

PART 2: TECHNICAL NOTES

The technical notes are the second of four parts contained in this module. They provide an overview of the nutrition of older people (50 years and above) in emergencies. The technical notes are intended for people involved in nutrition programme planning and implementation. They provide technical details, highlight challenging areas and provide clear guidance on accepted current practices. Words in italics are defined in the glossary.

Summary

This module discusses nutrition in older people in low to middle income countries affected by emergencies. It explores the demographics of ageing and how ageing affects nutrition. It then describes techniques for nutrition assessment and the assessment of functional outcomes of relevance to older people in their daily lives. Finally, it presents the range of interventions necessary to protect and support the nutritional wellbeing of this important population group in emergencies.

These technical notes have five sections. It starts with a discussion on ageing in the developing world and presents international commitments to older people. This is followed by a section on vulnerability and rights of older people in emergencies. The next examines the determinants of undernutrition in older people and the complexity of risk factors and vulnerability experienced by this population group. The fourth section deals with the assessment of undernutrition and nutritional vulnerability of older people in emergencies, and the fifth section describes the range of interventions which can be put in place to support and protect older people's nutritional well-being.

These technical notes draw on the other HTP modules as well as the following references and Sphere standards (see boxes below):

- Borrel A, 2001. Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International, Africa Regional Development Centre. Nairobi. www.helpage.org/download/4c4a1362b392f/
- Collins S, Duffield A and Myatt M, 2000. Assessment of nutritional status in emergency-affected populations. UN Administrative Committee on Coordination, Sub-Committee on Nutrition (ACC/SCN), Geneva. (<http://www.unscn.org/layout/modules/resources/files/AdultsSup.pdf>)
- Emergency Nutrition Network publication, *Field Exchange*. www.enonline.net/fex
- HelpAge International Ageways no 76; Food and older people, February 2011. (<http://www.helpage.org/what-we-do/health/ageways-76-food-and-nutrition/>)
- HelpAge International and Age UK, 2011. On the Edge: why older people's needs are not being met in humanitarian emergencies.
- IASC Guidelines 2008
- Ismail S and Manandhar M, 1999. Better nutrition for older people: assessment and action. HelpAge International and the London School of Hygiene and Tropical Medicine.

Key messages

- Older people (aged 50 and above) make up nearly a quarter of the world's population (22%) and their numbers are growing fastest in low and middle income countries.
- Older people are increasingly affected by natural disasters and conflicts, and have specific vulnerabilities and needs that are often neglected by humanitarian responses due to an emphasis on other groups, particularly children under five.
- Older people play important roles in household livelihoods and childcare so it is important to protect their health and nutritional status as much as possible to maintain their ability to function actively in daily life.
- Functional ability is the best outcome indicator against which to measure nutritional status in older people, in place of mortality and morbidity (and growth) used with children.
- In line with human rights and UN Principle of Impartiality, humanitarian responses to undernutrition and vulnerability in older people should be a standard component of planning and programming.
- The causes of undernutrition (either acute malnutrition or stable malnutrition) in older people are complex. They involve physiological, social, cultural, psychosocial, economic, and medical factors in addition to inadequate quantity and quality of diet and food intake.
- All these factors need to be considered in nutritional vulnerability assessments through the use of checklists and questionnaires.
- With no agreed anthropometric indicators and cut-offs for assessing undernutrition in older people, WHO's 1995 recommendations for assessing physical status in adults should be used.
- The participation of older people in all aspects of planning and programming to prevent and address undernutrition is essential.
- Mid-Upper Arm Circumference (MUAC) is the best anthropometric measurement to take in emergencies.
- A broad-based approach to interventions for tackling undernutrition in older people is crucial.
- Non-food based interventions relate to shelter, distribution systems, social supports, medical care, psychosocial supports, and livelihood and cash transfer activities.
- Food interventions for older people will focus on the general ration and selective feeding programmes. Nutrient-dense and micronutrient-fortified foods are needed to meet nutritional requirements for older people.

- Navarro-Colorado C, 2006. Adult malnutrition in emergencies: an overview of diagnosis and treatment Field Guidelines. Version 3. Action Contre La Faim. (<http://www.actionagainsthunger.org.uk/resource-centre/online-library/detail/media/adult-malnutrition-in-emergencies-an-overview-of-diagnosis-and-treatment-guidelines-version-3/>)
- WHO and Tufts University School of Nutrition and Policy, 2002. Keep fit for life: meeting the nutritional needs of older persons. Geneva. (<http://whqlibdoc.who.int/publications/9241562102.pdf>)
- WHO, 2002. Active Ageing: A Policy Framework.
- Wells J, 2005. Protecting and assisting older people in emergencies. HPN Network Paper no 53.
- Hutton D, 2008. Older people in emergencies: considerations for action and policy development. WHO.
- HelpAge International and UNHCR, 2007. Older people in disasters and humanitarian crises: guidelines for best practice.
- UNHCR/WFP, 2011. Guidelines for selective feeding: the management of malnutrition in emergencies.

Content

Older people in a changing and challenging world	5
Defining “old”	5
Our ageing world: a triumph and a challenge	6
Active role in livelihoods	6
Changing social roles	8
Ageing, health and sickness	9
Physical and mental health	10
International commitments, national responses	11
Vulnerability and rights	13
Rights and the principle of impartiality	14
Participation	15
Missing and under-funded: older people in the humanitarian system	16
What we know about older people in humanitarian emergencies	17
Missing from the humanitarian nutrition agenda	17
Undernutrition in older people	19
Defining terms for undernutrition in adults	19
Nutritional risk factors for older people	20
The focus on children under five	20
Ageing and nutritional status	22
Nutritional requirements for older people	24
Macronutrients	25
Micronutrients	25
Fluids and other requirements	27
Food intake in its social context	28
Undernutrition in older people in middle and low income countries	29
Assessment of nutritional status and vulnerability of older people	30
Assessing complex vulnerabilities	31
Assessing nutritional status	34
Dietary intake	35
Clinical assessment	35
Anthropometric assessment of nutritional status	35
Using Mid-Upper Arm Circumference (MUAC)	35
Using Body Mass Index (BMI)	38
BMI: body shape and body composition issues (see also HTP Module 6)	40
The relationship between nutrition and functional outcomes	44
What to use in emergencies?	45

Interventions and responses to address undernutrition in older people	45
Non-food interventions	48
Income and livelihoods	48
Shelter (including food distribution and health centres)	49
Psychosocial support interventions	49
Health interventions	51
Older people living with HIV and AIDS	51
Interventions to improve food security for older people in emergencies	51
Availability:	52
Access	52
Consumption	52
Utilisation (and acceptability)	52
Food-based interventions	53
General Food Distribution	54
Supplementary Feeding Programmes (SFP)	55
Blanket Supplementary Feeding Programmes (BSFP)	55
Targeted Supplementary Feeding Programmes (SFP)	56
Therapeutic Feeding Programmes, CMAM	57
Food products used in selective feeding programmes	58
Monitoring and evaluation	60
The Minimum Reporting Package (MRP) (http://www.mrp-sw.com)	61
SQUEAC (Semi-Quantitative Evaluation of Access and Coverage)	61
Participation, voice and inclusion	62
Existing challenges and areas for research	63
Advocacy, awareness and capacity	63
Assessment	63
Interventions	64
Monitoring and evaluation	64
Participation	64
Annex 1: Key events and documents related to older people in humanitarian situations	65
Annex 2: UN General Assembly Resolution no 46/91: 18 General Principles for Older Persons, 1991	66
Annex 3: Madrid International Plan of Action on Ageing. Issue 8: Emergency Situations	67
Annex 4: Example of an older people's vulnerability assessment form (used in South Sudan)	69
Annex 5: Mini-Nutritional Assessment MNA used for nutritional assessment and screening of	70
older people in high-income countries	
Annex 6: Guiding principles for nutrition interventions for older people in emergencies	72
Annex 7: Checklist for older people in internally displaced persons camps	73
Annex 8: Summary of supplementary foods recommended by WFP in an emergency	74

Sphere standard

As a cross-cutting issue, ageing is mainstreamed in all Sphere standards and they all apply to the specific population of older people. Older people are specifically mentioned in the following sections:

Outline of the cross-cutting themes: Older people (page 16)

Older men and women are those aged over 60 years, according to the UN, but a definition of 'older' can vary in different contexts. Older people are often among the poorest in developing countries and comprise a large and growing proportion of the most vulnerable in disaster- or conflict-affected populations (for example, the over-80s are the fastest-growing age group in the world) and yet they are often neglected in disaster or conflict management.

Isolation and physical weakness are significant factors exacerbating vulnerability in older people in disasters or conflict, along with disruption to livelihood strategies and to family and community support structures, chronic health and mobility problems, and declining mental health. Special efforts must be made to identify and reach housebound older people and households headed by older people. Older people also have key contributions to make in survival and rehabilitation. They play vital roles as carers of children, resource managers and income generators, have knowledge and experience of community coping strategies and help to preserve cultural and social identities.

Minimum standards in food security and nutrition, Appendix 3 (page 223)

There is currently no agreed definition of malnutrition in older people and yet this group may be at risk of malnutrition in emergencies. WHO suggests that the BMI thresholds for adults may be appropriate for older people aged 60-69 years and above. However, accuracy of measurement is problematic because of spinal curvature (stooping) and compression of the vertebrae. Arm span or demi-span can be used instead of height, but the multiplication factor to calculate height varies according to the population. Visual assessment is necessary. MUAC may be a useful tool for measuring malnutrition in older people but research on appropriate cut-offs is currently still in progress.

Source: The Sphere Project 'Humanitarian Charter and Minimum Standards in Humanitarian Response; Chapter 3: Minimum Standards in Food Security and Nutrition', The Sphere Project, Geneva, 2011.

Older people in a changing and challenging world

Defining 'old'

For the purposes of this HTP module, the term '**older people**' refers to **people age 50 and above**. This definition differentiates the content from the term 'adult(s)' which refers to both men and women from 18 to 49 years.

Most high-income 'westernised' countries have adopted an arbitrary, chronological definition of an older adult or older (often referred to as 'elderly') person. This classification of 'old age' originated in economically driven government decisions about a set retirement age. Old age became inextricably linked to a transition in livelihood, marking a shift from working to retirement. It most commonly hinges on age cut offs of 60 or 65 years, although there is variation between countries.

