitude, extent, severity and duration of the crisis' impact on food insecurity should be estimated based on available household food security, consumption and market information and household coping strategies. The likely progression of the food security situation, including the proportion of households that are likely to be moderately or severely food insecure, should be considered.

Four categories of expected/predicted risk are defined as[10]:

- Extreme food consumption gaps, or extreme loss of livelihood assets that will lead to food consumption gaps, or worse; severely food insecure, high risk: score (4);
- Significant gap in food consumption, or marginally able to meet minimum food needs only with irreversible coping strategies; moderately food insecure, medium high risk: score (3);

[9] For example, full immunization coverage among children 12-23 months, measles vacciation among children.
[10] Technical guidance for WFP's Consolidated Approach for Reporting Indicators of Food Security (CARI) , WFP 2014 (for further info see : https://resources.vam.wfp.org/CARI)

- Minimally adequate food consumption without engaging in irreversible coping strategies; unable to afford some essential non-food expenditures; marginally food insecure; medium low risk: score (2);
- Able to meet essential food and non-food needs without engaging in atypical coping strategies; food secure, low risk: score (1);

Significant population displacement: Population displacement patterns are another factor which may influence the type and frequency of programming. Displacement may be across borders (in the case of refugees) or within one country (in the case of internally displaced persons (IDPs)). Patterns of displacement and settlement are also diverse, ranging from dispersed settlements, mass shelter in collective centres such as schools, religious places (churches, mosques), and dormitories, reception and transit camps, self settled camps, and planned camps, which may or may not be officially recognised by the host government. There may also be situations of refugees or IDPs mixed with host population, which may or may not include relatives.

Two categories of expected/predicted risk are defined as:

- If displacement is increasing and concentrated: high score (1)
- If there is no displacement or no increase in displacement or it is a sparsely populated location: low score (0)

Population density: Population density is important for decision making because it can and often does influence risk of illness/disease outbreak. In addition, population density should be taken into consideration when designing the programme itself, particularly related to delivery. For instance, there are circumstances where despite a low prevalence of GAM there will be a large number of children in need of services and this influences the resources required and could be a high burden for the health system. In the Haiti emergency in 2010, the population density in Port au Prince was very high. Therefore despite the low prevalence of GAM at the onset of the emergency, the numbers of children at risk and needing support was very high. Similarly during the political crisis in Kenya, the number of children needing nutrition support in poor urban areas was high despite the low prevalence.

Two categories are defined as:

- Urban areas, dense population concentration: high score (1)
- All other areas: low score (0)

Table 1 below (larger version in Appendix A) shows the different risk scoring. Each risk described above is evaluated independently and then a sum score of risk is developed.

Table 1: Risk of Deterioration Assessment

Risk of Deterioration	Analysis	Score	Sum Score	Risk Category
Increased morbidity (Acute watery diarrhea (AWD), measles, ARI)	High	3		Score 7-9: High Score 4-6: Medium Score ≤ 3: Low
	Medium	2		
	Low	1		
Food insecurity	High	4		
	Medium High	3		
	Medium Low	2		
	Low	1		
Significant population displacement	Yes	1		
	No	0		
Population density	Yes	1		
	No	0		

b) Sum Score of Risk of Deterioration:

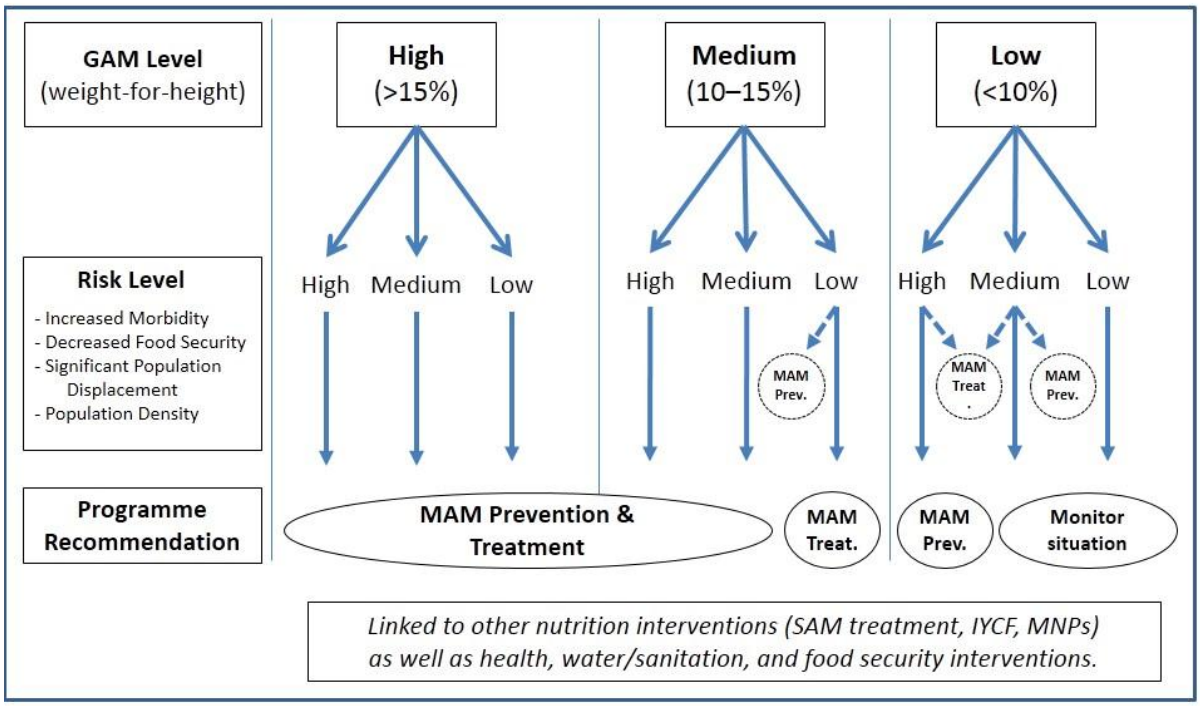
Once each of the risks has been determined, the total score is summed and an overall level of expected/predicted risk is set based on the following 3 categories (see above):

