ADDRESSING THE NUTRITIONAL NEEDS OF OLDER PEOPLE IN EMERGENCY SITUATIONS IN AFRICA: IDEAS FOR ACTION

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FOREWORD

This report is the first publication of its kind focusing specifically on the nutritional needs of older people in emergency situations in Africa.

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 discriminate against them.

Our hope is that the people who read this report will help bring about a change in attitudes and practice for the benefit of older people affected by emergencies. As the needs of older people start to receive the consideration they deserve, it is important that we recognise the contributions that older people make as well as responding to the needs that they have.

This report attempts to bring together some of the key issues affecting the nutrition of older people in emergencies and offers some suggestions for ways in which the rights and needs of older people can be more effectively addressed. Some of the recommendations made in this report may be seen as controversial and there are many areas where additional research is needed. In publishing this report, we acknowledge the information gaps and challenge all those who read the report to help address this problem by collecting and sharing information and by contributing to constructive debate as to the right way forward. We hope that with your help, we will be able to publish an updated version of the report in the near future.

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1 ABBREVIATIONS

BMI	Body Mass Index
CED	Chronic Energy Deficiency
CMV	Concentrated Mineral and Vitamin premix
CSB	Corn Soya Blend
CSP	Community Support Programme
DSM	Dried Skim Milk
F75	Phase 1 Therapeutic Milk (75kcal per 100ml)
F100	Phase 2 Therapeutic Milk (100kcal per 100ml)
HAI	HelpAge International
HEM	High-Energy-Milk
HFEA	Household Food Economy Analysis
IU	International Units
KCAL	Kilo-calorie
MUAC	Mid-Upper-Arm Circumference
NGO	Non Governmental Organisation
OAU	Organisation of African Unity
RDA	Recommended Daily Allowance
SFP	Supplementary Feeding Programme
TFP	Therapeutic Feeding Programme
THF	Tetrahydrofolate
UK	United Kingdom
UN	United Nations
UNICEF	United Nations Childrens' Fund
WFP	World Food Programme
WHO	World Health Organisation

A glossary of terms used in the report is contained in Annex 1.

2 EXECUTIVE SUMMARY

Whilst traditionally respected, older people in Africa are becoming increasingly marginalised as a result of social change and economic pressure. The family remains the most important social support system for older people, but it is changing. Furthermore, during periods of crisis the ability and willingness of the family to support its older members is adversely affected.

Research by HelpAge International into the situation of older people in disasters and humanitarian crises found that older people are seen as a low priority by most humanitarian agencies and very few organisations develop programmes that consider their specific needs. Furthermore, the design of many emergency interventions unwittingly discriminate against older people thereby increasing their vulnerability.

The report is divided into six main sections that seek to provide an overview of the main nutritional issues facing older people in emergencies and that give recommendations for ways in which these can be addressed. The report draws on nutrition protocols used for other age groups, adapting them to reflect the needs of older people. Recommendations are made on the basis of research from various countries and from field experience that shows the ways in which older people are excluded and gives examples of how action can be taken to promote their inclusion. The report highlights the gaps that exist in knowledge and information about the nutritional needs of older people and presents recommendations as to how these might be addressed.

The general ration used by humanitarian agencies is designed to meet the general needs of everyone regardless of age or sex. The report looks at the general ration and demonstrates how it is often unsuitable for older people – both in terms of micronutrient intake and digestibility. Problems with the general ration are exacerbated by the fact that older people often have difficulties accessing it. Case studies highlight the way in which programme design often makes it impossible for older people to get their entitlements.

A framework for programme design is presented that stresses the need for the involvement of the family and community in nutrition interventions for older people. This approach strengthens support structures that usually exist in stable situations and seeks to avoid the possibility of interventions becoming a means by which older people are further marginalised by the community. The framework gives clear parameters for entry and exit into the programme and provides guidance on means for monitoring impact.

This report is not definitive, but is a step towards ensuring that older people have a greater voice, that their needs and concerns are considered and efforts made to more effectively address their nutritional needs in emergencies. Your feedback on the recommendations made, would be appreciated and will help us update the report in future.

3 INTRODUCTION

3.1 The Purpose and Scope of the Report

In most emergency situations the needs of older people are overlooked and little attention is paid to their nutritional requirements. When food rations are made available they are generally the same as for other adult population groups. It is unlikely that this approach meets the needs of older people very effectively. Furthermore, the design of most programmes limits older people's access to their basic needs.

This document aims to:

- Provide a summary of the nutritional requirements for older people. It highlights significant changes in the requirements in comparison with younger adults and examines the requirements in the light of current emergency food and nutrition interventions.
- Provide a framework, for piloting, reviewing and designing nutrition interventions for older people in emergencies.
- Assist organisations to more effectively address the nutritional needs of older people in emergencies.

Many aspects of the protocols for selective feeding are similar to those for children and adults. Rather than duplicating current guidelines, this document makes reference to existing guidelines and highlights the gaps, differences and adaptations necessary to address the needs of older people.

This document focuses on an African context and needs to be adapted for use in other regions.

3.2 Methods

The document was prepared on the basis of (i) a review of recent scientific literature (ii) consultation with representatives of non governmental organisations and individuals working in emergencies in Africa (iii) a review of current emergency nutrition guidelines (iv) practical case studies from various countries in Africa. The views of older people are reflected in the case-studies and the recent emergency research carried out by HelpAge International (2).

3.3 The Context

In the past, humanitarian efforts tended to focus on health and nutritional programmes on children under five years of age. During the 1990's, significant efforts were made to address malnutrition in adults more effectively (6). More recently, the failure to address malnutrition among infants (under six months) and adolescents has been highlighted and preliminary efforts to change this have been made. To date, little has been done to systematically address the needs of older people in emergency contexts. This report is a first step towards addressing that omission.

Despite ongoing efforts by humanitarian agencies, in particular the United Nations World Food Programme, to provide an adequate general ration, recent emergency experiences such as Angola (1999) and Ethiopia (2000) demonstrate that this is rarely achieved. Constraints are seemingly enormous and there are still frequent, drastic shortfalls in the quantity and quality of food aid provided.

Health and nutrition agencies tend not to include or even consider older people in emergency nutrition interventions. There are a number of reasons for this:

- a lack of knowledge of their specific nutritional needs
- a failure to consult the community on their perception of nutritional vulnerability
- a tendency to regard older people as an "unproductive" group
- a lack of criteria to define relative risk within this group
- an assumption that the community will take care of older people

Older people are usually a last priority targeted only when, and if, resources permit. Occasionally, they are included as one of the 'vulnerable groups' targeted through supplementary feeding programmes. In such cases, the approach is usually a blanket programme including all older people irrespective of need. Emergency programmes that target older people in this manner are usually fraught with problems, for example:

1. Blanket-feeding strategies usually mean that some older persons, who are not nutritionally at risk, are inappropriately targeted.
2. A clear rationale for targeting older people is not developed. As a result, the objectives and phase-out of the programme are not sufficiently considered.
3. There is a lack of criteria to assess the effectiveness and impact of nutrition interventions targeting older people.
4. The residual caseload, whose needs may be addressed more appropriately by alternative interventions, makes the phase-out of supplementary feeding programmes targeting older people difficult.
5. Without an effective out-reach and referral component, achieving good coverage of older people is difficult.

Added to these problems is the fact that during emergencies, there is a lack of information on patterns of mortality among all population groups other than the under fives. The relative risk of older people's mortality compared to other groups of the population is unknown. Whilst mortality in the under-fives decreases with time during an emergency, it is possible that mortality rates of older people stabilise or even increase (5). More specifically, the changes in the environment, which potentially lead to their increased vulnerability, are not known.

3.4 HelpAge International

HelpAge International is a global network of not-for-profit organisations with a mission to work with and for disadvantaged older people worldwide to achieve a lasting improvement in the quality of their lives. It was founded in 1983 by only five members and has grown to the present membership of over 70 organisations worldwide.

HelpAge International's work encompasses a broad spectrum of activities from direct implementation of activities designed to meet the immediate needs of older people to information and advocacy. It supports the development of local organisations and assists in the formation of national strategies, policies and legislation on ageing. In countries affected by conflict, economic collapse or natural disasters, HelpAge International provides support to older people through the provision of basic needs, family tracing and reunification and support to government health and social services.

In the early 1990's, in response to requests for information about the assessment of malnutrition among older people, HelpAge International contacted the London School of Hygiene and Tropical Medicine to ask for guidelines. However, an examination of the literature showed that there were no guidelines and, moreover, it showed that very little information existed about the nutritional status of older people in developing countries. As a result, in 1992, a collaborative research programme was launched.

The research sought to identify means of assessing the nutritional status of older people and to examine the links between nutrition and quality of life. In so doing, it was planned that the results of the research should be used to advocate for greater attention to be paid to the nutritional and other needs of older people. Research was completed and a field-workers handbook was published that explained the concepts and approaches in non-technical terms for nutritionists and community workers in both development and emergency situations.

Building on the work that had been undertaken, HelpAge International launched a regional nutrition programme in Africa in 1999 that provides training and information on nutritional issues affecting older people. This report is one element of this programme.

4 OLDER PEOPLE IN EMERGENCIES - KEY ISSUES

4.1 Age Definitions

Age can be defined in many ways and concepts vary greatly between societies.

- **Chronological age.** Defines age in terms of the number of years a person has lived. The UN defines older people as those being 60 years and above. In many situations, this is very limiting. In many countries, especially in rural areas, older people may not know their exact age as births were not registered until relatively recently. If age is not known, it may be possible to make an approximation based on events that people remember e.g. when war or severe food shortage occurred or in relation to the age of other people in the community.

- **Functional and social age**. Many cultures define age in terms of functional capacity or social status rather than in terms of actual years. An older person may be defined as someone who has grandchildren, a person who has 'grey hair' or, in the case of women, who can no longer have children. Issues of mobility and work capacity may also contribute to the definition of age.

Whilst chronological age provides a convenient means of defining a population group, it is often very limited as it does not reflect the understanding of ageing within a specific social or cultural situation. It is necessary, therefore, to determine culturally specific definitions of age and use them in conjunction with the UN definition of age (>60 years), to define context-specific age.

4.2 Good Practice Guidelines

Based on research and field experience, good practice guidelines have been produced and provide examples of ways in which emergency programmes can be developed to respond more effectively to the needs of older people. The guidelines focus on the need for consultation, inclusion, and empowerment. Copies of the guidelines are available from HelpAge International (2).

4.3 Policy Framework on Ageing for Africa

Most countries in Africa do not have a national policy on ageing. Without this, it is often difficult for organisations to fight for the rights of older people.

In 1999, during the International Year of Older Persons, ageing featured on the agenda of the 22nd Ordinary Session of the OAU Labour and Social Affairs Commission (Namibia, 1999). As recommended by the meeting, a Memorandum of Understanding was then signed (March, 2000) between the OAU and HelpAge International. Collaborative work started to advocate the rights, promote issues of ageing and develop interventions to address the needs of older people in Africa. A Policy Framework and Plan of Action has been developed and is currently going through the appropriate OAU policy processes before being presented to the Heads of State and Government for consideration.

The Policy Framework and Plan of Action includes sections related to food and nutrition and to emergencies and epidemics. These frameworks, once adopted, provide another means by which humanitarian organisations and governments can be encouraged to address both the rights and needs of older people.

4.4 The Contributions of Older People in Emergencies

The contributions older people make during emergencies are often over-looked, despite a number of studies that show that older people are more likely to be givers rather than receivers of aid in emergencies (40).

Older people often take on the responsibility for young children in situations where their parents have fled or have been killed. For example, this was a common phenomenon following the genocide in Rwanda in 1994 and in the besieged cities (such as Melange) in Angola during the war in 1993-94, when many parents of children died of land-mine injuries.

While younger adults may need to travel great distances in search of food during periods of food shortage, sometimes leaving the household for a number of days, older people often remain behind caring for young children and engaging in small-scale food production activities. A study carried out in a Rwandan refugee camp in Tanzania showed that 72% of older people were active in gardening in the camp and 42% were still involved in heavy household-tasks (41). A number of studies have shown that the presence of a grandmother in the household reduces infant mortality and improves nutritional status and child development – an interesting counterpoint to the widely held belief that the grandmother, with her old fashioned ideas, was a deterrent to improvements in child feeding practices (42).