This concept of old age does not always fit well in many low and middle income countries, including many that have experienced humanitarian emergencies in the last few decades. In non-western cultures, where formal retirement structures are only newly emerging, old age is more socially constructed. Age and life stage classifications tend to relate to changing health, the onset of physical impairments and disabilities and accompanying changes in social roles. Culture defines 'old' as the point when active contribution to household, agricultural or family livelihood activities is no longer possible.^{1,2}

In recognition of these multidimensional aspects of defining 'old', initiatives, such as the Older Person in Africa for the Minimum Data Set (MDS) Project (1999-2003)^{3,4}, have adopted the lower age of 50 years and above, arguing that this is a better representation of ageing for African populations as well as the social construction of old age.⁵ Taking this age cut-off for older people also fits better with many relevant data

¹ Gorman M, 2000. Development and the rights of older people. In: Randel J et al., eds. *The ageing and development report: poverty, independence and the world's older people*. Earthscan Publications Ltd.; 3-21.

² Kinsella K and Phillips D, 2005. Global ageing: the challenge of success. *Population Bulletin*: 60 (1). New York.

³ Ferreira M and Kowal P. See: www.who.int/healthinfo/survey/ageing_mds_pub02.pdf

⁴ WHO, 2000. Report of a Workshop on creating a Minimum Data Set (MDS) for Research, Policy and Action on Aging and the Aged in Africa. Harare, Zimbabwe. Jan 20-22. Geneva. WHO: Ageing and Health Programme.

⁵ WHO website on Health Statistics and health information systems: Definition of an older or elderly person.

collection and reporting systems, such as that for HIV/AIDS and other diseases, which include an adult category 'up to 49 years', and therefore older people as being 50 years and older.

Our ageing world: a triumph and a challenge⁶

All of the world's countries are ageing as a result of social and economic progress. For the first time in human history, those who survive childhood can now expect to live past 50 years of age.

Twenty two per cent of the world's population is aged 50 years and above. About 12.6% is aged over 60 years. By 2050, the percentage over 60 years old is estimated to increase to 22% of the world's population, with absolute numbers passing 2 billion.⁷ By then, older people will outnumber children under 14. People aged 80 and over are the fastest-growing population group, projected to increase almost fourfold by 2050. High HIV prevalence, low birth rate, conflict or economic migration means an even higher proportion of older people in the population.

Ageing is not just an issue for the world's richer countries. In low to middle income countries, low life expectancy at birth often masks the fact that there are millions of older people. Today 60% of the world's older people live in low to middle income countries. By 2050, this will have risen to 80%. The developing world will see a jump of 225% – to over 1.5 billion people over 60 years – between 2010 and 2050.^{8,9} The ratio of older people to younger people is increasing fastest in low to middle income countries and disasters disproportionately affect poorer countries. Virtually all (97%) people killed by disasters live in low to middle income countries.¹⁰ A recent estimation is that 26 million older people are affected by natural disasters every year, and many millions more are affected by conflict.

The Asian continent has the largest numbers of the world's older population. Over half of the world's older people live in Asia. For example, China is getting old before it is getting rich.¹¹ The sub-Saharan African region is considered to have the

fastest growing older population of any world region, although the exact demographic picture is unclear due to the absence of vital registration systems (recording of births and deaths) in most countries of the region, and the tenuous nature of demographic projections. As the poorest and least developed major world region, the ageing of Africa's population is largely unfolding in a context of widespread economic strain, social changes and, in many places, climate change, environmental degradation and political instability and conflict.¹² Most Africans enter old age after a lifetime of poverty and deprivation, poor access to health care and a diet that is often inadequate in quantity and quality.^{13,14}

This demographic ageing transformation is accompanied by economic, social and cultural change affecting both rural and urban settings, changes which will also be played out in protracted and acute emergencies. Many of them not only have implications for the nutrition and health of the older people themselves, but also on the nutrition of other members of the household, particularly children, and pregnant and lactating mothers through the roles and responsibilities that older people have in their households and communities.

Active role in livelihoods

In low to middle income countries, 80% of older people have no regular income. Less than 5% receive a pension.¹⁵ Many older people have no choice but to work throughout their lives.

Older people in low to middle income countries are much more likely to be economically active than older people in the developed world. According to HelpAge's research, at least half of the over-60s in low to middle income countries are economically active, and a significant proportion (a fifth or more) are still working every day well into their late 70s. Overall, around half of the world's older people support themselves through informal labour, such as childcare and trading.¹⁶ They contribute substantially to agricultural labour, animal husbandry, vegetable farming and household livelihoods and to the economic life of their communities. In South Africa, for example, research has shown that the income earned by older

⁶ WHO, 2002. Active Ageing: a Policy Framework. Geneva.

⁷ Population Division of the Department of Economic and Social Affairs of the UN Secretariat UNDESA Population Prospects 2010 update, <http://esa.un.org/unpp>

⁸ State of the World's Older People, 2002.

⁹ HelpAge International/AgeUK, 2011. On the edge: why older people's needs are not being met in humanitarian emergencies.

¹⁰ IFRC, 2007. World Disasters Report.

¹¹ UNFPA, 2011. State of the World's Population: people and possibilities in a world of 7 billion.

¹² Aboderin I, 2010. Understanding and advancing the health of older people in sub-Saharan Africa: policy perspectives and evidence needs. *Public Health Reviews*: Vol 32 (no.2); 357-376.

¹³ Charlton K and Rose D, 2001. Nutrition among older adults in Africa: the situation at the beginning of the Millennium. *Journal of Nutrition*: 131; 2424S-2428S.

¹⁴ HAI Africa 2004.

¹⁵ HelpAge International/AgeUK, 2011. On the edge: why older people's needs are not being met in humanitarian emergencies.

¹⁶ Wells J, 2005. Protecting and assisting older people in emergencies. ODI Humanitarian Policy Group Network (HPN) Paper Number 53. December.

Box 1: The impact of the loss of an adult

At the household level, the impact of the loss of an adult cannot be underestimated. From a social and local economic point of view, the loss of an adult is more dramatic than that of a child – though both are equally regrettable. Adults are the main source of income and food for the rest of the group, they are the caretakers of the younger and older members of the group, and they are often the **only means for the family to be represented in social structures. Indeed, assessments of vulnerability** often consider the lack of the “head of the household” among the key criteria to identify families at particular risk of suffering the effects of the emergency (food shortages, malnutrition, and many others). The effect of the loss of one (or both) parents for the family and the social group has been demonstrated in the context of the HIV epidemic in Southern Africa. Avoiding adult deaths reduces the burden of any emergency, for example by preventing an increase in the numbers of orphans. It can also preserve the health and the lives of the main actors of post-crisis reconstruction, an invaluable asset.

Source: Navarro-Colorado, C. (2006) *Adult malnutrition in emergencies: an overview of diagnosis and treatment*. Field Guidelines, ACF, version 3.

people accounted for 30% of households' expenditure on child schooling, 20% on household food, and 15% on clothing.¹⁷ Many young people start families without a reliable source of income and heavily rely on their parents and grandparents for livelihood support.

HelpAge and its associates across the world have documented the lives of older people in different situations and settings. A clear finding from research is that older people themselves consistently cite income as their number one priority. Maintaining independence as long as possible is crucial to older people as well as to society. Activities undertaken by older people that bring income into the household can also contribute to the nutritional status of household members.

However, some livelihood strategies can also put older people at risk. For example, venturing outside a camp to gather firewood or wild foods may expose older people, particularly women, to rape or other violence. Many older people may take on such tasks explicitly to protect younger members of the family from these risks.

The world is the most urbanised it has ever been in recorded history.¹⁸ By 2030, 80% of the world's urban dwellers will be living in the cities and towns of low to middle income countries. The world urban population will be over 5 billion, and many of these new urbanites will be poor. Urbanisation modifies domestic roles and relations within the family, and redefines concepts of individual and social responsibility. In rapidly expanding urban areas in low to middle income countries, there has been a proliferation of non-traditional

family forms and new types of households. Smaller families and the dispersion of extended families in contemporary urbanized societies have, in combination, also reduced the level of kinship support systems available, especially for older women. In the context of growing urbanization, life for older people is increasingly challenging¹⁹ especially for those affected by HIV/AIDS.²⁰

Humanitarian emergencies also occur in rural areas. Older people in rural areas of many low to middle income countries are especially vulnerable to the effects of natural disasters or conflict.²¹ Approximately 60% of the world's older people live in rural areas and this proportion is growing due to increased life expectancy and the high levels of migration of younger people to towns and cities in search of work.²² Many older people choose to stay in the areas where they have always lived. The impact of humanitarian crises, in particular natural disasters, tends to be felt most strongly in rural areas, and the poorest will always suffer the most enduring damage. If older people are consistently among the poorest and most vulnerable parts of society, then the older poor living in rural areas are especially susceptible to the effects of disasters. Likewise, the migration of the young to the cities means that fewer people are available to care for, and support, older family members.

Rural-to-urban and transnational migration and the processes of urbanisation mean that the extended family is no longer as common as it once was. Some older people do not have families, and the people left around them may not have the resources or ability to help others at a time when they are also

¹⁷ State of the World's Older People, 2002.

¹⁸ UNDP 2007. Ageing and urbanisation.

¹⁹ Aboderin I, 2004. Declining material family support for older people in urban Ghana. Oxford Institute of Ageing, 6th May.

²⁰ Chepnegenohanga G, 2008. HIV/AIDS and older people living in urban areas: a case of older people in Nairobi city slums. Paper presented at the Oxford Institute of Ageing Seminar 22 May.

²¹ Wells J, 2005. Protecting and assisting older people in emergencies. ODI Humanitarian Policy Group Network (HPN) Paper Number 53. December.

²² WHO 2002. Health and ageing Discussion Paper.

Box 2: Mothers speak about grandmothers and childcare, Western Province, Kenya

"They help us a lot, especially when the baby is sick; they get us traditional herbs and if they fail to work, they assist us to go to the hospital. When we get busy or have somewhere to go, they remain with the children and take care of them until we have come back. They share with us the food that they cook, especially when it is something that the baby can eat. Those with cows that are milked provide milk for the baby. When you are not around, they cook for the children. They advise us to prepare the food in good hygienic conditions. They ensure the baby is kept clean always, and they are also very observant when it comes to the baby's health. They can tell when the baby is unwell, even when you as the mother didn't know."