- 7-9: High risk
- 4-6: Medium risk
- ≤3: Low risk

3) Determine programme recommendation

The programme recommendation is based on the GAM prevalence (high, moderate, low) and the sum risk score (high, moderate, low) as shown in Figure 2. A table with this information is provided in Appendix B.

Figure 2: Programme recommendation for Prevention of Acute Malnutrition and Treatment of MAM[11] [12]



Additional note: Emergencies are not homogeneous. They may occur at the subnational, national, or regional level. The analysis must be clearly defined in relation to the specific geographic area and target population where and for whom the decision-making is taking place. In addition, analysis of information should take into account different vulnerabilities and therefore potential differences of impacts between women, girls, boys and men, as well as ethnic or livelihoods groups, which is then incorporated into programme design in terms of geographic targeting and defining appropriate target groups. Finally, certain contexts may warrant use of other criteria or additional risk factors (e.g., prevailing high micronutrient deficiencies or doubling of GAM rates in short period of time even if in terms of absolute number the prevalence remains "low", e.g., below 10%).

B. Determining the programme modality and operation

1. Prevention of acute malnutrition

a) Modality

In the event that it is decided that prevention of MAM should be part of the emergency nutrition response, one of three programme modalities can be planned based on functioning markets, household income and available diet diversity. Each of the modalities

[11] The tool may underestimate risk in slow onset emergencies. In emergencies with severe food insecurity or epidemics where GAM is classified as low it may be appropriate to launch blanket feeding rather than monitor the situation.

[12] The dotted lines in the diagram indicate 'additional option' (relevant in certain circumstances)

is described briefly below and key questions to use to select the appropriate modality are presented.

Blanket supplementary feeding programming is the standard intervention to prevent acute malnutrition in young children in an emergency particularly in one where high MAM, high food insecurity (availability and/or access) or high prevalence of chronic undernutrition and micronutrient deficiencies (MNDs) exists prior to the emergency. [13] Blanket supplementary feeding refers to provision of an improved supplementary food from as early on in the crisis as possible. In many situations blanket SFP for prevention can provide the backbone for the emergency response. It creates opportunities for community mobilization, participation and sensitization for accessing the target population through a census registration, community screening, referral for the management of SAM and MAM as well as for adding child survival interventions such as deworming, vitamin A supplementation, immunisation and/or measles vaccination campaigns.

Cash or voucher programmes are now considered standard programming options in emergency food security/livelihoods programs to increase household assets and flexibility in adapting to shocks. While there is evidence and considerable best practice documentation to demonstrate the effectiveness of conditional and unconditional cash transfers and vouchers, there is less evidence demonstrating the impact specifically on nutrition outcomes. While there is some evidence that conditional cash interventions designed to increase access and consumption of age-appropriate food for children often show an improvement of nutritional status, the amount of change that can be achieved and the conditions under which this approach is appropriate to improve nutrition outcomes requires further research. Several ongoing studies will provide further evidence about preventing acute malnutrition with cash only, cash and special foods or special foods only. Preliminary findings from one study suggest that the inclusion of specialised nutritious foods as part of the cash programme is more effective in addressing nutrition than cash alone[14] and that cash at four times the value of special foods gives a similar nutritional impact (incidence of acute malnutrition and mortality) as a specialised food alone. In addition to the amount of change, appropriate foods for infants and young children (in addition to breastfeeding) must be available regularly in markets and shops for households to purchase. A new assessment tool, Opti-Food may be helpful in determining whether appropriate foods are available in the market and Cost of Diet can help to determine whether a nutritious diet is affordable. However, adaptations of these tools to emergency settings - when the time required to conduct a full study is limited – are not yet available. Finally, the range of contexts where cash or voucher programmes have been successful in preventing acute malnutrition does

[13] If MNDs and stunting are high, this suggests that the diet is lacking in essential nutrients prior to the emergency and this is often due to limited availability of nutrients.

[14] Epicentre/MSP/WFP : Evaluation of the various distribution strategies to prevent malnutrition in Niger, February 2013

not fully extend to most of the emergency settings for which this tool is directed. Despite these constraints, cash/vouchers alone can be considered in situations where the food and nutrient availability is good, markets have not been interrupted and caring practices can be sufficiently maintained or improved.[15]

Strong SBCC/IYCF-E support is an important component of any emergency response. There may be some circumstances where SBCC/IYCF-E support alone is the appropriate response – for instance when markets are functioning, age-appropriate food is available and households have sufficient income to purchase the nutrients and nutrient density required by young children.[16] However, it is rare that emergency situations offer the context of stable markets and food diversity and access to households. Therefore a response that includes provision of an improved nutritious supplementary food to all children (along with SBCC or IYCF-E) should remain the default response in most emergencies until further evidence and guidance is developed on these alternative modalities.