In some cultures, for example, the Dinka in southern Sudan, after weaning, children are sent to live with their mothers' next of kin, usually her parents. The children will usually remain there up until the age of about six years. Strong family bonds are formed during this time when grandparents and relatives are attentive to the needs of the young children, teaching them traditions and local beliefs while the children's own parents continue with food production, food access and trading activities (43). This social behavioural pattern persists during food shortage periods.

Among pastoralists in northern Kenya, it is reported that older women take responsibility for food preparation for older (and younger) men who are living on their own, as well as the children they are taking care of in their own households. This pattern of intra-community support is particularly common during times of food shortage (44).

In emergency situations, where regular leadership patterns have been disrupted or destroyed, older people are well placed, given their long experience and knowledge of the community, to step into leadership roles. Older people may also bring their knowledge of traditional coping strategies and alternative medicines. For example, in southern Sudan, older women had the knowledge and skills on how to collect, process and prepare wild foods. During periods of food scarcity, these foods are a valuable source of nutrients. Younger women often do not have these same skills.

Case Study: Consumption of wild foods in southern Sudan (46)

Wild foods are an extremely important food source for the Dinka in southern Sudan, particularly during food shortage periods. It is generally the older women in these communities who have the skills and knowledge on how to collect, process and prepare these foods. Furthermore, older women can recognise the "good food types" and will know where they are likely to grow. It is generally the younger women and men who are more reluctant to make use of the wild foods as a result of their lack of knowledge as well as the stigma associated with eating them. In a recent focus group discussion on wild foods, one older woman was reported as saying *"…..it is the women who know and understand the foods that are good for our children, we must continue in our beliefs whatever the men have to say…" (Feb, 2000)*. In this context, there is not only the potential for utilising the older women's knowledge and experience but also to promote and support the use of wild foods as a valuable micronutrient-rich food source for older people.

Older people's sense of history and continuity and their capacity to influence communities in conflict resolution means they have a valuable role in preserving the culture and identity of communities in crisis. This is especially applicable in refugee camp populations where 'camp culture' can rapidly replace traditional cultural identities (40).

5 RISK FACTORS AFFECTING THE NUTRITIONAL STATUS OF OLDER PEOPLE IN EMERGENCIES

Under normal conditions, older people are at increased risk of becoming malnourished in comparison to other population groups.

A number of misconceptions concerning older people, unless challenged, will impede agencies from effectively addressing their nutritional needs. There is generally the assumption that the community has the capacity to take care of the older members without consideration of how this capacity is affected by the emergency itself. The belief that older people are an 'unproductive group' is misleading. In addition, the tendency to consider older people as a single homogenous group is inappropriate and indicates the lack of understanding of the complex factors affecting older people's vulnerability.

To understand factors affecting the vulnerability of older people in emergencies, it is important to distinguish between those operating at an individual level, those acting at a community or population level, and those resulting from programme design.

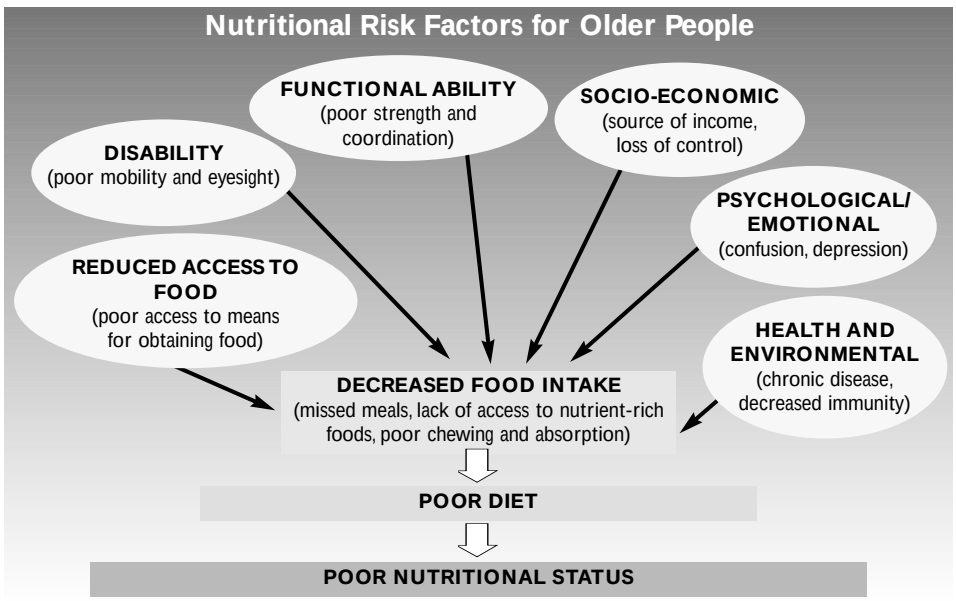
5.1 Risk Factors – Individual Level

At an individual level, it is essential to understand why an older person or group of older people is malnourished or is at risk of becoming malnourished[1]. Some of the risk factors that may affect older people are summarised in "Better Nutrition For Older People: Assessment and Action" (3) and include factors associated with food intake, the impact of functional ability, family life, poverty, disability and psychological/emotional issues[1].

Some studies have shown that older people who are left on their own are likely to suffer from psychiatric morbidity. For example, during the famine of 1998 in Bar el Ghazal (southern Sudan), older people were sometimes found in their 'tukuls' with a full general ration beside them but they were too ill, weak or simply lacked the motivation to prepare the food.

Figure 1 below summarises the risk factors that may affect older people at an individual level. Not all risk factors apply equally to all older people and some may be linked and have a synergistic effect. However, the presence of risk factors does not necessarily lead to malnutrition.

Figure 1: Nutritional Risk Factors for Older People at an Individual Level



[1]These individual risk factors will be considered again later in the report in specific reference to the admission criteria to the Selective Feeding Programme and to the Community Support Programme.

5.2 Risk Factors – Population Level

When designing programme interventions at a population level, it is necessary to examine risk factors at household and community level. A model, adapted from the UNICEF conceptual model, illustrates some of the potential causes of malnutrition affecting older people in emergencies and is described in Annex 2. In emergency situations, a number of changes occur in the external environment. Some of these changes disproportionately affect older people and lead to increased nutritional vulnerability. Some of the underlying (at household and community level) and basic causes (at a population level) that may influence older people's vulnerability are discussed below.

- **Stressful events** such as displacement, loss of livelihood and death of family members affect all those in emergency situations, but the impact on older people may be different as they are more likely to have experienced more than one of these traumatic events in their lifetimes.

- The **disruption or loss of support structures** has a negative impact on older people's ability to access food. Once these structures are broken down, the community capacity to care for and prioritise its most vulnerable members may no longer be adequate. Reconstruction of these community structures usually takes time and continues beyond the acute phase of the emergency.

- Older people are often left behind when stronger population groups leave in search of food or flee in times of conflict. Such **family separations** may result in older people experiencing major changes in their roles, responsibilities and social status.

- In most emergencies, **populations need to access and prepare their own food**. Some of the coping activities undertaken to increase household food availability may not be options for older people. Furthermore, it is often harder for older people **to adapt to new and unfamiliar foods**.

- **Public health** risks increase, especially in situations where large numbers of people live in close proximity. Older people have lower immunity and a lower resistance to many diseases in these conditions.

- Older people often have **limited access to health services**. Not only does the physical distance present a problem but the attitudes of health workers often means that older people's health needs are given little attention. Furthermore, **services that address the specific health needs of older people**, e.g. diabetes, hypertension and dementia are seldom established by humanitarian agencies in emergencies.

- The general ration alone rarely meets the nutritional needs of emergency-affected populations. Additional food is usually accessed through informal trade, fishing, labour activities in exchange for food, etc. **Older people often do not have the same opportunities** as younger adults. Therefore, while those households with active members will attain adequate food for the household, **older people living alone** often remain or become increasingly food insecure.

- **Wild foods**, especially those that are darkly coloured, are an important source of micronutrients. Following population displacement, **access to these wild foods may become more difficult**. Yet, in many circumstances, their contribution to household food availability becomes increasingly important as other food sources become scarce. These foods are particularly important for older people, mainly women, who have the knowledge and skills to prepare them.

5.3 Risk Factors Associated with Current Design of Emergency Nutrition Interventions.

Risk factors arise as a result of the design of many emergency nutrition interventions. Particular problems are found in terms of assessment, access to the food ration itself and issues related to food processing and preparation.

5.3.1 Inclusion of older people in nutritional assessments

Older people are seldom involved in decision-making about food aid requirements and programme design. As a result, programmes do not reflect their needs. For example, during the 1998 crisis in southern Sudan, consultations with older people and other members of the community revealed significantly different findings from the information collected from members of the local administration.

Current assessment techniques do not take adequate consideration of older people's issues. For example:

- The Household Food Economy Analysis (HFEA)[2], may be limited with regards to its definition of the household unit which it defines as "an economic unit with a single dependent (older person)". This definition does not consider the contributions older people make in terms of food production (most older people are active) and does not capture the concept of the household as a "caring unit" (role as carers of children etc). (45)

- Although older people are often included as key informants in rapid assessment procedures, it is generally those of higher social status in the community that are consulted as opposed to those who are less visible or marginalised.

- Rapid nutrition surveys, such as the cluster and systematic surveys that are commonly used in emergencies to assess the prevalence of acute malnutrition, do not usually assess the nutritional status of older people. Older people who are housebound or very frail are often missed in assessments.

5.3.2 Access to the food ration

The vulnerability of older people is often a community priority during normal food shortage periods e.g. periods before the harvest. Once families become destitute and livelihoods are lost, decision-making processes in the family and intra-household patterns of food allocation are altered. When communities experience periods of extreme difficulty, older people may lose their social status which previously ensured a certain degree of individual food security.

The design of food distributions often results in poor access to food rations by older people. For example:

- Older people, especially the weak or inactive, may be excluded from normal information sharing mechanisms. Older people who become depressed often exclude themselves from normal social gatherings such as village meetings. Lack of information often results in a lack of knowledge of entitlement and subsequently poorer access to food rations.

- In centralised food distribution systems, the distances to collection points are often too long for many older people, especially if they have to return with heavy loads. For example, during the repatriation in Rwanda (1996), monthly rations for returnees were provided but in many cases, older people were unable to carry the large sacks of grain and other non-food items and many were forced to sell the grain at a market nearby.

- Queuing systems at distribution sites seldom prioritise older people, who may be physically weaker than other population groups.

[2] A methodology commonly used to assess food aid needs.

5.3.3 Food processing and preparation

Not only are whole grain cereals and beans difficult to digest for older people but these foods are relatively more difficult to prepare. Foods that are not pre-cooked or are in whole grain form often require substantially longer cooking time. A lack of access to cooking materials and milling facilities exacerbates the situation, especially for those who live alone. In emergency situations where fuel and water are limited, older people are more vulnerable as they are less likely to be able to walk long distances to secure these resources.

Older people may find it more difficult to adapt to new and unfamiliar foods. Furthermore, they may not have the knowledge and skills to prepare these foods. For example, in 1994, it was commonly found that older pastoralists in Turkana (northern Kenya) experienced severe bloating and discomfort after consuming inadequately cooked whole grain maize and beans that they were unfamiliar with (47). Training on food preparation of new or unfamiliar food (aid) commodities usually targets younger women. Older people require, to an even greater extent, assistance and training on food preparation techniques.

6 NUTRITIONAL REQUIREMENTS FOR OLDER PEOPLE

6.1 General Nutritional Requirements[3]

Older people are a more diverse population than any other age group. Every older person has a life of experience behind them, widely varying capabilities and differing levels of functioning. On the whole, older people are more likely than younger adults to be in marginal nutritional health. As a result, in times of stress or health care problems they tend to suffer from greater nutritional deficiency. Physical, social and emotional problems may interfere with appetite or may affect their ability to purchase, prepare and consume an adequate nutritional intake (8;9).

There is a lot of debate about appropriate nutrient intakes for older people. Most of the research relating to older people's nutrition has been carried out in developed countries but opinions are changing as the extent of research in this area increases. Furthermore, it is debatable whether some of the recommendations are correct for African populations.

The nutritional requirements listed in Table 1 below are those that are widely accepted and the relevant debates are summarised in Annex 3.