Source: Thuita F, (2011). *Engaging grandmothers and men in infant and young children feeding and maternal nutrition. Report of a formative assessment in Eastern and Western Kenya*. April. The Manoff Group, IYCN/PATH/USAID/Ministry of Health Kenya.

suffering. Given the context of limited access to social services, high incidence of poverty and low coverage of social security in many low to middle income countries, the increasing numbers of older people will challenge the capacity of national and local governments, and thus clearly needs to be more prominently on the agenda of development and humanitarian agencies.

Changing social roles

Throughout the developing world, older people are key household decision-makers as well as carers for millions of children, the sick and people with disabilities. These older people survive through negotiating a complex combination of risks, vulnerabilities and resilience.

The UNICEF conceptual framework²³ for nutrition emphasises caregiving and feeding practices as critical for child growth and development. This is based on the premise that the mother, and to a lesser extent the father, is exclusively responsible for this caregiving. However, little attention has been paid to the caregiving and feeding practices conducted by older household members such as grandmothers. In recent years, research in Asia and Africa has revealed that grandmothers in particular have considerable influence on matters related to women and children's survival, growth and well-being and on other household members' attitudes and practices.^{24,25} However, most emergency or development programmes neither acknowledge their influence nor involve them in efforts to strengthen existing family and community survival strategies.

Similarly, recent research dealing with child nutrition from numerous socio-cultural settings in Africa, Asia and Latin

America revealed common patterns related to the social dynamics and decision-making within households and communities. A major finding was that grandmothers play a central role as advisers to younger women. Grandmother social networks exercise collective influence on maternal and child nutrition-related practices, specifically regarding pregnancy, feeding and care of infants, young children and sick children. Another finding was that men play a relatively limited role in day-to-day childcare and nutrition within family systems. This indicates the need for nutritional policies and programmes to expand their focus beyond mother-and-child to include grandmothers.²⁶

In The Gambia, longitudinal time-allocation research revealed the beneficial effects of older women, particularly maternal grandmothers, on the nutritional status, health, cognition and sociological well-being of children²⁷ in both rural and urban settings.²⁸ The reproductive status of the maternal grandmother also influences child growth, with young children being taller in the presence of post-menopausal grandmothers than grandmothers who are still reproductively active. In contrast, paternal grandmothers and male kin, including fathers, had negligible impacts on the nutritional status and survival of children. Maternal grandmothers provided the greatest protection from child mortality during the period of weaning.²⁹

Recent in-depth research from Kenya (see **Box 1**) confirms that grandmothers are often frontline caregivers of young children, and powerful influencers of decisions related to their general care and feeding. They are the main alternative caregiver in the mother's absence. They are central in decision-making on issues related to food preparation and feeding young children, health care (recognising signs of illness and advising on the

²³ UNICEF Conceptual Framework Reference.

²⁴ Aubel J, 2006. Grandmothers promote maternal and child health: the role of indigenous knowledge systems' managers. *IK Notes: World Bank Newsletter*; 89.

²⁵ Sharma M and Kanani S, 2008. Grandmother's influence on child care. *Indian Journal of Paediatrics* 73 (4); 295-298.

²⁶ Aubel J, 2012. The role and influence of grandmothers on child nutrition: culturally designated advisors and caregivers. *Maternal & Child Nutrition*. Volume 8, Issue 1, pages 19-35, January

²⁷ n = 1,691

²⁸ Sear R, Mace R and McGregor I, 2000. Maternal grandmothers improve nutritional status and survival of children in rural Gambia. *Proceedings of the Biological Society*: Aug 22: 267 (1453); 1641-7.

²⁹ n = 780; OR 1:00, p <0.01

course of action when children are sick), family livelihood (food production), and spiritual nurturing. They provide advisory support to daughters-in-law on running the household and on family life in general.

In many countries, as the middle generation dies of medical complications due to AIDS, or in conflict, or migrates from home in search of work, a generation of young children and a generation of older people are left behind. More older people than ever before in history are assuming the role of caretaker for their grandchildren and other orphaned children.³⁰

HelpAge estimates that up to half of the world's children orphaned by AIDS are cared for by a grandparent. An on-going study³¹ in Uganda found that in 34% of households, the caregivers of HIV/AIDS orphans are people over 50 years of age, and often much older. Almost all households headed by older people (98%) had on average three school-going orphaned children living in the household. The caregiving burden is likely to be complicated by issues related to poverty. One study showed that poverty rates in households with older people are up to 29% higher than in households without older people. Research in Zimbabwe found that older people were the main providers for people living with AIDS and children orphaned as a result of AIDS in 84% of cases, and 71% of these caregivers were female.³²

It follows then, that maintaining good nutrition as an older person is likely to have beneficial effects on those cared for. The most widely used conceptual framework on nutrition³³ (see **Figure 1** in the section on undernutrition in older people, p.30) recognises the link between older people's nutritional status and the nutrition of young children through older peoples' roles as caregivers. It also makes reference to the important role that older people play in the treatment of malnutrition and sickness through supervision of adherence, for example, to feeding regimes. The effectiveness of this role will vary according to the educational level of caregivers. In poor countries, older people, particularly women, are more likely to have low literacy than younger adults. Less than 15% of women over 60 years in both South Asia and sub-Saharan Africa are literate.³⁴ Research has revealed positive associations between child nutrition and grandmothers' education in India and community-level maternal literacy in Vietnam.

All these findings imply that an individual-level perspective may fail to capture the entire impact of education on child nutrition, and support a call for a widening of focus of nutrition

policy and programmes from the mother-child pair towards the broader context of their family and community.³⁵ We are beginning to realise just how great a role grandmothers and older women have on the feeding and care of young children, either directly, or indirectly through instruction and supervision of younger women as they exert the power of senior status in households.

Ageing, health and sickness

The ageing process is a change in which the physical, nervous and mental capacities of the human body gradually break down. The most obvious physical signs of ageing are bones that become weak and brittle, and muscles that weaken and shrink. Stiffening of the rib cage, weakening heart muscle and changes in the walls of arteries and veins lead to high blood pressure, breathlessness and general weakness. Stiffness and pain in the joints and muscles is a common and disabling problem for many older people. Low nourishment from a poor diet can be aggravated by loss of teeth and a lack of saliva. Nerve-endings may weaken and lose their sensitivity, which affects all the faculties. Poor vision and hearing can damage balance and reduce mobility. Physical changes in the brain and nervous system may result in short-term memory loss. This may lead to confusion and disorientation. The combination of these physical changes leaves the individual less able to cope with the activities of daily living. In an emergency where survival may depend on being able-bodied, the capacity of older people to survive can be seriously compromised by the ageing process.

In developed countries, substantial research programmes into aspects of ageing, health and nutrition are well advanced. A number of major studies on ageing, including aspects of health, nutrition and functional dis/abilities have also been taking place in low to middle income countries including: the WHO SAGE (global study of ageing and adult health, www.who.int/sage); the International Union of Nutritional Sciences (IUNS) (a longitudinal study of ageing, food intake and nutrition in the Asia-Pacific region); and the Ibadan study, Nigeria (a major longitudinal study on ageing with a focus on the development of functional disabilities).

WHO has shown that, as a developing country ages, there is a corresponding shift in disease patterns, with an increase in **non-communicable diseases** (NCDs) that particularly affect older people. NCD deaths are expected to rise substantially as the population ages. Thirty-six million of the 57 million global

³⁰ Population Research Bureau, 2007.

³¹ MRC/URVI/LSHTM.

³² WHA II, HIV/AIDS and older people, March 2002.

³³ UNICEF/ACC/SCN, ACF 2011.

³⁴ State of the World's Older People, 2002.

³⁵ Moestue H and Huttly S, 2008. Adult education and child nutrition: the role of family and community. *Journal of Epidemiology and Community Health* 2008; 62; 153-159 doi:10.1136/jech.2006.058578

Box 3: Older people and HIV/AIDS

While the AIDS epidemic affects older people mainly through their role as caregivers, the elderly are also vulnerable to HIV infection. Older people do engage in sexual activity, including as a transactional activity to get cash (especially older women). However, because they are not considered a target group, older people miss out on many of the HIV prevention messages. Additionally, many of the statistics on HIV/AIDS do not include those over the age of 50. For example, UNAIDS prevalence data refers to adults between 15 and 49 years, further reinforcing the notion that older people are not at risk of contracting HIV. None of the 25 core UNGASS indicators includes people 50 years and over. However, data from national programmes in Africa, Asia and Latin America indicate that people aged 50 and older do make up a proportion of reported AIDS cases. Additionally, as access to antiretroviral therapy expands and the survival time of those living with HIV is extended, greater numbers of people with HIV will be living into their older years. As the epidemic progresses, older people must be counted and educated about the risks of HIV. Supported with appropriate knowledge and tools, they will also be able to play a greater role in educating and protecting their communities.

Source: adapted from PRB 2007, UNAIDS and WHO 2006, and other sources.

deaths each year are due to NCDs, mainly cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. Nearly 80% of these deaths occur in low and middle income countries. Mental health issues, including dementia and depression, are also expected to rise.

Of the estimated 40 million people living with **HIV**, the vast majority are adults in their prime working years,³⁶ although relatively limited data exists on the number of older people who are infected with HIV and AIDS in low to middle income countries. What is becoming increasingly clear, however, is that HIV/AIDS is having a wide impact on older people in low to middle income countries, both in terms of the social and economic burden they have to contend with through illness or death of their adult children and taking care of surviving grandchildren, but also on their own health and survival prognosis.