b) Programme operations

Once the programme type/objective and modality have been determined, the following programme elements must be decided[17]: i) target group, ii) specialised nutritious food, iii) programme duration, and iv) delivery mechanism. Decisions on these elements are discussed below and are influenced by the type of emergency and the context in the affected areas as has been presented earlier in this tool (i.e., historical information/pre-crisis vulnerability and risk of deterioration).

i. Select target group for the intervention

Children under 5 years of age[18] are at increased risk of mortality associated with acute malnutrition, micronutrient deficiencies and stunting (Lancet). In emergencies this risk is likely exacerbated. Deciding on whom to target for nutrition prevention interventions should be based on several considerations:

- Mortality among and prevalence of acute malnutrition are both higher in the 6-23 month age group and they are more likely to deteriorate and deteriorate rapidly. They also have a greater infection burden, have higher nutrient requirements and are more vulnerable to developing stunting and cognitive deficiencies. Therefore

[15] Bailey, S and Hedlund, K. The impact of cash transfers on nutrition in emergency and transitional contexts A review of evidence ODI/PHN, January 2012

[16] A decision framework for population-based programmatic options for improving nutrient quality of complementary foods in non-emergency settings may provide some guidance - Programming Guide for IYCF-E, UNICEF New York, May 2011

[17] Nutrition at the World Food Programme, Programming for Nutrition-Specific Interventions, WFP December 2012

[18] Where possible, it is recommended to rely on mother's recall to determine the age of 6 months. When exact age is unknown, children can be admitted based on height (60-80cm for 6-23 months and 60-110cm for 6-59 months).

this group should receive priority if there are any constraints (logistical or resource) to reaching the larger age group of 6-59 months.

- There is rationale for including children 6-59 months of age in blanket supplementary feeding for prevention of acute malnutrition if MAM and/or SAM treatment activities are not available or coverage of these programmes is low (i.e., < 20%).
- The evidence base for blanket supplementary feeding for prevention of acute malnutrition primarily focuses on children and there are currently no standard criteria or recommendations for **inclusion of PLWs** into programmes to prevent acute malnutrition. A number of issues should be considered including low birth weight rates, capacity and resources, how the crisis has impacted IYCF-E behaviours (i.e., the inclusion of PLW as an entry point to protect breastfeeding) and whether effective MAM treatment programmes exist for PLW in the affected area. If LBW rates are high, measures to protect BF are required and MAM treatment programmes are inadequate then all PLW could be included in prevention interventions. If a prioritisation needs to be made due to insufficient resources or capacity, children should be prioritised for blanket feeding. An alternative for PLW may be to target only breastfeeding women with a child 0-6 months of age. Including these breastfeeding women indirectly benefits children < 6 months of age and can also ensure that infants <6 months are included in the blanket supplementary feeding for prevention of acute malnutrition when they reach 6 months without re-registering new beneficiaries throughout the operation. Where treatment programmes for PLW exist, stringent monitoring needs to be implemented.
- Blanket supplementary feeding for the prevention of acute malnutrition should not generally extend beyond children 6-59 months of age or PLW except under very serious circumstances. A General Food Distribution (GFD) or equivalent household food security intervention should provide the necessary food/nutrient requirements for these other household members.

ii. Select the right specialised nutritious food

Specialised food selection is intrinsically linked with the emergency and food security contexts and the risk group to be targeted with the programme. There are four main factors to consider in selecting the specialised food for prevention of acute malnutrition:

1) Objective of the intervention and target group
2) Household's ability to cook
3) Cultural practices and food preferences
4) Nutrient gap

A first factor to consider in the selection of the right specialised food is the *objective of the intervention and target group* – i.e., prevention or treatment, among which specific target

group. The attached 'Specialised Nutritious Foods Sheet' in Appendix C presents the specialised foods that are appropriate for these different objectives[19]. Also specialised foods need to be selected to match the target group for each programe objective. For instance, medium quantity LNS foods are typically used for children 6-23 months of age (or up to 35 months of age). Alternatively Supercereal Plus could be used for children 6-59 months of age as it can provide more calories for older children in this age range. RUSF have been used in some emergency responses where it is believed that the supplementary food will be the sole source of calories and nutrients of the children (as opposed to being a 'supplement' as it is generally intended).

A second factor is the *household's ability to cook* which is essential for provision of improved fortified blended foods such as Supercereal Plus. Therefore in the absence of cooking facilities or easy access to fuel or potable water, only ready-to-use foods are recommended for nutrition interventions in emergency settings.

A third factor is *cultural practices and food preferences*. Improved fortified blended foods are now available for wheat and maize, and rice-based blended foods will become available soon. Ready-to-use products are primarily still peanut-based, but a number of alternatives are being developed and are available in still limited quantities (e.g., chickpea based, milk based). As much as possible the taste preferences of communities affected by the crisis should be taken into account in planning the nutrition response (balanced with need for timely availability of foods).

A fourth factor is the *nutrient gap* (defined as the energy and micronutrient gaps needed) that is being filled. A judgement of whether to use a specialised food with higher or lower energy content (e.g., Supercereal Plus versus a medium quantity LNS) must be made based on a number of different factors, including general household food insecurity and diet diversity levels, available information on the baseline diets of children and levels of chronic malnutrition and micronutrient deficiencies in the emergency affected area.