Macro-nutrients

Table 1: Energy and nutrient intakes for older people

(Calculated based on weight of older people as; male 60kg, female 52kg, > 60years, based on developing country profile)

	Requirements (per day)	Relative to younger adults	Physiological reasons for change
Energy WHO (1985) (21;22)	1890 kcal (1780 – 2010)	Reduced by 15% in comparison with adults less than 60 years (WHO, 1991). With increasing age, likely to decrease further. Healthy older people involved in moderate or heavy physical activity will require higher amounts.	Reduction in physical activity levels (caused by change in occupational activities and/or disabilities) and a reduction in basal metabolism (caused by a reduction in lean body mass).
Protein	0.8g/kg/day Male: 48g per day. Female: 42g per day. Approximately 10-12% of energy intakes from protein (21)	Similar as for younger adults.	Possible increase in requirements due to: higher intakes may contribute to better immunity, compensates for excess nitrogen losses, relatively inefficient protein use. Reasons for decreased or similar requirements: liver less able to metabolise excess protein intakes, protein more efficiently metabolised.
Fat	At least 15% of energy in the form of fat (23).	Similar to younger adults. An increase in energy from fat is recommended for older persons who are very active e.g 20%.	Gastric atrophy in older people rarely causes fat malabsorbtion (8). Intakes of 25-30% of fat over a long period may be inappropriate (especially in the form of saturated fatty acids) (24).

[3]The recommendations for nutritional requirements are largely based on studies carried out in developed countries as limited research on older people has been done in developing countries.

	Requirements (per day)	Relative to younger adults	Physiological reasons for change
Fluids	30ml water per kg or approximately 1.5-2.0 litres water per person (6-8 cups) (8).	Increase in requirements compared to younger adults.	Loss of ability of kidney to concentrate urine and excrete waste products, impaired renal function due to disease, thirst drive decreased, increased fluid intake improves peristalsis or bowel movements.
Fibre	Moderate quantities of fibrous foods (13).	Increase in requirements. Consumption of adequate quantities of fruit, vegetables and complex carbohydrates.	Constipation is relatively common in older people as a result of reduced peristalsis and/or reduced physical activity.

Micro-nutrients

Although the requirements for energy decrease in older people, micro-nutrient requirements do not (25; 26; 27). Hence, an adequate diet for older people must ensure that the micronutrient requirements are still met despite the reduced energy intake i.e. that foods are sufficiently nutrient dense. The WHO recommended daily allowances for vitamin and mineral intake for those over 51 years of age are given in Tables 2 and 3 below.

There are many factors causing an increase in requirements for micronutrients and in some cases, micronutrient deficiency diseases among older people. These are: actual energy intakes are decreased; lower intake of nutrient dense foods; reduced gastric acid activity leading to malabsorbtion of micronutrients; lower secretion of intrinsic factor; chronic disease and gastro-intenstinal bleeding (8;25;27). All acutely malnourished individuals, including older people, tend to be deficient in some micronutrients.

Table 2: 1989 RDAs for vitamins (>51yrs) WHO recommendations of safe intakes (>60yrs) and estimation of adequacy

	WHO (2000) >60 yrs: lower	RDA (1989) >51yrs: upper	Adequacy of RDA for older people
Vitamin A	500-600ug RE	800-1000ug RE	RDA may be too high. However, Vitamin A is important for antioxidant properties
Vitamin D	3.2ug	5.0ug	RDA may be too low
Vitamin E	-	8-10mg	Limited data, important for antioxidant properties; may contribute to improved immune system.
Vitamin K	-	65-80ug	No data
Thiamin	0.9mg	1-1.2mg	Adequate
Riboflavin (B2)	1.4mg	1.2-1.4mg	Adequate
Naicin	10.3-11.9mg	13-15mg	No data
Vitamin B6	-	1.6-2.0mg	May be too low
Folate	160ug	180-200ug	Adequate but active form dependent on adequate B12 availability (28)
Vitamin B12	-	2.ug	May be too low
Ascorbate (Vit C)	30mg	60mg	Adequate, important for antioxidant properties (29)
Biotin	-	30-100ug	No data
Pantothenic	-	4-7mg	No data

Source: Adapted from: Nutrition in older people. Ausman, L.M. and Russel, M. (8)

Table 3: 1989 RDAs for minerals (>51yrs) WHO recommendations of safe intakes (>60yrs) and estimation of adequacy

	WHO (2000) >60 yrs: lower	RDA (1989) >51yrs: upper	Adequacy of RDA for older people
Calcium	-	800mg	May be too low
Iron	15mg (low availability)	10mg (high availability)	Research equivocal
Magnesium	-	280 – 350ug	May be too high
Zinc	-	12 –15 mg	Adequate (24)
Selenium	-	55-75ug	Adequate (24)
Other trace elements e.g chromium, phospherous, flouride, iodine, manganese			No RDAs and/or inadequate information on adequacy for older people

In summary, for older people, it is generally important to emphasise the following (38):

- Consumption of **foods that are nutrient-dense** in vitamins and minerals. For example, whole grain and enriched (or fortified) breads and pastas are preferred to refined grain products for provision of adequate amounts of B vitamins and increased fibre intakes. This is important since refined cereals and breads usually comprise the bulk of the diet of older people.

- In the fruit and vegetable category, older people should choose those that are **deeply coloured for provision of folate and antioxidant nutrients.**

- Within the milk, yoghurt and cheese food group, emphasis should be placed on **low-fat dairy products** for the provision of adequate amounts of calcium and vitamin D.

- Within the nutrient-rich meat, poultry, fish, dried beans, eggs and nuts food group, **variety** should be the key principle to follow with individual choices being made according to **availability, chewability, individual preference, ease of preparation and affordability**. A combination of animal and plant protein is recommended.

- Foods high in **dietary fibre**, such as fruit and vegetables should be stressed.

- **Fluid intakes** of older people should be emphasised since thirst sensation is decreased in older people.

6.2 The General Ration

6.2.1 The nutritional requirements of a general ration

The initial reference value or planning figure for general food rations in emergencies is based on the average per capita nutritional requirements for a population. These requirements are considered in terms of energy, fat, protein and micronutrients. This figure can be increased based on specific circumstances, or is decreased based on the population's access to other food sources. Where populations are entirely dependent on food aid, the general ration should meet the following criteria (22):

- Provide 2,100kcal per person per day
- Protein should provide at least 10-12% of total energy
- At least 17% of the energy should be provided in the form of fat
- The overall micronutrient content of the ration meets the needs of the whole population

Five types of rations are shown in Table 4 to illustrate differences due to factors such as the food habits of the population, the acceptability and the availability of commodities.

Table 4: Example of adequate full rations for populations entirely reliant on food assistance (adapted from "Estimating Nutritional Needs in Emergencies" (22))

ITEMS	RATIONS (quantity in g per day)				
	Type 1 Maize flour as staple with beans/groundnuts e.g. Southern Africa.	**Type 2** Sorghum as whole cereal, beans with dried fish and CSB e.g. Eastern Africa	**Type 3** Availability of maize is limited, substituted with additional pulses (including groundnuts)	**Type 4*** Rice-based diet with lentils and fish as source of protein e.g. south Eastern Asia	**Type 5*** Wheat flour, white beans, limited access (urban area, insecurity) to fresh vegetables e.g. Balkans
Cereal flour	400	450	350	400	420
Pulses**	60	60	100	60	60
Oil (vit. A fortified)	25	25	25	30	25
Fish/meat	-	20	-	40	-
Fortified blended food	50	40	50	-	-
Sugar	15	-	20	20	20
Iodized salt	5	5	5	5	5
Fresh veg./fruits	-	-	-	50	100
Spices	-	-	-	-	5
Energy: kcal	2,113	2,136	2,087	2,162	2,072
Protein (in g and in % kcal)	58g; 11%	78g; 14%	72g; 14%	48.8g; 9%	63.8g; 12%
Fat (in g and in % kcal)	43g; 18%	43g; 18%	43g; 18%	42g; 17%	41.5g; 18%

* This ration has rice as a cereal. The low percentage energy for protein is acceptable due to its high quality. The slightly low fat content is in line with food habits in rice-eating countries.

** Not all types of pulses are acceptable to all populations. Therefore, the most familiar type of pulse must be sourced for the population.

6.2.2 Is the ration nutritionally adequate for older people?

The average per capita requirements for population groups incorporate the requirements for all age groups and both sexes. They are, therefore, not specific to any single age/sex group and should not be used to assess requirements on an individual basis, including older people.

The minimum requirements for a ration and the nutritional needs of older people cannot be considered independently of intra-household food sharing patterns which will affect, to some extent, whether or not older people have adequate food. For households consisting of only older persons, intra-household distribution is less relevant and other factors have a stronger influence on determining food access.

The basic ration does not adequately meet the micronutrient needs of older people. In theory, the energy, protein and fat requirements are met but in practice, the basic ration is often inadequate. Risk factors affecting older people at an individual and population level are outlined in section 5.

6.2.3 Provision of a nutritionally adequate general ration

General ration requirements

- Provide a ration that at least meets the minimum energy and nutrition requirements i.e. 2,100kcal.

- Provide no less than 50g of blended food per person per day (as part of the general ration). If quantities of blended food are limited, children under five years old and older people should be prioritised. If blended food is not provided as part of the general ration, resources should be allocated to procure for distribution to priority sub-groups including older people. During periods when food rations are decreased or phased out, blended food should be retained as a food commodity in the food basket.

Case-study: Provision of blended food for pastoralist communities in northern Kenya (49)

In pastoralist communities in parts of northern Kenya, older people normally remain behind in fixed locations while the rest of the family travels with the animals during the drier parts of the year. Under normal circumstances, families support older family members by leaving behind a few small (breeding) animals such as goats thereby enabling them to access milk. However, during drought conditions, a number of changes occur that result in family support mechanisms becoming undermined. Families are forced to migrate further, milk supplies generally reduce (breeding ceases) and the animals that are left behind are sold (to buy food) or die if grazing becomes very scarce.

The monthly general ration, which comprises of maize (14kg), beans (2.5kg) and oil (0.75 litres) did not include a blended food. Recognising the increased vulnerability of the older people in these circumstances, Oxfam distributed blended food as a supplement to the general ration. An evaluation of the programme showed that there were a number of obvious inadequacies in this ration for older people - palatability, chewability and digestibility of the ration. In addition, it was observed that part of the ration was being exchanged for firewood and water, which older people had difficulty accessing but which were essential for food preparation. The blended food (5kg per month) that was provided to older people was distributed through decentralised distribution sites. This intervention was designed on the basis of an evaluation of the Oxfam relief intervention in Turkana (1994).

6.3 Supplementary Feeding Programmes - Nutritional Protocols

Supplementary feeding can be provided as daily prepared meals ("wet-feeding") or as a dry take-home ration ("dry ration"), normally provided on a weekly or two-weekly basis. The type of intervention will depend on the context.

Take-home or dry ration should provide from **1,000 to 1,400 kcal** per person per day (Table 5, Rations 1-2). The food ration should provide at least 25% of energy from fat and 10-15% from protein. Dry rations are usually larger in comparison to prepared (wet) rations to take into account intra-household sharing (54).

On-site feeding or prepared ration should provide at least **700 kcals** of energy per person per day (Table 5, rations 3-7). The food ration should provide at least 25% of energy from fat and 10-15% from protein (54). The food commodities could include blended food, oil, sugar, cereals, and pulses. Where local foods are available in sufficient quantities, these foods should be used in suitable combinations of a staple, protein supplement, oil and micronutrient-rich food.

