

Nutrition interventions for older people in emergencies



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HelpAge International helps older people claim their rights, challenge discrimination and overcome poverty, so that they can lead dignified, secure, active and healthy lives.

Nutrition interventions for older people in emergencies

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This document provides general guidance for the implementation of emergency nutrition activities ensuring the inclusion of older people and addressing their specific needs. Its primary target is humanitarian actors working in the field – no specific knowledge of nutrition is assumed.

While the guidance recognises the connection between nutritional wellbeing, food security and health care it does not provide guidance on programming in these areas. These can be found in other HelpAge documentation.¹

At both global and field level, this guidance can also be used to highlight and advocate for the nutrition needs of older people in humanitarian crisis.

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The background

The right to adequate food is recognised in a number of international instruments and includes the right to be free from hunger. When asked about their needs in emergencies older people prioritise health and food alongside shelter. Adequate food and nutritional intake is critical for maintaining good health, and is hence a key determinant of people's ability to survive and recover from disasters. Older people have specific needs in relation to their general food intake, micronutrient requirements and palatability of food, which makes them particularly vulnerable to disruptions in food security.

Perhaps the single most important factor in determining the nutritional vulnerability of older people affected by emergencies is the attitude of humanitarian personnel who feel that older people “have had their day” or are “a waste of resources”. These attitudes mean that very few programmes are developed to meet the specific needs of older people and that the design of most humanitarian interventions unwittingly discriminates against them.

Source: Borrel A, *Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action*, HelpAge International Africa Regional Development Centre, 2001, Foreword

In emergency situations, older people may find it hard to access food. For example, when they are displaced, older people may face difficulties in registering for the general food rations, meet challenges in accessing food distributions (waiting in queues for long periods, competing with younger more aggressive beneficiaries), and difficulties transporting the food. These obstacles potentially undermine equal access. Additionally, older people may face difficulties eating the food provided, which might be different from their usual diet. They may be unable to chew the food, or unable to cook due to a lack of fuel.

In droughts and food crisis situations, where the price of food is generally high, older people, who are often among the poorest, are frequently unable to afford enough food for themselves or their families. Furthermore, in cases of food insecurity, older people may choose to give their ration to younger members of their family.

Despite the growing body of evidence related to older people's challenges in meeting their nutritional needs in emergencies, there are very few specific nutrition interventions targeting older people in humanitarian situations, in contrast to pregnant and lactating women and children under-five for whom targeted assistance is a well established practice.

1. *Health interventions for older people in emergencies* (available in French and English) and *Food security and livelihoods interventions for older people in emergencies* (available in French)
www.helpage.org/resources/practical-guidelines/emergency-guidelines

The World Food Programme (WFP) 2012 nutrition policy states that:

“In countries, provinces or districts where GAM prevalence is at least 10 per cent among children aged 6-59 months – or where it is 5-9 per cent, but aggravating factors exist – WFP will work with governments to strengthen and expand programmes for treating children aged 6-59 months with MAM and reducing undernutrition among pregnant and lactating women.”²

WFP’s position is representative of the approach taken by most major actors in nutritional response across the UN and NGO sector in which older people are generally not considered a priority.

The commitments

The United Nations defines older people as those 60 years of age and above. However, the definition should be adapted to local contexts. For example, in many developing countries, people aged 50 years are considered to be old due to cultural and social factors which contribute to this perception.

The right to food and to be free from hunger is a fundamental part of our human rights and of our understanding of living with dignity. The 1948 [Universal Declaration of Human Rights](#) enshrines the right to food in relation to an adequate standard of living. Article 25 states that “Everyone has the right to a standard of living adequate for the health and wellbeing of himself and his family, including food, clothing, housing...” It is also enshrined in the 1966 International Covenant on Economic, Social and Cultural Rights, and is protected by regional treaties and national constitutions.

The right to food is part of a wide range of factors that help us lead a healthy life. The Committee on Economic, Social and Cultural Rights, the body responsible for monitoring the [International Covenant on Economic, Social and Cultural Rights](#), calls these the “underlying determinants of health”. They include:

- safe drinking water and adequate sanitation
- **safe food**
- **adequate nutrition** and housing
- healthy working and environmental conditions
- health-related education and information
- gender equality.

Humanitarian principles affirm that everyone has the right to humanitarian assistance, following the principles of impartiality and non-discrimination: “...no one should be discriminated against on any grounds of status, including age, gender...” ([The Sphere Project 2011](#)).³

You should therefore be committed to including older people in your nutrition response in emergency situations, by assessing their needs and their nutrition status and ensuring that they are targeted in nutrition interventions.

2. *WFP Nutrition Policy*, 17 January 2012, Policy Issues, Executive Board First Regular Session Rome, 13-15 February 2012, Agenda item 5, document for approval

3. *The Sphere Project, Humanitarian charter and minimum standards in humanitarian response*, The Sphere Project, UK, 2011

Nutritional vulnerability of older people in emergencies

The underlying causes of malnutrition are usually grouped in three categories:

- household food insecurity
- inadequate care (health care, social care, etc.)
- unhealthy household environment and lack of health services (poor public health).⁴

These causes are often present in emergency situations, and increase the vulnerability of older people to malnutrition. Reciprocally they are likely to be magnified by older people's common vulnerabilities in emergencies: lack of family support, difficulty accessing services, lack of understanding of their needs, levels of disability etc. making older people often the most vulnerable group.

Nutrition needs of older people

In older age both the quality and the quantity of the diet are important to ensure that requirements for macronutrient and micronutrient intake are met. The nutrient density of the food (ie the amount of nutrient per 1,000kcal) should increase to compensate for lower energy intake. This also applies to proteins. The table on page 7 shows how energy intake and the body's needs for minerals and vitamins change with ageing.

As with the general population, older people need energy and a balanced diet. See more recommendations about older people's balanced diet in [Annex 2](#).

Risk factors for older people's nutrition in emergencies

As it ages, the human body's composition of fat and muscle changes, influenced by modified hormonal activity. There is a progressive loss of muscle and an increase in fat stores. With muscle loss, people's ability to move and maintain balance is affected, making falls more likely, and limiting their ability to flee or fight in case of danger.

Adults with reduced appetite due to illness, psychosocial stress, age or disability often face a range of nutritional risks that can be further exacerbated in an emergency. This may lead to an inadequate energy and micronutrient intake at a time when the body needs it most:

- Tooth loss, gum disease and difficulties chewing and swallowing have serious nutritional consequences as less, or more limited selections of food are taken.
- Sensory loss and other physical problems affect older people's ability to access adequate food and sunlight (important for healthy levels of vitamin D).
- Individuals with reduced mobility or eyesight are at particular risk of being separated from immediate family (or caregivers) in a disaster. Consequently finding foods they can easily eat, carrying bags or baskets or cooking and cleaning may become unmanageable tasks.
- Loss of vision and hearing may contribute to social isolation, and eating alone may lead to poor appetite. Not surprisingly, the prevalence of undernutrition is high among those who are homebound or bedridden, and those who have high levels of sensory impairment.
- Older people are more vulnerable to dehydration, whether it is caused by hot weather or a health condition (eg diarrhoea, cholera), and it is important to make sure that they have access to safe drinking water.
- The immune system is declining with age. It is compromised by nutrient deficiencies. A combination of age and malnutrition makes older people more vulnerable to infectious diseases.

4. UNICEF Framework for malnutrition, http://conflict.lshtm.ac.uk/page_138.htm

Summary of selected nutrient concerns in older people⁵

| Nutrient | Effect of ageing | Comment |
|--------------------|--|---|
| Energy | Body's need for energy decreases with loss of muscle mass and a decline in physical activity | Physical activity moderates the decline |
| Protein | Needs may stay the same or rise slightly | Possible increase in requirements due to higher intakes may contribute to a stronger immune system |
| Iron | In women, iron status improves after menopause. Deficiencies among both sexes are linked to chronic blood losses (hookworm, schistosomiasis) and low stomach acid output | Adequate stomach acid is needed for absorption of iron. Antacid or other medications may aggravate iron deficiency. Vitamin C and red meat increase iron absorption |
| Calcium | Intakes may be low. Osteoporosis is common, especially in post-menopausal women | Stomach discomfort limits milk intakes. Calcium substitutes or supplements may be needed |
| Vitamin B12 | Atrophic gastritis is common, reducing vitamin B12 absorption | Deficiency causes neurological damage and psychological troubles (depression). Supplements may be needed |
| Vitamin D | Likelihood of inadequate intake is increased due to a reduction in skin synthesis | Sunlight exposure (only in moderation) or supplements may be beneficial |
| Fibre | Likelihood of constipation increases with lower food intake and changes in the gastrointestinal tract | Inadequate water intake and a lack of physical activity, along with certain medications, may compound the problem |
| Water | Lack of thirst and decreased total body water make dehydration likely | Mild dehydration is a common cause of confusion. Difficulty obtaining water or getting to the toilet may also compound the problem |

5. The Harmonised Training Package (HTP): Resource Material for Training on Nutrition in Emergencies, Version 2 (2011), Module 23, Version 1 (2013) *Nutrition of older people in emergencies*, HelpAge International, NutritionWorks, Global Nutrition Cluster

Social factors have an impact on older people's welfare and nutritional status. Poverty, psychological and emotional conditions (such as depression or bereavement) have an influence on the diet, but one of the most important risk factors for an older person is isolation, whether it is due to the loss of their family or to the indifference of the surrounding community. Some studies have shown that older people who are left on their own are likely to suffer from psychiatric morbidity, and also more likely to die.

Malnutrition in Chad: the impact of disability and health care access

HelpAge International carried out a nutrition survey among people aged 60 and above in a district in Chad in July 2012, during a Sahel food crisis. The rate of global acute malnutrition (using MUAC and oedema-based criteria) was 6.1 per cent (95% CI = 4.0; 9.1).

Risk factors significantly associated with malnutrition were related to:

- ageing
- having a low score for activities of daily living and hence a limited ability to access food
- having disabilities (poor eyesight and poor hearing)
- not attending a health facility when sick
- being bedridden.

The survey clearly shows the importance of understanding the impact of health on older people's malnutrition.



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Resources

Recommendations on nutrient intakes and physical activity: *Keep fit for life: Meeting the nutritional needs of older persons*, World Health Organization and Tufts University School of Nutrition and Policy, 2002, <http://whqlibdoc.who.int/publications/9241562102.pdf>

How to meet the nutritional requirements of people of different ages: *The basics of nutrition, Technical and Research Department, Module 1*, Action Contre la Faim, France, 2007, www.actioncontrelafaim.org/sites/default/files/publications/fichiers/version_1_module_the_basics_of_nutrition__2007_0.pdf

Nutrition needs of older people: Borrel A, *Addressing the nutritional needs of older people in emergency situations in Africa: Ideas for action*, HelpAge International, Africa Regional Development Centre, 2001, www.forcedmigration.org/sphere/pdf/food/helpage/nutritional-needs.pdf

Good nutrition in later life, HelpAge International website, www.helpage.org/resources/practical-guidelines/health-and-care-guidelines

The action points

These guidelines recommend some key action points for addressing the nutrition needs of older people in emergencies. Some follow the minimum standards defined by the Sphere Project ([The Sphere Project 2011, Minimum standards in food security and nutrition](#)) and are adapted specifically for older people.

They are not exhaustive but they provide guidance for basic nutrition interventions.

Key action points to address nutrition interventions for older people in emergencies

Action point 1:

Assess the food situation of older people

- Get to know the national policy on nutrition.
- Collect information on recent food security and anthropometric surveys.
- Collect information on food availability, access, consumption and utilisation.
- Gather information on the food interventions currently in place.
- Get information on the functioning of the health system, as food responses are often delivered through existing health structures.
- Include gender analysis in the assessment.
- Involve older people in the needs assessment through focus group discussions and individual meetings.

Action point 2:

Assess the nutritional status of older people

- Middle upper arm circumference (MUAC) is the best tool to assess the nutritional status of older people. Also look for malnutrition oedemas.
- HelpAge is recommending to use the following case definition for acute malnutrition: moderate acute malnutrition (MAM) when MUAC <210mm, severe acute malnutrition (SAM) when MUAC <185mm or when presence of oedema.
- Use MUAC in nutrition surveys, set up screening points at reception areas in displaced people's camps, train community workers to use it while visiting older people at home.
- Organise nutrition surveys and assess the presence of potential risk factors, using sound sampling and analysing methods.

Action point 3:

Plan nutrition interventions for older people

- Adapt the general food ration to the needs of older people: evaluate its energy composition and micronutrient content, assess the acceptability of the food products (palatability, chewability, digestibility).
- Set up blanket supplementary feeding programmes to prevent acute malnutrition in older people, by complementing the general food ration.
- Organise supplementary feeding programmes to treat moderate acute malnutrition in older people and prevent them from becoming severely malnourished: eg organise fortnightly distributions of specific dry rations, providing 1,000 to 1,500kcal/person/day.

- Put in place community-based management of severely acutely malnourished older people for therapeutic feeding programmes: this includes community mobilisation for active case-finding, outpatient care for older people with uncomplicated SAM, inpatient care for older people with SAM and acute medical complications, and management of MAM through supplementary feeding. Specific food products are needed.

Action point 4:

Prevent and treat micronutrient deficiencies

- Micronutrient deficiencies have severe consequences for older people's mental and physical health, their immune system and their functional abilities.
- Strategies for preventing micronutrient deficiency include the promotion of diet diversity and balance such as provision of fresh food items, provision of fortified foods, or distribution of micronutrient supplements.

Action point 5:

Monitor and evaluate your projects

- Use *The Minimum Reporting Package (MRP) for Emergency Supplementary and Therapeutic Feeding Programme: User Guidelines* to monitor your programmes: it consists of guidelines on what data to collect, and software for standard analysis and reports.
- Evaluate the coverage of your programmes with SQUEAC (Semi-Quantitative Evaluation of Access and Coverage) and SLEAC (Simplified LQAS Evaluation and Coverage).

Action point 6:

Build partnerships

- Be an active member of the country nutrition cluster, or the equivalent national coordinating authority.
- Develop strategies to work with NGOs already involved in selective feeding programmes, to include a component on the management of geriatric acute malnutrition.

Action point 7:

Advocate for older people's right to nutrition

- Gather and share reliable sex-and age-disaggregated data and make evidence-based recommendations to the cluster partners and with the various relevant levels of the relevant ministry to raise awareness of the numbers and vulnerabilities of older people.
- Coordinate with international and local partners who share a similar goal.
- Advocacy messages include: older people are a vulnerable group for malnutrition. They should be included in national nutrition strategies. Community-management of acute malnutrition is a valid strategy for the management of older people with severe acute malnutrition.

Action point 1: Assess the food situation of older people

The Inter-Agency Standing Committee (IASC) multi-sector initial rapid assessment ([MIRA](#)) is an assessment tool used by key stakeholders during the first two weeks of a sudden-onset disaster (within 72 hours of a disaster and at the end of the second week).

The MIRA includes a pool of questions that humanitarian country teams can use to develop and adapt assessment questionnaires specific to their context. The pool of questions is currently being revised, but the questions do ask for some information on food security and nutrition. Initial rapid assessments will thus provide some insight into the food security and health and nutritional status of the general population. However, it is important that you develop a precise description of the situation of older people, and knowledge of the different stakeholders. This information will form the basis of your programme design and advocacy, and ensure the nutritional needs of older people are met.

This section outlines the specific issues, policies and actors you need to gather information on, the levels at which this data can be found, and the approaches you should use to collect it.

Information to gather

1. Get to know the national policy on nutrition

- What are the national policies, guidelines or protocols concerning the management of malnutrition?
- Are older people identified as a vulnerable group and a target group in these guidelines? If no:
 - Why not?
 - Identify the constraints which result in older people not being considered as a target group: eg lack of resources, lack of knowledge on older people's nutrition, no acknowledgment of older people as a vulnerable group.
- Is there a national guideline for the treatment of adult malnutrition? eg management of malnourished adults living with HIV or AIDS.

2. Collect information on recent food security and anthropometric surveys

It is important to have an idea of the local food security situation and to know if the nutritional status of the population has been assessed.