Finally several other factors can be considered in selecting the specialised nutritious food in an emergency nutrition response. Any information on household use of specialised foods or more specifically on sharing practices of different specialised foods can also inform product selection. In addition, it is essential to have government approval and acceptance of the improved specialised foods for prevention of acute malnutrition.

iii. Estimate the duration, timing and cessation of the intervention

Duration and timing of blanket SFP to prevent acute malnutrition should be based on the scale and severity of the emergency, the GAM prevalence and other factors such as food security, seasonality of food security and/or epidemic patterns of infectious diseases. Blanket supplementary feeding generally operates from 3-6 months. For example in relation to an emergency that further aggravates a typical lean season, blanket supplementary

[19] Managing the Supply Chain of Specialized Nutritious Foods, World Food Programme 2013.

feeding should start at least one month before the lean season starts and should continue until post-harvest. The overall situation should be assessed regularly to determine whether the prevention interventions can be re-oriented or scaled down or whether they need to be extended beyond the planned duration. New children should be regularly enrolled as they reach 6 months of age but any children enrolled should remain in the programme for the duration, regardless of their age.

iv. Determine the delivery mechanism

A number of factors are important to consider in planning the delivery of a prevention of acute malnutrition programme, such as access to the population, scale of the emergency (including total area affected, etc.), implementation capacity and population density. For instance, population density is an important consideration when determining the number of treatment or delivery sites to ensure access to the sites as well as reducing the time spent to reach the site and for waiting at the site. In densely populated areas, it may be necessary to have multiple days a week for programme delivery. They may be integrated with other distribution platforms or other services may be added to these platforms depending on the situation. In addition, the number and capacity of implementing partners can also influence the delivery of prevention of acute malnutrition and MAM programmes. When capacity is limited or security an issue, specialised food supplements may need to be added to GFD or other delivery mechanisms.

There are two primary ways that blanket SFPs for the prevention of acute malnutrition are delivered in large scale emergencies: 1) stand-alone delivery targeted directly to households with children or 2) integrated delivery as part of the food security intervention (e.g., food/cash/voucher distribution). If delivery capacity or access is limited, adding the children's supplementary food to the food/cash/voucher distribution may be the only delivery option. There can be significant inclusion and exclusion errors in using these delivery mechanisms. Therefore while this might be the only viable option in the immediate aftermath of a major rapid onset emergency, a shift to parallel independent programme targeting to children should be considered as soon as access and/or capacity can allow it.

2. Treatment of moderate acute malnutrition

a) Modality

The WHO has recently issued a Technical Note on foods for children with moderate acute malnutrition. It provides the nutrient requirements for children with MAM that must be provided through the local diet or with the addition of specialised foods.

Household food security is often compromised in emergencies therefore it may not be conducive to manage MAM without the inclusion of a specialised supplementary food. Therefore, where the decision tool recommends treatment of MAM as part of the emergency nutrition response, a *targeted supplementary feeding* programme (TSFP) should

be planned.[2021] A targeted SFP provides treatment for moderate acute malnutrition through the direct provision of nutritious food supplements and routine medical treatment. Admission and discharge criteria rely primarily on anthropometric assessment of nutrition status and current international criteria or the national guidelines should be followed. SBCC and support and promotion of IYCF-E should be provided in tandem with the targeted supplementary feeding programme.

More evidence is required to understand under what circumstances and what programme inputs (type of vouchers, amount and timing of cash, etc.) are needed before a recommendation can be made to use household cash transfers or vouchers to facilitate access of the recommended food requirements for treatment of MAM. Similarly only in circumstances where access and availability are not constrained should IYCF-E alone be recommended for treatment of MAM in emergency settings.

b) Programme operations

Once the programme type/objective and modality have been determined, the following programme elements must be decided: a) target group, b) specialised nutritious food, c) programme duration, and d) delivery mechanism. Decisions on these elements are discussed below and are influenced by the type of emergency and the context in the affected areas as has been presented earlier in this tool (i.e., historical information/pre-crisis vulnerability and risk of deterioration).

i. Select target group for the intervention

The standard target groups are malnourished children 6-59 months of age (including those discharged from treatment of SAM), malnourished pregnant and lactating women 6 months postpartum (PLW) and malnourished people living with chronic illness (e.g., HIV, TB). There are some exceptions:

1) Malnourished infants less than 6 months are not admitted for treatment of MAM but will need strengthened IYCF-E support. If SAM, they will be referred to the hospital for strengthened IYCF-E support and/or inpatient care if necessary. The mother, not the child, will be enrolled in the programme for nutritional support.

2) If surveys, assessments, or clinic-based screening data suggests other population sub groups are nutritionally vulnerable with MAM (such as disabled children, children 5-10 years of age, older people) these other groups should be considered for treatment programmes.

[20] For more information, see the WFP/UNHCR (2011) Guidelines for Selective Feeding: The Management of Malnutrition in Emergencies.

[21] Alternative community based approaches, such as The Nutrition Impact and Positive Practice (NIPP) circle or Positive Deviance/Hearth models, are also used to address MAM in certain contexts. While inappropriate for acute emergencies where basic food security needs must also be met, they can be considered for protracted or chronic emergencies. However, the impact of these approaches, especially in large-scale emergencies, is unclear and requires more evidence before wide application can be considered.

ii. Select the right specialised nutritious food

Specialised food selection is intrinsically linked with the emergency and food security contexts and the risk group to be targeted with the programme. There are three main factors to consider in selecting the specialised foods for treatment of MAM:

1) Objective of the intervention and target group
2) Household's ability to cook
3) Cultural practices and food preferences

A first factor to consider in the selection of the right specialised food is the *objective of the intervention and target group* – i.e., prevention or treatment, among which specific target group. The attached 'Specialised Nutritious Foods Sheet' presents the specialised foods that are appropriate for these different objectives. Also specialised foods need to be selected to match the target group for each programme objective. For instance, medium quantity LNS products are currently not recommended for children above 2 years of age. Therefore Supercereal Plus is the only appropriate specialised food for blanket supplementary feeding among children 6-59 months of age. RUSF have been used in some emergency responses where it is believed that the supplementary food will be the sole source of calories and nutrients of the children (as opposed to being a 'supplement' as it is generally intended).