The physical demands and emotional strain of caring for the seriously ill can also adversely affect the health of older people. Evidence from Thailand indicates that the increase in daily chores and activities related to caregiving adversely affects older people's physical health and well-being during the time they care for their ill adult children, and take on the care of grandchildren. In addition, worry and stress are commonly reported emotional problems as older people suffer anxiety over the illness and death of loved ones.³⁷

The epidemic of HIV/AIDS is also contributing to changing perceptions of ageing in many affected low to middle income

countries. For example, in Nigeria, 62% of people affected by HIV and AIDS in Yoruba society are older people. The perception of ageing has changed from peaceful retirement to a crisis-ridden state of living, and the negative effects of neglect, poor feeding and poor health status. Loss of respect as repositories of experience, memory, authority and wisdom leads to psychological problems. These are exacerbated by a lack of income and disintegrating social support systems.³⁸

Together with the childhood bias generally widespread throughout humanitarian interventions, older people are also largely neglected in the HIV and AIDS response, as well as in standard data collection and monitoring systems (see **Box 3**). For example, a wide-ranging review of nutrition and food security approaches in HIV and AIDS programmes in Eastern and Southern Africa referred only to adults aged 15-49 years, and did not mention older people.³⁹

Physical and mental health

With immunity weakening with age, older people are vulnerable to epidemics such as cholera and dysentery. Cholera epidemics have occurred in refugee camps in Malawi, Zimbabwe, Swaziland, Nepal, Bangladesh, Turkey, Afghanistan, Burundi, and Zaire. Outbreaks of dysentery have been reported since 1991 in Malawi, Nepal, Kenya, Bangladesh, Burundi, Rwanda, Tanzania, and Zaire with case-fatality rates as high as 10% in young children as well as in the older people.^{40,41}

³⁶ UNAIDS and WHO, 2006.

³⁷ Kespichayawattana J and VanLindingham M, 2003. Effects of co-residence and caregiving on health of Thai parents of adult children living with AIDS. *Journal of Nursing Scholarship* 35; 3; 217-214.

³⁸ Ajala A, 2006. The changing perception of ageing in Yoruba culture and its implications on the health of the elderly. *Anthropologist*: 8 (3); 181-188.

³⁹ Panagides D, Graciano R, Atekyereza P, Gerberg L and Chopra M, 2007. A review of nutrition and food security approaches in HIV and AIDS programmes in Eastern and Southern Africa. Equinet Discussion Paper no 48. Medical Research Council of Africa and Regional Network for Equity in Health in East and Southern Africa EQUINET.

⁴⁰ Centre for Disease Control Prevention, 1994. Health status of displaced persons following civil war-Burundi, December 1993-January 1994. *MMWR* 43:701-3.

⁴¹ Toole MJ and Waldman RJ, 1997. The public health aspects of complex emergencies and refugee situations. *Annual Reviews of Public Health*: 18; 283-312.

Box 4: Changes affecting older people in refugee camps in Angola

The prolonged conflict in **Angola** and the consequent forced migration of millions have drastically reduced the level of interaction between older people and younger people that would have been common in rural areas. The setting up of community schools, for example, has lessened the role played by the older members of society in the lives of youth, as they are no longer perceived as the bearers of wisdom and advice. The Nzango, a traditional meeting place where members of the community, young and old, would tell stories, discuss important matters, settle disputes, pass on skills, was crucial to community life in Angola. Refugees, however, have no such place to congregate and interactions between older and younger generations is limited to the nuclear family. Skills that would have been taught to boys are no longer relevant, negating the role of older male members of the family. NGOs focus on empowering women, adding to the erosion of the traditional male role. Older men can start to feel worthless and insignificant. Hunting, fishing and farming as traditional livelihoods in which older men had seniority, status, leadership and decision-making power are no longer possible and subject to regulations in refugee camps. Members of many ethnic groups are placed together in refugee camps. In Mayukwayukwa camp in Zambia, for example, Mdundas, Kaluchazis and Lubales live side by side. As youngsters from all groups mix together, it is impossible for older men of the various groups to pass on customs and values.

Source: Eruseto, (2002) *Older people displaced: at the back of the queue?* (extract). Forced Migration Review no 14, University of Oxford. Adapted: <http://reliefweb.int/node/414745>

In addition to acute infections, trauma and fever, the chronic sickness burden of older people represents an additional factor to be considered during nutrition emergencies. Two thirds of older people interviewed by HelpAge in Darfur in January 2005 said that they suffered from chronic illnesses such as arthritis and gastritis, and a similar proportion of older people interviewed in Sierra Leone in May 2000 reported joint pains and arthritis.⁴² For many older people in emergencies, physical health is their most important asset, and is bound up with the ability to work and to function independently. A third of older people surveyed in West Darfur in January 2005 were disabled in some way, and a quarter suffered from eye problems or blindness. Similarly, 47% of older people interviewed in Sierra Leone in 2000 suffered with poor eyesight.⁴³ This suggests a need for support to reduce the burden of disability among older people.

Emotional distress in emergencies is a common experience for many older people. Older people are at increased risk of poor emotional and mental health, including post-traumatic stress and war trauma. Loss of family members, carers and cultural and community ties can leave older people isolated and feeling excluded. Many older people live alone, especially widowed women. For many survivors, the most difficult aspect of a disaster is coping with day-to-day life afterwards. Some older people report feeling depressed at losing the status they once had in their community. For older people, the sense of status, security and comfort that a home provides is particularly important, so losing their home in a disaster or conflict can have a profound psychological impact, particularly on the older old (over 80 years old).⁴⁴ Some of these feelings are reflected in analysis summarised in **Box 4** above.

International commitments, national responses

In the light of these demographic, health and socio-economic realities, all national governments and international organisations working on development and humanitarian assistance, need to focus on older people as well as under-fives and mothers.

Compared to other vulnerable groups such as children and women for whom specific international rights conventions exist, older people tend to be covered implicitly via the universality of human rights. There is lack of adequate coverage under international law, with few legal instruments relating specifically to older people as a distinct category. The most important international events and documents relating to older people in humanitarian situations are depicted in **Annex 1**.

The first major international milestone for older people came in 1982 with the International Plan of Action on Ageing, agreed in Vienna at the First World Assembly on Ageing. This called on each state to formulate and implement policies on ageing on the basis of its specific national needs and objectives. It also suggested that each government establish multidisciplinary national commissions on ageing to develop its own national policy on ageing. In 1991 (16th December), to “add life to the years that have been added to life”, the UN General Assembly adopted **18 Principles for Older Persons** (see **Annex 2**). This called for ensuring the independence, participation, care, self-fulfilment and dignity of older people. It also specifically states that older people should have access to basic services, including shelter, adequate food and health care. In

⁴² Wells J, 2005.

⁴³ HelpAge International, 2000. Assessment of the nutritional status amongst older people of Kenema District, Sierra Leone.

⁴⁴ HelpAge International, undated. Guidelines on including older people in emergency shelter programmes.

Table 1: Priorities of the Madrid International Plan of Action on Ageing MIPAA (2002)

Priority 1	Older persons and development	<ul style="list-style-type: none"> Active participation in society and development Work and the ageing labour force Rural development, migration and urbanization Access to knowledge, education and training Intergenerational solidarity Eradication of poverty Income security, social protection/security and poverty Emergency situations
Priority 2	Advancing health and well-being into old age	<ul style="list-style-type: none"> Health promotion and well-being throughout life Universal access to health care services Older persons and HIV/AIDS Training of care providers and health professionals Mental health needs of older persons Older persons and disabilities
Priority 3	Enabling and supportive environments	<ul style="list-style-type: none"> Housing and the living environment Care and support for caregivers Neglect, abuse and violence Images of ageing
Implementation and follow up		<ul style="list-style-type: none"> National and international action Research Global monitoring, review and updating

1998, the UN Guiding Principles on Internal Displacement⁴⁵ included age in provisions against discrimination, and specified that older people are entitled to special protection and assistance, and to treatment that takes into account their special needs.

The Second World Assembly on Ageing was held in Madrid in 2002. This meeting provided a prime opportunity to reinforce previous commitments and rally UN member states to take the issue of ageing and the rights of older people seriously. Specific consideration was paid to older people in humanitarian crises. The meeting produced the **Madrid International Plan of Action on Ageing (MIPAA)**, signed by the 159 governments present. MIPAA is the first international agreement explicitly committing governments to include ageing in social and economic development policies. It stated that: **“in emergency situations, older persons are especially vulnerable and should be identified as such because they may be isolated from family and friends and less able to find food and shelter”** (Objective 2). MIPAA priorities were identified, as summarised in **Table 1**.

A number of articles and objectives related to older people in emergency situations were specified: see **Annex 3**. MIPAA also calls for an end to **ageism and age discrimination**, as defined in **Box 5**.

Despite these plans and guiding principles agreed at international level, national responses often lag behind. HelpAge’s Asia-Pacific Office and Age UK conducted an analysis of policies relating to older people in countries in the Asia-Pacific region. This includes several countries affected by humanitarian emergencies caused by recent natural disasters. The analysis revealed that, although most countries have some form of Disaster Reduction Strategy, most do not mention older people specifically. Myanmar is the only country in the region to include older people in its national action plans.

Similarly, nutrition policies drawn up by national governments often fail to make specific mention of older people. For example, Sudan published a National Nutrition Policy in 2008.⁴⁶ While stating the policy is aimed at “all citizens”, the conceptual framework and nutrition activities refer almost exclusively to

⁴⁵ UN OCHA, 2004. Guiding Principles on Internal Displacement.

⁴⁶ National Nutrition Policy and Key Strategies 2008-2012, Federal Ministry of Health, Republic of Sudan. June 2008.

Box 5: Ageism and age discrimination

The word 'discrimination' comes from the Latin '*discriminare*' which means 'to distinguish between'. Discrimination is action based on prejudice, resulting in unfair treatment of people. Ageism is becoming at least as important as racism and sexism. However, policy makers and the public continue to view age discrimination as less pervasive and less insidious or harmful than race or sex discrimination. The joint effects of combined ageism, sexism and/or racism can be significant.

Source: Mooney-Cotter A-M, 2008. Just a number: an international legal analysis on age discrimination. Ashgate Publishing, UK.

children. In the analysis of the basic causes of malnutrition, there is acknowledgement that these are exacerbated by differentials in terms of accessing and utilising these resources across geographic areas, ethnic groups and gender, but age is not mentioned.

The UN system plays a unique coordination role in the global humanitarian system. Its coordination system has the potential to ensure that older people's needs are specifically met. However, there is no dedicated or specialised UN agency to look after older people. Over the last decade, the UN system has increasingly recognised older people as a cross-cutting issue as well as a specific emergency nutrition challenge (see **Table 1**). In 1999, the UN declared 1st October the annual International Day of Older Persons. Important recent developments include the UN General Assembly establishment of an Open-Ended Working Group on Ageing (OEWG) in October 2010, followed by the 78th Inter-Agency Standing Committee (IASC) Working Group Meeting in November 2010, another OEWG.