3. You will need information on food availability, access, consumption and utilisation

- What do people normally eat?
- What are people eating now in this emergency context? Are older people eating differently and if yes, what are they eating?
- Which basic foods are available in the local markets, and at what price: check for staple foods based on what people have told you they normally eat (eg maize, rice, sorghum) as well as fruits, vegetables, meat, fish and eggs, milk and dairy products.⁶
- How many meals do people usually eat per day?

6. More detailed guidance on markets assessment can be found in HelpAge's emergency food security and livelihood guidance: *Food security and livelihoods interventions for older people in emergencies* (available in French and English) www.helpage.org/resources/practical-guidelines/emergency-guidelines



Food and nutrition information

Institutional sources

- Ministry of Health
- WFP
- UNICEF
- Clusters
- International and national NGOs
- Religious organisations

Primary sources

- Rapid household survey
- National and local health authorities
- Health staff at primary health care level
- Community health workers
- Traditional health practitioners
- Community and religious leaders
- Older women and men
- Market sellers and shop owners

7. For more information on accessibility of registrations and distributions please see *Protecting older people in emergencies: good practices*, HelpAge international and UNHCR 2012, www.helpage.org/download/4f2bcb851f1b4

8. More details on health service/system mapping can be found in HelpAge's emergency health guidelines: *Health interventions for older people in emergencies* (available in French and English), www.helpage.org/resources/practical-guidelines/emergency-guidelines

4. Gather information on the food interventions currently in place

4a. Is there a general food distribution? If yes:

- Which foods are being distributed (type and quantity)?
- By whom?
- How often is food distributed?
- Is the food distribution organised in a way that makes it easily accessible to older people? (eg are older people included in a priority line? Is the food ration easily transported to their home?)⁷
- What do people need to access the general food distribution? Do they need to be registered? If yes:
 - Is the registration accessible for older people?

4b. Other food interventions

- Is there a blanket food distribution?
- Are there projects of targeted supplementary feeding?
- Are there projects of therapeutic feeding?

For these three types of food intervention, identify the following information:

- Who is implementing them? Who is providing the food?
- In which geographical area(s) are the programmes implemented?
- What is the duration of the project? (Some blanket feeding programmes are only seasonal.)
- Which target groups do the projects cover?
- What are the inclusion or admission criteria?
- Are older people included in the target groups?
- What is the composition of the food basket (types of food and quantity)?
- How often is the food distributed?
- What are the mechanisms of distribution? eg registration, place of distribution (health centre or other facility), transparency in beneficiaries' selection.

5. If you are planning a nutrition intervention, you will also need to have an idea of the functioning of the health system, as food responses are often delivered through existing health structures⁸

- Type, number and location of health facilities in the area you will target with your nutrition intervention (health posts, clinics, health centres, referral hospitals), and health services available at each level (eg primary health care, inpatient care, laboratory exams, surgery, X-ray). Map public and private health facilities, as well as those managed by international NGOs.
- Partners involved in health service delivery including the various levels of national health authorities, local and international NGOs and private providers.
- Number, gender and qualifications of health staff in each PHC facility (community health workers, home-based carers, nurses, medical assistants, medical doctors).
- Are staff receiving a regular salary? (This helps to assess the motivation of the health staff, and the level of functioning of the services.)
- Availability of community-based health activities? Do they target older people? Who is performing them? (Are they volunteers? Do they receive any incentives?)
- Are staff at the different levels of the health system trained in older people's health needs and health care?

- Do older people pay for health services? What is the cost of consultations, laboratory exams, essential drugs and hospitalisation?
- Are essential drugs available? Is the supply regular? Where do the drugs come from (local market, national warehouse)? Is there any quality control?
- Are essential drugs for chronic diseases available?

6. Include gender analysis in the assessment

Analyse the impact of the possible food crisis on older women and older men. Assess whether the available services meet the needs of older women and men equally, and whether older men and women can access food services equally.⁹

How to find the information

There are many different sources of information, so you should cross-reference the information you collect by using several sources. In general, you will need to:

- **Meet officials at central and local levels** of the national institution responsible for humanitarian or food assistance (Ministry of Health, but sometimes other ministries or special bodies are involved) to collect information about the structure of the humanitarian coordination and the health system using the guidance on page 11.
- **Meet with international and national agencies and NGOs** (including the private sector and religious institutions), cluster leads (UNICEF and WHO), WFP and the Office for the Coordination of Humanitarian Affairs (OCHA). They will have the recent surveys on food security and nutritional status.
- **Carry out field visits** to gather primary data and collect observations to help you understand the food situation, the number and quality of health facilities and the partners involved, as well as to build your knowledge of the community, including older people. Visit some markets in the area you are targeting to assess food availability and price.
- **Observation and rapid household survey:** you can make some observation of food stocks at household level, and there are some tools for assessing the diet diversity (diet diversity score, DDS) or even measuring household hunger in food insecure areas (household hunger scale, HHS). See “[Resources](#)” below.

Older people’s participation in the assessment is essential. You can organise group discussions with older people, making sure that men and women have equal opportunities to express their opinion. Some older people have key positions in the community, for example traditional birth attendants are often older women and it can be very useful to have their opinion on the health system, access to health care and food services, and community care mechanisms. Have semi-structured interviews with these key informants.

Resources

[Diet diversity score](#): Swindale A, Bilinsky P, *Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide, version 2*, Food and Nutrition Technical Assistance (FANTA), USAID, Washington DC, September 2006

[Household hunger scale](#): Ballard T, Coates J, Swindale A, Deitchler M, *Household Hunger Scale: Indicator Definition and Measurement Guide*, FANTA-2 Bridge, FHI 360, Washington DC, August 2011

The Sphere Project 2011: Food security and nutrition assessment standard 1: Food security. “Where people are at increased risk of food insecurity, assessments are conducted using accepted methods to understand the type, degree and extent of food insecurity, to identify those most affected and to define the most appropriate response.” www.spherehandbook.org/en/food-security-and-nutrition-assessment-standard-1-food-security

9. More guidance on conducting age and gender analysis can be found in HelpAge’s emergency needs assessment guidance: *Ensuring inclusion of older people in initial emergency needs assessments*, www.helpage.org/resources/practical-guidelines/emergency-guidelines

Action point 2: Assess the nutritional status of older people

In parallel with their food situation, it is essential that you assess the nutritional status of older people. In emergency situations, it is very unlikely that anthropometric or population surveys will include older people. Instead they will almost always focus on children and may include pregnant and lactating women. As a consequence, older people are rarely considered as a vulnerable group for nutrition issues, as their nutritional status is unknown.

This section reviews the tools that you should use to assess malnutrition in older people (MUAC and malnutrition oedema), and the methods for doing so, with a specific outline on how to conduct a nutrition survey for older people.

The end of the section is about risk factors assessment.

Assessment tools

The best way to assess the nutritional status of older people as a group is to measure their **middle upper arm circumference (MUAC)**. This method is easy to learn and it can be taught to health workers at various levels of the health system, including community health workers and community-based volunteers.

In contrast to the body-mass index (BMI), the MUAC can be measured for all older people, even if they are bedridden or unable to stand, and it is not affected by the body shape. It can thus be used with all ethnic groups, with the same thresholds for defining malnutrition prevalence.

As well as MUAC measurements you should also look for **malnutrition oedema** – bilateral pitting oedema affecting the lower limbs (additionally sometimes the face gets swollen or the abdomen develops ascites).

HelpAge International recommends the following **case definition for the nutritional status of older people, based on oedema and MUAC criteria:**

| Indicator | Classification |
|-------------------|-----------------------------------|
| MUAC \geq 210mm | Normal |
| MUAC <210mm | Moderate acute malnutrition (MAM) |
| MUAC <185mm | Severe acute malnutrition (SAM) |
| Oedema | Severe acute malnutrition |

Assessment methods

To get a clear understanding of the nutritional status of older people it is useful to assess it in different contexts:

- You might measure the MUAC of all older people while doing an **exhaustive household survey** to obtain the actual prevalence of malnutrition in the surveyed population.
- In displacement camps, you should establish a **MUAC screening point for older people** at the reception or the registration area, as part of a vulnerability assessment of all new arrivals.
- In large areas or camps where you want to have an idea of the rate of malnutrition for all older people, you will need to carry out a **nutrition (or anthropometric) survey of the population by taking a sample from this population**. This will provide you with an estimate of the prevalence of malnutrition in the sample which you can apply to your target population.

Nutrition survey

Assessment involves estimating the prevalence of GAM, MAM and SAM using the case definitions defined above, usually with a cross-sectional survey method. It may also be useful to collect data on risk factors and risk markers for malnutrition as well as other needs assessment data.

The **objective of a nutrition survey** of older people is to assess the prevalence of moderate and severe acute malnutrition in people aged 60 years and over, in a specific population (the age group can vary according to the country's definition of "old", by default 60 is the lower age limit).

If you could, you would survey the entire older population in your target area; however, this is not feasible and therefore you will need to rely on **sampling methods**.

Here, the **goal of sampling** is to estimate a measure in a larger population. In order for this estimated measure to be as accurate as possible, the sample must be representative ie the measurements are taken from a population fraction that should have the same characteristics as the rest of the target population.

Technically, a **representative sample** means that:

- Each individual or sampling unit in the population has a known non-zero probability of being selected (the same chance).
- The selection of one individual should be independent of the selection of another.

If you have an accurate list of all basic sampling units (eg individuals or households), you can use systematic or simple random sampling: select a random number n , and sample every n th household in your list. If you do not have this list of sampling units, you will use cluster sampling.



Pascale Fritsch/HelpAge International

a. Cluster sampling

In this sampling method, the sampling units are selected from inside groups named “clusters”. Cluster sampling is less expensive due to the geographical proximity of the units to sample and it does not require a complete list of basic sampling units. However, it does reduce the precision of the prevalence estimate.

You will generally use a **minimum of 30 clusters**: a larger number of clusters leads to improved precision in the results of your survey.

The sampling is done in two stages:

Stage 1

- The entire population is divided into small, distinct geographic zones, such as villages or sections.
- You can either estimate or know the size of the population in each village or section.
- Clusters are then randomly selected from these villages or sections, using a sampling with **probability proportional to the size of the population** ie the probability of each village or section being selected is proportional to the size of its population.

Stage 2

The first household in each cluster is chosen randomly from the villages or sections selected to host one or more clusters.

b. Sample size

To estimate the sample size for a single survey, you need to know:

d = design effect (assumed to be 1.5 for a cluster sampling)

t = confidence interval (1.96 for 95 per cent confidence interval)

p = estimated prevalence of global acute malnutrition

γ = precision (ie half-width of the 95 per cent confidence interval):
generally 3 or 5 per cent

The formula is as follows: $n = d \cdot \frac{t^2 \cdot p \cdot (1-p)}{\gamma^2}$

There are also websites which can help you to calculate your sample size such as Sampsiz (<http://sampsiz.sourceforge.net/iface/index.html>) where you will need to know:

- the population size of your target group
- the estimated prevalence of global acute malnutrition
- the precision (3 or 5 per cent)
- the level of the confidence interval (95 per cent).

Once you know your sample size, you can calculate how many older people should be included in each cluster (ie sample size divided by the number of clusters).

c. Organisation of the survey

Each team of surveyors should be composed of three people: a team leader, in charge of managing the team and responsible of the observance of the field procedures, and two enumerators, in charge of measuring the MUAC.

The number of teams that you will need to carry out the survey depends on several factors:

- **The geographical coverage of the survey**: is it a large area? Are all the cluster locations easily accessible (take into account constraints such as rainfall and areas difficult to reach by car)? Can your teams go back to your base every day after surveying their assigned clusters, or do you have to plan for them to stay overnight?

- **Your supervision capacities:** ideally, you need one supervisor per team, especially at the beginning of the survey. If the surveyors are already experienced in surveys for older people, you might need less supervision, though each survey is different. The number of supervisors you need also depends on the geographical area: eg in displaced people's camps, the areas to cover generally allow for one supervisor to visit two teams in one day.
- **The number of clusters:** one team is generally able to survey two clusters per day (depending on the cluster size, and the distance between the two cluster locations).
- **The length of your questionnaire:** it is common that nutrition surveys not only measure MUAC, but also gather information on the food situation, and the social and/or health status of the older people, to try and identify risk factors and risk markers associated with malnutrition. See [Annex 3](#) for an example of a questionnaire.
- **The number of days** in which you have to achieve the survey (though it is always better to adapt the number of days to the number of teams): the more teams you have, the quicker the survey can be achieved.

You will need to **train the teams** on the objectives of the survey, the basics of sampling, MUAC measurement, questionnaire practice (with translation practice) as well as field procedures. The training usually lasts three to four days, including one day of field testing.

d. Data analysis and report

Once your survey is completed, you need to analyse the data to determine the prevalence of malnutrition in your target population, with a confidence interval of 95 per cent. It is recommended to have the support of an epidemiologist in the process, to obtain robust data.

If you have a questionnaire with data on potential risk factors, it is even more important to analyse the data with an epidemiologist, as the interpretation of results can be very difficult.

Assess the presence of potential risk factors

There are numerous risk factors that can potentially affect the nutritional status of older people, as discussed on page 6. Examples are listed in [Annex 4](#). To complete your assessment, it is important to identify which are the most important factors in the present context. These data are often useful and important, and should be included in any risk assessment.

Risk factors and vulnerability can be assessed through specific surveys (if this is the case, include MUAC measurement as one of the data to collect), or by including questions about risk factors in the questionnaire of your nutrition survey, or by organising focus group discussions with older people and their communities.

Resources

SMART (Standardised Monitoring and Assessment of Relief and Transitions) methodology: description of the SMART methodology, standardised training package (procedures and tools), www.smartmethodology.org

Free software to facilitate data entry and minimise the risk of errors when you enter the data from the questionnaires: "Epidata Entry", www.epidata.dk

The Sphere Project 2011: Food security and nutrition assessment standard 2: Nutrition. "Where people are at increased risk of undernutrition, assessments are conducted using internationally accepted methods to understand the type, degree and extent of undernutrition and identify those most affected, those most at risk and the appropriate response", www.spherehandbook.org/en/food-security-and-nutrition-assessment-standard-2-nutrition



Benjamin Schilling/HelpAge International

Action point 3: Plan nutrition interventions for older people

This section describes the different nutrition interventions for older people. After reviewing the criteria for interventions, it outlines the general food ration, blanket supplementary feeding, the criteria for the management of MAM and SAM in older people, supplementary feeding programmes, and community management of acute malnutrition (CMAM).

The Sphere standards related to SFP and TFP can be found in [Annex 5](#).

When to intervene

Once you have assessed the food situation and the nutritional status of older people, you must decide whether or not there is a need for a nutrition intervention.

There are several tools you can use to assess the magnitude of an emergency.

One of the most common is the FAO's [Integrated Food Security Phase Classification](#)¹⁰ which uses a set of indicators on health, nutrition, food security, water and sanitation and livelihood to classify a humanitarian situation in five phases, from “generally food-secure” to “famine/humanitarian catastrophe”.

Another tool is the **WHO decision chart for the implementation of selective feeding programmes**. The tool uses the prevalence of acute malnutrition in children under-five to justify decisions and is summarised in the table on page 19.

Even though these criteria do not relate to older people's needs, they are indicators of the seriousness of the food situation. If there is a need for the children population, and knowing the vulnerability of older people to malnutrition, the situation reveals a need for older people too. As time is a key factor to prevent high subsequent mortality rates, interventions for older people should therefore be planned as well.