Table 5: Examples of Typical Daily Rations for SFPs[4]

Item	Take-home or dry ration (g/person/day)		On-site (prepared) feeding or wet ration (g/person/day)				
	Ration 1	Ration 2	Ration 3	Ration 4	Ration 5	Ration 6	Ration 7
Limited food aid items available		Blended food in shortage	No cereal available	E.g. Rwanda	E.g. Tanzania or Malawi	Wide coverage area i.e. long distance.	E.g. Dinka, southern Sudan
Drinking WATER should be available at all times in the centres and at the distribution points.							
Blended food, fortified	250g	100g	150g			100g	
Cereal e.g. rice, maize flour, sorghum		150g		125g rice	120g maize flour		100g sorghum
Oil (Vitamin A fortified)	30ml	35ml	15ml	10ml	20ml	20ml	10ml
Pulses, fish			40g lentils	30g fish	50g beans		20g fish
Dried skim milk or prepared milk (HEM)		20g DSM		250 ml HEM		10g DSM	250ml HEM
Sugar		10g				10g	
Vitamin and Mineral mix (CMV) OR Fresh vegetables and/or fruit			CMV added bl. food	Local vegetables	Local vegetables	CMV added to bl.food	CMV added to to milk
Salt, iodized			5	5	5		5
Energy (kcal)	1,215	1, 345	765	870	775	935	714
Protein g (% kcal)	45 (14%)	36 (11%)	35 (18%)	30 (13%)	21 (11%)	22 (10%)	25 (14%)
Fat g (% kcal)	45 (33%)	42 (28%)	24 (31%)	26 (28%)	25 (29%)	26 (26%)	26 (33%)

The composition of the rations are similar to those used for children and adults. However, when designing food rations for older people there are a number of important issues to consider.

1. Nutrient-dense foods should be used whenever possible. Foods such as meat, milk, darkly coloured-foods, vegetables, fruit and pulses are particularly important sources of micro-nutrients. Blended foods are also a good source of micro-nutrients. However, the blended foods that are available for emergency nutrition interventions are often inadequately fortified or are lacking in some important micro-nutrients. A concentrated mineral and vitamin (CMV) supplement can be added to (prepared) foods that are inadequately fortified.

2. Cereals in the form of flours, well-cooked pulses (soaked over-night to reduce cooking time) and blended foods are more easily digested by older people.

[4] Adapted from (54)

3. Food preference, choice and familiarity should be given adequate consideration. Older people are less likely to eat foods that are unfamiliar to them. Efforts should be made to consult older people on the types of food they prefer. In particular, older women should be consulted on the types of 'good foods' that are available and the preferred traditional recipes. These recipes can then be adapted to meet protein and other nutrient requirements.

4. Target levels for fortifying blended food have been proposed (55). These levels of fortification consider micro-nutrient requirements in terms of normal daily needs and requirements for tissue repair, disease, deficient micro-nutrient stores and poorer absorption, characteristic of malnourished persons. Furthermore, it is well established that the reduced energy intakes for older people means that they do require a more enriched diet. In this way, the challenge to ensure sufficient micro-nutrient intakes for older people is partially addressed, since the supplementary ration provides a higher percentage of their overall nutrient requirements.

Variation in quality of blended food composition

Despite established protocols for the composition and procedures for blended foods, there continue to be significant differences in the quality of blended foods produced in different countries. Efforts should be made to ensure quality control measures are observed.

Addressing older people's mineral and vitamin requirements through complementary strategies

In emergency supplementary interventions, a number of complementary strategies can be adopted:

1. The use of darkly-coloured vegetables (including wild foods) in food preparation should be a priority. Diet diversification will also contribute to increased micro-nutrient intakes. However, this strategy may not always be feasible in emergency situations.
2. Supplements of specific vitamins (Vitamin A, folic acid) are given routinely on admission in nutrition rehabilitation programmes.
3. A supplementary Concentrated Mineral and Vitamin pre-mix (CMV) can be added to blended foods[5], maize porridges or traditional meals that are prepared on site. Attention should be paid to ensuring that the CMV is thoroughly mixed into the cooked food. The mineral and vitamin mix should not be added to dry-ration mixtures.
4. All food aid commodities should be fortified e.g. oil with vitamin A, salt with iodine etc.

Routine 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[6].

Vitamin A Malnourished persons will suffer from vitamin deficiency	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 for 3days OR 500mg (100mg x 5days)
Folic acid	10-20mg for 30days

[5] Although blended foods are fortified, additional minerals and vitamins may be required. CMV can be added accordingly, taking into account the nutrients are in obvious deficit.

[6] Adapted from (60)

6.4 Therapeutic Feeding Programmes - Nutritional Protocols

The principles of Therapeutic Feeding Programmes targeting older people are the same as for other population groups. Details are given below of the foods that are generally provided in a TFP.

Therapeutic milks	F75 (75kcal/100ml) therapeutic milk is provided in Phase 1. F100 (F100kcal/100ml) therapeutic milk is provided in Phase II. Alternatively therapeutic milk can be made up with dried skim milk, sugar and oil with micronutrients added.
Therapeutic porridges	Energy density of porridges are +100kcal/100ml and are usually made up from a fortified cereal/legume mixture with sugar and oil added. Therapeutic porridges form part of the diet in Phase II.
Traditional meals	Provide approximately 100kcal/100ml and are made up of locally available foods including cereals, pulses and oil. A traditional meal is usually provided in Phase II. Diversity, preference and palatability are important.

It should be noted that the energy requirement by body weight of older people is lower than that of young adults and children. In a TFP, the amounts and volumes of food are given according to the body weight of the individual, these are outlined in Table 6 (6;56;57).

Table 6: Nutritional requirements for older people in therapeutic feeding

PHASE I (2-5 days)	
OLDER PEOPLE	
>=60years OR "old person" as defined by the community	
Composition of diet	Therapeutic F75 milk (75kcal/100ml)
Energy required by body weight (kcal/kg/day)	40kcal
Volume of milk required @ 75kcal/100ml (ml/kg/day)	55ml/kg
Meal frequency (No. of meals per day)	8-10 meals
PHASE II (14-22 days)	
Composition of diet	Therapeutic F100 milk (100kcal/100ml) with porridge and traditional meal @ approx. 100kcal/100ml
Energy required by body weight (kcal/kg/day)	100kcal
Volume of food (ml/kg/day)	100ml
Meal frequency (No. of meals per day)	5-6 meals

Practical Example: For an older person weighing 45kg	
PHASE I:	
Daily requirements is 40 kcal per kg:	Older person requires 1,800kcal per day
Using F75 (75/100ml), adult is fed 55ml/kg:	2,475ml F75 per day
If person is given **eight meals** in Phase 1:	Person requires 310 ml at each meal
If the TFP has a transition phase **(Phase Ib)**, older person requires 40 kcal/kg; give F100 (100kcal/100ml), i.e. 1,800ml F100 in **six meals** or 300ml of F100 at each meal.	

IN PHASE II:	
Daily requirement is 100 kcal per kg:	4,500 kcal per day
Using F100 (100kcal/100ml), person is fed 100ml/kg:	4,500ml F100 and/or food per day
If person is given five meals in Phase II:	900ml (of food and/or milk) required at each of the five meals
Note: In Phase II, of the five meals given, one to two meals will be porridge meals (+100kcal/100ml) and one meal will be a local or traditional meal (+100kcal/100ml).	

Note: See section 8.7 for details of TFP objectives and management.

6.4.1 Routine medical treatment

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.

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) (56).

In summary, following a thorough medical and nutritional history and a physical (clinical) examination, the following clinical outcomes should be systematically addressed in a TFP:

- Dehydration
- Hypoglycaemia
- Hypothermia
- Infections
- Vitamin A deficiency
- Iron deficiency and anaemia
- Intestinal parasites

7 GUIDING PRINCIPLES FOR NUTRITION PROGRAMMES TARGETING OLDER PEOPLE IN EMERGENCIES

The guiding principles that apply to work with older people in emergencies are given below. These provide a framework for specific programme design issues that are considered in Section 8.

In 1982, the UN General Assembly endorsed the 'International Plan of Action on Ageing' (resolution 37/51) – designed to guide the thinking and formulation of policies and programmes on ageing. Nine years after endorsing the Plan, the General Assembly adopted the UN Principles for Older Persons (resolution 46/91) addressing issues of independence, participation, care, self-fulfilment and dignity (Annex 4).

Although the UN Principles for Older Persons and the International Plan provide a framework for action, more specific nutritional principles and approaches are required. Therefore, for the purpose of guiding programme design for nutrition interventions, HAI recommends that the following guiding principles be used. These principles, specific to food and nutrition interventions in emergencies, reinforce the broader Vienna (Nutrition) Recommendations for the Plan of Action on Ageing (1982).

Guiding Principles for Nutrition Interventions for Older People in Emergencies

1. Older people should have physical access to an adequate general ration that is suitable in terms of quantity and quality, that is easily digestible and culturally acceptable.

- Older people should have access to milled cereal and legumes that they are familiar with or alternatively, to milling facilities in situations where whole grain cereal is provided.
- Measures should be taken to ensure that older people are (i) informed of their eligibility and (ii) have physical access to the general ration.

2. The physiological changes associated with ageing and its consequences for nutritional requirements and special needs should be reflected in programme design.

- Older people should be supported and encouraged to access and consume nutrient-dense foods, adequate fluid volumes and easily digestible foods.
- A fortified blended food should be included as part of the basic general ration. Where this is not available, older people (in addition to young children) should be prioritised to receive a supplement of blended food or other nutrient-dense food.

3. Older people should be involved in the assessment, design and implementation of the programme.

- The nutritional status and nutritional needs of older people should be systematically assessed during emergency nutrition assessments.
- Older people should be involved in all stages of the emergency programme.

4. The chronic nature of their needs should be reflected in the programme design.

- Until livelihoods are restored, community support structures are re-established or families reunited, older people are likely to remain relatively food insecure. Provision of community-based follow-up support for older people should be ensured until such a time as appropriate structures are in place which provide secure and adequate support.

5. Existing community support structures should be rebuilt and strengthened as the most important strategy of food and nutrition assistance programmes for older people.

- Where possible, older people should be given the opportunity to continue to live normally in their communities, engage and contribute actively in daily activities with the help of community support where needed.
- Every effort should be made not to create institutional structures for older people, especially where such institutions are not considered the norm.

6. Malnourished older people should have equal access to selective feeding programmes for nutritional rehabilitation.

- Out-reach activities, referral mechanisms and information dissemination should be addressed.

- Moderately and severely malnourished older people should be targeted and ensured equal access (similar to other population groups) to existing supplementary and therapeutic feeding programmes.
- A commitment to operational research should be made, to better understand assessment criteria and nutritional risk factors that will facilitate effective targeting among older people.

Caring approach

An important aspect of nutrition programmes targeting older people is to ensure that all staff (both community-based and centre-based workers) understand the importance of maintaining a caring approach. Treating older people with respect is important in protecting and maintaining their dignity.

The following principles should be reflected in all activities of the programme and addressed in all staff training programmes.

Communication: Older people should be consulted and their needs and/or fears respected. They need to know that they have choices and that their opinions count. Taking time to explain procedures and give feedback on their progress is important. Older people are often open to learning new behaviours.

Involving the 'carer' or family: The family or carer should be actively involved in the nutritional recovery process. They should always be consulted, encouraged to take responsibility and to participate in daily activities in the centre. Regular feedback to the family and carer is essential.

Emotional support: Older people have often suffered trauma and part of the recovery process is achieved through providing emotional support. Simply listening and acknowledging their individual needs should always be a priority.

Privacy: Consideration should be given to the privacy needs of older people, particularly when washing and nursing care is required.

Physical assistance: Older people, especially the ill or very weak, will require assistance to carry out the most basic daily activities. Older people may require assistance with activities such as eating, drinking, sanitation and hygiene. However, older people may be reluctant to request assistance therefore carers and health/community workers should be sensitive to their specific needs. Older persons should also be encouraged and given support to maintain some physical mobility while in the centre. Those who are bed-ridden will need assistance to turn over or be moved regularly to prevent bed-sores.

Burial arrangements: Death, due to old age or failure to recover may be relatively more common. If older people have no family support, it may be necessary to support burial arrangements for the deceased.

8 PROGRAMME DESIGN FRAMEWORK FOR EMERGENCY NUTRITION INTERVENTIONS FOR OLDER PEOPLE

8.1 Context Assessment and Understanding Risk Factors for Older People

Involve older people as key-informants

- During situation assessments, the opinions of older people should be sought through key-informant interviews or focus group discussions. Older people should be represented at village-group meetings during assessment processes.

- A list of context-specific risk factors for older people in the affected population should be developed.

Collect information on the nutritional status of older people

- Where feasible, the nutritional status of older people should be assessed using rapid nutrition surveys with sufficient statistical rigor to ensure that their validity meets minimum standard survey procedures e.g. cluster surveys.