A second factor is the *household's ability to cook* which is essential for provision of fortified blended foods such as Supercereal Plus. Therefore in the absence of cooking facilities or easy access to fuel or potable water, only ready-to-use foods are recommended for nutrition interventions in emergency settings.

A third factor is *cultural practices and food preferences*. Improved fortified blended foods are now available for wheat and maize, and rice-based blended foods will become available soon. Ready-to-use specialised foods are primarily still peanut-based, but a number of alternatives are being developed and are available in still limited quantities (e.g., chickpea based, milk based). As much as possible the taste preferences of communities affected by the crisis should be taken into account in planning the nutrition response (balanced with need for timely availability of foods).

iii. Estimate the duration, timing and cessation of the intervention

The duration of treatment in a targeted SFP varies, with range from 1-4 months.[22] Scale-down of programmes to treat MAM is generally considered when GAM rates fall below 5% and no aggravating factors exist. Also, very low numbers of beneficiaries in MAM treatment

[22] Admission and discharge criteria should follow either national or international protocols. Additional considerations for those that do not respond during the expected treatment time frame are often incorporated into treatment guidelines.

as well as in SAM treatment can be considered for making a decision to phase out treatment of MAM in emergencies.

iv. Determine the delivery mechanism

A number of factors are important to consider in planning the delivery of MAM treatment programmes, such as access to the population, scale of the emergency (including total area affected, etc.), implementation capacity and population density. For instance, population density is an important consideration when determining the number of treatment or delivery sites to ensure access to the sites as well as reducing the time spent to reach the site and for waiting at the site. In densely populated areas, it may be necessary to have multiple days a week for programme delivery. They may be integrated with other distribution platforms or other services may be added to these platforms depending on the situation. In addition, the number and capacity of implementing partners can also influence the delivery of prevention of acute malnutrition and MAM programmes. When capacity is limited or security an issue, specialised food supplements may need to be added to GFD or other delivery mechanisms.

The programme for treatment of MAM should be delivered closely linked to the SAM component, as part of CMAM. Both active and passive screening for acute malnutrition can be done jointly with the SAM programme under CMAM. Targeted supplementary feeding (TSFP) sites can be established adjacent to the outpatient treatment centres (OTPs) and health facilities where referrals can be supported easily without overburdening the existing health care system. As much as possible management of MAM should not drain the existing health system. It is important to keep in mind that sites for management of MAM require large areas for waiting, measuring, monitoring and providing the food supplement and it does not require health care staff for implementation. However, an adjacent referral point for accessing routine health services is needed. If the MAM programme is not located adjacent to a health centre, basic health interventions should be provided through mobile programmes or other delivery mechanism. The existing health service coverage and level of decentralisation, the national guidelines for targeted SFP for MAM, the type of existing SAM/MAM operations of the Ministry of Health and NGOs and, as well as their capacity for scale-up, are all important considerations in reviewing delivery modalities of management of MAM.

3. Both prevention of acute malnutrition and treatment of MAM

In many circumstances both prevention of acute malnutrition and treatment of MAM will be the recommended nutrition response. The steps described above in sections a and b should be followed to determine the most appropriate modality and programme operation. Where possible, children should not be enrolled simultaneously in both treatment and prevention programmes (i.e., where children enrolled in prevention become malnourished and become eligible for MAM treatment). However, the risks associated with non-participation are greater than the costs of dual participation therefore in some large scale complex

emergencies children should always be enrolled in prevention and they may go in and out of treatment.

4. No additional intervention for MAM but further situation monitoring

In the event that it is decided that no intervention is needed at that time based on the low vulnerability before the crisis and the low risk of deterioration as outlined in Table 1, it does not mean that prevention of acute malnutrition and/or treatment of MAM may not become an issue that will need to be addressed in a later stage. On-going assessments of the situation and repeated analysis of updated information using the decision-making tool should be built into the food security and nutrition strategic response to the emergency. Strengthened support for IYCF-E or micronutrient interventions may still be warranted in these situations as well. At the same time, assessment of the need for acute malnutrition and MAM programming in the emergency should remain on the agenda of the nutrition coordination mechanism. Note: improved FBFs, RUSFs and LNS also contain adequate vitamins and minerals.

C. Review and Revise

The decisions made with this tool may require adaptation after certain time intervals, be it because the emergency has expanded, new risk factors have emerged, the time horizon needs to be extended, because new nutrition interventions are included in the nutrition response, etc.

Monitoring and evaluation of the proposed interventions described in this decision-making tool will be added in a later revision of the guidance note. Efforts to evaluate impact and to standardize monitoring and evaluation of blanket SFP is on-going, supported by a number of different organisations. In addition, the Minimum Reporting Package (MRP) is being used now by several organizations and based on experiences can be expanded in use in the near future.