10. More guidance on conducting age and gender analysis can be found in HelpAge's emergency needs assessment guidance: *Ensuring inclusion of older people in initial emergency needs assessments*, www.helpage.org/resources/practical-guidelines/emergency-guidelines

Decision chart for selective feeding programmes

| Findings | Situation | Action required |
|--|-------------------------|--|
| Food availability at household level below 2,100kcal per person per day | Unsatisfactory | <ul style="list-style-type: none"> • Improve general ration until local food availability and access can be made adequate |
| Malnutrition rate 15 per cent or more* <i>or</i> 10-14 per cent with aggravating factors** | Serious/critical | <ul style="list-style-type: none"> • General ration (unless situation is limited to vulnerable groups) <i>plus</i> • Blanket supplementary feeding generalised for all members of vulnerable groups • Therapeutic feeding programme for severely malnourished individuals |
| Malnutrition rate 10-14 per cent* <i>or</i> 5-9 per cent with aggravating factors** | Risky | <ul style="list-style-type: none"> • No general rations <i>but</i> • Supplementary feeding targeted at individuals identified as malnourished in vulnerable groups • Therapeutic feeding programme for severely malnourished individuals |
| Malnutrition rate between 5-9 per cent* with no aggravating factors | Poor | <ul style="list-style-type: none"> • Continue to monitor the situation |
| Malnutrition rate under 5 per cent* | Acceptable | <ul style="list-style-type: none"> • No need for population interventions • Attention to malnourished individuals through regular community services |

Based on [The management of nutrition in major emergencies](#), WHO, Geneva, 2000

* In this document, the prevalence of malnutrition is defined as the percentage of the child population (6 months to 5 years) who are below either the reference median weight for height – 2SD or 80 per cent of reference weight for height.

** Aggravating factors (for children 6 to 59 months):

- general food ration below the mean energy requirement
- crude mortality rate more than 1/10,000 people/day
- epidemic of measles or whooping cough
- high incidence of respiratory or diarrheal diseases.

These criteria apply to children under-five but, in the absence of specific data on older people, they should be used as interventions criteria for older people as well.

Based on available indicators on the nutritional status of older people, you would need to implement a nutrition intervention when:

- the prevalence of GAM in older people is reaching 5 per cent *or*
- the percentage of older people in the population suggests that more than 30 older people are at risk of SAM *or*
- there are aggravating factors such as:
 - a general food ration below 2,100kcal per person per day
 - a disease outbreak (eg cholera or malaria)
 - inadequate safe water supplies and sanitation
 - inadequate shelter
 - war and conflict, civil strife, migration and displacement.

How to intervene

The nutrition interventions for malnourished older people include supplementary and therapeutic feeding programmes. They also include ensuring that older people have access to an adequate general food ration, whether there is a general food distribution or not.

General food ration

The general food ration should:

- provide at least 2,100kcal per person per day
- be balanced in terms of food diversity
- include carbohydrates and proteins (10 to 20 per cent of total energy ration) *and*
- include some fats (17 per cent of the energy ration) *and*
- include a provision of vitamins and minerals.

In case of a general food distribution, you should also ensure that these foods are palatable for older people (in terms of acceptance, chewability and digestibility), and are accessible to them within the household (ie that older people are actually receiving their full ration).

Based on your food assessment, you should be able to evaluate the energy, composition and micronutrient content of the average household food ration. There are free computer programmes that allow you to calculate these contents, such as [NutVal](#) or [NutriSurvey](#). Some more can be found on the FAO website, www.fao.org/infoods/infoods/software-tools/en

If micronutrients are missing in the general food ration, you should advocate for food fortification. If the energy requirements and the diet balance are not met by the general food ration, you should advocate for food supplementation.

Blanket supplementary feeding for older people

Blanket supplementary feeding programmes (blanket SFP) should only be needed as temporary solutions, for a fixed duration, and for a defined population.

They may be established in one or a combination of the following circumstances:

- At the onset of an emergency when general food distribution systems are not in place.
- When there are problems in distributing the general ration.
- When prevalence of acute malnutrition is equal to or greater than 15 per cent in the under-five population.
- When prevalence of acute malnutrition is 10-14 per cent in the under-five population, in presence of aggravating factors.

- If anticipated increases in rates of malnutrition due to, for example, seasonally induced epidemics, are identified.
- In case of micronutrient deficiency disease outbreaks, to provide micronutrient-rich food to the target population.

Depending on your situation analysis, your **target group** might be all people above a certain age (eg 50 or 60), or the most vulnerable older people with vulnerability factors as outlined on page 20 and in [Annex 4](#).

If possible, **MUAC screening** is done when entering the programme, to ensure older people 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.

The content of the **food basket** should complement the general food ration, ie provide the missing energy and micronutrients requirements. You can use appropriate local foods, corn soya blend (CSB), sugar, oil and high-energy biscuits.

Basket SFP for older people in Darfur

In Darfur, HelpAge International is implementing a basket supplementary feeding programme for older displaced people living in 12 camps. Every month, around three thousand vulnerable older people are provided with food baskets consisting of oil, sugar and CSB.

Vulnerable older people are older people referred from HelpAge's supplementary feeding programme, displaced older people who have recently arrived at the camps with urgent needs, and who do not have WFP cards, and older people with limited access to food.

Gina Bramucci/HelpAge International



Individual nutritional status does not need to be monitored for the duration of the blanket SFP, because the objective is to provide nutritional support at population level (ie prevent development or deterioration of malnutrition). It is not possible to classify individual outcomes (except, in some cases, for defaulting).

Blanket SFP is sometimes distributed through the same channels as used for the general food distribution, and sometimes as stand-alone distributions.

Distribution should take place every two weeks or every month, and be adapted to the food items and to the capacity of older people to carry the food home.

Criteria for the management of moderate and severe malnutrition in older people

When older people are malnourished, they need to be treated according to the following criteria:

| Indicator | Classification | Action required |
|-------------------|-------------------------------|---|
| MUAC \geq 210mm | Normal | Screen again within 30 days |
| MUAC <210mm | Moderate acute undernutrition | Refer to supplementary feeding programme (SFP) and follow-up |
| MUAC <185mm | Severe acute undernutrition | Refer to therapeutic feeding programme (TFP) for clinical screening and follow-up |
| Oedema | Severe acute undernutrition | Refer to TFP and follow-up |

Supplementary feeding programmes for moderately malnourished older people

This section includes:

- Admission and discharge criteria
- Planning, opening and closing
- Organisation
- Follow-up during treatment

Gacheru Maina/HelpAge International



The objectives of targeted SFP for older people are primarily curative, aiming to:

- rehabilitate moderately acutely malnourished older people
- prevent moderately acutely malnourished older people from developing SAM
- prevent malnutrition in selected individuals at risk
- provide follow-up and rehabilitation to referrals from therapeutic feeding programmes
- build skills and capacity of carers and family, including their knowledge of older people's nutritional needs.

a. Admission and discharge criteria

Admission and discharge criteria for targeted SFP rely on anthropometric indicators of acute malnutrition and/or indicators of vulnerability. If resources are limited, cut-off points may need to be lowered so that fewer individuals are enrolled in the programme.

Admission of older people depends on diagnosis of MAM through oedema and MUAC-based criteria:

185mm ≤ MUAC < 210mm without bilateral pitting oedema.

Broad definitions for **admission categories** are:

- A new admission is defined as an individual who has been directly admitted to the programme because he or she meets the entry criteria.
- A re-admission is defined as an individual who has been admitted to the programme after having been successfully discharged in the last two months (sometimes called “relapse”), or an individual who has been re-admitted after having defaulted from the programme in the last few weeks and still meets the entry criteria.

Those who have moved in from other SFP sites are not counted as admissions to the programme, as they have already been on treatment in another SFP site. They should be counted as “transfers-in”. 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 people taken charge of in the SFP site).

Discharge is usually based on the same criteria as admission, ie older people are discharged as cured or recovered when their **MUAC reaches 210mm for two consecutive visits** (usually weekly or fortnightly visits).

Some individuals do not reach the criteria to be discharged as cured or recovered and are hence categorised using one of the following discharge categories:

- **Death:** an individual who has died from any cause while registered in the programme.
- **Defaulter:** an individual who is absent for two 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 person decides to re-enter the programme, they are re-admitted and the re-admission is classified as explained above.
- **Non-cured/non-responder:** an individual who has not reached discharge criteria after a pre-defined length of time (usually three or four months) despite all investigations and transfer options. If an individual does not show any improvement after the first few weeks, or if an individual who was improving shows a decrease in the rate of the weight gain, it is important that all appropriate investigations are undertaken immediately to establish a reason for the lack of recovery.
- **Older people who 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 who have been transferred to other SFP sites have not ended the treatment and should not be included in performance indicators. Those who have been moved to other SFP sites, or who have been transferred out, are generally recorded separately.

SFP for older people in Darfur

In Darfur, HelpAge International is implementing a supplementary feeding programme for malnourished and extremely malnourished older displaced people.

Every month, 1,700 malnourished, isolated or housebound older people are receiving a supplementary food basket composed of rice, lentils, groundnut oil, salt, fenugreek, powdered milk, sugar and wheat flour. These products are rich in macronutrients (carbohydrates, proteins, fats and water) and micronutrients (vitamins and minerals) and provide an additional 917kcal.

In 2011, 4,542 older people were admitted on MUAC-based criteria and 2,143 were discharged after recovery (nutritional status stable or improved after four months).

Kate Hol/HelpAge International



b. Planning, opening and closing

It is essential to **engage communities** in the discussion of appropriateness and design of SFP. Older people (especially women) should be involved in the programme's design. The entire community should be informed of its objectives, and encouraged to ensure that food reaches the targeted vulnerable individuals. In addition to consultation with community members during the design of the SFP, community members such as traditional healers or representatives of older people's associations can be engaged in community outreach programmes, strengthening programme coverage. Community health workers and community-based volunteers should be trained to frequently perform MUAC screenings.

If community members are not aware of the aims of the programme, or the criteria for admission and discharge, or there is limited community prioritisation of treating moderate acute malnutrition (because it may be harder to detect within the household as compared to SAM), the community is unlikely to utilise the SFP services.

It is always preferable to integrate nutrition activities for older people in existing programmes for other age groups (usually under-five children and pregnant and lactating women), and to coordinate the activities with the agency or services targeting these groups. However, different age groups will still have different clinic days.

If possible, targeted SFP 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 will be run in relation to other services.

Often in emergencies where health care is poor, SFP are run by **mobile services**. In such cases it is important to assess the context and what health services are available when planning your SFP. Then you can include additional medical staff in the SFP team as well as providing essential medical supplies where appropriate.

Although criteria for closure, and an exit strategy, should be planned from the outset of the project, the final decision to close should always be made in consultation with the other actors involved in the emergency response. Local authorities and community representatives are especially important to consult. The decision should also draw on population level assessment of nutrition status.

When feasible and appropriate, a gradual process of **handover and integration** into local primary health services, community health programmes like healthy living, HIV and AIDS, and management of chronic diseases should be undertaken.

For child SFP, it is usual practice to close down a programme when there are fewer than 30 beneficiaries. This criterion should be adapted for older people who represent a smaller percentage of the population: **fewer than eight older beneficiaries could be used as criteria.** 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 the prevalence of under-five acute malnutrition is <5 per cent (in the presence of aggravating factors) or <10 per cent (with no aggravating factors) but the absolute number of malnourished older people 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 to open a blanket SFP rather than a targeted SFP for older people?¹¹

In some situations, it will be inappropriate or impossible to target food only to some older people. Blanket supplementary feeding may be preferable when:

- **The general ration is delayed and there is a critical food shortage, or there are significant public health risks as a result of an epidemic, where all older people are affected equally.**
- **The majority of the population are older people ie the rest of the population has already fled or moved to other areas in search of food or safety.**
- **Where the community objects strongly to a targeting strategy and insistence on doing so will exacerbate conflict in the community.**

c. Organisation

Sites should be selected that are easily accessible¹² and well distributed geographically to ensure that older people are less than a day’s return walk from the site including distribution time. Sites should be selected with consideration of personal safety, especially in insecure areas.

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

Ideally, **adequate shade** (trees, simple shelters), a supply of drinking water and somewhere to sit (benches or mats) should be provided for older people and other vulnerable groups. They will help keep the situation calm and more manageable. Latrines should be available. Health education can take place while older people are waiting for assessment.

A separate area for **screening** should be available to assess newcomers for MAM and to prevent those not meeting the admission criteria from waiting too long without receiving anything. New arrivals in a displaced camp should be screened during registration.

11. Adapted from Borrel A, *Addressing the nutritional needs of older people in emergency situations in Africa: Ideas for action*, HelpAge International, Africa Regional Development Centre, 2001

12. For details on improving access to distribution sites, see HelpAge International, *Older people in emergencies: identifying and reducing risks* www.helpage.org/resources/practical-guidelines/emergency-guidelines

If the admission criteria are met, the beneficiary is **registered** for admission. Individual beneficiary cards are filled out for each older person and kept by that person. The same information is kept in a register at the health facility or centre.

On admission and on each distribution day, a **standard protocol** is followed which includes individual assessment of nutritional status and health/nutrition promotion, and, if necessary, micronutrient supplementation and medical management. The individual nutritional assessment should rely on MUAC as well as weight (if feasible), in order to monitor individual improvements.

Registrars should look at the individual weight progression and MUAC, and note 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, systematic administration of medicines under observation (see section on page 27) or referring to TFP. If the SFP is situated near a health centre, sick older people can be referred for services. However, often in emergencies SFP teams keep a basic kit of essential medicines, including antibiotics, antimalarials, antihelminthics, ORS, ointment for skin or eye infections etc.

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 cost for older beneficiaries and their carers. Monthly distributions are usually not possible as the premix given turns rancid after two weeks. Carrying the bulk of a monthly ration can also be a challenge for older people. Beneficiaries receive the ration and then leave the centre with clear instructions about the next visit.

Distribution mechanisms have to be put in place for bedridden older people and those who have difficulties walking. The food ration can be given to a carer. Community services or volunteers should make regular home visits to check on the health and nutritional status of these beneficiaries.

Dry rations for home preparation should be provided whenever possible. They are often in the form of a premix of blend food, sugar and oil. **Wet rations** (cooked food) should be limited to situations following a major disaster when people do not have the means to cook for themselves or when the distribution of dry rations could put them in danger, for instance while walking home. Take-home supplementary food dry rations provide 1,000 to 1,250kcal/person/day while on-site feeding or wet rations provide 500 kcal/person/day. They should provide at least 25 per cent of energy from fat and 10-15 per cent from protein.

Supplementary food must be **culturally appropriate to be palatable** and include locally available foods. WFP has collected recipes from around the world using fortified blended food to prepare staple dishes such as pancakes, thick porridge, thin porridge, and unleavened bread. These recipes can be explained and demonstrated to the older people on the day of distribution, as part of the health and nutrition education activities.

High-energy biscuits (such as BP-5™) are sometimes used for supplementary feeding when fortified blended food or cereal/pulse blends are not available. They can be dissolved in water or used as porridge for older people with teeth or gum problems. To make porridge, use 200ml of boiled lukewarm safe drinking water per food bar. One bar of BP-5™ provides 254kcal.



Erna Mentenot-Hintz/HelpAge International

In order to address older people’s **mineral and vitamin requirements**, a number of complementary strategies can be adopted:

- The use of dark-coloured vegetables, including wild foods (usually rich in minerals and vitamins) in food preparation should be a priority. Diet diversification will also contribute to increased micronutrient intakes. However, this may not always be feasible in emergency situations.
- Supplements of specific vitamins (vitamin A, folic acid) should be given routinely on admission to nutrition rehabilitation programmes.
- “Sprinkles” (sachets of micronutrient powder) can be added to blended foods, maize porridges or traditional meals that are prepared on site. Attention should be paid to ensuring that the sprinkles are thoroughly mixed into the cooked food. The mineral and vitamin mix should not be added to dry-ration mixtures.

All food aid commodities should be fortified eg oil with vitamin A, salt with iodine etc.

Routine medical treatments: in SFPs, a nurse or health worker can carry out basic health care for older people admitted to the programme. On admission, the following routine treatments should be given:¹³

| | |
|--|--|
| Vitamin A | 200,000 IU single dose |
| Anti-helminthics (Worm infestations are usually endemic, especially in situations of poor sanitation. Extremely ill or weak persons should be given treatment only when they are stronger.) | Mebendazole 200mg per day for 3 days or 100mg per day per 5 days |
| Folic acid | 10-20mg for 30 days |

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 slower because the person does not consume the entire ration. In practice, some programmes have included additional counselling for families on the medical objective of the SFP ration and hence the need for the target beneficiary to eat it. Others have increased the ration size to take sharing into account and to provide a family ration.

d. Follow-up during treatment

Individual follow-up based on the different admission and discharge categories included in the registration book is essential. These data should be routinely collected.