The IASC is the UN's primary mechanism for inter-agency coordination of humanitarian assistance, and has been working with HelpAge since 2008 to mainstream older people into all areas of humanitarian action. Guidance is available from the IASC on humanitarian action and older people. However, recent HelpAge/Age UK research has shown that the humanitarian coordination system focuses mainly on younger age groups and fails to ensure the inclusion of older people in the humanitarian response.

Within WHO, the Ageing and Life Course Department leads on World Health Days theme of ageing and older people (e.g. 2012 World's Health Day slogan was "good health adds life to years") and hosts a website on ageing (<http://www.who.int/ageing/en/>). Whilst WHO's Nutrition for Growth and Development Department has not recently focused on older people, it commissioned and published the Physical Status anthropometry review in 1985, which covered the nutritional status assessment of adults for the first time. An update on this is under consideration.

Very few international non-governmental organisations (INGOs) are dedicated to older people. HelpAge is the only INGO solely dedicated to addressing the needs and rights of older persons and implements activities through regional centres, country offices, affiliates and civil society consortia. Age Demands Action (ADA) is a HelpAge advocacy campaign, which aims to bring about changes for older people by older people on a sustainable basis through influencing local policies. For example, during the Pakistan floods, one initiative was to influence the public transport system to provide older people with better services and seating. Other key INGO's include Global Age Action and the Global Alliance for the Rights of Older People.

Vulnerability and rights

HelpAge believes that, in its current state: "the humanitarian system is poorly equipped to ensure an equitable response for the most vulnerable. Whilst issues specific to children, age, old people, women and those with disability are widely written about, there are few mechanisms to deal with them".

In a disaster, all parts of a population may have been exposed to the same risks but the vulnerability and resilience of some households, and/or some specific members of a household to the impact of a shock on their food security will vary. The term 'vulnerable group' is widely used throughout the humanitarian literature, in guidelines and protocols, with frequent references to 'vulnerable groups' in need of special assistance and/or targeting, including for undernutrition. However, there is no universally accepted clear definition of vulnerability, leaving the term open to interpretation. While the 'elderly', 'older people', 'widowed', 'disabled', 'unaccompanied old' are often included under the umbrella group 'vulnerable', they compete with the more readily targeted children and women. Being mentioned in a long list of the 'vulnerable' does not guarantee inclusion in programmes.

HelpAge favours the following (Handicap International) **definition of vulnerability:**

"The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of an individual or community to the impact of hazards and risks e.g. age, gender, poverty or location"

This definition highlights two main aspects of vulnerability:

- Individual/household/community impairment versus capacities and coping mechanisms.
- External constraints/events/crises versus a stable situation.

Vulnerability is not necessarily a permanent state because it combines personal factors (such as physical condition) with situational factors (such as displacement, or risk of hypothermia). To be results orientated, the existing situation should always be at the forefront of any consideration of vulnerability.

This definition also stresses the various dimensions of vulnerability. Social and psycho-social vulnerability refers to the disruption, or risk of losing, normal social support networks, whether kin or non-kin, formal or informal. An additional key source of social vulnerability for older people is ingrained stigma, ageism and age discrimination (see **Box 5**) to which many people are subjected.⁴⁷ Biological or physical vulnerability refers to risk of partial or complete loss of functional ability, either permanently or through temporary impairment. This can result from chronic disease, illness or accident as well as exposure to cold (older people are more susceptible than young people to hypothermia) and extreme heat through dehydration.

In the context of food insecurity, FAO⁴⁸ has defined vulnerability as:

“The full range of factors that place people at risk of becoming food insecure. The degree of vulnerability of individuals, households or groups of people is determined by their exposure to the risk factors and their ability to cope with or withstand stressful situations.”

In terms of undernutrition, the vulnerability focus should be on reducing the risk of, and preventing, early deterioration of nutritional status. There is more discussion of nutritional vulnerability in the assessment section of this module.

Rights and the principle of impartiality

Vulnerability assessment and analysis are commonly used in humanitarian emergencies (see section on assessment for more detail), including for older people as a vulnerable group with distinct needs. However, the terminology of needs and vulnerability may be insufficient to address the determinants and effects of undernutrition in older people because other population groups also described as ‘needy’ and ‘vulnerable’, such as young children and pregnant women, take precedence. Scarcity of funds and resources and lack of agency

capacity and skills to deal with those groups are often cited as reasons for this. However, it is important to acknowledge that in any situation, including disasters and conflict, everyone has the same human rights. Despite the demographic evidence of population ageing, and increasing advocacy, there is still little evidence that the rights (rather than the needs) of older people are being systematically identified within mainstream humanitarian response or coordination.

The principle of impartiality stems from this equity of rights. Everyone has a right to humanitarian assistance regardless of race, nationality, political ideology or affiliation, religion, gender or age. This is the basic tenet under which almost all humanitarian actors claim to operate. However, research shows that the particular needs of older people as a ‘vulnerable’ group are not usually included in consultations and assessments and do not receive appropriate humanitarian assistance.

The UN Humanitarian Principles, endorsed in 1991 by the UN General Assembly, refer to Humanity, Neutrality and Impartiality (OCHA 2010), although age is not specifically mentioned. The Sphere Project (2011)⁴⁹ does refer to age as a ground for non-discrimination under the right to humanitarian assistance. Sphere’s rights-based approaches to humanitarian assistance asserts that it is time to shift the emphasis away from a needs-focused humanitarian system to one that is more grounded in human rights for all and underpinned by the principle of impartiality. This means challenging the existing ‘childhood bias’ in humanitarian assistance and the provision of more funding, capacity, resources and monitoring for the realisation of the rights of older people in humanitarian crises. There is also a need to facilitate the opportunities for communities to identify vulnerable groups and households themselves, according to their own criteria as part of strengthening participatory processes.

Although human rights law recognises that all people have certain fundamental rights, including the right not to be discriminated against, most legal instruments predate the problem of ageing in low to middle income countries and age is not prohibited as a basis for discrimination. Therefore, HelpAge believes that the development of a specific legal treaty devoted to upholding and protecting the rights of older people, should be considered (for example, a Convention on the Rights of the Older Person).

The ability to feed oneself and one’s family adequately is a human right. The right to adequate food is realised “when every man, woman and child, alone or in community with others, have physical and economic access at all times to adequate food or means for its procurement.” This implies the “availability of food in a quantity and quality sufficient to satisfy the dietary

⁴⁷ WHO 2011. Statement: Panel discussion on the realization of the right to health of older persons. 18th session of the UN Human Rights Council).

⁴⁸ FAO 2000.

⁴⁹ Sphere Project, 2011. Humanitarian Charter and Action Sheet 3.1.

Box 6: Examples of participatory processes with older people

- Livelihoods Analysis – in which people analyse and quantify different sources of income and support – is a useful tool for finding out about sources of cash and non-cash income, expenditure and use of resources. It can help us understand how older people make resource decisions, their livelihood strategies and how household resources are acquitted and shared among members.
- Flow diagrams – to show causes, effects and relationships.
- Daily activity diagrams – e.g. life in camp (for facilitating discussion about gender roles).
- Mapping
- Guided transect walk (e.g. how far people have to go to fetch water or fuel, or get to the distribution or health centre, what that journey is like and observe physical, sensory and mental capacities). While walking we can notice problems seeing, hearing, walking or sitting for long periods, what they are required to carry and how easy this is for them.

Source: HelpAge International, 2002. Participatory research with older people: a sourcebook.

needs of individuals, free from adverse substances, and acceptable within a given culture”, and the “accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other rights.”⁵⁰

All stakeholders in nutrition emergencies need to be aware of their full responsibilities as duty-bearers to promote the realisation of the right to food for everyone, including older people, and to make efforts to ensure that there is equitable access to healthy and appropriate food for all sections of the population. This right refers not just to the right to be fed but also to be supported in their capacities and efforts to achieve sustainable food security for themselves, their households and their communities.

The Fifth Report on the World Nutrition Situation⁵¹ urged the practical application of the right to food. It cited the example of India’s Supreme Court ruling in 2001, which invoked the right to food, named ‘the aged’ among groups who saw this right violated through inequitable availability of food, and called for a Targeted Public Distribution Scheme for below poverty level families, issuing of cards, and commencement of distribution of 25kgs of grain per family per month.⁵²

In September 2001, a panel discussion at WHO discussed the realisation of the right to health of older persons in the framework of the 18th session of the Human Rights Council, Geneva. The discussion concluded with the urge to shift the paradigm from responding to the needs of older persons to realising the rights of older persons.

Participation

The importance of working with a community is reflected in the Humanitarian Charter and the Minimum Standards in Disaster Response produced by the Sphere Project. ‘Working with communities’ is one of the pillars that humanitarian work is based upon. It forms a common standard that all sectors, including nutrition, should follow.

The right to participate is central to the realisation of other rights, including the rights to health and the right to food. This is particularly important for older people.

With the right support, older people can, and do, make significant contributions to the development of their communities. The participation of older people and their involvement in decision-making are stated priorities of MIPAA (see **Table 1**). The importance of older people’s direct involvement in conducting their own analysis and using their knowledge in advocacy and decision-making is increasingly recognised. Now developed and adapted by practitioners and researchers all over the world, participatory research methods are increasingly used with older people in poor communities.

The participatory process goes beyond simply gathering information and voice, although that is very important. It extends to engaging older people, especially those who are poor and marginalised, in service and policy development. By taking part in planning, carrying out and disseminating research, older people can open up new opportunities to communicate their situation directly to practitioners and

⁵⁰ General Comment 12, adopted in 1999 by the Economic, Social and Cultural Rights, the treaty body for the International Covenant on Economic, Social and Cultural Rights.

⁵¹ UN ACC/SCN, 2004.

⁵² PUCL Bulletin, July 2001. Supreme Court of India, Record of Proceedings. Writ petition (civil) no. 196 of 2001.

Box 7: Older people speak out

During a national dissemination workshop on community research in Ghana (1999), older people who had been involved spoke about the issues it had raised for them:

An older woman spoke about livelihoods:

"Bush fires have caused a lot of problems for older people who farm cocoa. The government helped us for the first two years but now they have stopped. We are not government workers and have no pension. Cocoa is our livelihood, as well as yam and other crops. But we are not as strong as we were. Older people do many household chores such as looking after children, training them and keeping a good house."