III. Specialised Nutritious Foods

For decades fortified blended foods (e.g., corn soya blend) have been the primary foods available for supplementary feeding programmes in emergencies. Over the past few years there has been development of new specialised foods for prevention of malnutrition (stunting and wasting) and for treatment of MAM including WFP's improved formulation of fortified blended foods (i.e., Supercereal Plus). Descriptions of the key nutritious foods are:

Ready to use foods (RUF): is an umbrella term that refers to foods that do not need to be prepared, cooked, or mixed with water. RUFs are generally made with peanuts, sugar, milk powder, vegetable oils, and vitamins and minerals, though they may be made with chickpeas or other commodities. The package can be opened and the food can be eaten directly. RUF have low moisture content and do not require water or cooking, so the risk of contamination is low.

- **Ready to Use Therapeutic Foods (RUTF**) is an energy-dense mineral/vitamin-enriched food, specifically designed to treat SAM without medical complications at the community level. RUTF is given over a period of six to eight weeks, and the child will need no other foods during treatment other than breastmilk.
- **Ready-to-Use Supplementary Food (RUSF)** is a type of RUF that is specifically designed for the treatment of moderate acute malnutrition in children 6-59 months of age in TSFPs. RUSFs are fortified with micronutrients and contain essential fatty acids and quality protein to ensure a child's nutritional needs are met.
- **Lipid nutrient spread (LNS)** is a term used to describe a type of specialised nutritious food, i.e., a lipid-based paste. It has different formulations and dosages and can be used for different purposes. They can generally be grouped into three categories which are based on dosage and each category has their own purpose. Some specific examples are provided in Appendix C. LNS are described as LNS Small quantity, LNS Medium quantity, and LNS Large quantity in order to indicate the amount of product that is used.

Fortified blended foods (FBFs)[23] are a mixture of cereals and other ingredients (such as soya beans or pulses) that have been milled, blended, pre-cooked by extrusion or roasting, and fortified with a premix of adequate amount and with a wide range of vitamins and minerals (UNHCR/WFP 2011 guidelines). In order to overcome constraints with earlier formulations (bulky, poor absorption, incomplete range of vitamins and minerals), **improved FBFs** now include milk, oil, sugar and a more comprehensive vitamin and mineral profile and some ingredients are specially processed to decrease the anti-nutrient properties.

Micronutrient powders (MNPs) are small sachets containing a micronutrient mix that are added to solid or semi-solid foods after preparation and prior to consumption. They are tasteless, odourless and easily dissolvable in most hot foods. MNPs do not provide energy, but do provide 1 RNI (the FAO/WHO recommended daily intake) of each micronutrient per dose. Most countries use the 15 micronutrient formulation.

Detailed descriptions and proposed uses for a number of different specialised foods are provided in the Specialised Nutritious Foods Sheet in Appendix C. The number of manufacturers producing these improved specialised foods is growing therefore not all the current products or manufacturers are included in the Specialised Nutritious Foods Sheet.

Specialised foods used in treatment and prevention programmes are intended to meet the nutrient gap (the difference between what is required and what is currently consumed in

[23] WFP has renamed its fortified blended foods as follows: CSB+=CSB Supercereal; CSB++=CSB Supercereal Plus; WSB+=WSB Supercereal; WSB++=WSB Supercereal Plus, RSB+=RSB Supercereal; RSB++=RSB Supercereal Plus,

nutrient contents and energy) required for catch-up growth and repair (in the case of treatment programmes) or the nutrient gap required for normal growth (in the case of prevention programmes). They are supplementary and are not intended to replace normal food intake or undermine household practice of optimal infant and young child feeding patterns and breastfeeding. However in some special, extreme emergency situations supplementary foods may need to be replacement diets, particularly in the early stages of an emergency.

Some specialised foods can be used for more than one type of programme (e.g., Supercereal Plus), however the ration size for prevention and treatment protocols have been standardized for the different programme aims. Adjustments to the ration sizes are not recommended. SBCC to beneficiaries, including community sensitization, should accompany provision of all specialised nutritious foods to help ensure targeted communities are aware of purpose of and any difference in ration size – particularly if specialised foods are used for multiple programs.

Take-home rations should be provided for both prevention and treatment unless there is a clear rationale for on-site (wet) feeding (i.e., extreme security issues or lack of access to cooking materials).

While specialised foods may be selected appropriately for target groups and programme objectives, in practice there may be issues related to production/availability and pipeline for specialised nutrition foods, particularly in large-scale emergencies. As a result, secondary recommendations for specialised foods (e.g., ½ sachet of RUSF instead of a medium quantity LNS) or use of multiple specialised foods (e.g., using Supercereal Plus and RUSF for treatment) may be necessary.

Table 2: Recommended Specialised Nutritious Foods and Alternatives

TARGET GROUPS	PRIMARY RECOMMENDATION	INTERIM / ALTERNATIVE*
Treatment of MAM		
6-59 months	RUSF or Supercereal Plus	Supercereal/oil/sugar**
PLW	Supercereal/oil/sugar	
Older Children* **	Supercereal/oil/sugar	RUSF or Supercereal Plus
Prevention of MAM		
6-23 or 59 months	Supercereal Plus LNS medium quantity RUSF†	Supercereal/oil/sugar or ½ sachets RUSF (medium quantity in terms of energy)
PLW	Supercereal/oil/sugar	LNS medium quantity

*These specialised foods should only be used on an interim basis if the primary option is not immediately available or if distribution of different specialised foods for different target groups is not possible due to programme delivery constraints.