Programme performance statistics are expressed in relation to the total number of older people discharged each month (eg recovered, died, defaulted, not recovered, and transferred).

13. Borrel A 2001

CMAM for severely malnourished older people

This section includes the following sub-sections:

- Admission and discharge criteria
- Definition of CMAM
- Classification of severe acute malnutrition for older people
- Management of SAM in older people
- Inpatient care
- Outpatient care
- Nutrition management during stabilisation and rehabilitation (inpatient care)
- Routine medical treatments for inpatient care
- Nutrition management in outpatient care
- Follow-up during treatment
- Community mobilisation
- Detection of cases
- Integration

Benjamin Schilling/HelpAge International



The objectives of TFP are primarily curative, aiming to:

- manage severe acute malnutrition among older people
- decrease mortality and morbidity related to acute malnutrition among older people
- potentially contribute to a reduction in the prevalence of malnutrition among older people
- provide training, build skills and capacity of carers and family support through participation in the programme, and improve knowledge and skills of better nutrition for older people through nutrition education.

Admission and discharge criteria

Admission of older people into a therapeutic programme is based on mid upper arm circumference (MUAC) and/or presence of bilateral pitting oedema. The combination of admission criteria into a therapeutic programme and the respective cut-off points could vary from place to place depending on the local context. HelpAge recommends the following criteria:

MUAC <185mm and/or bilateral pitting oedema.

Admission categories are as follows:

| | |
|------------------|--|
| New cases | Older people with SAM who meet the criteria mentioned on page 28 |
| | Relapsed cases are considered as new cases: the older person has been successfully treated and discharged as cured, and now has a new episode of SAM |
| Old cases | Older people referred from inpatient care to outpatient or vice versa: patients with SAM referred from inpatient care after stabilisation to continue treatment as outpatients until full recovery, or referred from outpatient care because they meet inpatient care admission criteria, or because their condition deteriorates |
| | Older people with SAM already under treatment elsewhere and transferred to this health facility |
| | Returned defaulters: older people who defaulted from treatment before recovery and have returned to continue treatment |

Older patients should be **discharged to SFP** when they reach a **MUAC $\geq 185\text{mm}$ without oedema for two consecutive weeks**. However, a patient can be considered as recovered when his or her weight increases for at least three consecutive weeks at home, and shows no clinical signs of acute associated disease or complication.

Some individuals do not reach the criteria to be discharged as recovered. They are classified according to other outcome criteria. Discharge categories are as follows:

- cured (or recovered): meets the discharge criteria
- died: died during treatment
- defaulted: absent for three consecutive visits (outpatient) or days (inpatient)
- non-recovered or non-responder: did not meet the discharge criteria after four months in outpatient treatment or two months in inpatient treatment. Should be referred for further investigation and additional treatment for infections or underlying pathologies.

Definition of CMAM

Since 2007, the management of SAM has been based on a model called “community-based management of acute malnutrition” (CMAM). The term “community-based” refers to involving communities from the outset of the programme to promote understanding of treatment and for early detection of cases, referral and follow-up. The model has been designed for children aged 6-59 months, but it is applicable to the management of older people’s severe malnutrition.

As with children, CMAM for older people includes four components:

- community mobilisation and detection of cases in the community
- outpatient care for older people with SAM without acute medical complications: simplified management of cases at health centre level and integration of treatment into routine health services
- inpatient care for older people with SAM with acute medical complications
- management of moderate acute malnutrition (MAM) for older people (see section on SFP on page 22).

Classification of severe acute malnutrition for older people

SAM in older people is defined using the following oedema and MUAC-based definition: presence of bilateral pitting oedema and/or MUAC <185mm.

With CMAM, the classification for acute malnutrition has been modified to introduce new clinical elements to define SAM, and to allow for the provision of a more adapted treatment according to the patient's medical and nutrition condition. Severe acute malnutrition is therefore classified as follows:

- severe acute malnutrition without medical complications
- severe acute malnutrition with medical complications, such as severe bilateral pitting oedema, anorexia, vomiting, lower respiratory tract infection, high fever, severe dehydration, severe anaemia, hypoglycaemia, hypothermia, signs of xerophthalmia (corneal xerosis, ulceration, cloudiness or keratomalacia).

For older people, you also have to take into account other complications, such as diabetes, high blood pressure or cardio-vascular diseases. AIDS and tuberculosis might also be the cause of severe malnutrition. **Older people with severe malnutrition should be systematically checked by medical staff and assessed for a potential chronic condition that might affect their nutritional status.**

In CMAM for children, the **appetite test** (whereby the child passes or fails the test to eat ready-to-use therapeutic food (RUTF) plays a fundamental role in the treatment orientation of the child. In adults and older people, a **swallowing test** under direct observation should be performed to check if the person is able to absorb RUTF. The difficulty to swallow is common in older people and people living with HIV (presence of mouth and throat thrush).

The test is as follows: the person should be given a portion of RUTF (sachet or pot) at admission and encouraged to eat it within 30 minutes. The person passes the appetite test only if they eat at least one third of a packet of RUTF or three teaspoons from a pot within 30 minutes.

If the person fails the test, they should be admitted in the inpatient care.

Management of SAM in older people

The overall management of severe malnutrition in older people is based on a similar (phased) approach and methodology to that for children and younger adults. WHO's recommended protocol has three phases (detailed in the table on page 31)¹⁴:

- Initial treatment (stabilisation and transition): management of acute medical conditions for approximately three to seven days. It consists of medical and nutritional treatment. The transition phase is important because of the risk of general body failure when re-feeding.
- Rehabilitation: on inpatient or, preferably, outpatient basis depending on the outcome of the transition phase.
- Follow-up in the community: should start as soon as the older person is treated as outpatient.

14. WHO, *Management of Severe Malnutrition; a manual for physicians and senior health workers*, WHO Geneva, 1999



Paul Ong/HelpAge International

Summary of phases for the management of severe malnutrition in older people

| Activity | Phase | | | |
|--|----------------|----------|----------------|------------|
| | Stabilisation | | Rehabilitation | Follow-up |
| | Days 1-2 | Days 3-7 | Weeks 2-6 | Weeks 7-26 |
| Treat or prevent: • Hypoglycaemia | → | | | |
| • Hypothermia | → | | | |
| • Dehydration | → | | | |
| Correct electrolyte imbalance | → | | | |
| Treat infections | → | | | |
| Correct micronutrients deficiencies | ← without iron | | ← with iron | |
| Begin feeding | → | | | |
| Increase feeding to recover lost weight | | | → | |
| Stimulate emotional and sensorial system | → | | | |
| Prepare for discharge | | | → | |

Source: adapted from Borrel A, 2001

Treatment of SAM in older people: experience in refugee camps, South Sudan, Upper Nile State, Maban County

Refugees fleeing the conflict in Blue Nile arrived in Maban County in November 2012, where MSF Belgium had a nutrition and health programme in two camps. They observed that not only children but also a large number of adults were suffering from malnutrition, after having travelled in the bush for a long period, without access to proper food. They thus decided to include adults in a therapeutic feeding programme. Criteria for admission were based on MUAC and presence of oedema, and clinical condition decided whether they would be admitted as outpatients or inpatients.

Very rapidly many older people were admitted, particularly as inpatients. In Batil camp, 92 adults were admitted in 14 weeks, including 61 as inpatients. The global cure rate was 44 per cent, the mortality rate 25 per cent, the defaulter rate 15.4 per cent, and the transfer rate 15.4 per cent.

At the beginning of the treatment, older people complained about the therapeutic milk, which was difficult to digest and caused diarrhoea. This improved after a few days, with the passage to the rehabilitation phase and the introduction of solid food (RUTF). Older people were very satisfied about recovering some strength and to be looked after. RUTF was generally well accepted.

However, it appeared that being transferred to outpatient care was a problem for a number of older people who were isolated and without community support. Others improved their nutrition status but still had medical conditions. They had to be discharged from the inpatient care. However, they were monitored by home visitors sent to provide the RUTF and to organise a system of donkey carts to pick them up for a monthly visit to the ambulatory feeding centre.

This project showed that older people can be successfully treated in a therapeutic programme, with therapeutic milk and RUTF. It also highlighted the importance of social support, home visiting, and the need for palliative care, as a large number of older people were approaching the end of their life.

Source: MSF Belgium, 2012



Kate Holt/HelpAge International

Inpatient care

Inpatient care is provided for the treatment of people who have failed the swallowing test, with medical complications, or who cannot participate in outpatient care eg where outpatient care is not available. It can be organised as residential care (with the patients staying overnight) or, less often, as day care (with the patients returning to their homes for the night). It can be established as an attachment to an existing hospital or health centre, or as an independent structure.

Outpatient care

Outpatient care is provided for older people presenting with SAM without medical complications and for patients who have recovered in inpatient care and are free from acute medical complications and swallowing problems. Outpatient care facilities can be set up at health centres, or in dedicated sites. In emergency settings, they are often organised in the same facilities as SFP. Patients visit centres once a week (or once every two weeks when distance or security conditions compel). These centres are usually run by health workers.

Nutrition management during stabilisation and rehabilitation (inpatient care)

Feeding should begin as soon as possible, at admission, with a starter diet of therapeutic F-75 milk. The transition between F-75 and catch-up diets (F-100 or RUTF such as Plumpy'Nut® or BP-100™), and from milk diet to solid therapeutic foods, should be progressive.

RUTF and F-100 (milk or COMPRI) have a similar nutrition composition per 100kcal, with the exception of iron which is present in RUTF but not in F-100. As a rule, preference is given to RUTF over F-100 during the transition phase if the older person accepts it. RUTF is offered first at every feed and is complemented with F-100 (biscuits F-100 COMPRI can be used as an alternative to F-100 milk if the patients are facing difficulties with the milk) or continued F-75 feeds where needed.

Nutritional requirements for older people in outpatient care

1. Stabilisation phase (2-7 days)

| | |
|--|--------------------------------------|
| Composition of diet | Therapeutic F-75 milk (75kcal/100ml) |
| Energy required by body weight (kcal/kg/day) | 40kcal |
| Volume of milk (F-75) required | 55ml/kg |
| Meal frequency (number of meals per day) | 8-10 meals |

2. Rehabilitation phase (2-5 weeks)

| | |
|--|---|
| Composition of diet | Therapeutic F-100 milk or COMPRI (100kcal/100ml) with porridge and traditional meal (approximately 100kcal/100ml) or RUTF |
| Energy required by body weight (kcal/kg/day) | 70 to 100kcal |
| Volume of food required | 70 to 100ml/kg/day (F-100) or 1 bar/3-4kg/day (BP-100™) or 1 sachet/5-7kg/day (Plumpy'Nut®) |
| Meal frequency (number of meals per day) | 5-6 meals |

Source: Adapted from Borrel A, 2001

During the rehabilitation phase, traditional foods and porridges can be introduced, with added oil, and fortification (a multiple mineral and vitamin tablet or a sprinkle). Therapeutic milk, RUTF or other lipid-based nutrient supplement should be taken as snacks and at night.

Older people who respond well and have no swallowing problem should be treated as outpatients at this stage using RUTF (see sub-section on page 34 on nutrition management in outpatient care).

Routine medical treatments for inpatient care

Medical complications are common in older people. In particular, underlying chronic illnesses and heart problems will hinder the nutritional rehabilitation process if they are not addressed. Therefore, access and referral to medical facilities for diagnosis and treatment is essential.

Detailed descriptions of medical protocols in therapeutic feeding programmes are beyond the scope of this document. Reference should be made to [Management of severe malnutrition; a manual for physicians and senior health workers](#), (WHO 1999) and [Adult malnutrition in emergencies, an overview of diagnosis and treatment](#) (Navarro C, Field guidelines, version 3, Action contre la Faim 2006). As a rule, the following routine medicines should be given on admission:

- **Antibiotics:** routine antibiotics are given upon admission (stabilisation) and continued for 7 to 10 days depending on the person's clinical condition. Amoxicillin is generally used, but if the older person has a severe infection or continues to present symptoms, a second-line antibiotic should be added (usually Chloramphenicol or Gentamycin + Ampicillin). Dosages should be adapted according to weight.
- **Anti-helminthics:** Mebendazole or Albendazole, when the person progresses from transition to rehabilitation phase.
- **Iron:** during transition and rehabilitation phases **if the older person is not consuming RUTF**.
- **Vitamin A:** a single dose of 200,000UI at discharge (or week four of the treatment).

Older people who have been transferred from outpatient care should not receive routine medications that have already been administered.

Nutrition management in outpatient care

With a diet based solely on RUTF and a daily energy intake of 100kcal/kg, an older person weighing 40 to 60kg should theoretically be given around 8 to 12 sachets of Plumpy'Nut® or 13 to 20 bars of BP-100™ per day. This is a large amount to eat, and it might not be acceptable or palatable, as it is generally too sweet for adults.

HelpAge thus recommends that the diet be based on several meals of local foods enriched with oil and vitamins, with RUTF taken as snacks (ie between meals), in order to reach 70 to 100kcal/kg/day. Older people should be allowed a wide variety of foods and to eat as much as they want.

BP-100™ is recommended for the treatment of SAM. BP-100™ can be eaten as a biscuit directly from the pack, or crumbled into water and eaten as porridge. To make a porridge, use 2dl of boiled drinking water per "meal pack" consisting of two BP-100™ tablets (2x28.4g).

One bar (two tablets) of BP-100™ contains 300kcal or 1,254kJ, which is comparable to 300ml F-100 milk. For each bar of BP-100 consumed the drinking water intake should be at least 250-300ml.

To ensure proper use of RUTF at home, it is important to provide detailed and clear information to the older person and their caregiver, and check that it has been understood. It is very useful to organise a **dietetic counselling**. In doing so you should take account of the level of literacy among the general and older population as well as difficulties faced with vision and hearing which impact on older people's ability to take in new information quickly. Explaining treatment procedures may hence take longer for older beneficiaries.

Basic messages for outpatients are as follows:

- RUTF is a food and a medicine. Do not share it. Do not mix it with local foods.
- Eat more varied and greater quantities of food than you normally do.
- Eat more frequently throughout the day in small meals to maximise energy intake, especially if your appetite is poor.
- Eat more nutrient-dense foods.
- Eat foods fortified with essential nutrients, such as iron and B vitamins.

To further improve the compliance of the treatment at home, and avoid sharing of therapeutic foods, it is generally accepted that you should provide the household with a portion of BP-5™ or similar high-energy biscuits for their own consumption.

Another issue is the transportability of the RUTF stock needed for one or two weeks: a week's supply of Plumpy'Nut® or BP-100™ weighs between 5kg and 7.7kg. This can be a challenge for a malnourished older person to carry back home, particularly if there is no caregiver to help. Mechanisms should be put in place with the community in order to help malnourished older people without caregivers.

15. Dibari F et al, "A qualitative investigation of adherence to nutritional therapy in malnourished adult AIDS patients in Kenya", *Public Health Nutrition*, Volume 15, Issue 02, February 2012, pp.316-323

Adherence to nutritional therapy in malnourished adults with AIDS in Kenya¹⁵

In 2011, Valid International, MSF-France and the Kenyan Ministry of Health conducted a research to understand factors affecting the compliance of malnourished, HIV-positive adults with a nutritional protocol using RUTF (Plumpy'Nut®).

The study subjects, from Nyanza Province, Kenya, came from three groups: patients above 15 years enrolled in a nutritional rehabilitation programme, their caregivers, and medical staff (counsellors, nurses and clinical officers). The data was collected through focus group discussions, questionnaires and interviews.

The results show that the compliance was not very good (only 14 out of 22 interviewed patients reported complying with the prescribed amount of Plumpy'Nut®).