- The nutritional status of older people should be assessed using (1) measurements of weight, and or armspan/demispan (as a proxy for height) to calculate BMI[7] and (2) using MUAC[8] in conjunction with information on specific clinical factors. This information will be useful in determining the nutritional status of older people for comparison between places and over time, in addition it will contribute to research for determining more appropriate indices for assessing nutritional status of older people in emergencies.

- Qualitative information should be collected on the following indicators:

  (i) The types of food typically eaten by older people and the extent to which they differ from the general population.
  (ii) Normal community support structures, specifically those that aim to take care of older people and the extent to which they have broken down.
  (iii) The community's perception of the risks faced by older people, specifically those that may lead to poor nutritional status.
  (iv) Potential community support mechanisms that can be rebuilt or strengthened.

8.2 When to Include Older People in Emergency Support and Rehabilitation Programmes[9]

The existence of malnutrition in older people should be systematically investigated in all emergency situations. There are however, no clear and specific criteria for determining when there is a need for a programme that treats and prevents malnutrition in older people. The following guiding principles should assist in the decision-making process.

1. Where normal support structures start to break-down and communities no-longer have the capacity to support the most vulnerable, older people are at higher risk and nutrition emergency interventions may be appropriate.

[7] In order to standardise BMI to take into account differences in the Cormic Index (Standing height/sitting height (SH/S ratio)) between populations, it is recommended to apply a correction factor for the population under study. See Adults: Assessment of Nutritional Status Emergency Affected Populations, July 2000, for further descriptions.

[8] There is no universally accepted indicator for assessing prevalence of acute malnutrition in older people. MUAC in conjunction with clinical criteria is proposed here on the rationale that (1) it is rapid and enumerators can be easily trained (2) it is in line with proposed admission criteria and (3) BMI may not be appropriate for assessing acute malnutrition – especially among older people.

[9] It is assumed that selective feeding programmes exist already for other population groups. In situations, where older people are obviously malnourished and no other selective feeding programme exists, it may be necessary to open a selective feeding programme

2. In conditions of poor sanitation, nutritional support programmes for older people need to be provided in conjunction with public health services. This approach is as important for older people as it is for the under five year olds, as older people are also relatively more vulnerable as a result of immuno-suppression.

3. Where whole ethnic groups are chronically marginalised, older people as well as other groups will be increasingly at risk of becoming malnourished.

4. Where there are dramatic and acute changes (reduction) in the capacity of older people to contribute actively to the household activities due to food shortage or loss of normal livelihood, older people may become increasingly at risk.

5. Information should always be collected from the Community Support Programmes or nutritional assessments (that include older people) to help determine whether or not a nutritional intervention is needed for older people.

When to open a blanket supplementary feeding programme for older people

In some situations, it will be inappropriate or impossible to target food only to some older people. Blanket supplementary feeding may be applicable in some circumstances such as;

- 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 i.e. the rest of the population has already fled or moved to areas in search of food or safety.
- Where the community objects strongly to a targeting strategy, insistence to do so will exacerbate conflict at the community level.

8.3 Objectives for Support and Rehabilitation Programmes for Older People

It is important to develop clear objectives for selective feeding programmes that seek to address malnutrition in older people. These must reflect a good understanding of the context, a sound knowledge of the community's perception of the causal factors for nutritional risk as well as the normal community resources to take care of the most vulnerable. When developing these objectives, the following issues should be considered:

- Separate project objectives for nutritional rehabilitation of older people are unnecessary. Instead, older people can, more appropriately, be included within an overall objective that includes all the moderately malnourished, with specifications on admission criteria for different population groups.

- Project objectives should reflect an understanding of the difference between 'nutritional rehabilitation' and 'nutritional support' as part of a 'chronic care' programme. These two objectives have quite different outcomes. Furthermore, provision of nutritional support without an expected nutritional recovery should be observed and noted as a different objective.

Some examples of objectives for the selective feeding programmes for older people

1. To rehabilitate severely malnourished individuals including…… older people.
2. To rehabilitate moderately malnourished individuals including…older people.
3. To develop a better understanding of the risk factors that older people face and the community capacity to support older people.
4. To provide nutritional (and health) follow-up support to vulnerable older people in the community based on an understanding of individual needs and available resources, through identified 'carers' and existing support structures.
5. To enable older people to have access to services and carry out daily tasks e.g. access to health services and general ration, collection of water and/or firewood.
6. To provide relevant nutrition and health education to older people and their 'carers' or families.
7. To identify, promote and support appropriate means through which older people can diversify their diet, including increasing consumption of locally available nutrient-rich foods.

8.4 Programme Design

8.4.1 Framework

There are a number of different elements of a support and rehabilitation programme for older people in emergencies, including community support programme (CSP), supplementary feeding programme (SFP), therapeutic feeding programme (TFP), and outreach programmes.

The first is largely a preventive measure while the last three are generally concerned with nutritional rehabilitation of older people. These different programmes are inter-linked, they are summarised in Table 7 and shown diagrammatically in Annex 6.

In the overall framework, the establishment of a Community Support Programme is of most importance, which, if implemented in a timely and effective manner, should prevent the need for nutritional rehabilitation programmes.

Table 7: Elements of overall programme framework

COMMUNITY AND NUTRITION ASSESSMENT • The nutritional vulnerability of older people will be determined largely by the absence or break-down of social support structures; these social risk factors are best defined by the communities themselves (usually context specific). • Acceptability and effectiveness of the programme will be enhanced if the community (especially the older members), are involved in its design and have an understanding of its objectives. • A good understanding of the programme by community leaders, especially the importance of the role of the family, will enhance its effectiveness. • Assessment of the nutritional status of older persons is carried out as part of broader assessment e.g. 30 by 30 cluster survey. **See section 5.3.1 and 8.1 for more details**
OUT-REACH ACTIVITIES • The most vulnerable older people who are often invisible and are unable to present themselves (too weak and no family to bring them) need to be accessed. • Older people require information on their entitlements and it cannot be assumed that they have access to general information systems.
NUTRITIONAL REHABILITATION: TFP AND SFP • Based on anthropometric and clinical criteria, older people are admitted to either a TFP or a SFP for nutrition rehabilitation. • Nutrition rehabilitation is based on well-established nutrition and medical protocols. • Older people are referred to a SFP following rehabilitation in a TFP. • Discharge is based on objective criteria including the capacity at family/community to continue to provide nutritional support. • A maximum length of stay applies to those who are showing no improvement in nutritional status due to chronic illness. **See sections 8.6 and 8.7 for more details**
INDIVIDUAL CASE ASSESSMENT • During the period of rehabilitation, a 'carer' or family should be involved in the rehabilitation process. Specific tasks required for support in the household, that aim to prevent a deterioration in nutrition should be identified. **See section 5.1 for more details**
COMMUNITY SUPPORT PROGRAMME (CSP) • Community-based workers provide support to the family to ensure support tasks are being carried out and older people have access to basic daily needs. • The nutritional status of older people are monitored. • Support is provided in terms of training, emotional support and motivation for 'carers' and/or family members. • Changes, in terms of integration of older people into community, are monitored. **See sections 8.5 for more details**
LONGER-TERM COMMUNITY-BASED SOCIAL CARE STRUCTURES • Once social support structures have been rebuilt, food security improved or an appropriate 'safety-net' is in place, older people must have information and access and be integrated into these normal support structures.

8.4.2 Admission criteria

Admission for older people into Selective Feeding Programmes is based on a combination of three sets of criteria; anthropometric, clinical and social risk factors. These are described in Table 8. There is debate about some of the criteria to be used for the admission of older people into selective feeding programmes, the rationale for the use of the criteria in this report follow after the table. **The anthropometric criteria and cut-off points proposed in this report should not be considered absolute and should be considered for further review.**

Table 8: Anthropometric, clinical and social criteria used for older people for admission into Selective Feeding Programmes (adapted from (7))

Type of Criteria	Measurement	Remarks
Anthropometric	Mid-Upper-Arm-Circumference using adult MUAC band	Measures acute loss of fat and muscle tissue
Clinical	1. Famine oedema (bilateral) **or** 2. Inability to stand/immobile **or** 3. Extreme weakness **or** 4. Dehydration **or** 5. Anorexia	Clinical factors associated with poor nutritional status. All factors assessed visually and/or through consultation with the older person. Severe kyphosis is common in older people and can be a cause for immobility
Social Risk Factors	1. Living alone without family support **or** 2. Physical or mental disability **or** 3. Not strong enough to engage in any household activities **or** 4. Very low socio-economic status or 5. Psychologically traumatised (e.g. loss of home or family members)	Specific social factors are defined by the community. These are social risk factors likely to lead to poor nutritional status. See Annex 3. Older persons with one or more of these criteria (but no anthropometric/clinical criteria present) are admitted into a Community Support Programme.

Category	Action	MUAC (mm)	Clinical criteria	Social criteria
Normal nutritional status	Do not admit*	> 185	+/-	-
High nutritional risk	Community Support Prog.**	> 185	+/-	+
Moderate malnutrition	Supplementary feeding	160 – 185	-	+/-
Severe malnutrition	Therapeutic feeding	160 – 185	+	+/-
Severe malnutrition	Therapeutic feeding	< 160	+/-	+/-

* Except those older people presenting with bilateral famine oedema (regardless of MUAC status) who should be referred to a clinician.
** With the purpose to prevent any further deterioration in nutritional status.

In this report, **MUAC** in combination with clinical criteria[10] is proposed as the index for assessing acute malnutrition in older people for the purpose of admission. The rationale for using MUAC as opposed to BMI is based on the following:

- BMI, while useful for estimating prevalence of chronic malnutrition at a population level, may not be appropriate as a tool for screening and admitting individuals into a selective feeding centre for treatment of acute malnutrition i.e. as a predictor of mortality in acute situations (7).

- MUAC is quicker and easier than BMI measurements, it requires less sophisticated equipment, it involves no calculations and it can be used on people with kyphosis[11] or oedema (51).

[10] MUAC in combination with health and social criteria have been field-tested in TFPs for adults and older persons during the famine in Sudan in 1998 e.g. Concern Worldwide (Ajiep) and MSF (Wau). The criteria proved to be practical and could feasibly be carried out by trained field-staff.

[11] A recent study carried out among older Rwandan refugees showed that individuals with kyphosis had a higher prevalence of undernutrition illustrating the importance of including this group in nutritional status assessments (52).

There continues to be considerable debate over the appropriateness of BMI versus MUAC and a continuing lack of information on cut-off points for increased risk of mortality. As such, although MUAC measurements are recommended (in conjunction with clinical and social criteria) for the purposes of admission, it is also recommended that the measurement of weight and height (or arm-span) are collected for purposes of operational research.

The **clinical criteria** that are proposed can be observed on a rapid physical examination. Basic guidelines for recognising these symptoms are proposed in Annex 5.

Recent research (9;51;52) has shown that different risk factors contribute to increased nutritional vulnerability. While these risk factors may be appropriate in most situations, **social risk factors** should evolve out of discussions with the community so that they are context specific. Care should be taken to ensure that the risk factors that are selected and agreed upon, can easily be identified either from interviews, physical observation or household visits. The criteria should be appropriately specific.

8.5 Community Support Programme (CSP)

In some emergency situations, a comprehensive community-support programme may be in place already, in which case it may be possible to integrate the following programme into an existing one. In other situations, where such a programme is non-existent, a CSP may be a priority even in the absence of SFPs and TFPs.

8.5.1 Specific objectives

The objectives of the Community Support Programme include:

- To identify older people in the community who have high nutritional risk.
- To strengthen existing family or community support for older people and enable them to live with some dignity in their own communities.
- To prevent a deterioration in nutritional status of older people and provide follow-up support after treatment in a TFP or SFP (and subsequently prevent re-admission).
- To provide the necessary community-based support to those who do not respond to nutritional therapy but who are malnourished as a result of a chronic illness.

8.5.2 Role of the 'carer'/family in individual case assessment

The community support component begins during the rehabilitation phase, for those admitted into a centre. During the nutritional rehabilitation phase (TFP and/or SFP), two important issues need to be addressed.

(i) A family member or 'carer' should be **involved in the nutritional recovery process**. If the older person has no family, every effort should be made to identify a person to act as a carer[12] . The 'carer' should be involved in the daily activities taking place at the centre e.g. cleaning, food preparation, within an environment that is supportive.