**Assumes Supercereal is premixed with oil and sugar

***Not included in Specialised Nutritious Foods Sheet, Appendix C

†Only in situations where supplement is the primary source of available food

IV. Programme Linkages for Prevention of Acute Malnutrition and Management of MAM in Emergencies

This decision tool and guidance are specific to programming for the prevention of acute malnutrition and treatment of MAM. At the same time, it is recognised that preventing and addressing undernutrition requires multi-sectoral action and that there are other programme linkages for acute malnutrition and MAM in emergencies, including interventions to manage SAM, strengthen IYCF-E, address health, water, sanitation and hygiene and food insecurity. Illness, food insecurity and suboptimal feeding practices influence the effectiveness of SAM and MAM interventions and therefore any emergency nutrition response should be coordinated with these other programmes when appropriate and advocate for them when necessary. Broad outlines for minimum standards in each of these areas are found in the Sphere Handbook (2011).

1. Severe acute malnutrition (SAM)

In line with the internationally accepted recommendation to implement CMAM, the management of MAM should be linked with the management of SAM wherever possible.[24,25] Linkages at the health service and at the community levels are essential in emergencies to take care of the increased numbers of acutely malnourished children. Community sensitisation and mobilisation, community screening and referral systems

[24] Community Management of Severe Acute Malnutrition, WHO, WFP, UNS/SCN, UNICEF Joint Statement, 2007

[25] CTC Manual, Valid International, 2006

should be established jointly between MAM and SAM programming. Where possible, training and other programme aspects should be undertaken jointly. Referral mechanisms between acute malnutrition prevention and management of MAM and SAM activities are also very important and should be established as part of the nutrition response.

2. Infant and Young Child Feeding (IYCF-E)

It is important to address IYCF-E as part of the prevention of acute malnutrition and treatment of MAM intervention, particularly to emphasize exclusive and continued breastfeeding and optimal complementary feeding in children 6-23 months of age. There are a number of different contact points within CMAM for meeting with mothers/caregivers to discuss and support recommended infant and young child feeding practices. It is also important to include basic information on infant and young child feeding in an HIV context.[26]

3. Health and Water/Sanitation

Childhood illness is a contributing cause to acute malnutrition. Early and accelerated management of sanitation, hygiene, water sources, and health programs for common childhood illness (e.g., diarrhoea, measles) should augment the management of acute malnutrition during an emergency. Feeding centers and distribution sites should include access to safe water for drinking and for hand-washing.

4. Food Security and Livelihood Programmes

Household food insecurity has a significant impact on the effectiveness of prevention of acute malnutrition and treatment of MAM programmes. In the absence of household food security or livelihood interventions, there is little likelihood to prevent nutritional deterioration over the course of the emergency. Therefore where food insecurity is a result of an emergency or exists prior to the emergency, resources should be spent on nutrition interventions for prevention of acute malnutrition or treatment of MAM only when a GFD or equivalent transfer in cash or voucher is in place.[27]

A number of different options to improve food security and to prevent livelihood erosion exist such as:

- market-based interventions can be implemented to ensure food remains affordable
- cash transfers and vouchers can be provided to ensure families have sufficient incomes to purchase or to access food, or
- GFD can be provided where food is unavailable or unaffordable in emergencies.

Algorithms have been developed to identify the appropriate modality in different settings.[28] When the GFD is not available or insufficient, advocacy for effectively addressing food

[26] UNICEF Programme Guidance, 2011
[27] UNHCR Guidance 2011
[28] Alpha value, WFP, 2011

insecurity will be a crucial part of the emergency nutrition response. However, changes to the nutrition response based on an unsatisfactory food insecurity response are not recommended.

V. Evaluation of the MAM Decision Tool

This is the first version of the MAM Decision Tool and Guidance. As appropriate, revisions and updates will be made to the tool on an as needed basis. An evaluation template is provided in Appendix 4. Please provide comments on the use of the tool to WFP at lynnda.kiess@wfp.org or the GNC at jippe@unicef.org .

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APPENDIX A: RISK SCORING

Risk of Deterioration	Analysis	Score	Sum Score	Risk Category
Increased morbidity (Acute watery diarrhea (AWD), measles, ARI)	High	3		Score 7-9: High Score 4-6: Medium Score ≤ 3: Low
	Medium	2		
	Low	1		
Food insecurity	High	4		
	Medium High	3		
	Medium Low	2		
	Low	1		
Significant population displacement	Yes	1		
	No	0		
Population density	Yes	1		
	No	0		

APPENDIX B: DETERMINING PROGRAMME RECOMMENDATION

GAM prevalence (pre-existing vulnerability)	**Risk level**	**Programme recommendation**
High	High →	Prevention and Treatment
	Medium →	Prevention and Treatment
	Low →	Prevention and Treatment
Medium	High →	Prevention and Treatment
	Medium →	Prevention and Treatment
	Low →	Treatment ; and prevention, if appropriate
Low	High →	Prevention; and treatment, if appropriate
	Medium →	Monitor situation; treat and prevent, if appropriate
	Low →	Monitor situation

APPENDIX C: SPECIALISED NUTRITIOUS FOODS SHEET (The list of products is not exhaustive as new products and producers exist and are emerging rapidly)