Most patients valued the nutritional therapy provided by Plumpy'Nut®, and felt more energised. Participants argued that the first three or four days were the most critical ones and that after then, it becomes easier to comply with the prescription. The main barriers to compliance were as follows:

- The taste of Plumpy'Nut® was not considered suitable by many adult patients and therefore they often reduced intake or mixed it with other food. This practice compromises the efficacy of RUTF by reducing overall energy and nutrient intake and delaying nutritional rehabilitation.
- More than half of the interviewed patients reported sharing Plumpy'Nut® with children and other adults.
- Patients were not informed about how to correctly consume the RUTF, revealing the need for a dietetic counselling provided by trained staff.
- Frail patients who came to a clinic appointment without a caregiver sometimes ended up losing half of the prescribed RUTF supply, as they were unable to transport the food to their home.

John Cobb/HelpAge International





Follow-up during treatment

Admission and discharge are based on MUAC and oedema criteria, but the weight should be closely monitored to assess progress and adapt treatment.

In inpatient care: health status monitored on a daily basis by a nurse or physician:

- Measure weight gain two to three times per week depending on the mobility of the older person.
- Monitor loss of oedema, average daily weight gain, change of MUAC status, length of stay in nutrition centre.
- Carefully monitor and record food intake every day.
- Monitor ability of older person to engage in daily activities and increasing functional strength.
- Monitor and address capacity of family or carer to support older people.

During outpatient therapeutic care, the older person must visit the health facility every week. Only for specific reasons such as harvesting time, when the person is recovering well, or the distance is great, can fortnightly visits be agreed.

During the weekly visits the health worker assesses progress, monitors weight gain, and checks for associated medical complications that may require referral to inpatient care. The patient receives drugs and RUTF supplies for the week. Individual counselling and health and nutrition education in groups will also be provided during these visits.

Home visits are carried out by community health workers or home visitors. The following aspects should be assessed and recorded:

- Older person's and/or caregiver's understanding of the messages received in the centre.
- Compliance with the treatment (RUTF and medications).
- Reasons for non-compliance with treatment, absence or defaulting.
- Availability of water and sanitation facilities, hygiene practices.
- Health and hygiene and food safety practices, and general household food security.

Community mobilisation

Community mobilisation aims to sensitise, inform and educate the community on nutrition issues in order for the community to promote and encourage their active participation in the SAM management activities. It allows detection and referral of cases to appropriate nutrition or health services, and follow-up. It is an important factor for obtaining good service coverage within a specific health catchment area.

When they exist, older people's associations (OPAs) and groups should be actively involved from the beginning of the programme. Community mechanisms should target isolated older people to prevent them from becoming malnourished, help them attend the relevant programme, or provide home-based care when older people need to be treated for malnutrition.

Detection of cases

Active case-finding is done in the communities by community health workers, community volunteers eg OPA members, and/or home-based carers using MUAC and/or the presence of oedema in older people to detect and refer all suspected cases to the nearest health facility. Self-referral or passive case finding also occurs (ie where older people self-present at health facilities for treatment). This may be as a result of hearing about the programme from other members of the community, traditional health practitioners, OPAs or other caregivers.

In most countries, community health workers focus on children and pregnant women. They will need to be trained to detect and manage malnutrition in older people.

Integration

The CMAM approach provides a means of delivering services for older people with SAM that should be integrated into routine primary health care systems. Integration into health care services implies the recognition by the ministry of health of the importance of the treatment of severe acute malnutrition for older people. CMAM therefore provides a means by which you can highlight the need for inclusion of older people in treatment of malnutrition. Hence this can form a central part of your evidence for nutrition advocacy.

Where CMAM is already present in a country, efforts should be made during emergencies to strengthen the national health system and ensure the inclusion of older people in the vulnerable groups targeted. Access to treatment and greater coverage at local and national level should be improved.

Links with other programmes

The links established between management of CMAM and other health and nutrition related activities are important for its success. Because of this, where other interventions do not exist or are weak, efforts should be made to develop and support such interventions in an integrated fashion.

Links should work bilaterally in order to increase mutual benefits, programme coverage and effectiveness of treatment. It is very important to involve grandparents (particularly grandmothers) in the management of malnutrition for children: they should be targeted with the mothers in health and nutrition education activities, as they are often the carers of the children.

In some cases CMAM can be used as an additional entry point for provision of other health and nutrition related activities by using the contact created between the community and health facilities to provide wider services such as management of non-communicable diseases. Training of community health workers in older people's health and nutrition is crucial and should be systematically done. Community health workers should also be able to identify risk or vulnerability factors such as disabilities or isolation, and refer them to the community.

Gender equality¹⁶

- Services should be designed to meet the needs of older women and men equally.
- Ensure older women and men participate equally in the design, implementation, monitoring and evaluation of nutrition projects, programmes and strategies. Particular attention may be needed to ensure that older women are in decision-making positions.
- Ensure that older women and men benefit equally from training or other capacity-building initiatives, and are targeted with specific actions when appropriate (eg communications activities).

Resources

Warning: Most guidelines use different criteria for the definition of acute malnutrition from those recommended in this document. They are using MUAC thresholds (defined in 1996 by Collins)¹⁷ for use in famine situations, where resources are likely to be scarce and primary undernutrition is common. In this guideline we recommend the use of more sensitive criteria for assessing the malnutrition of older people. As such, the following resources should be considered as guidelines for selective feeding programmes, but not as references for the definition of acute malnutrition in older people.

Dent N and Holland D, *Management of moderate acute malnutrition*, Harmonised Training Package module 12, Resource Material for Training on Nutrition in Emergencies, Version 2, NutritionWorks, Emergency Nutrition Network, Global Nutrition Cluster, Oxford 2011, www.enonline.net/resources/781

Saboya M, Khara T and Irena AH, *Management of severe acute malnutrition*, Harmonised Training Package module 13, Resource Material for Training on Nutrition in Emergencies, Version 2, NutritionWorks, Emergency Nutrition Network, Global Nutrition Cluster, Oxford 2011, www.enonline.net/resources/782

Borrel A, *Addressing the nutritional needs of older people in emergency situations in Africa: Ideas for action*, HelpAge International, Africa Regional Development Centre, 2001, www.forcedmigration.org/sphere/pdf/food/helpage/nutritional-needs.pdf

Navarro C, *Adult malnutrition in emergencies, an overview of diagnosis and treatment*, Field guidelines, version 3, Action Contre la Faim, 2006, www.actioncontrelafaim.org/sites/default/files/publications/fichiers/adult_malnutrition_guidelines_gb0108-sept2006_0.pdf

UNHCR, *Guidelines for selective feeding: the management of malnutrition in emergencies*, Geneva, January 2011, www.unhcr.org/4b7421fd20.html

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

Golden M and Grellety Y, *Protocol integrated management of acute malnutrition*, Version 6.6.2, January 2012, www.cmamforum.org/Pool/Resources/Example-of-IMAM-protocol-West-Africa-Golden-Grellety-2012-eng.pdf (English version)
www.cmamforum.org/Pool/Resources/Exemplaire-protocole-PCIMA-l%27Afrique-l%27ouest-Golden-Grellety-2012-fr.pdf (French version)

16. See the gender markers for nutrition at <https://docs.unocha.org/sites/dms/CAP/Nutrition%20Gender%20Marker%20Tipsheet%20July%202011.pdf>

17. Collins S, "Using middle arm circumference to assess severe adult malnutrition during famine", *Journal of the American Medical Association*, 1996, 276(5), pp.391-5



Ed Gerlock/HelpAge International

Action point 4:

Prevent and treat micronutrient deficiencies

Micronutrient deficiencies have severe consequences for older people's mental and physical health, their immune system and their functional abilities. This can impair survival and recovery from crisis.

Excessive intake of micronutrients can also be harmful. For example, goitre may develop in people who have either too little or too much iodine in their diet, and very high levels of iron can be lethal.

This section outlines the prevention, diagnosis and treatment for micronutrient deficiencies in older people.

The Sphere project provides minimum standards for the treatment of micronutrient deficiencies (see [Annex 5](#)).

Prevention

A summary of vitamin and mineral requirements for people over the age of 60 can be found in [Annex 2](#).

The following strategies have been identified as potentially preventing micronutrient deficiency and promoting diet diversity/balance:

- Inclusion of nutrient-rich foods in food aid rations: general food rations are likely to be lacking in micronutrients, and should be complemented in order to be more balanced. Some local foods such as groundnuts are a good source of vitamin B3 to prevent pellagra. Other legumes are also rich in vitamin B complex and minerals.
- Provision of fresh food items ie fruits and vegetables that are complementary to a general ration of pulses, oil, sugar and cereals.
- Provision of fortified foods, such as cereals, CSB, salt (with iodine), oil (usually fortified with vitamin A). The majority of cereals supplied in food aid operations are still supplied as unfortified whole grains.
- Distribution of micronutrient supplements, for example in the form of "sprinkles", vitamin A tablets or iron tablets.
- Increasing the size of the general food ration to facilitate diet diversification by exchange or trade. Potential market impact should be taken into account.
- Promotion of home gardening and agricultural development to encourage diet diversity.
- Increasing income and improving access to markets.
- Ensuring adequate health care and a healthy environment.
- Ensuring access to adequate non-food items so people are not forced to trade food.

Diagnosis

Micronutrient deficiencies can be diagnosed using clinical signs or symptoms, or biochemical testing. Dietary surveys are also useful: most deficiency outbreaks occur in situations where a nutrient is clearly missing in the diet.

Observation of clinical signs or identification of symptoms through a questionnaire has the advantage of being non-invasive, thus more acceptable, and is sometimes the only logistical solution available. The disadvantage of observation

is that it is not very specific, and training non-medical staff in the correct diagnosis of clinical signs can be very challenging.

Biochemical tests provide objective measures of status, but they require logistics, trained staff, and cold chain, and might not be socially or culturally acceptable in some contexts. Criteria might vary from one individual to another or from one test to another. In addition, testing does not always reflect the whole problem, as several deficiencies might coexist (eg anaemia might be caused by iron, folate, and/or vitamin B12 deficiency, but also infections or sickle cell disease).

For public health strategies, WHO has defined methods for measuring micronutrient deficiencies at population level, and has made recommendations for testing specific age groups for prevalence surveys: for example, vitamin A deficiency should be looked for among children aged 6 to 71 months, and iodine deficiency in school-age children.

The table below shows classifications of the public health significance of selected micronutrient deficiencies using different indicators.

| Micronutrient deficiency indicator | Recommended age group for prevalence surveys | Definition of a public health problem | |
|---|--|---------------------------------------|----------------|
| | | Severity | Prevalence (%) |
| Vitamin A deficiency | | | |
| Night blindness (XN) | 24-71 months | Mild | >0 – <1 |
| | | Moderate | ≥1 – <5 |
| | | Severe | ≥5 |
| Bitots spots (X1B) | 6-71 months | Not specified | >0.5 |
| Corneal xerosis/ulceration/keratomalacia (X2, X3A, X3B) | 6-71 months | Not specified | >0.01 |
| Corneal scars (XS) | 6-71 months | Not specified | >0.05 |
| Serum retinol (≤0.7mmol/l) | 6-71 months | Mild | ≥2 – <10 |
| | | Moderate | ≥10 – <20 |
| | | Severe | ≥20 |
| Iodine deficiency | | | |
| Goitre (visible + palpable) | School-age children | Mild | 5.0 – 19.9 |
| | | Moderate | 20.0 – 29.9 |
| | | Severe | ≥30.0 |
| Median urinary iodine concentration (mg/l) | School-age children | Excessive intake | >300 |
| | | Adequate intake | 100 – 199 |
| | | Mild deficiency | 50 – 99 |
| | | Moderate deficiency | 20 – 49 |
| | | Severe deficiency | <20 |

| Micronutrient deficiency indicator | Recommended age group for prevalence surveys | Definition of a public health problem | |
|--|--|---------------------------------------|-----------------------|
| | | Severity | Prevalence (%) |
| Iron deficiency | | | |
| Anaemia (non-pregnant women haemoglobin <12.0g/dl; children 6-59 months <11.0g/dl) | Women, children 6-59 months | Low | 5-20 |
| | | Medium | 20-40 |
| | | High | ≥40 |
| Beri beri | | | |
| Clinical signs | Whole population | Mild | ≥1 case & <1 per cent |
| | | Moderate | 1 – 4 |
| | | Severe | ≥ 5 |
| Dietary intake (<0.33mg/1000 kcal) | Whole population | Mild | ≥5 |
| | | Moderate | 5 – 19 |
| | | Severe | 20 – 49 |
| Infant mortality | Infants 2-5 months | Mild | No increase in rates |
| | | Moderate | Slight peak in rates |
| | | Severe | Marked peak in rates |
| Pellagra | | | |
| Clinical signs (dermatitis) in surveyed age group | Whole population or women >15 years | Mild | ≥1 case & <1 per cent |
| | | Moderate | 1 – 4 |
| | | Severe | ≥ 5 |
| Dietary intake of niacin equivalents <5mg/day | Whole population or women >15 years | Mild | 5 – 19 |
| | | Moderate | 20 – 49 |
| | | Severe | ≥50 |
| Scurvy | | | |
| Clinical signs | Whole population | Mild | ≥1 case & <1 per cent |
| | | Moderate | 1 – 4 |
| | | Severe | ≥5 |

Source: *The Sphere Project 2011*, [table showing classifications of the public health significance of selected micronutrient deficiencies using different indicators](#), p.225

Treatment

Micronutrient deficiency diseases require medical treatment. Treatment will usually take the form of oral supplement tablets or capsules. A relatively new approach involves using micronutrient powders that can be added to the normal food to increase micronutrient intake. These have been shown to be effective for the treatment of iron deficiency anaemia.

Annex 7 on page 63 presents a table with the most important micronutrient deficiencies and their treatment.

Resources

Seal A, *Micronutrient interventions*, Harmonised Training Package module 14, Resource Material for Training on Nutrition in Emergencies, Version 2, NutritionWorks, Emergency Nutrition Network, Global Nutrition Cluster, Oxford, 2011, www.enonline.net/resources/783

Seal A and Prudhon C, *Assessing micronutrient deficiencies in emergencies: Current practice and future directions*, Nutrition Information in Crisis Situations, United Nations System Standing Committee on Nutrition, Geneva, October 2007

WHO, *The management of nutrition in major emergencies*, WHO, Geneva, 2000, www.who.int/nutrition/publications/emergencies/9241545208/en/index.html

UNHCR, UNICEF, WFP, WHO, *Food and Nutrition Needs in Emergencies*, WHO, Geneva, 2002, <http://apps.who.int/iris/bitstream/10665/68660/1/a83743.pdf>



Pascal Fritsch/HelpAge International

Action point 5:

Monitor and evaluate your projects

Blanket supplementary feeding

Post-distribution monitoring is important, to ensure that older people are actually benefiting from the blanket distribution, and not giving or selling their entire ration to other people.

Post-distribution monitoring methodologies include:

- Rapid household surveys, or focus group discussions.
- Food usage surveys: these can highlight the extent to which food is redistributed voluntarily or involuntarily by the recipients post distribution. They can also help to determine whether the food aid is likely to achieve its desired objectives. For example, if all the oil in the ration is sold in order to purchase more grain, then nutritional objectives may be harder to achieve.
- Market surveys: these are often conducted to monitor food aid sales. Sale of food aid should not always be interpreted as a failure. All households need cash to buy items and may have to sell some food to buy these essential commodities, such as soap, clothing, fuel. Data from market surveys can be analysed alongside food usage surveys, to further contribute to an understanding of whether the targeting system has achieved its objectives.

Minimum reporting package for SFP and TFP

The Minimum Reporting Package (MRP) for Emergency Supplementary and Therapeutic Feeding Programme: User Guidelines cover what data to collect, and software for standard analysis and reports. It refers to performance indicators and reporting categories for targeted SFP, outpatient therapeutic programmes and stabilisation centres. There is also guidance on interpreting and taking action on programme performance indicators.

The MRP has developed three main tools:

- a set of guidelines and data collection templates
- supporting manuals and training materials
- a database application for data entry, analysis and reporting based on the guidelines, and employing user-friendly software developed for this purpose.

It targets two treatment groups for SFP: 6-59 months and pregnant and lactating women. However, it also facilitates reporting against other categories eg “elderly” (and over 60 year). The software can thus be configured to the characteristics of feeding programmes for older people.