(ii) In conjunction with the family or 'carer', **an individual case assessment** should take place. This process should identify (a) the specific risk factors that the older person faces that contribute to poor nutritional status, (b) the tasks required to assist him/her to continue to live with some independence in the community and (c) other resources and support available in the community.

Those older people identified in the community with high nutritional risk but no obvious signs of malnutrition should be admitted directly into the CSP by the community out-reach workers.

[12] Preferably the 'carer' should be a person living in close proximity to the older person or can be a younger member who is selected by the community leader.

8.5.3 Types of activities in CSP

Once the person is identified as being at risk, the community-based worker should visit regularly, say every one to two weeks (Phase I). At later stages, in the absence of any obvious deterioration in nutritional or health status of the person, less frequent visits are foreseen (Phase II). Some of the activities that the community-based worker could be involved in include:

- Training and demonstration of caring requirements
- Assessment of health and nutritional status of older person (qualitative and quantitative)
- Nutrition education specifically on nutritional requirements of older people
- Identification of any new risk factors/constraints for poor nutritional status and follow-up action
- Feedback to carer or family

The community-based worker should work closely with the family or carer who should be encouraged and supported to take responsibility for the daily caring activities for the older person. Some of the typical activities that 'carers' or family members can be involved in as part of the CSP are:

- Assistance with food preparation or sharing family pot
- Collecting rations, water or firewood
- Taking grain to be milled or hand-pounding grain
- Washing and cleaning
- Accompanying the older person to the health centre when necessary
- Involving the person in daily activities
- Emotional support

Case Study: Addressing the needs of older people and the chronically ill in a refugee camp in Goma, Democratic Republic of Congo (53)

From August 1994 to September 1995, Concern Worldwide was responsible for providing support to a centre for malnourished adults in Katale, a camp for Rwandan refugees in Goma, DRC. Following a review of the programme in 1995, the strategy for the nutritional care of these adults and older persons was altered.

An analysis of the programme data revealed that the majority of people admitted into the centre had an underlying illness or were older persons with no family support and were showing no signs of nutritional recovery. The length of stay was greater than two months for approximately half of those registered in the centre. Weight fluctuations were common throughout the treatment period and approximately 25% failed to gain any weight. In many respects, the centre was being used as a hospice to which families felt they could abandon their relatives. As a consequence of the review and in consultation with the community, the orientation of the programme shifted from nutritional recovery to a community-based nutritional support programme that aimed to rebuild community support structures for the care of older people and the chronically ill.

These (older) adults – although certainly requiring nutritional support – were better served in the community. The programme was not without problems, for example, patients with terminal illnesses often relapsed and were readmitted into the first phase of the programme and the high staff to beneficiary ratio (which resulted in the programme being relatively expensive) continued throughout the programme. Nevertheless, the change in design represented a programme advance.

8.5.4 Outcomes, Transfer and Discharge from the CSP

COMMUNITY SUPPORT PROGRAMME (CSP)	
OUTCOMES	CRITERIA FOR EXIT
• Death • Default from programme • Nutritional status remaining stable • Integration into formal/informal support system	• Family/'carer' in community managing to provide adequate support to older person **and** • No deterioration in nutritional status of older person **or** • Maximum length in CSP three months **or** • Integration into formal/informal social support system

8.6 Supplementary Feeding Programme (SFP)

8.6.1 Specific objectives

The objectives of a SFP for older people include:

- To address and treat moderate malnutrition
- To provide a follow-up nutritional supplement following discharge from a TFP
- To further improve nutritional status or prevent a deterioration in nutritional status
- To identify the individual social risks that older people face and identify a 'carer' or family support
- To provide training, build skills and capacity of carers and family support, including improvement in the knowledge and skills for better nutrition for older people through nutrition education

8.6.2 Types of supplementary feeding programmes

Some of the advantages and disadvantages of each type of SFP targeting older people are outlined below.

Table 9: Advantages and disadvantages for "wet" and "dry" feeding for older people

"Dry ration" take home	
Advantages	**Disadvantages**
• Leaves the responsibility of preparing food with the household, either with the older person or with the carer. • Reduces travel time and distance for older person and/or the family. • The ration may be perceived as a contribution to food available to the household and may contribute to improved social status of the older person within the family.	• Supplement may be shared with the rest of the household.
"Wet feeding" on site	
Advantages	**Disadvantages**
• Allows an opportunity for older people in the community to socialise and interact amongst themselves. • Encourages older people to maintain some physical mobility on a regular basis i.e. it provides motivation to leave the household.	• Older people may be too weak to travel to a centre every day. • Older people may be reluctant to go to crowded places where there are large numbers of people. • Older people have lowered resistance to disease and cross-infections are more likely in a crowded, enclosed area. • May encourage 'temporary' displacement of the population to a centralised location, increasing exposure to environmental public health risks. • May erode family and/or community responsibility.

Note: For more details of nutrition protocols for Supplementary Feeding refer to section 6.3

A large centralised "wet-feeding" operation is generally an inappropriate type of nutrition intervention for older people. In situations where the scale of the problem is large and there are limited resources, there may be no alternative. Where it is feasible however, efforts should be made to shift towards a more decentralised approach with smaller satellite 'kitchens' managed on a community level. The advantages of this approach include:

- Older people do not have to travel so far on a daily basis and can remain within their communities.
- Older women within the community can take responsibility for the management of the kitchens including food preparation. Hence, the responsibility for looking after the most vulnerable is maintained within the community to some extent.
- Since food is prepared in smaller quantities, there is more opportunity to use locally available foods e.g. wild foods, prepare foods in traditional ways, involve some of the stronger older women who are attending the programme in food preparation activities.
- The setting is more conducive to social interaction and opportunities for learning and education through small focus group discussions.

8.6.3 Transfer and discharge criteria from the SFP

SUPPLEMENTARY FEEDING PROGRAMME (SFP)	
OUTCOMES	CRITERIA FOR TRANSFER
• Death • Default from programme • Recovery (transfer to CSP) • Integration into formal/informal support system	Transfer to CSP when; • No signs of deterioration in nutritional status i.e. nutritional status remaining stable **and** • Family and/or carer identified in community and type of assistance/support defined **or** • Maximum length of stay in SFP of eight weeks

8.7 Therapeutic Feeding Programme (TFP)

8.7.1 Specific objectives

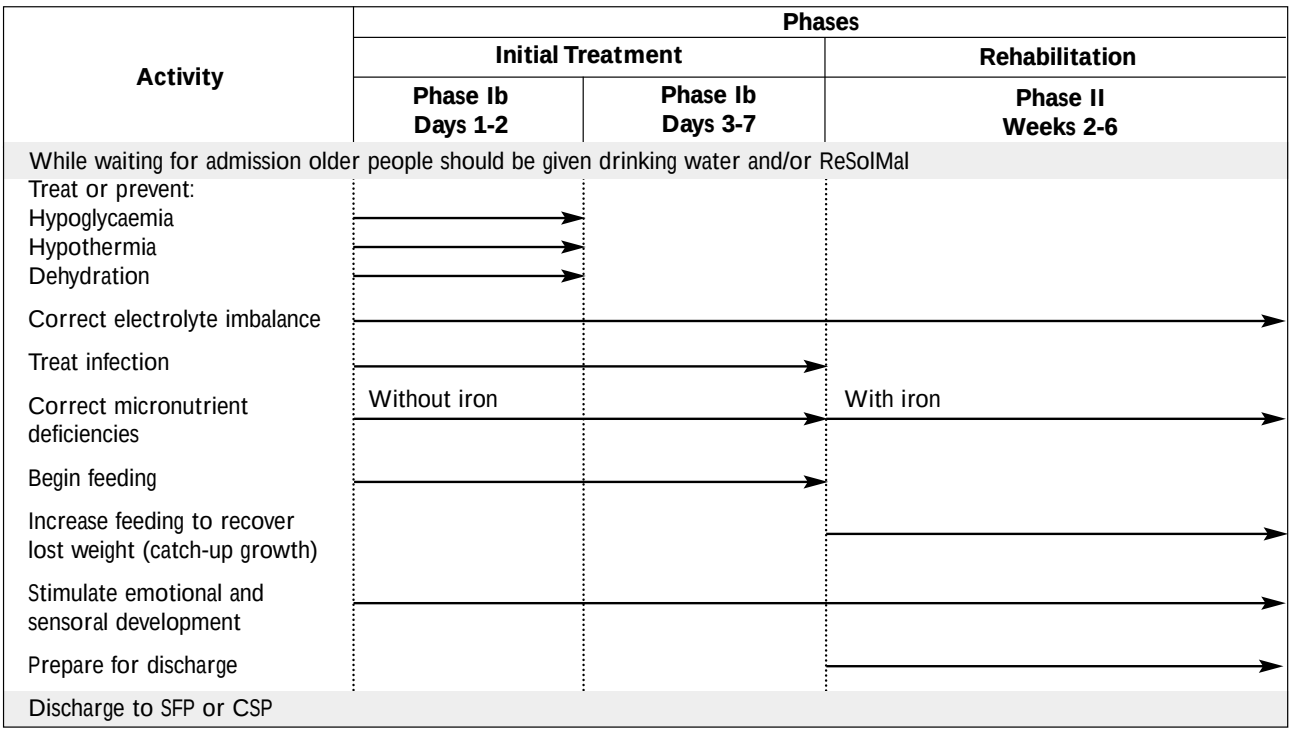
The objectives of a TFP for older people should be:

- To address and treat severe malnutrition in older people.
- To identify the social risks that the older people face.
- To identify family or 'carer' for follow-up in CSP.
- To 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.

8.7.2 Summary of approach for management of TFP

The overall management of severe malnutrition in older people is based on a similar (phased) approach and methodology as that for children and younger adults.

Summary of phases and time frame for the management of severe malnutrition (56)



Note: For more details of nutrition protocols for Therapeutic Feeding refer to section 6.5

8.7.3 Practical considerations

Physiotherapy and adequate resting facilities

Many older people will be bed-ridden or have limited mobility. These patients will benefit from physiotherapy and should be encouraged to take some physical activity if possible. Furthermore, efforts should be made to provide appropriate bed facilities that offer adequate comfort for the patient. Adequate space and privacy should be provided. Separate wards should be provided for women and men.

Older people who are too weak to be weighed

Some patients may be too weak to stand on the weighing scale. For purposes of monitoring, weight need only be taken once they are strong enough. For purposes of estimating food requirements, an estimate of their body weight can be used.

Taking care of dependants in absence of other family support

Some older people may have taken responsibility for young dependent children e.g. where parents have died or fled. If other family members or older siblings are absent, young children will need to be accommodated in the TFP, preferably in nearby facilities to minimise cross-infection rates.

Decision-making and management of patients with chronic illness

In many cases, it may be clear on admission if an older person is suffering from a chronic illness. Sometimes this may only become evident after several weeks when the person fails to show signs of recovery, including weight gain. Where there are health services for diagnosis and treatment of chronic illness e.g. TB, patients should be referred to these facilities. However, in emergencies, these services are not usually available. In this situation, providing support and care in the community is more appropriate. Following an individual case-assessment and consultation with family and/or 'carer', the patient should be referred into the Community Support Programme.

Dying at home

Family members should be encouraged to be present at the time of death, for those individuals where death is likely to occur in the nutrition centre. Older people may prefer to die in their own home environment rather than in the centre and in most cases, their wishes should be respected. Where family members are not present, efforts should be made to facilitate their return home from the TFP. Community members should be informed of this decision.

Case Study: Addressing severe malnutrition in older people in Ajiep, southern Sudan (CONCERN) (Salama, P. Presentation at ACCSCN, April 1999).

During 1998, Ajiep in Bhar el Ghazal was regarded as the epicentre of the famine. The population of Ajiep, had increased seven-fold from 3,000 to 21,000 having been displaced as a result of severe food shortages, insecurity in the surrounding areas and the attraction of (potential) access to a general food ration. Mortality rates began to rise in February and March 1998 and by August, despite a large amount of food and NGO inputs, the mortality and malnutrition rates remained very high for a prolonged period.