A chief's representative spoke of older people's knowledge and experience:

"The research showed we took a lot of things for granted. We didn't realise that older people had so much experience. In the fishing community, for example, the older people know where to fish and which waters to avoid."

Source: HelpAge International, 2002. Participatory research with older people: a sourcebook.

decision-makers. Participatory needs assessment and research has been part of HelpAge's approach for several decades. HelpAge believes that full participation of older people in the economic, social and cultural life of their communities, and in emergency situations, is both a key to sound and inclusive development and a matter of basic human rights. Consultation, inclusion and empowerment through partnership have now emerged as the primary indicators of best practice.⁵³

Boxes 6 and 7 give examples of methods used in participatory research, assessments and programme planning with the active inclusion of older people.

Missing and under-funded: older people in the humanitarian system

In 2007, an inter-agency review of the inclusion of older people in humanitarian action found continuing neglect of this vulnerable group.⁵⁴ Since then, the situation has not improved.

Box 8 summarises recent evidence of the lack of funding for older people in emergencies.

Having global covenants and national policies in place are important foundations for ensuring the inclusion of older people on the agenda. However, the real test lies in whether these are actually translated into commitments in terms of financing, implementation and monitoring. The evidence that

programmes and interventions targeting older people in humanitarian crises are lacking is increasingly systematic and quantitative, and not just from anecdotal reports of operational NGOs and observers. For example, during the 1998 famine in southern Sudan, 18 NGOs were running 50 Selective Feeding Interventions and 21 Therapeutic Feeding Centres, serving over 47,000 beneficiaries in Bahr el Ghazal. However, not one of these centres provided services tailored towards adults.

"Although some centres did include small numbers of adults, particularly if they were categorised as 'vulnerable' (disabled, elderly, pregnant and lactating women), the inclusion of adolescents and adults was generally on an ad-hoc basis."⁵⁵

More recently, HelpAge Pakistan reviewed the humanitarian response to the floods of 2010:

"Almost all relief organisations extended relief services in such a way that the specific needs of older people could not be addressed. This was due to the shortage of time to respond to the disaster and also due to low priority, to the quality of planning and designing phase of relief services. Some organisations incorporated older people into their programmes as one of the vulnerable groups. However, the majority of organisations did not take age as a vulnerability factor. Other vulnerabilities such as disability, injury, illness, and income poverty were used as criteria for relief, older people generally remained excluded and invisible to the humanitarian response."⁵⁶

⁵³ HelpAge International, 1999: Older people in disasters and humanitarian crises: guidelines for best practice, p2.

⁵⁴ IASC/HelpAge International, 2007. Inter-Agency review of the inclusion of older people in humanitarian action.

⁵⁵ Salama P and Collins S, 2000. An ongoing omission: adolescent and adult malnutrition in famine situations. *Refuge*, Vol. 18 (5); 12-15 (January).

⁵⁶ Pirzada W, Tayyab M and Asfar M, 2010. Impact assessment: overall humanitarian response. HelpAge International Pakistan Programme.

Box 8: The funding gap in the humanitarian response for older people

HelpAge quantified the extent to which older people, and people with disabilities, were specifically targeted through the UN Consolidated Appeals Process (CAP) for 14 countries and four Flash Appeals between 2010 and 2011, covering 6,003 appeals. The main findings were:

- Out of the US\$10.9 billion contributed by official donors to the CAP and Flash Appeals, only \$73 million (0.7% of overall funding) was allocated to projects that included at least one activity targeted at older people or people with disabilities.
- A total of US\$26.6 million went to projects targeted exclusively at older people or people with disabilities (0.3%). (A similar study analysing CAP and Flash Appeal funds between 2007 and 2010 showed that just 0.2% was allocated to projects that included an activity specifically targeted at older people)
- Of the 6,003 projects submitted to the CAP and Flash Appeals in 2010 and 2011, only 145 (2.4%) included at least one activity targeting older people or people with disabilities, and of these 61 (1%) were funded.
- In 21 countries affected by humanitarian crises, there were no projects with activities targeting older people in any sector in 2010 and 2011. This includes Chad, Central African Republic, the Republic of Southern Sudan, Yemen, Zimbabwe and 16 countries in West Africa.
- The total amount of projects and funding for older people and for people with disabilities remains extremely low, highlighting the significant disparity between the needs of these two vulnerable groups and the humanitarian assistance delivered to meet those needs.

Source: HelpAge International, 2012. A study of humanitarian financing for older people and people with disabilities, 2010-2011.

Box 9: Older refugees generating income for food in Liberia, 2004

How do older refugees support themselves? Those who can still move around, walk for miles in the bush gathering palm branches to make house brooms that are sold for five Liberian dollars, which is less than 10 US cents. A 98 year old woman making a broom says: *"If I can sell four of these brooms, I will buy one cup of rice and palm oil to eat today"*.

Source: Maxi M, 2004. Report on the situation of the elderly at the Fendall and Soul Clinic Internally Displaced People Camps.⁵⁷

What we know about older people in humanitarian emergencies

HelpAge and other agencies are reporting that the number of older people affected by emergencies is growing fast.⁵⁸ In internally displaced populations (IDP) and refugee camps, the numbers, and proportions, of older people can be very high. For example, in Gulu District of Northern Uganda, 65% of those remaining in camps in 2009 were over 60 years of age.⁵⁹

Older people will still attempt to focus on generating livelihood and caring for others, if at all possible, in an emergency situation. For example, a study in Rwandan refugee camp in Tanzania showed that 72% of older people were cultivating kitchen gardens for sale as well as for household consumption.⁶⁰ See **Boxes 9 to 11**.

Micro-credit and other activities that can help older people earn a living often target younger adults. When communities return home, older people typically face difficulties in accessing land and other scarce resources.

Missing from the humanitarian nutrition agenda

As described above, many organisations working in emergency and conflict situations do not generally consider the special nutrition and food requirements of older people, or address undernutrition in this population group.

There are many gaps and inconsistencies in the nutrition-related policies and guidelines of humanitarian agencies in relation to older people. For example, the WFP's recent Nutrition Policy (2012) does not mention older people at all, even

⁵⁷ <http://www.globalaging.org/armedconflict/countryreports/Africa/fendall.htm>

⁵⁸ HelpAge International and Age UK, 2011. On the edge: Why older people's needs are not being met in humanitarian emergencies.

⁵⁹ HelpAge International, 2010. A study of Humanitarian Financing for Older People.

⁶⁰ Pieterse S, 1998. The nutritional status of older Rwandan refugees. *Public Health Nutrition*: 1 (3); 1-6.

Box 10: Proving sole care for children in Sudan, 2004

Fatima thinks she is over 70 years old. She lives in Krinding camp in Sudan:

"I came to this camp from Kria, a village seven kilometres west of Geneina, nearly eight months ago. I came here by myself with seven grandchildren, aged 3 to 11. One of their fathers was killed when the fighting started. Another was shot in the knee and is now in hospital. I don't know if he will recover. Another son fled to Chad when the fighting started, and the fourth went to Khartoum to find work because our family needed money. When we came we had nothing. Everything in our village had gone or been burnt. I made this shelter from wood and twigs, and we were given some plastic sheeting. Neighbours who have cards for food share what they get with us. We haven't got a card for food yet, only for plastic sheeting and soap. My eldest granddaughter collects grass from around the camp to sell at the market. Sometimes she makes some money to buy food. The four boys go to school and the youngest children stay here with me. It would be good for us to go back to our village but I am not willing to take the children back unless the UN makes it safe. Seven of my relatives have been killed. I don't want to risk these bad things happening again."

Source: Holt K, 2004. Sudan Emergency: Older People's Voices. HelpAge, November 12, 2004. <http://www.globalaging.org/armedconflict/countryreports/africa/voices.htm>

Box 11: The experience of a Somali refugee in Dadaab refugee camp, Kenya, 2011

Abdullahi is about 70 years old. He has just been through Hagadera Reception Centre, and as proof of registration, a red plastic bracelet has been tied around his wrist. This gives him access to a ration for three weeks consisting of food (wheat flour, oil, cornmeal, sugar, beans, corn-soya blend, salt) a cooking kit, a blanket, a mat, a 10-litre jerry can and soap. Arriving from Somalia after 15 days of travelling, Abdullahi says:

"I am one of the lucky ones who were transported by truck from the border to Dadaab. I used to live alone and work on my small piece of land. I have been a widower for seven years. My sons disappeared and my only daughter is married and looks after her own family. The drought took away my only means of livelihood, and I was forced to leave."

Now he has to find a place to live before being officially registered by the Kenyan Government's Directorate of Refugee Affairs and UNHCR. This registration can take up to two months, and Abdullahi has received food for only three weeks.

Source: Adapted from Fritsch P, 2011: East Africa crisis: older refugees arrive at Dadaab in search of better life. HelpAge International Blog, posted 5 August 2011.

under the term 'vulnerable group'. In contrast, FAO's 2005 report *"Protecting and promoting good nutrition in crisis and recovery: Resource Guide"* makes numerous references to adults, including:

- the effects of malnutrition on adults;
- blended foods are designed for children and not well appreciated by adults;
- the best methods for assessing malnutrition in older adults are still unclear; and
- a lack of clarity of the use of MUAC/BMI cut-offs for classification levels of malnutrition.