Coverage of nutrition programmes

Coverage is the capacity of a programme to meet need. It depends directly upon:

- Thorough case finding and early treatment seeking, ie ensuring the admission of a majority of uncomplicated cases with potentially good outcomes
- Good retention from admission to cure, ie absence of defaulting.

Coverage of supplementary and therapeutic feeding is usually calculated using an anthropometric survey. The formula on page 44 is used.

Formula for coverage calculation

c = coverage

n = the number of individuals in the survey who meet the admission criteria for the programme and report being registered in the programme at the time of the survey

N = the total number of individuals in the survey who meet the admission criteria for the programme

$$c = \left(\frac{n}{N} \right) \times 100$$

Confidence intervals around these estimates should also be presented.

SQUEAC and SLEAC

SQUEAC, which stands for Semi-Quantitative Evaluation of Access and Coverage, is a new low-resource method for evaluating access and coverage in selective feeding programmes.

SQUEAC is a semi-quantitative method that provides in-depth analysis of barriers and boosters to coverage. It is designed as a routine programme monitoring tool complemented by other relevant data that are collected on a “little and often” basis. It is now used regularly for monitoring, planning and, importantly, timely improvement of programme quality, both for agency and Ministry of Health led programmes.

SQUEAC is more an investigation than a survey. It is made up of three stages:

- Stage 1: semi-quantitative investigation into factors affecting coverage using the SQUEAC toolkit
- Stage 2: confirming areas of high and low coverage identified in Stage 1 through small studies and small area surveys
- Stage 3: estimating overall coverage using Bayesian techniques. Likelihood survey is conducted as part of this stage. This survey uses a systematic spatial sample as with all the other coverage survey methods. Stage 3 of SQUEAC is optional and is done if the reporting of an overall coverage estimate is a key information requirement in addition to the rich information on barriers and boosters to coverage already gained from Stages 1 and 2.

While SQUEAC and the Simplified LQAS Evaluation and Coverage (SLEAC) methods were designed to evaluate community-based management of severe malnutrition in children, they could be adapted to community management of moderate malnutrition in younger adults and older people.

Resources

Save the Children UK, *Minimum Reporting Package (MRP) for Emergency Supplementary and Therapeutic Feeding MRP software manual*, April 2012, http://mrp-sw.com/mrp%20product/MRP%20Software%20manual_April%202012.pdf

Valid International, *Guide to Resources Available for Coverage Surveys*, 23 November 2011, www.enonline.net/pool/files/ife/guide-to-resources-for-coverage-surveys.pdf

Myatt M, Jones D, Emru E, Guerrero S, Fieschi L, Guevarra E, Norris A, Schofield L, Sadler K, *SQUEAC & SLEAC: Low resource methods for evaluating access and coverage in selective feeding programs*, 16 October 2012, www.validinternational.org/demo/reports/SQUEAC.Article.pdf

Myatt M, Guevarra E, Fieschi L, Norris A, Guerrero S, Schofield L, Jones D, Emru E, Sadler K, “*Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)/ Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) Technical Reference*”, FANTA III, Washington, October 2012, www.fantaproject.org/downloads/pdfs/SQUEAC-SLEAC-Technical-Reference-Oct2012.pdf

Action point 6: Build partnerships

Country Nutrition Cluster

Issues such as when to intervene, how, and with what modality over time are discussed in the Nutrition Cluster usually led by UNICEF, as part of the development of a nutrition strategy in emergencies. For example, a nutrition strategy can outline when to start blanket SFP versus targeted SFP.



Zeeshan Alvi/HelpAge International

Nutrition strategies

In Haiti and Pakistan in 2010, the initial focus was to deliver support through blanket SFP, which were complemented by targeted SFP 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 SFP, both blanket and targeted SFP were started simultaneously.

It is therefore important that you take an active role in the country nutrition cluster (or the national coordinating authority if the cluster system is not operational): participate in meetings and promote the importance of assessing older people's nutritional status, be part of the joint action plans, participate in joint assessments and organise training or awareness sessions for cluster members on older people's nutrition needs.

Role of the United Nations agencies

In addition to ministries of health and local and international NGOs, WFP, UNICEF and UNHCR play a large role in supporting selective feeding programmes.

WFP has separate memorandums of understanding with UNICEF and UNHCR to outline their respective roles and responsibilities. The decision to implement a selective feeding programme and the design of the programme (blanket and/or targeted, therapeutic, year round or seasonal, food commodity, etc) is undertaken jointly:

- **WFP** ensures the provision of the general food distribution, and supports the management of MAM and the prevention of SAM through SFP programmes (blanket and targeted) including provision of ready-to-use supplementary foods (RUSF). It also addresses micronutrient deficiencies by fortifying food products or providing micronutrient powders (sprinkles).
- **UNICEF** is in charge of management of SAM through therapeutic programmes (including CMAM) and the provision of therapeutic milk and RUTF.

UNICEF ensures the provision of therapeutic and supplementary feeding and registration kits, and anthropometric equipment. UNICEF also supports the organisation of anthropometric surveys for decision-making, development of national standards, training material, databases, coordination and monitoring.

In refugee operations, WFP and UNHCR have also shared responsibilities:

- **UNHCR**'s role focuses on coordination of nutrition services to refugees. UNHCR is responsible for implementing feeding programmes in camps (usually with NGOs as implementing partners), including generation of anthropometric information for programming, and monitoring and evaluation.

UNHCR mobilises non-food items as well as complementary foods including local fresh foods, therapeutic milks, RUTF, and, when recommended, spices and tea.

- **WFP** is in charge of the general food distribution and mobilises cereals, edible oils/fat, pulses (or other protein-rich foods when appropriate and jointly agreed), fortified blended foods, salt, sugar and high-energy biscuits for both general and selective feeding programmes.

A partnership with these UN agencies is a prerequisite before starting a selective feeding programme, in order to be provided with the necessary food products and logistics items.

Partnership with NGOs

Some NGO-led blanket or targeted SFPs include older people, although this is rare. Most of the time programmes target children and women, and are unlikely to include other age groups, particularly in CMAM. One obstacle is the lack of technical knowledge on how to treat older people's SAM. Another is that during a crisis, the health staff involved in the management of SAM and MAM might be overwhelmed by the quantity of work.

You should therefore develop strategies to work with NGOs already involved in selective feeding programmes, to include a component on the management of older people's acute malnutrition. This can be done by providing training of health staff and community members involved in the programme, so that SFP and CMAM for older people run in parallel to the children and women's activities. There might be a need to recruit more health staff at health centre and community levels, and this should be discussed with local health authorities.

Resources

Global Nutrition Cluster website: www.unicef.org/nutritioncluster/index_gnc.html

World Food Programme, *WFP Nutrition Policy*, 17 January 2012, Policy Issues, Executive Board First Regular Session Rome, 13-15 February <http://documents.wfp.org/stellent/groups/public/documents/eb/wfpdoc061861.pdf>



Benjamin Schilling/HelpAge International

Action point 7: Advocate for older people's right to nutrition

For the purpose of humanitarian response, advocacy can be defined as “the act or process of supporting a cause”,¹⁸ in this case, **the right of older men and women to have access to food and nutrition interventions appropriate to their needs.**

Advocacy should be part of all interventions for older people in emergencies, with the goal of ensuring that older people are acknowledged as a vulnerable group and that their needs are met as part of the response.

How to advocate

Advocacy can take the form of many different activities. In the humanitarian response it often means presenting key messages and evidence at coordination forums, holding one-to-one meetings, and building relationships with key decision-makers.

In the nutrition sector, advocacy includes:

- **Participating in the consolidated appeal process** and any subsequent appeals to ensure that the needs of older people are included in humanitarian planning and allocated financial resources. When appropriate, you should also include dedicated resources for coordination.
- **Active participation in nutrition cluster meetings** or the national nutrition sector coordination meetings to promote the inclusion of older people in the humanitarian agenda.

Active participation means more than just attending meetings. The cluster system is meant to improve the coordination between the humanitarian actors, thereby identifying gaps, improving accountability to beneficiaries, enhancing understanding of the situation through shared information and analysis, and more powerful advocacy on behalf of the affected populations. The system is only efficient if the partners are active. You will need to take initiative within the cluster, eg by volunteering to chair sub-working groups on specific issues that affect older people, or participating in joint assessments.

You should also attend inter-cluster meetings and meet with communications staff to ensure that appropriate and accurate information about the services available to older people are included in humanitarian information services.

- **Gathering and sharing reliable sex- and age-disaggregated data and making evidence-based recommendations** to the cluster partners and with the various relevant levels of the relevant ministry to raise awareness of the numbers and vulnerabilities of older people. Distributing edited monthly reports and case studies of successful approaches for addressing older people's nutrition needs is also a useful strategy.
- **Coordinating with international and local partners who share a similar goal.** Identify partners who work with older people and form strategic alliances to deliver harmonised or joint messages at key national and humanitarian coordination forums.
- **Working with the media:** Sometimes the best way to draw attention to and gain support for a cause is to organise national and international media stories about the issue. You can meet with journalists to draw their attention to the issues affecting older people in a crisis and facilitate interviews and field visits for them, in coordination with your media and security colleagues.

18. Webster-Merriam dictionary

Strategies for successful advocacy

Successful advocacy depends on convincing the right people (ie decision-makers) that your cause is valid and requires their action and support. Some strategies to help make advocacy more successful include:

- **Be prepared** with compelling arguments, evidence and examples that support your messages.
- **Adapt to your audience:** different people (eg cluster leaders, national authorities, community leaders) will be convinced in different ways. Successful advocacy depends on correctly identifying your target audiences and adapting your strategies and messages to them. Identify ahead of time the specific motivations and concerns of your audience and adjust your information and communication strategies accordingly.
- **Use examples:** familiarise yourself with case studies or examples, preferably from similar contexts.
- **Work with partners:** messages are always stronger when they are delivered jointly.
- **Identify “champions”:** individuals in the right places can play a critical role in bringing about change. Build relationships and partnerships with people in target organisations who share your ideas.

If advocacy is a big component of your programme, you should begin by creating an advocacy plan to clearly define your goals, objectives, and audiences, and then identify what messages, strategies and materials or media you will use.

An advocacy plan template is provided in [Annex 8](#) on page 67.

Messages

Your advocacy goals, targets and messages must be drawn from the local context and adapted to your key audiences. For some general guidance, here is a summary of key messages drawn from the action points in this document.

Nutrition policy and inclusion in the humanitarian agenda

- Older people are a vulnerable group for malnutrition.
- As such, they should be systematically included in national nutrition policies, as well as in UN agencies’ policies.
- More sensitive thresholds for MUAC should be adopted to replace the “famine thresholds”.
- During a food crisis, older people should be targeted by food and nutritional assessments and selective feeding programmes.
- The Country Nutrition Cluster (or the national coordinating authority for nutrition) should include older people in its nutrition strategy, with the same level of priority as women, children and disabled people.

Access to nutrition interventions

- CMAM is a valid strategy for the management of older people acute severe malnutrition.
- Health staff and community members should be trained for the management of acute malnutrition in older people.
- WFP, UNICEF and UNHCR should support selective feeding programmes for older people, especially with the provision of RUTF and RUSF.

Annex 1:

Some definitions

Nutrients: All foods are made up of a combination of macronutrients (protein, fat, carbohydrate) and micronutrients (vitamins and minerals). Together with water, these nutrients are essential for life.

Malnutrition: broad term commonly used as an alternative to undernutrition but technically it also refers to overnutrition. People are malnourished if they have an unbalanced diet in which nutrients are lacking, excessive (too high an intake), or in the wrong proportions.

Undernutrition: occurs when the diet does not provide adequate calories and nutrients for growth and maintenance, or when people are unable to fully utilise the food they eat due to illness. It can result in growth failure (in children), loss of weight (in adults) or micronutrient malnutrition (or a combination of both).

Acute malnutrition is characterised by wasting or nutritional oedema (in adults, bilateral pitting oedema in the lower legs and feet, sometimes generalised to the face or the abdomen – ascites).

Acute malnutrition is divided into two main categories of public health significance: **severe acute malnutrition (SAM)** and **moderate acute malnutrition (MAM)**. MAM is characterised by moderate wasting. SAM is characterised by severe wasting and/or nutritional oedema. The term global acute malnutrition (GAM) includes both SAM and MAM.

Chronic malnutrition is characterised in children by stunting (shortness and poor cognitive development). In adults, it results in weight loss and thinness, as in acute malnutrition.

Micronutrient deficiency takes many clinical forms depending on the micronutrient that is deficient. The most common are vitamin A, vitamin B, iron or iodine deficiencies.

Famine is declared when the following measurements of mortality, malnutrition and hunger are met: at least 20 per cent of households in an area face extreme food shortages with a limited ability to cope; acute malnutrition prevalence exceeds 30 per cent; and the crude mortality rate exceeds two persons per day per 10,000 persons.

General food distribution involves the distribution of a standard ration of food to every beneficiary within a crisis-affected, refugee or internally displaced people (IDP) population.

Selective feeding programmes take one of two forms:

- **Supplementary feeding programmes (SFP):** provide supplementary food rations, either to prevent moderate acute malnutrition (through Blanket Supplementary Feeding Programmes) or to treat moderate acute malnutrition (through targeted SFP).
- **Therapeutic feeding programmes (TFP):** rehabilitate severely malnourished people and thus reduce excess mortality.

Blanket SFP: the objectives of blanket SFP are primarily preventative, aiming to:

- Prevent deterioration in the nutritional status of at-risk groups in a population.
- Reduce the prevalence of MAM in specific target groups, thereby reducing the risk of illness or death.

Blanket SFP provides food supplements to all members of a specified at-risk group (eg people aged 60 and above), regardless of whether they have MAM.

Targeted SFP: the objectives of targeted SFP are primarily curative, aiming to:

- rehabilitate children, adolescents, younger adults and older people with MAM
- prevent individuals with MAM from developing SAM by providing a food supplement to the general ration
- provide follow-up and rehabilitate referrals from treatment of SAM.

Moderately malnourished people admitted in SFP are receiving a supplementary ration of food, which can be distributed as take-home (dry rations) through the regular (weekly or fortnightly) distribution of food, or, in some cases, through daily distribution of cooked food at feeding centres (wet rations). Take-home rations should be prioritised as they increase adherence to the programme as well as reducing the costs and facilitate the logistics.

Therapeutic care: treatment of individuals with severe acute malnutrition either through inpatient or community-based care (see CMAM below).

Community management of acute malnutrition (CMAM) is the strategy recommended for treatment of severe acute malnutrition without medical complications. Sometimes known as community-based therapeutic care (CTC), ambulatory care, or home-based care for the management of SAM, it is based on three main components:

- **Community outreach:** community outreach workers are in charge of early identification and referral of people with SAM before the onset of serious complications, and provide follow-up home visits for problem cases.
- **Outpatient care for people with SAM without medical complications at decentralised health facilities and at home:** severely malnourished patients receive weekly medical check-ups and one-week's supply of ready-to-use therapeutic food (see RUTF below).
- **Inpatient care for people with SAM with medical complications or no appetite.**

Admission of malnourished individuals to targeted SFP and TFP are based on **anthropometric criteria** (measurements of the human body): weight, height, middle upper arm circumference (MUAC), body mass index (BMI) for adults (see page 51), or weight for height or MUAC for children.

Food supplementation products (FSP): supplementary foods must be energy-dense and rich in micronutrients, culturally appropriate, easily digestible and palatable. There is a wide range of nutritional products currently in use to treat MAM, which fall into two categories: dry rations/premixes (such as **fortified blended foods: FBF**) or **ready-to-use foods (RUF)**. Dry rations/premixes require some additional preparation at home, while RUF can be eaten directly from the package. RUF are increasingly being used in the field to treat MAM.

Corn Soya Blend (CSB) or Wheat Soya Blend (WSB) are fortified blend foods used to treat MAM. CSB and WSB are being replaced by CSB+ and WSB+, which have a better micronutrients balance. CSB++ (or Super Cereal Plus: SC+) has an improved micronutrient profile, better protein quality, higher energy concentrations as well as better bioavailability of vitamins and minerals.