Objective	Treatment of Severe Acute Malnutrition	Treatment of Moderate Acute Malnutrition		Prevention of Malnutrition				Other
				Acute malnutrition		Micronutrient and chronic malnutrition		
Generic Term	**Ready-to-Use Therapeutic Foods (RUTF)**	**Ready-to-use Supplementary Foods (RUSF)** *High quantity**	**Fortified Blended Foods**	**Lipid-based Nutrient Supplements (LNS)** *Medium quantity*	**Fortified Blended Food**	**Lipid-based Nutrient Supplements (LNS)** *Low quantity**	**Vitamin & Mineral Powder**	**High Energy Biscuit (HEB)**
Products*			 **Supercereal/oil/sugar** **Supercereal Plus**	 Wawa Mum 	 **Supercereal/oil/sugar**  **Supercereal Plus**		 	
Purpose	Treatment of uncomplicated severe acute malnutrition with continued breastfeeding	Supplement to treat moderate acute malnutrition with continued breastfeeding	Supplement to treat moderate acute malnutrition with continued breastfeeding	Supplement to the local diet for prevention of acute malnutrition with continued breastfeeding and prevent micronutrient deficiency and stunting	Supplement to the local diet for prevention of acute malnutrition with continued breastfeeding and prevent micronutrient deficiency and stunting	Supplement to the local diet with continued breastfeeding to prevent micronutrient deficiency and stunting	Fortification of home prepared foods, just before consumption, with continued breastfeeding to prevent micronutrient deficiencies	Temporary meal replacement; prevention for acute malnutrition and micronutrient deficiencies for vulnerable groups

Target Group	6-59 months *Older children and adults including HIV+*	6-59 months *Others pregnant and lactating women including HIV+ adults*	6-59 months: *Supercereal Plus Others including PLW, HIV+ adults: Supercereal*	6-23 *(or 6-36)* months[29]	6-23 *(or 6-59)* months[30]: *Supercereal Plus* *PLW: Supercereal*	6-23 months	6-59 months	General population, vulnerable groups
Energy & nutrient/ ration or dose	500 kcal 12.5g protein 31.9 g fat	500 kcal 12.5g protein 31 g fat	787kcal 33gprotein 20g fat	247kcal 5.9gprotein 16g fat	787kcal 33gprotein 20g fat	108kcal 2.6g protein 7g fat	<u>Daily supplement:</u> <u>RDI:</u> A- 400ug, C- 30ug, D- 5ug, E- 5ug, B1- 0.5, B2- 0.5 ug, niacin- 6ug, B6-0.5ug, B12- 0.9ug, folic acid- 150ug, Iron- 10ug, zinc- 4.1, copper- 0.56, iodine- 90ug, selenium-17ug	1,800 kcal/400g (biscuits) 2,300kcal/500g (BP-5, NRG-5) Age / Bars 6 months-3 years: 3-4 4-8 years: 5-6 Adults: 8-9
Packaging	Sachet = 92g	Sachet = 92g	Supercereal (SC): 25 kg bag Supercereal Plus: 1.5kg bag	325 gm pots or sachets of different quantities	Supercereal (SC): 25 kg bag Supercereal Plus: 1.5kg bag	Sachet = 20g	Sachet = 1g	400g packs (HEB) 500g packs (NRG-5, BP-5)
Shelf life	24 months	24 months	SC: 12 months SC+: 18 months	24 months	SC: 12 months SC+: 18 months	24 months	24 months	5 years
Ration or dose	According to weight: 6-59m: 200kcal/kg/day	One sachet/day 92g/day (75kcal/kg/day)	200g/day	47-50g/day	200g/day	20g/day	One sachet/day 1g/day or 5g/day	Adults: 400g/day (HEB),500g/day (NRG-5, BP-5)
Approximate duration of Intervention	6-8 weeks	3 months	3-6 months	3-6 months	3-6 months	Up to 18 months	Up to 59 months	1 week as full diet 1 month for children
Cost/dose/ day (USD)	0.36/sachet	0.29/day	Super Cereal Plus 0.24/day Super Cereal: 0.11-16 / day	0.18/day	Super Cereal Plus 0.24/day Super Cereal: 0.11-16 / day		0.028/day	2.84/day
Manufacturer	Nutriset (Fr); Vitaset (DR); JB (Mad); Nutivita (I), Edesia (US); Diva (SA);	Nutriset (Fr); Edesia (US); Compact (I, N); Nutrivita (I);	Michiels fabrieken (B); CerFar (It); ProRata, Somill,	Nutriset (Fr); Edesia (US); Compact (I, N); Nutrivita (I)	Michiels fabrieken (B); CerFar (It); ProRata, Somill,	Nutriset (Fr); Edesia (US)	Global Health Initiative; DSM (Ch); Heinz (I); Hexagon (I);	NRG-5/BP-5: MSI (D), Compact (N), Biscuits: Nuova Biscotti (I);

[29] The default target group for prevention of acute malnutrition with LNS is children 6-23 months of age, but this may be expanded to children 6-36 months of age.

[30] The default target group for prevention of acute malnutrition with Super Cereal Plus is children 6-23 months of age, but this may be expanded to children 6-59 months of age.

	Compact (N, I); Tabatchnick (US); Challenge (US), Mana (US), Insta (Ke); local producers	Four producers in Pakistan	J&C (SA); Export Trading, Rab(Mal)		J&C (SA); Export Trading, Rab(Mal)		Piramal (I); Renata (Ban)	

Abbreviations: B= Belgium, Ban = Bangladesh, Ch = Switzerland, D = Germany, DR = Dominican Republic, Fr = France, I = India, It = Italy, Ke = Kenya, Mad = Madagascar, Mal = Malawi, N = Norway, SA = South Africa, US = United States of America

Note: Refer to the decision tool and guidance note in using this product sheet and following the decisions made on what type of products to use

* Quantity is referring to kcals in most cases

GNC MAM Taskforce PRODUCT SHEET, VERSION June 2014