While emergency nutrition interventions had focused predominantly on the needs of children under five-years of age (blanket feeding, supplementary and therapeutic feeding), the needs of other population groups, namely adults and older people, had been largely neglected. Levels of malnutrition among older people and adults were extremely high, exacerbated by an out-break of shigella caused by poor sanitation, over-crowding and lack of community-based public health interventions. By September, a therapeutic and supplementary feeding programme had been established. Patients with shigella were referred and treated in the field hospital and referred back to the TFP for nutritional recovery. Of the 440 people that were admitted into the TFP during the next months, over 20% of the admissions were older people (over 50 years). The programme demonstrated high recovery rates (92%), low mortality (5%) and a low defaulter rate (3%). Furthermore, as part of the evaluation of the programme, the 'elders' in the community were asked on their opinion of the programme. Their response was simply. "….finally, the old people have been considered…".

8.7.4 Outcomes, transfer and discharge criteria from TFP.

THERAPEUTIC FEEDING PROGRAMME (TFP)	
OUTCOMES	CRITERIA FOR TRANSFER
• Death • Transfer to hospital • Default from programme • Recovery (transfer to SFP)	Transfer to SFP when: • MUAC >185 and absence of clinical factors **and** • Trend of positive weight gain **or** Transfer to CSP when: • Presence of underlying chronic illness e.g. TB when no health facilities to treat chronic illness and no improvement in nutritional status **and** • Family and/or carer identified in community and type of assistance/support defined **or** • Maximum length of stay of six to eight weeks in TFP.

8.8 Outreach Programme

8.8.1 Specific objectives

The objectives of an outreach programme for older people should be:

- To identify vulnerable older people in need of support
- To strengthen the CSP
- To ensure that older people have access to information about their entitlements

8.8.2 Activities

The community-based out-reach component of the programme is extremely important. The community-based out-reach workers form the link between the community and the nutrition centre as well as carry out assessments, referrals and support tasks. Where feasible, they can be allocated to a specific geographical region where they can carry out all three activities associated with this component of the programme. These three main activities are outlined below.

1. Case finding and referral	• Screening and referral using above criteria through house-to-house visits • For older people who are too weak, provide physical assistance to nutrition centre
2. Follow-up of defaulters	• Follow-up of those failing to attend the programme • Determine reasons for non-attendance
3. Community Support	• Participation in 'Community Support Programme'

8.8.3 Monitoring and evaluation

Individual indicators and monitoring

It is essential to regularly monitor and record progress or deterioration of an individual. As well as giving information on the health and nutritional status, information on the social risk factors should be regularly assessed and recorded in individual progress cards. Some indicators for individual monitoring are outlined below in Table 10.

Table 10: Indicators for monitoring progress in a TFP, SFP and CSP

Therapeutic Feeding Programme	• Health status monitored on a daily basis by nurse or physician. • Weight gain measured 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. • Food intakes carefully monitored and recorded 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
Supplementary Feeding Programme	• Nutritional status (weight and MUAC) assessed every one or two weeks. • Capacity of family or carer to support older person assessed and monitored. • Average daily weight gain, change of MUAC status, length of stay in SFP recorded.
Community Support Programme	• In Phase I: Weekly household visits by out-reach worker to assess health and nutritional status of older person and the capacity of family/carer to support the older person. • In Phase II: As above, but visits reduced to a monthly basis.

Outcomes, transfer and discharge criteria

The different elements of the overall programme should be closely linked and well integrated. The criteria for transfer or discharge should be clear and well understood by the staff and the older people themselves. The format for regular data collection for monitoring the effectiveness of the programme should reflect the criteria highlighted in the CSP, SFP and TFP sections above (see 8.5.4; 8.6.3 and 8.7.4).

Programme effectiveness

The overall effectiveness of the programme should be assessed at three levels[13]. Information should be analysed on a monthly basis.

(i) **Nutritional and health outcomes.** These include standard indicators such as proportion recovered, died, defaulted etc., the average length of stay, average weight gain etc., and also consider the proportion regaining functional strength and capacity to carry out basic activities.

(ii) **Community and family support outcomes.** Indicators such as; proportion of older people with active and involved family or community members; proportion of older people maintaining good nutritional and health status in the community; types of skills acquired and improvement in capacity of family and community to support older people.

(iii) **Perception of programme effectiveness.** Qualitative information collected from the participants of the programme including older people themselves. The wider community's perception of the programme should also be included as part of the programme monitoring process.

[13] No specific targets have been established for programmes targeting older people. Until such time as more programme experience is gained, the Sphere standards should apply (see (58).

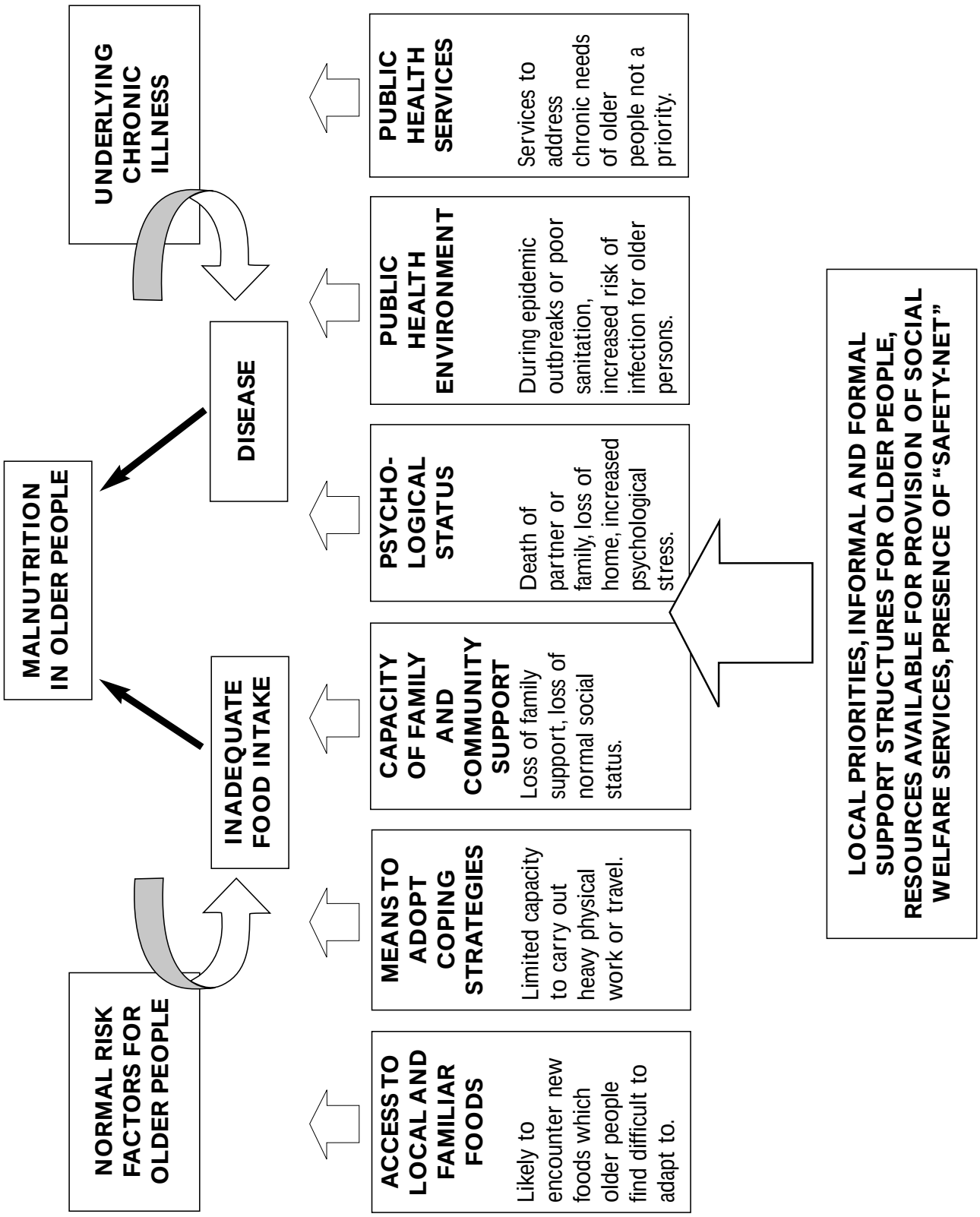
ANNEX 1: GLOSSARY OF SOME NUTRITIONAL TERMS USED IN THE REPORT

Acute malnutrition	Usually defined as "wasting" or loss of muscle tissue. Acute malnutrition (or wasting) is associated with recent rapid weight loss i.e. as in emergency situations (as opposed to chronic malnutrition or stunting). Acute malnutrition is usually measured by the weight for height index in children.
Anthropometric criteria	Anthropometry is the 'measurement of the human body'. When body measurements are related to age or height in order to assess nutritional status, they are known as nutrition indices. For example, weight for height, Body Mass Index etc.
Arm-span	The anthropometric measurement of 'the distance from tip of the middle finger of the left arm to the tip of the middle finger of the right arm with the arms stretched out'. Armspan can be a useful proxy for height, especially for older people whose ability to stand straight is affected by spinal disease. This measurement is converted to an estimate of height using correction factors specific to the population.
Fortified blended food	Blended foods are a mixture of milled cereals and other ingredients such as pulses, skimmed milk, sugar and oil and are processed using methods of extrusion (gritted, milled and pre-cooked) or roasted (roasted and milled). Fortification is a process whereby a vitamin and mineral supplement is added to the blended food. A range of blended foods are available such as: Corn Soya Blend (CSB) and locally available blended foods such as Likuni Phala (Malawi) and Famix (Ethiopia)
Body Mass Index	Body Mass Index (weight/height2) is a measure of chronic energy deficiency (CED) in adults. BMI >=18.5 is usually taken as an indication of normal nutritional status. BMI between 17.0 and 18.4 is taken as a measurement of mild CED (Grade I). BMI between 16 and 16.9 is taken as a measurement of severe CED (Grade II). BMI <16 is taken as a measurement of severe CED (Grade III). (7)
Carer	An individual identified in the community who has specific responsibilities in assisting an isolated older person with daily activities.
Chronic energy deficiency(CED)	A steady state, at which a person is in an energy balance although at a cost either in terms of increased risk to health or as an impairment of functions and health.
Cluster survey	A survey carried out using a cluster sampling methodology. A cluster sample is a representative sample where the sampling unit, children or adults, are selected from randomly selected groups rather than individuals. Usually 30 clusters are selected randomly for assessing malnutrition.
Complementary food ration	In some emergency situations, a complementary ration is provided in addition to the general ration. The complementary ration usually consists of fresh fruit and vegetables, condiments, tea etc. A complementary ration may be appropriate in situations where the affected population is entirely reliant on food assistance and has no access to any other foods sources.
Coping strategy	A means of diversifying strategies to access food. For example, loans, labour in exchange for food, collecting wild foods. Usually, sustained coping strategies may have negative implications for the population in the longer-term.
Concentrated mineral and vitamin premix (CMV)	A mineral and vitamin mix that is added to pre-prepared food as in 'wet-feeding' in SFP strategies. Therapeutic milk can be prepared by adding the CMV to HEM (see High Energy Milk).
Demi-span (or half-span)	Anthropometric measurement taken as 'the distance from the tip of the middle finger of the out-stretched left arm to the top of the sternum (or chest bone). Arm-span (see above) can be calculated by doubling demi-span.
F75/F100	F75 and F100 are therapeutic milks used in Phase I and Phase II in the treatment of severe malnutrition. F75 has an energy value of 75 kcal per 100ml of milk while F100 has an energy value of 100 kcal per 100ml. Both types of therapeutic milk are fortified with vitamins and minerals.
Intra-household distribution pattern	Pattern of food distribution between members within a household.

Kyphosis	Curvature of the spine associated with the normal process of ageing.
Mid-Upper-Arm Circumference (MUAC)	MUAC is the measurement of 'the circumference of the left arm taken at the mid-point between the elbow and the shoulder'. It is usually used for screening purposes and for admission purposes into therapeutic/supplementary feeding programmes for adults and older people.
Nutritional rehabilitation	The process by which an individual regains body weight through providing appropriate foods based on nutritional protocols.
Oedema	Fluid retention; a distinguishing characteristic of severe malnutrition. Oedema results from the excessive accumulation of extracellular fluid in the body. In older people, oedema can be caused by a number of causes other than malnutrition e.g. cardiac failure.
Recommended Daily Allowance (RDA)	This is the practical expression of nutritional recommendations (for micronutrients). An RDA is designed explicitly to be applicable to populations rather than to individuals i.e. it accounts for variability in the need among subjects. RDAs are intended to prevent nutritional deficiency and are usually defined as "safe intakes". An RDA is the intake that reduces the prevalence of nutrient deficiency to some desired proportion of the population while avoiding excessive intakes.
"Wet" Feeding	Food rations prepared and cooked on-site as opposed to rations that are taken home for preparation in the household (dry rations).