F-100 and F-75 therapeutic milks (also known as Formula 100 and Formula 75) are therapeutic products designed to treat SAM. Milk formula F-75 is considered the “starter” formula, and F-100 the “catch-up” formula. The designations mean that the product contains respectively 75 and 100kcal per 100 ml. Both are very high in energy, fat, and protein, and provide a large amount of nutrients. A compressed form of F-100, “F-100 COMPRI” can be eaten as a biscuit directly from the pack. The standard F-100 therapeutic milk can also be prepared by crumbling the COMPRI and mixing it into drinking water. One bar crumbled and mixed into 300ml of boiled drinking water provides 360ml of F-100 therapeutic milk.

Sprinkles: used for food fortification to improve micronutrient intake. It is a tasteless powder containing the recommended daily intake of 16 vitamins and minerals for one person. It can be sprinkled onto home-prepared food after cooking, just before eating. Sprinkles can be tailored to local needs and for the household pot.

Ready-to-use food (RUF): ready-to-use supplementary foods (RUSF) are mostly oil seed or peanut-based pastes (eg Plumpy'Doz®); and **ready-to-use therapeutic food (RUTF)** are mostly a lipid-based formula made of peanuts, milk powder, oil, sugar and a mix of micronutrients (eg Plumpy'Nut®); both can be consumed directly from the packet. Other RUF take the form of high-energy biscuits (HEB) or compressed food bars, such as BP-5™ (an RUSF) or BP-100™ (an RUTF).

Food basket: the food basket or ration is the daily type and amount of food available in a household. It usually consists of a variety of basic food items (cereals, oil and pulses) and, possibly, additional foods known as complementary food items (meat or fish, vegetables and fruit, fortified cereal blends, sugar, condiments) which enhance nutritional adequacy and palatability.

MUAC: middle upper arm circumference is the circumference of the left upper arm, measured at the mid-point between the tips of the shoulder and elbow, using a non-stretch MUAC tape.

BMI: body mass index is calculated from mass and height: BMI is calculated by dividing the weight by the square of the height.

Prevalence: the proportion of cases of a disease in a given population at a specific time.

Resources

Harmonised Training Package: a series of modules on nutrition in emergencies, developed under the umbrella of the Global Nutrition Cluster.

www.ennonline.net/htpversion2 or

www.unicef.org/nutritioncluster/index_training.html

E-learning: the Emergency Nutrition Network (ENN) is proposing a number of free training courses on line (www.ennonline.net/lessons), using resources from the Harmonised Training Package. They are also available on the Global Nutrition Cluster website: www.unicef.org/nutritioncluster/index_training.html

Special nutritional products from WFP:

www.wfp.org/nutrition/special-nutritional-products



Erma Mentenot-Hintz/HelpAge International

Annex 2:

Recommendations for a balanced diet for older people

Energy intake: an older person requires between 2,000kcal (around 8,400kJ) and 2,500kcal (around 10,500kJ) per day to maintain their energy balance. This varies with age, sex and physical activity.

Fat, sugar, salt and meal size: intake of fat, sugar and salt by older people needs to be limited for health reasons. Enough should be included to enhance flavours and provide valuable nutrients but not so much as to raise the risks of cancer, atherosclerosis and other chronic diseases. In addition, the slowing of the digestive process with age means older people need smaller, more frequent meals than younger people. Five or six small, reduced-fat meals a day are better than one or two big meals.

Protein is important in later stages of life for sustaining a healthy immune system, preventing muscle wasting and optimising bone density. Older people should eat high-quality protein such as egg white, lean meat, poultry and fish. Milk and milk products, soy products (such as tofu), beans, lentils and nuts are key protein sources for vegetarians. Two portions of protein foods a day are recommended.

Fibre and water help to prevent constipation. Fibre is found in whole grains such as brown bread, whole cereals and brown rice, as well as legumes, fruits and vegetables. As people age they often feel less thirsty and can become dehydrated, especially in warm climates. They should be encouraged to drink 1-1.5 litres of water or other fluids (such as soups or fruit juices) every day.

Micronutrients (minerals and vitamins) are important to protect the immune system and reduce the risk of chronic disease. Micronutrient deficiencies are significantly associated with frailty in older people. Key micronutrients are:

- **Calcium** (from milk, yogurt, cheese and green leafy vegetables) is essential to maintain good bone health. It is recommended that older people eat at least three portions of dairy foods every day (four to five portions after the age of 75).
- **Vitamin D** helps to absorb calcium. The main natural source is sunlight, but it is also found in eggs, milk and oily fish (such as sardines, salmon, herring and mackerel).
- **Vitamin C** helps to repair the body and absorb iron. It is found in fruits and vegetables, especially citrus fruit and green vegetables.
- **Iron** is important for general health, as it is used by the body to produce red blood cells. Sources include red meat, liver, beans and lentils.
- **Vitamin B12 and folic acid** (folate or vitamin B9) are essential for maintaining the body functions. Their deficiency can cause anaemia, and is associated with an increased risk of depression in older people. Sources of vitamin B12 are found in foods coming from animals, including fish and shellfish, meat (especially liver), poultry, eggs, milk, and milk products. Foliates are also found in liver as well as leafy vegetables and legumes.
- **Other** vitamins and minerals, such as vitamin A for vision, other B-complex vitamins, vitamin K, magnesium, zinc and iodine are also important.

Vitamins and mineral requirements for older people – Safe levels of intake (summary)

| | Male and female ≥60 | Male ≥60 | Female ≥60 |
|---|------------------------|-------------|---------------|
| Vitamin A (mg retinol equivalent RE ^a) | 540 | 600 | 500 |
| Vitamin D (µg calciferol) | 3.2 | 3.2 | 3.2 |
| Thiamine (vitamin B1) (mg) ^b | 0.8 | 0.9 | 0.75 |
| Riboflavin (vitamin B2) (mg) ^b | 1.3 | 1.4 | 1.2 |
| Niacin equivalents (vitamin B3) (mg) ^b | 10.9 | 11.9 | 10.3 |
| Folic acid (µg) | 185 | 200 | 170 |
| Vitamin B12 (µg) | 1.0 | 1.0 | 1.0 |
| Vitamin C (mg) | 30 | 30 | 30 |
| Iron (mg) ^c Low (5-9%) | 15 | 15 | 15 |
| Iodine (µg) | 150 | 150 | 150 |

a: Vitamin A requirements may be met by absorption of vitamin A itself (retinol) or provitamin A carotenoids, which have varying equivalence in terms of vitamin A activity. The requirement is expressed in terms of the retinol equivalent (RE), which is defined by the following relationships: 1µg retinol = 1.0mg RE; 1mg beta-carotene = 0.167g RE; 1µg other provitamin A carotenoid = 0.084mg RE

b: β-vitamin requirements are proportional to energy intake and are calculated: Thiamine: 0.4mg per 1,000kcal ingested; riboflavin: 0.6mg per 1,000kcal ingested; niacin equivalent: 6.6mg per 1,000kcal

c: Basis of calculation of iron requirements = 7.5 per cent (diet as in developing countries)

Source: UNHCR, UNICEF, WFP, WHO, *Food and Nutrition Needs in Emergencies*, WHO, Geneva, 2002, www.unscn.org/layout/modules/resources/files/Food_and_Nutrition_needs_in_Emergencies_-_handbook_2002__UNH.pdf

Annex 3:

Example of a questionnaire for nutrition and baseline survey *(used in Dadaab, Kenya)*

Nutrition survey for older people (one questionnaire per person 60 and above)

| | | |
|---|--|---|
| Date (dd/mm) <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / 20__ | Camp/village HAG, IFO, DAG IFO 2 = IF2, IFO 3 = IF3 | Team no <input type="text"/> |
| Section and block code/number <input type="text"/> - <input type="text"/> <input type="text"/> | Cluster no <input type="text"/> <input type="text"/> | Individual no: Cluster no/individual no <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> |
| First name <input type="text"/> | Surname <input type="text"/> | Consent Yes / No |
| Nationality <input type="text"/> <input type="text"/> <input type="text"/> | BDI = Burundi, COD = Congo Democratic Republic, ERT = Eritrea, ETH = Ethiopia, ICO = Cote d'Ivoire, RWA = Rwanda, SEY = Seychelles, SOM = Somalia, SUD = Sudan, TAN = Tanzania, UGA = Uganda, ZIM = Zimbabwe | |

| No | Questions about participant | Answer |
|-----|---|---|
| 1. | Indicate who is answering the survey | 1 = Self 2 = Family carer 3 = Other carer <input type="text"/> |
| 2. | What is your birth date? | dd/mm/yyyy <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 99 = Don't know |
| 3. | Age in years | yyyy <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 99 = Don't know |
| 4. | Sex | 1 = Male 2 = Female <input type="text"/> |
| 5. | Marital status | 1 = Married 3 = Divorced 2 = Widowed 4 = Single <input type="text"/> |
| 6. | Do you live alone? | 1 = Yes 0 = No <input type="text"/> |
| 7. | How many people live in your household (are living with you)? | <input type="text"/> <input type="text"/> |
| 8. | When did you arrive in Dadaab? | 1 = September 5 = May 9 = January 2 = August 6 = April 10 = Before January 3 = July 7 = March 11 = Don't know 4 = June 8 = February |
| 9. | MUAC | mm (taken from left arm if the person is right handed) <input type="text"/> <input type="text"/> <input type="text"/> |
| 10. | Presence of bilateral Oedema? | 1 = Yes 0 = No <input type="text"/> |

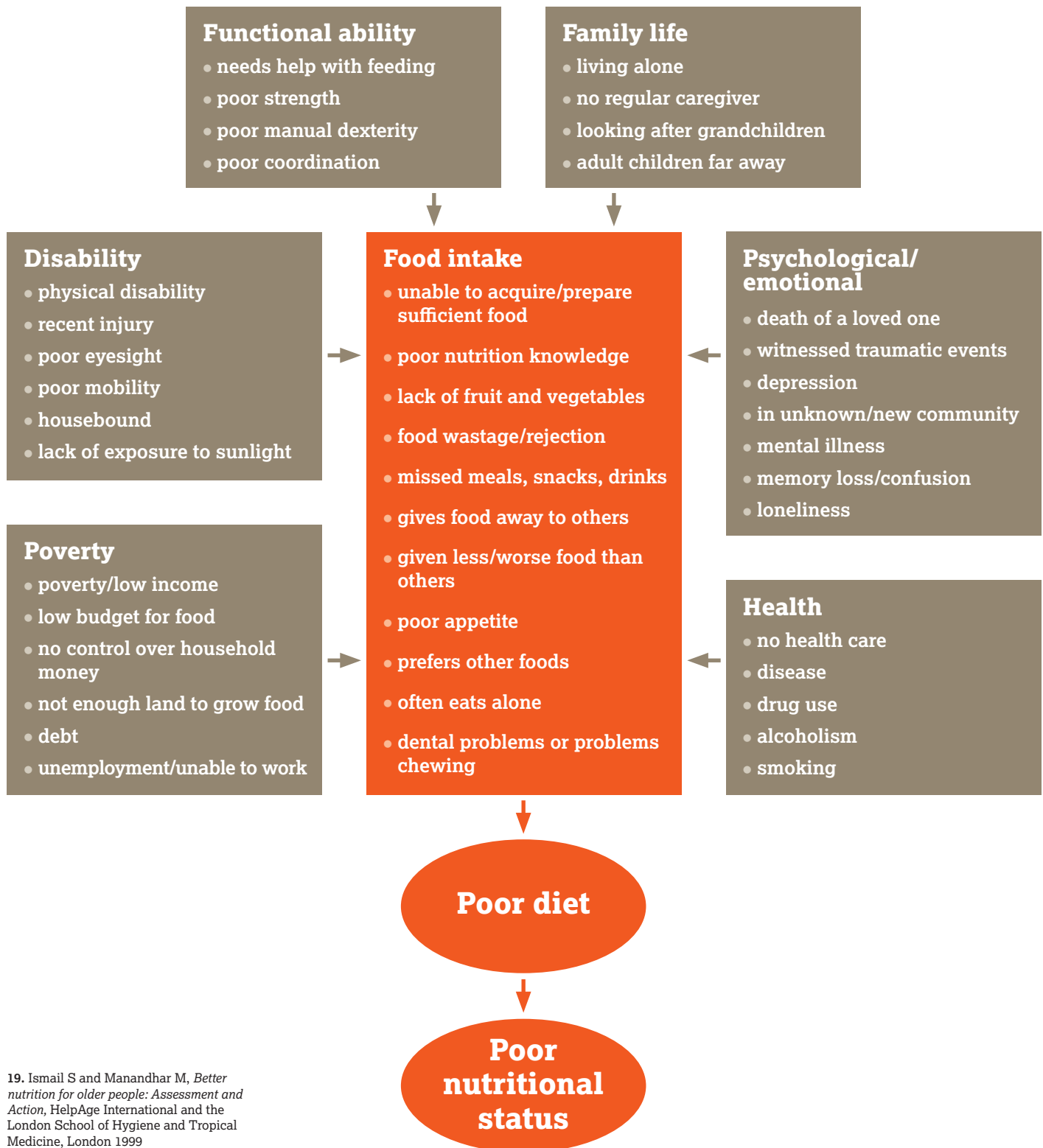
| No | Questions about food intake | Answer |
|------|--|--|
| 11. | Do you receive your food ration every cycle? (or twice a month) | 1 = Yes 0 = No |
| 12. | How many meals did you eat yesterday? <i>Ask for breakfast, lunch, dinner and snacks</i> | |
| 13. | What did you eat or drink yesterday? <i>Read the answers to the participant</i> <i>Ask for breakfast, lunch, dinner and snacks</i> | For each item: 1 = Yes 0 = No A. Any grains [insert any local foods, eg ugali, nshima], bread, rice noodles, biscuits, or any other foods made from millet, sorghum, maize, rice, wheat, or [insert any other locally available grain]? B. Any potatoes, yams, manioc, cassava or any other foods made from roots or tubers? C. Any vegetables? D. Any fruits? E. Any beef, pork, lamb, goat, rabbit, wild game, chicken, duck, or other birds, liver, kidney, heart, or other organ meats? F. Any eggs? G. Any fresh or dried fish or shellfish? H. Any foods made from beans, peas, lentils, or nuts? I. Any cheese, yogurt, milk or other milk products? J. Any oil, fat, or butter? K. Any sugar or honey? L. Any other foods, such as condiments, coffee, tea? |
| 14. | How is your appetite? | 1 = Poor 2 = Normal |
| 15. | Are you included in a supplementary feeding programme? | 1 = Yes 0 = No |
| 15a. | If yes : how many times a month do you receive supplementary food? | |
| 16. | Do you have problems chewing food? | 1 = Yes 0 = No |
| 17. | Do you usually eat alone? | 1 = Yes 0 = No |
| 18. | Do you give some of your food away to members of your family? | 1 = Yes 0 = No |
| 19. | In the past [4 weeks/30 days], was there ever no food to eat of any kind in your house because of lack of resources to get food? | 1 = Yes 0 = No (skip to question 20) |
| 19a. | How often did this happen in the past [4 weeks/30 days]? | 1 = Rarely (1-2 times) 2 = Sometimes (3-10 times) 3 = Often (more than 10 times) |