The report also refers to older persons (elderly) in terms of:

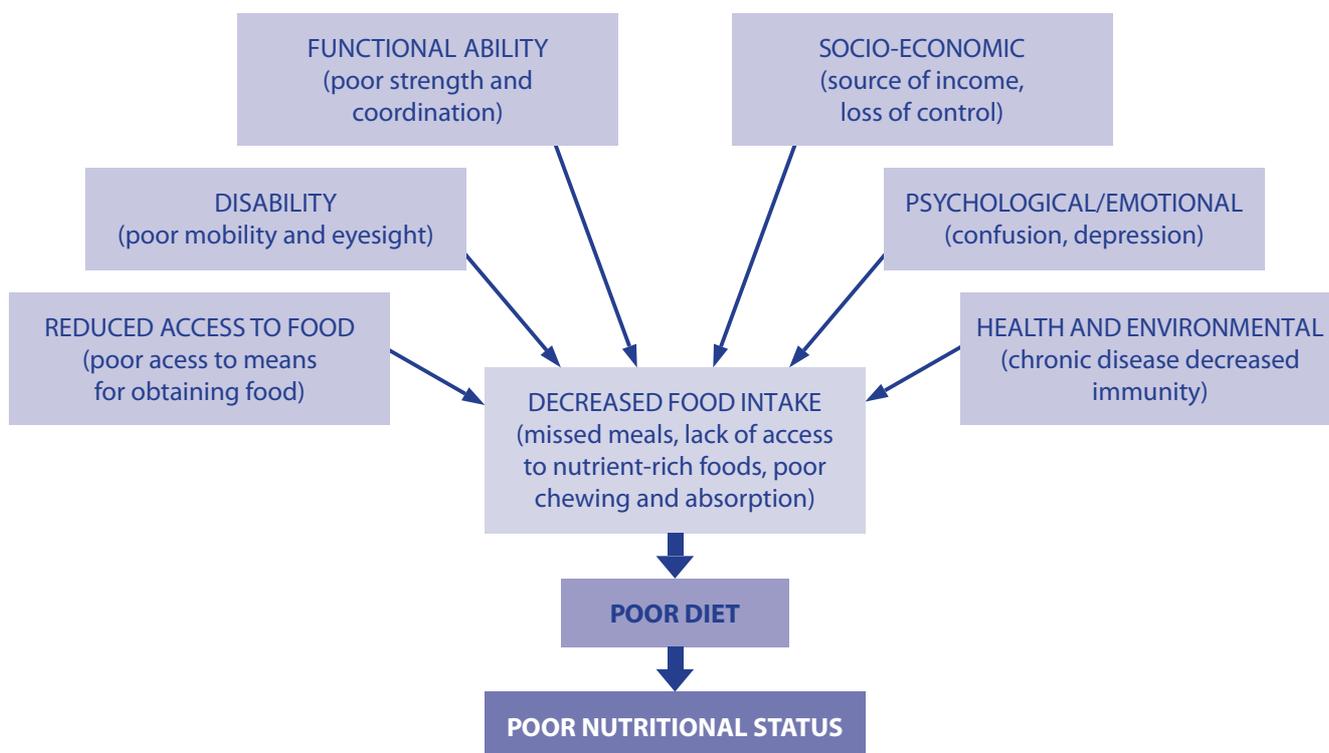
- being a vulnerable group, and thus a priority problem;
- targeting for inclusion in Supplementary Feeding Programmes (SFP) and Therapeutic Feeding Programmes (TFP);
- use of anthropometry cut-offs;

- their active roles in the care of children; and
- the importance of their participation in mapping, gardening, passing on knowledge, and employment for adherence to Supplementary Feeding Programme.

The current international donor environment is not conducive to increased efforts on older people, generally and in particular in humanitarian and nutrition emergencies. There is a broad tendency (acknowledged by aid workers unofficially) to exert the bulk of resources, manpower and effort into the children and women part of the 'vulnerable groups' mandate, often overlooking the fact that older people are also included in that vulnerable category. This imbalance needs to be addressed. Added to this, there is a tendency to rely on the specialist INGOs, mainly HelpAge and its affiliates and partners, to address the needs of older people.

A decade after MIPAA, Priority 1 relating to emergency situations for older people is not well implemented, and the principle of impartiality in access to humanitarian assistance is being undermined.

Figure 1: Nutritional risk factors for older people



Source: Borrell 2001, adapted from Ismail and Manandhar, 1999.

“Perhaps the single most important factor in determining and addressing 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’.”⁶¹

Undernutrition in older people

Defining terms for undernutrition in adults

Since the 1980s, two terms have generally been used to describe undernutrition in adults: Acute Energy Deficiency (AED) and Chronic Energy Deficiency (CED).⁶² AED is a state of negative energy balance (a progressive loss of body energy) leading to wasting of peripheral tissues. CED is a steady state at which a person is in energy balance although at a cost, either in terms of increased risk to their health or as an impairment of functions (see next section on assessment) and health.

However, the use of the term CED for adults has recently been questioned, for example, by the ACC/SCN report on the assessment of nutrition status in emergency-affected populations (2000)⁶³ and in an ACF guidelines paper on malnutrition in adults in emergencies (2006).⁶⁴ They argue that the CED emphasis on energy alone obscures the importance of protein catabolism and deficiencies of vitamins and minerals. For older people, the focus needs to be less on energy and more on a nutrient-dense dietary intake which is proportionately richer in micronutrients, especially Vitamins D, B and iron, than for younger adults who are not pregnant or lactating, or are ill (for example, with HIV and AIDS). A discussion on the Emergency Nutrition Network’s En-Net Forum⁶⁵ argues that the use of the term ‘Chronic Energy Deficiency’ is out dated and should not be used. A low BMI defines degrees of thinness, but thinness should not be used as a proxy for the deficiency of any particular nutrient or energy.⁶⁶

⁶¹ Nhongo TM, 2001. Regional Representative, HelpAge International. Foreword In: Borrel A, 2001. *Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action*. HelpAge International Africa Regional Development Centre.

⁶² James W, Ferro-Luzzi A and Waterlow J, 1988. Definition of chronic energy deficiency in adults. Report of a working part of the International Dietary Energy Consultative Group. *European Journal of Clinical Nutrition*, 42 (12); 969-981.

⁶³ Collins S, Duffield A and Myatt M, 2000. Adults: assessment of nutritional status in emergency-affected populations. For ACC/SCN Secretariat, Geneva. July.

⁶⁴ Navarro-Colorado C, 2006. Adult malnutrition in emergencies: an overview of diagnosis and treatment. Field guidelines. ACF Technical and Research Department. Version 3, September.

⁶⁵ <http://www.en-net.org.uk/>

⁶⁶ Golden M, 2009. En-Net Forum discussion on MUAC cut-offs for adults. 7 December.

Table 2: Metabolic rates (MR) of organs and tissues in man

Organ	Adult			Neonate		
	Weight*kg	MR/day kcal	% of whole body MR	Weight*kg	MR/day+ kcal	% of whole body MR
Liver	1.60	482	27	0.140	42	20
Brain	1.40	338	19	0.350	84	44
Heart	0.32	122	7	0.020	8	4
Kidney	0.29	187	10	0.024	15	7
Muscle	30.00	324	18	0.800	9	5
Miscellaneous			20			20
Total	70.00	1,800	100	3.500	197	100

* Organ weights taken from Boyd.

+ Metabolic rates for the neonate are estimated by assuming that the metabolic rate of each organ per unit weight is the same as in the adult. The total activities of the tissues listed are expressed as fractions of the total basal energy expenditure in the adult and the neonate. The total basal metabolic rate in the neonate approximates to that measured by Benedict and Talbot.

Source: FAO/WHO 1985. Protein energy requirements. Technical report 724. (p 43).

To address this, the terms *undernutrition* or *stable malnutrition* have been recommended. ACF recommends the use of the following terms for describing undernutrition in adults:

- **Acute malnutrition:** producing metabolic distress and endangering the life of the patient in the short-term. This is similar to the use of the term acute malnutrition in children relating to rapid weight loss due to illness or an inadequate consumption of food, or both. In emergencies, most interventions will be dealing with acute situations.
- **Stable malnutrition:** simple long-standing thinness, with relative preservation of metabolic function and not life threatening in the short-term, but having some relationship with outcomes of functional importance in daily living (see later section). The word 'stable' is used to differentiate it from the term 'chronic malnutrition' which is used to refer to inhibited growth in height, or stunting, in children caused by poor nutrition over a period of time.

Nutritional risk factors for older people

Individuals are malnourished, or suffer from undernutrition if their diet does not provide them with adequate macronutrients (protein, fat, carbohydrates) and micronutrients (minerals and vitamins) in relation to their age- and sex-specific physiological requirements, and/or if they cannot fully utilise the food they eat due to illness or some form of *functional disability*.

⁶⁷ See page 12.

⁶⁸ Andre Briend, personal communication, April 2012.

The risk factors for individual older people developing undernutrition are multifaceted, as depicted in **Figure 1**.

The risk factors include physiological, psychological, medical and drug-related, and social changes associated with ageing which affect food intake and body weight, possibly exacerbated by the presence of illness.

The focus on children under five

The conceptual framework of undernutrition most commonly used in international nutrition policy and programming is the **UNICEF framework**, developed in the early 1990s and described in **HTP Module 1**.⁶⁷ This framework was developed to 'unpick' the likely causes of undernutrition in children and therefore, does not refer to older people.

This child-centred focus rests on a physiological explanation.⁶⁸ Children have a higher energy requirement per kg of body weight than adults, their nutritional stores are proportionately lower and they have a low proportion of muscle in relation to body mass than adults. Young children are more physiologically vulnerable than older adults in terms of macronutrient requirements, and therefore, undernutrition.