ANNEX 2: CONCEPTUAL MODEL FOR CAUSES OF MALNUTRITION IN OLDER PEOPLE

(adapted from the UNICEF Framework of Underlying Causes of Malnutrition)



ANNEX 3: SUMMARY OF CURRENT DEBATES RELATING TO THE NUTRITIONAL REQUIREMENTS OF OLDER PEOPLE

Macro Nutritrients

The presence of oedema, muscular weakness, poor wound healing and a lowered resistance to disease may be partly due to inadequate **protein** intakes in older people. Current research is investigating the appropriateness of applying the same RDAs (0.8g/kg/day) for protein for older people as for younger adults (14-18). The rationale to indicate that there is a need to increase the requirements for protein in older people is based on the following reasons: there is an increased protein requirement due to an increase in nitrogen losses associated with increased incidence of illness (17;19), digestibility of protein may be affected among those older people who are ill (17), higher intakes may contribute to enhancing the immune system (14) and absorption of protein in older people may be reduced (19). To date, research is somewhat ambiguous, and other studies have suggested that there is minimal change in protein turnover with age. If true, this, combined with the decreased metabolic demand with age, would result in a decreased protein requirement (20). There is also an upper limit of appropriate protein intake, since excessive intakes may accelerate a decline in kidney function.

Energy requirements are relatively lower for older people compared to younger adults as a result of decreased physical activity and a decreased basal metabolism due to relatively less lean body mass (10-13).

Micro Nutrients

The requirements for **Vitamin A** for older people may be lower than for younger adults due to the increased absorption through the intestinal luminal epithelial tissue as well as a decreased liver uptake, characteristic in older people (3;26). However, as with all age groups, older people with poor nutritional status will be deficient in Vitamin A. Furthermore, the antioxidant properties of Vitamin A are important for older people suffering from chronic diseases (increased free radical and reduced antioxidant capacity) (29;30). Therefore, maintaining similar intakes of Vitamin A (as for younger adults) may still be important.

For a number of reasons, the current RDAs for **Vitamin D** for older people are possibly too low. The reasons are: a general lack of exposure to the sun (e.g. older people who are house-bound); a reduced capacity of the skin to synthesise Vitamin D and a reduced capacity of the kidney to convert it to its active form (25). However, these current research findings are not necessarily applicable to African contexts where average daily exposure to sunshine is significantly greater.

The metabolic demand for **Vitamin B6** to maintain glucose tolerance and normal cognitive function in older persons is increased (26), possibly resulting in an increase in requirements of Vitamin B6 for older people. Furthermore, in conjunction with B12 and folate, Vitamin B6 confers protection against elevations in homocysteine, an independent risk factor for cardiovascular disease and depression (24;26;31).

Due to a reduction in the secretion of hydrochloric acid and reduced activity of intrinsic factor, there is a reduced capacity to absorb **Vitamin B12** in older people, therefore the requirements for Vitamin B12 may also need to be increased (26;32;33). Furthermore, the reduced active form of folate, tetrahydrofolate (THF) is B12-dependant, and hence a deficiency in Vitamin B12 can result in a secondary **folate** deficiency (28;31;34;35) in older people.

Minerals

Despite evidence to show that **calcium** has a positive effect on maintenance of bone health and prevention of osteopathic fractures, the data on the effectiveness of calcium supplements for older people remains equivocal (36). It has been demonstrated that calcium nutrition is relatively more important during adolescence rather than during later stages of life (37) and that physical activity during later years can also prevent to, some extent, the loss of bone mineral in older people. Other research has shown that: there is an age-related decrease in absorption of calcium (27); calcium supplements do have a positive effect in preventing bone mineral loss especially among those with habitually low intakes of calcium (36;37) and that there is no great risk associated with taking supplements (26).

Research on **iron** requirements for older people remains inconclusive. The iron requirements for older women are lower in comparison to younger women, largely as a result of the cessation of monthly iron losses occurring after menopause, as well as the absence of high iron requirements associated with pregnancy and lactation in younger women. However, counter arguments to a lower requirement of iron suggest that in older people, the body tends to store excess amounts of iron (27) and higher levels of iron intakes may actually increase the levels of free radicals. Furthermore, reduced gastric activity (associated with older people) may result in less effective absorption of non-heme iron (from vegetable sources) and hence, increased iron intakes in older people may be required in some cases. A study carried out recently in India, showed a prevalence of anaemia as high as 71% among older women as compared with 38% among older men. The prevalence of anaemia increased with age (19).

ANNEX 4: UNITED NATIONS PRINCIPLES FOR OLDER PERSONS

To add life to the years that have been added to life, the United Nations General Assembly adopted the following eighteen principles for Older Persons on 16 December 1991 (Resolution No. 46/91):

Participation

- Older persons should remain integrated in society, participate actively in the formulation and implementation of policies that directly affect their well-being and share their knowledge and skills with younger generations.
- Older persons should be able to seek and develop opportunities for service to the community and to serve as volunteers in positions appropriate to their interests and capabilities.
- Older persons should be able to form movements or associations of older persons.

Dignity

- Older persons should be able to live in dignity and security and be free of exploitation and physical or mental abuse.
- Older persons should be treated fairly regardless of age, gender, racial or ethnic background, disability or other status, and be valued independently of their economic contribution.

Independence

- Older persons should have access to adequate food, water, shelter, clothing and health care through the provision of income, family and community support and self-help.
- Older persons should have the opportunity to work or to have access to other income-generating opportunities.
- Older persons should be able to participate in determining when and at what pace withdrawal from the labour force takes place.
- Older persons should have access to appropriate educational and training programmes.
- Older persons should be able to live in environments that are safe and adaptable to personal preferences and changing capacities.
- Older persons should be able to reside at home for as long as possible.

Self-Fulfilment

- Older persons should be able to pursue opportunities for the full development of their potential.
- Older persons should have access to the educational, cultural, spiritual and recreational resources of society.

Care

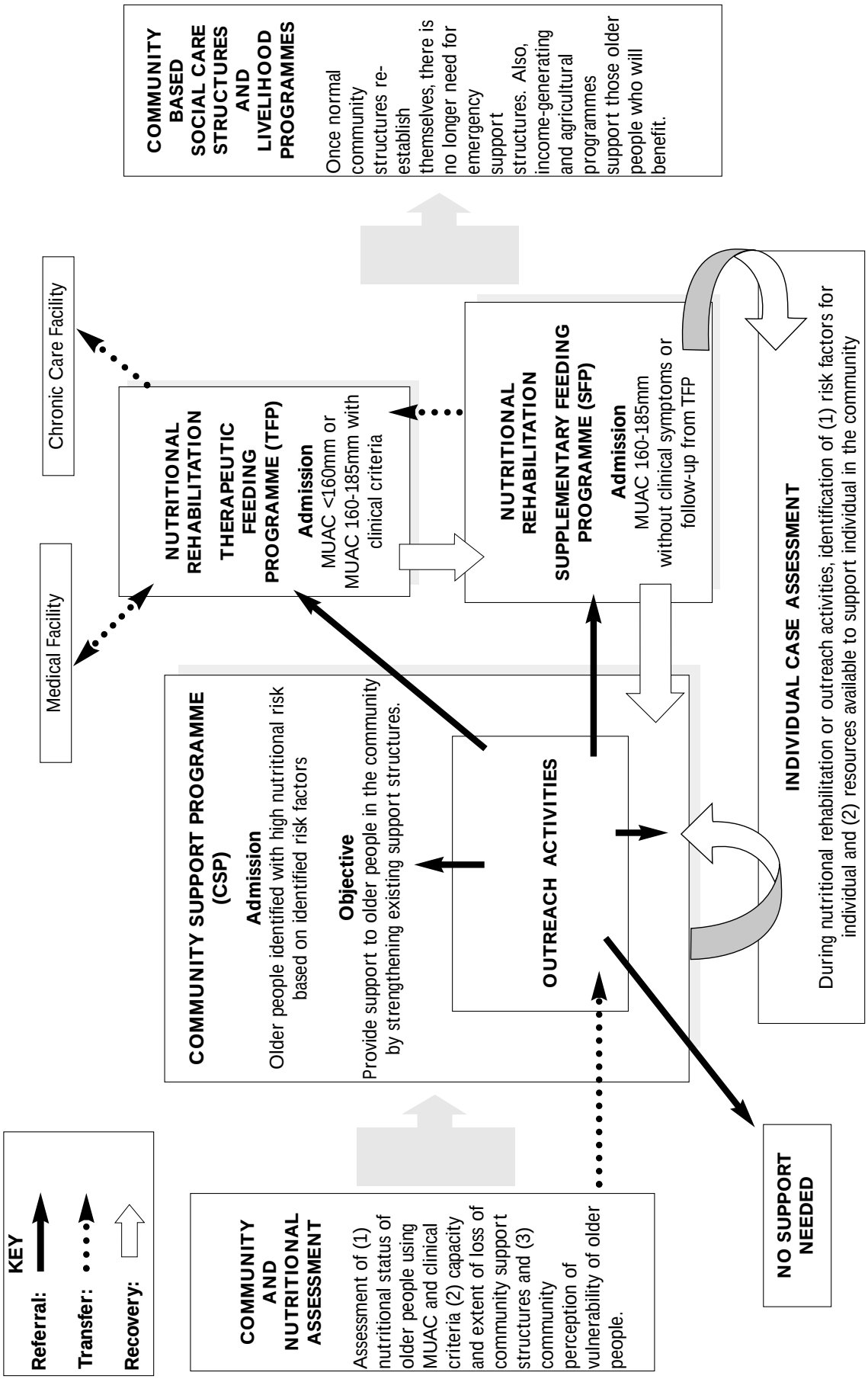
- Older persons should benefit from family and community care and protection in accordance with each society's system of cultural values.
- Older persons should have access to health care to help them to maintain or regain the optimum level of physical, mental and emotional well-being and to prevent or delay the onset of illness.
- Older persons should have access to social and legal services to enhance their autonomy, protection and care.
- Older persons should be able to utilise appropriate levels of institutional care providing protection, rehabilitation and social and mental stimulation in a humane and secure environment.
- Older persons should be able to enjoy human rights and fundamental freedoms when residing in any shelter, care or treatment facility, including full respect for their dignity, beliefs, needs and privacy and for the right to make decisions about their care and the quality of their lives.

ANNEX 5: GUIDELINES FOR RECOGNISING BASIC CLINICAL SYMPTOMS ASSOCIATED WITH ACUTE SEVERE MALNUTRITION

These clinical symptoms can be observed through physical examination and patient consultation. A physician or senior health worker usually carries out a physical examination on patients admitted to a TFP.

Clinical symptom	**Observation**
Famine oedema (accumulation of fluid in the tissues)	Occurs bilaterally e.g. in both feet or legs On pressing down gently with a thumb for 10 seconds, a pit is formed which remains visible for a few seconds (hence sometimes called 'pitting oedema') Oedema, occurring following sleep or immobility which disappears after some exercise is usually a result of poor circulation or heart condition.
Inability to stand/immobile	Some patients will be too weak to stand and/or walk. These patients are usually carried in with stretchers by family members or out-reach workers. In some cases, this inability to stand may be part of the natural ageing process and general debilitation – e.g. kyphosis.
Extreme weakness	Patient does not have the strength to carry out daily tasks and may, in some cases, be too weak to prepare and eat food by themselves. Patient will spend long hours sitting or resting. Muscle strength is severely depleted and muscle tissue is wasted.
Dehydration	Patient has dry mucosal membranes and dry mouth. When the skin is gently lifted away from the bone, remains upright for a few seconds.
Anorexia	Patient is vomiting and unable to keep food in their stomach. Often the patient will refuse to take food.

ANNEX 6: DRAFT FRAMEWORK FOR SELECTIVE FEEDING PROGRAMME FOR OLDER PEOPLE IN EMERGENCIES



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