| No | Questions about food intake <i>continued</i> | Answer | |
|------|---|--|--|
| 20. | In the past [4 weeks/30 days], did you or any household member go to sleep at night hungry because there was not enough food? | 1 = Yes 0 = No (skip to question 21) | <input type="checkbox"/> |
| 20a. | How often did this happen in the past [4 weeks/30 days]? | 1 = Rarely (1-2 times) 2 = Sometimes (3-10 times) 3 = Often (more than 10 times) | <input type="checkbox"/> |
| 21. | In the past [4 weeks/30 days], did you or any household member go a whole day and night without eating anything at all because there was not enough food? | 1 = Yes 0 = No | <input type="checkbox"/> |
| 21a. | How often did this happen in the past [4 weeks/30 days]? | 1 = Rarely (1-2 times) 2 = Sometimes (3-10 times) 3 = Often (more than 10 times) | <input type="checkbox"/> |
| No | Questions about functional abilities | Answer | |
| 22. | Do you have a disability? | 1 = Physical disability 2 = Poor eyesight 3 = Poor hearing 4 = No disability | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 23. | Mobility: do you have difficulties standing up or walking? | 1 = Housebound 2 = Needs help 3 = Walks with walking stick or crutches 4 = Does not need help | <input type="checkbox"/> |
| 24. | Self care: How much difficulty do you have dressing or washing yourself? | 1 = Unable to wash/dress 2 = Needs help 3 = Does not need help | <input type="checkbox"/> |
| 25. | Activities: are you able to carry out normal activities (praying, housework, cooking, eating...) | 1 = Unable to carry out usual activities 2 = Needs help 3 = Does not need help | <input type="checkbox"/> |
| No | Questions about mental and psychological changes | Answer | |
| 26. | Have you lost a member of your family in the past 3 months? | 1 = Yes 0 = No | <input type="checkbox"/> |
| 27. | Are you suffering from depression or mental illness? | 1 = Confused, troubles understanding or answering the questions 2 = Depression 3 = No problem | <input type="checkbox"/> |
| No | Questions about family life and community | Answer | |
| 28. | Are you the head of the household? | 1 = Yes 0 = No | <input type="checkbox"/> |
| 29. | Are you looking after some children? | 1 = Yes 0 = No | <input type="checkbox"/> |
| 30. | Is somebody taking care of you? Helping you? | 1 = Yes 0 = No | <input type="checkbox"/> |

| No | Questions about health and sanitation | Answer |
|-----|---|--|
| 31. | Are you involved in community activities? (meetings, committee member...) | 1 = Yes 0 = No <input type="checkbox"/> |
| 32. | Do you take medicines regularly? (prescribed drugs, not traditional medicine) | 1 = Yes 0 = No <input type="checkbox"/> |
| 33. | If yes , what for? | 1 = Diabetes 2 = High blood pressure 3 = Pain 4 = Other 88 = Not applicable <input type="checkbox"/> <input type="checkbox"/> |
| 34. | Where do you purchase them? | 1 = At the health facility 2 = In a private pharmacy 3 = At the market (in the street) 4 = Other <input type="checkbox"/> |
| 35. | Have you been ill during the previous 2 weeks? | 1 = Yes 0 = No <input type="checkbox"/> |
| 36. | If yes , what was it? | 1 = Diabetes 2 = High blood pressure 3 = Pain 4 = Infection 5 = Diarrhoea 6 = Other 88 = Not applicable <input type="checkbox"/> <input type="checkbox"/> |
| 37. | When you were ill, did you go to the health centre or health post or hospital? | 1 = Yes 0 = No <input type="checkbox"/> |
| 38. | If no : Why | 1 = Doesn't know where it is 2 = Too far 3 = Could not go alone 4 = No drugs available 5 = Too expensive 6 = Other <input type="checkbox"/> |
| 39. | Are you satisfied with the drinking water supply? This relates only to the drinking water supply. | 1 = Yes 0 = No <input type="checkbox"/> |
| 40. | What kind of toilet facility does this household use? | 1 = Pour-flush latrine 2 = Ventilated improved pit latrine (VIP) 3 = Pit latrine with slab 4 = Pit latrine without slab/open pit 5 = Composting toilet 6 = Bucket 7 = Hanging toilet/hanging latrine 8 = No facilities or bush or field 9 = Other (specify) <input type="checkbox"/> |

Team leader signature

Annex 4: Risk factors for nutrition vulnerability in older people¹⁹



19. Ismail S and Manandhar M, *Better nutrition for older people: Assessment and Action*, HelpAge International and the London School of Hygiene and Tropical Medicine, London 1999

Annex 5:

Sphere standards for SFP, TFP and micronutrient deficiencies

The Sphere Project guidance on SFP

Sphere minimum standards: management of acute malnutrition and micronutrient deficiencies standard 1: moderate acute malnutrition: moderate malnutrition is addressed.²⁰

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.

Key indicators²¹

- More than 90 per cent of the target population is less than one 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 per cent in rural areas, >70 per cent in urban areas and >90 per cent in a camp situation.
- The proportion of discharges from targeted supplementary feeding programmes who have died is <3 per cent, recovered is >75 per cent and defaulted is <15 per cent.

20. *The Sphere Project 2011*, Minimum standards in food security and nutrition, [Chapter 3: Management of acute malnutrition and micronutrient deficiencies](#), p.165

21. These indicators were primarily defined for the 6-59 month age group, although they can be used for older people

The Sphere Project guidance on TFP

Sphere minimum standards: management of acute malnutrition and micronutrient deficiencies standard 2: severe acute malnutrition: severe acute malnutrition is addressed.²²

Key actions

- Establish from the outset clearly defined and agreed criteria for set-up or increased support to existing services, and scale down or closure.
- Include interventions with inpatient care, outpatient care, referral and population mobilisation components for the management of severe acute malnutrition.
- Maximise access and coverage through involvement of the population from the outset.
- Provide nutritional and medical care according to nationally and internationally recognised guidelines for the management of severe acute malnutrition.
- Ensure that discharge criteria include both anthropometric and non-anthropometric indices.
- Investigate and act on causes of default and non-response or an increase in deaths.

Key indicators²³

- More than 90 per cent of the target population is less than one day's return walk (including time for treatment) of the programme site.
- Coverage is >50 per cent in rural areas, >70 per cent in urban areas and >90 per cent in camp situations.
- The proportion of discharges from therapeutic care who have died is <10 per cent, recovered is >75 per cent and defaulted is <15 per cent.

22. *The Sphere Project 2011*, Minimum standards in food security and nutrition, [Chapter 3: Management of acute malnutrition and micronutrient deficiencies](#), p.169

23. These indicators were primarily defined for the 6-59 month age group, although they can be used for older people



Benjamin Schilling/HelpAge International

The Sphere minimum standards for the treatment of micronutrient deficiencies

Sphere Minimum Standards: Food security - food transfers standard 1: general nutrition requirements: Ensure the nutritional needs of the disaster-affected population including those most at risk are met.²⁴

Key actions

- Design food transfers on the basis of the standard initial planning requirements for energy, protein, fat and micronutrients, adjusted as necessary to the local situation.
- Ensure the population's access to appropriate nutritious foods and nutritional support is protected, promoted and supported.
- Ensure households with chronically ill members, including people living with HIV (PLHIV), and members with specific impairments or vulnerabilities have access to appropriate nutritious food and adequate nutritional support.

Key indicators

- There is adequate access to iodised salt for the majority (>90 per cent) of households.
- There is adequate access to additional sources of niacin (eg pulses, nuts, dried fish) if the staple is maize or sorghum.
- There is adequate access to additional sources of thiamine (eg pulses, nuts, eggs) if the staple is polished rice.
- There is adequate access to adequate sources of riboflavin where people are dependent on a very limited diet.
- There are no cases of scurvy, pellagra, beriberi or riboflavin deficiency.
- The prevalence of vitamin A deficiency, iron deficiency anaemia and iodine deficiency disorders are not of public health significance.

Management of acute malnutrition and micronutrient deficiencies standard 3: micronutrient deficiencies: micronutrient interventions accompany public health and other nutrition interventions to reduce common diseases associated with emergencies and address micronutrient deficiencies.²⁵

Key actions

- Train health staff in how to identify and treat micronutrient deficiencies.
- Establish procedures to respond effectively to the types of micronutrient deficiencies from which the population may be at risk.

Key indicators

- Cases of micronutrient deficiencies are treated according to current best clinical practice.
- Micronutrient interventions accompany public health interventions to reduce common diseases associated with emergencies.

24. *The Sphere Project 2011*, Minimum standards in food security and nutrition, Chapter 4: Food Security – food transfers, p.180

25. *The Sphere Project 2011*, Minimum standards in food security and nutrition, Chapter 3: Management of acute malnutrition and micronutrient deficiencies, p.173

Annex 6: Summary of most utilised ready-to-use foods (RUFs)

| Product | Unit | kcal/unit | Indication |
|------------------------------|------------|-----------|---|
| Plumpy'Sup® | 92g sachet | 500 | RUSF All age groups |
| Plumpy'Doz® | 325g pot | 1,820 | RUSF Children |
| BP-5™ | 55g bar | 254 | RUSF All age groups |
| BP-100™ | 55g bar | 300 | RUTF Rehabilitation phase 2, outpatient care All age groups |
| F-75 therapeutic milk | 100ml | 75 | RUTF Stabilisation phase 1 All age groups |
| F-100 therapeutic milk | 100ml | 100 | RUTF Rehabilitation phase 2, inpatient care All age groups |
| F-100 COMPRI | 500g | 537 | RUTF Rehabilitation phase 2, inpatient care All age groups |
| Plumpy'Nut® | 92g sachet | 500 | RUTF Rehabilitation phase 2, outpatient care All age groups |

Annex 7: Some important micronutrient deficiencies, signs and symptoms, and recommended treatments

| Micronutrient | Function | Source | Signs and symptoms of deficiency | Treatment for adults ²⁶ |
|------------------------------|---|--|--|---|
| Vitamin A (retinol) | <p>Vision</p> <p>Gene transcription</p> <p>Reproduction</p> <p>Cell growth</p> <p>Resistance to infections</p> <p>Skin health</p> <p>Maintenance of skin, bones, teeth, hair and mucous membranes</p> | <p>Green leafy vegetables (cassava leaves, potato leaves)</p> <p>Eggs, liver</p> <p>Mangos, papaya</p> <p>Carrots, yellow sweet potatoes, pumpkins, turnips</p> <p>Red palm oil</p> <p>Fortified full-cream milk, cheese, butter</p> | <p>Xerophthalmia:</p> <p>Night blindness</p> <p>Bitots spots</p> <p>Dry eyes, corneal xerosis, ulceration, keratomalacia</p> <p>Blindness</p> | <p>Give 3 doses of oral vitamin A at day 1, day 2 and in week 3: 200,000IU</p> <p>With the first dose, give topical antibiotic eye ointment (eg, tetracycline 1% or chloramphenicol 1%) for 10 days</p> <p>If the cornea is involved, close the eye and gently cover with an eye pad. Refer the patient to a specialist</p> |
| Vitamin B1 (thiamine) | <p>Energy production</p> <p>Appetite promotion</p> <p>Support for central nervous system</p> | <p>Whole grain cereals, soya beans, pulses</p> <p>Beef, pork, kidneys, liver, poultry, fish, eggs</p> <p>Oil</p> <p>Legumes</p> <p>Cashew nuts</p> <p>Milk and dairy products</p> | <p>Beri beri:</p> <p>Nervous system disease marked by severe lethargy, fatigue, cardiovascular and gastrointestinal problems, ascending paralysis of toes, fingers and limbs</p> | <p>Critically ill adults should be given 50-100mg thiamine very slowly intravenously <i>followed by</i> 3-5mg per day orally for at least 6 weeks</p> |

26. From *The management of nutrition in major emergencies*, WHO, Geneva, 2010, and Seal A, *Micronutrient interventions*, Harmonised Training Package module 14

| Micronutrient | Function | Source | Signs and symptoms of deficiency | Treatment for adults ²⁶ |
|--------------------------------|--|--|---|--|
| Vitamin B2 (riboflavin) | Energy production Vision Skin health | Eggs, liver, meat, fish Milk, yogurt, dairy products Green leaves Whole grain cereals Legumes Almonds | Cracked and red lips, inflammation of the lining of mouth and tongue, mouth ulcers, cracks at the corners of the mouth (angular cheilitis), sore throat Dry and scaling skin, fluid in the mucous membranes Iron-deficiency anaemia Classically associated with the oral-ocular-genital syndrome: angular cheilitis, photophobia, and scrotal dermatitis | 2-5mg of riboflavin orally per day until symptoms resolve |
| Vitamin B3 (niacin) | Energy production Healthy skin | Liver, chicken, beef, fish Wholegrain cereal Groundnuts and legumes Dates Mushrooms, avocados, broccoli, carrots | Pellagra: Diarrhoea, dermatitis, and dementia, as well as “necklace” lesions on the lower neck, hyperpigmentation, thickening of the skin, inflammation of the mouth and tongue, digestive disturbances, amnesia, delirium, and eventually death, if untreated Common psychiatric symptoms: irritability, poor concentration, anxiety, fatigue, restlessness, apathy, and depression | Daily dose of 300mg nicotinamide orally for 2-4 weeks. NB: Try to avoid using nicotinic acid as this may cause flushing of the skin, nausea, vomiting, tingling and numbness |

| Micronutrient | Function | Source | Signs and symptoms of deficiency | Treatment for adults²⁶ |
|----------------------------------|---|---|---|--|
| Vitamin B6 (pyridoxine) | Breakdown of protein and fats Production of antibodies, red blood cells, proteins, neurotransmitters | Meat, fish, poultry Legumes, groundnuts Whole grain products Vegetables Nuts Bananas | Anaemia, fatigue, irritability, depression Dizziness, muscle twitching Nervous disorders, confusion, somnolence, neuropathy | 2.5-25mg daily for 3 weeks, then 1.5-2.5mg per day as maintenance treatment |
| Vitamin B12 | Formation of red and white blood cells Maintenance of nervous system and digestive tissues | Meat, fish, liver, eggs Milk and dairy products | Anaemia Fatigue Dementia and depression, confusion, memory loss | If pernicious anaemia: 1mg (1,000µg) weekly for 8 weeks, then once monthly for life In most other cases a dose of 250µg/day may be used |
| Vitamin C (ascorbic acid) | Use of calcium and other nutrients to build bones and blood vessels Iron absorption Immune functions Prevention of oxidative damages Protein metabolism | Citrus, guavas Tomatoes, cabbage, green leaves, peppers Potatoes, yams, sweet potatoes, cooked plantain | Scurvy: Bleeding and swelling of gums, swollen and painful joints Gingivitis Stomatitis Anaemia | 1 gram per day of ascorbic acid for 2 or 3 weeks |
| Vitamin D | Growth of bones and cartilage | Milk and dairy products | Rickets: Enlargement of bone/cartilage junctions at the end of long bones (wrists and ankles) and in the ribs (rachitic beads) | Oral administration of 5,000IU daily for 4-6 weeks followed by 1,000IU daily for 6 months |

| Micronutrient | Function | Source | Signs and symptoms of deficiency | Treatment for adults ²⁶ |
|---------------|--|--|---|---|
| Iron | Oxygen exchanges in blood Energy production | Liver, meat, fish, poultry, shellfish, eggs Legumes, groundnuts Nuts | Anaemia Headache Irritability, fatigue Pallor Dizziness | Severe iron deficiency anaemia: 600mg iron and 400µg folic acid per day for 3 months Moderate iron deficiency anaemia, supplementation: 60mg daily |
| Iodine | Brain and nervous system development Growth | Seafood Sea salt, iodised salt | Goitre (thyroid enlargement) | Prevention: 150µg daily through iodised salt or iodised oil |



Pascale Fritsch/HelpAge International

Annex 8:

Sample advocacy plan

A good advocacy plan respects the principles of “SMART”: your goal should be **S**pecific, **M**easurable, **A**chievable, **R**ealistic and defined by an appropriate **T**imeframe.

While your goals may be based in principles or ideals, you should be realistic about what you can achieve given the resources available to you and the external situation. In the immediate aftermath of a disaster or at the onset of a crisis, your goals will probably focus on “small victories” (eg securing funding for mobility aids for older people) and have very short timeframes. As relief moves towards recovery you will probably begin to advocate for higher-level policy changes over a longer time (eg the provision of free health services to older people), and have multiple objectives and activities supporting your goal.

In general an advocacy strategy should include at least the following elements and could be presented as a narrative or organised like a log-frame in the following way:

| SMART advocacy goal | | | | | | |
|---------------------|-----------------|----------|------------|------------------------|-----------|-----------|
| Justification | | | | | | |
| Main strategies | | | | | | |
| Success indicators | | | | | | |
| SMART objective | Primary targets | Messages | Activities | Allies & opportunities | Resources | Materials |
| | | | | | | |
| | | | | | | |
| | | | | | | |



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