This is mainly related to a different body composition between children and adults, as described in **Table 2**. Children have a higher proportion of their body made up of energy consuming organs, particularly the growing brain, than adults, but they

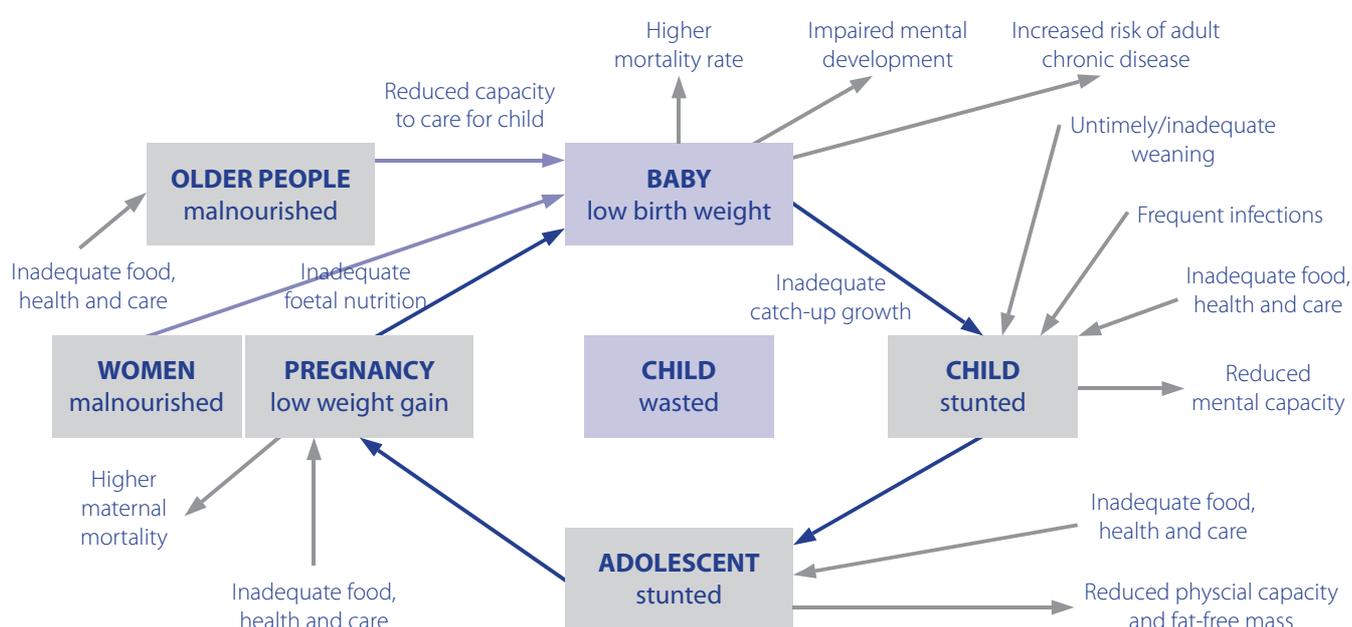
Box 12: Physiological vulnerability of older people

Older people (and disabled people) who are reliant on others for fulfilling their basic needs such as food, water, medical support and care, can lose these support systems in an emergency.

For example, the 2010 earthquake in Haiti displaced over 200,000 people over the age of 60, many of whom found shelter in camps with the help of family, friends and humanitarian workers. Blindness in the elderly population in Haiti is highly prevalent, limiting mobility to access food, water and medicines. The vulnerability of the elderly to dehydration and undernutrition is compounded by the fact that ageing reduces the body's resilience.

Source: HTP Module 1, page 25.

Figure 2: Lifecycle conceptual framework of undernutrition, including older people



Source: Girerd-Barclay E, 2010. ACF White Paper.

have a low proportion of muscle, with minimum energy consumption (at least in the absence of physical activity).

In addition to this understanding of the physiological vulnerability of children to undernutrition, the so called 'childhood bias'⁶⁹ observed in most humanitarian agencies has, it has been argued, arisen from a cultural bias of western donors towards young children. This emphasis on the young child has recently been invigorated by the influential work of the Commission on the Social Determinants of Health⁷⁰ which focuses on reducing inequities in health, and argues that the most-cost-effective and transformative window of opportunity is the 'minus 9 months to 2 years' or '1,000 days' (*developing foetus through to age 2*) period. Older people are not mentioned, although they also have physiological vulnerabilities as highlighted in **Box 12**.

Some agencies have recently begun to expand the UNICEF framework of nutrition to include older people, and to take a more holistic and inter-generational approach. ACF's 2010 White Paper,⁷¹ for example, includes a flow diagram (see **Figure 2**), showing the impact of hunger and malnutrition through the life cycle. In this figure, the effect of malnutrition of older people on the capacity to care for children is depicted, though this does not depict older people as vulnerable to, and suffering from the consequences of, undernutrition directly.

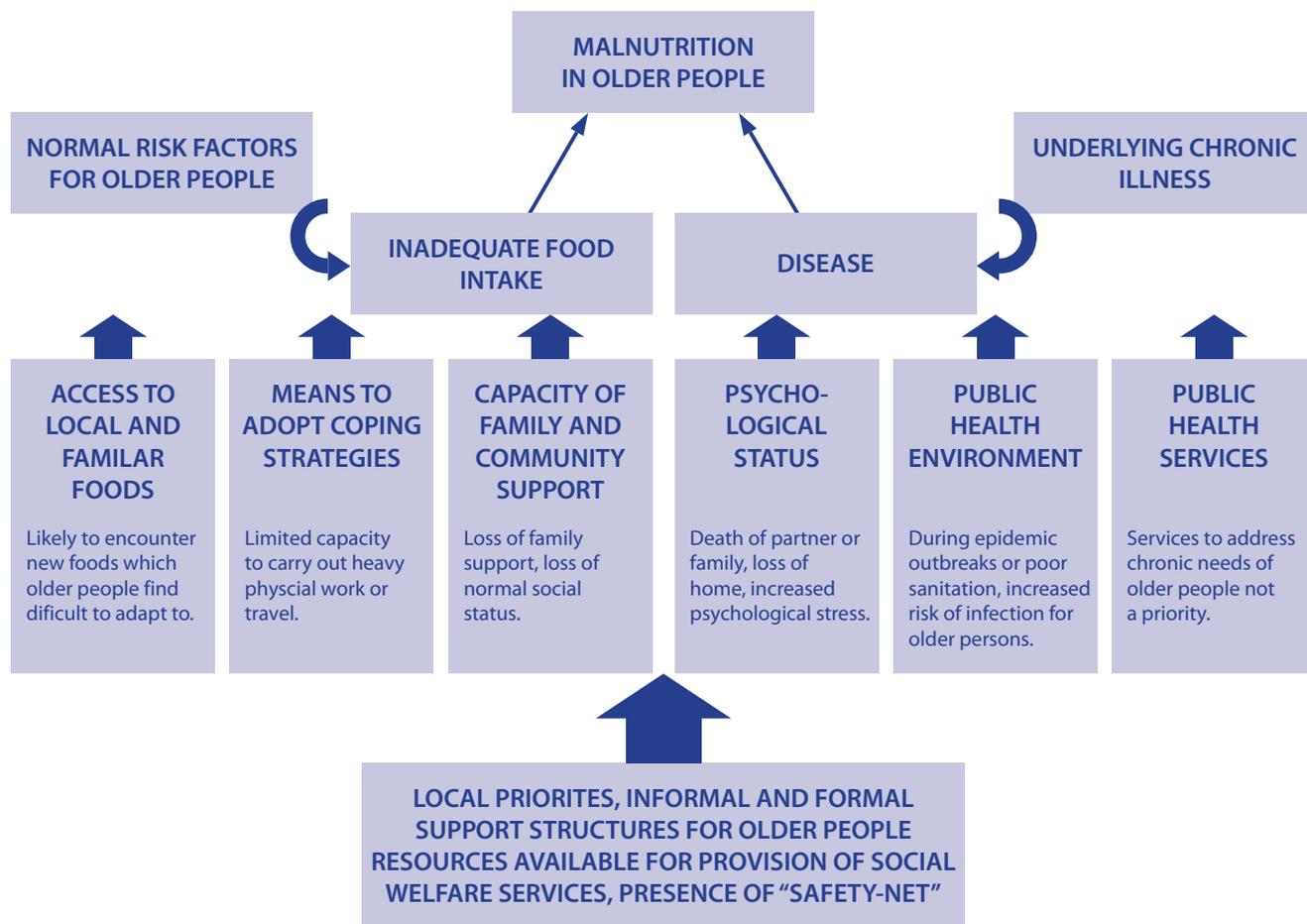
A refinement of the original conceptual framework on nutrition was made in a key paper on addressing the nutritional needs of older people in emergencies in 2001, shown below in **Figure 3**.

⁶⁹ Marlow M, 1992. Malnutrition in elderly people: challenging the childhood bias. *The Health Exchange* (December 1992/January 1993); p. 5.

⁷⁰ WHO, 2008. Report of the Commission on the Social Determinants of Health, WHO.

⁷¹ Girerd-Barclay E, 2010. ACF White Paper.

Figure 3: A conceptual model for the causes of malnutrition in older people



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

Ageing and nutritional status

Good nutrition plays a vital role in the well-being and health of older people, and also helps delay and reduce the risk of developing diseases.⁷² Older people are subject to such factors as nutrition, genetics, physical activity and everyday stress to influence physical and psychological ageing. Much still remains to be learned about how nutrition interacts with these other factors in order to extend healthy life expectancy, independence and well-being in old age, and more well-designed control trials are needed. In the meantime, observational studies continue to provide clues to healthy ageing. Knowledge about the nutrient needs and nutritional status of older people has grown considerably in recent years.

In old age both the quality and the quantity of the diet are important to ensure that requirements for macronutrient and micronutrient intakes are met. Extensive research in developed countries has shown inadequate nutrient intake leading to a reduction in body weight to be the predominant cause of undernutrition in community-living old age, often in combination with disease. When nutrient intake becomes inadequate and declines to levels below requirements, foods which are *nutrient-dense* (maintain high nutrients in the presence of less energy content) become increasingly important,⁷³ particularly when older people continue to have high levels of physical activity, as is common in many low to middle income countries.

⁷² Jones J, Duffy M, Coull Y and Wilkinson H, 2009. Older people living in the community: nutritional needs, barriers and interventions: a literature review. Scottish Government Social Research.

⁷³ Morley J and van Staveren WA, 2009. Undernutrition: diagnosis, causes, consequences and treatment. In Raats M, de Groot L and Van Staveren W (eds). *Food for the ageing population*. 1st edition. Woodhead Publishing Limited. Cambridge. pp 153-166.

Table 3: Summary of selected nutrient concerns in older people

Nutrient	Effect of ageing	Comment
Energy	The body's need for energy decreases with loss of muscle mass and physical activity decline.	Physical activity moderates the decline.
Protein	Needs may stay the same or rise slightly.	Fat, and high fibre legumes and grains, meet protein, and other nutrient, needs.
Iron	In women, iron status improves after menopause. Deficiencies are linked to chronic blood loss (hookworm, schistosomiasis) and low stomach acid output.	Adequate stomach acid is needed for absorption. Antacid or other medications may aggravate iron deficiency. Vitamin C increases absorption of iron coming from vegetables.
Calcium	Intakes may be low. Osteoporosis is common.	Stomach discomfort limits milk intakes. Calcium substitutes or supplements may be needed, linked with vitamin D supplements. Yogurt and cheese are good alternatives to milk.
Vitamin B12	Atrophic gastritis common.	Deficiency causes neurological damage, supplements may be needed.
Vitamin D	Increased likelihood of inadequate intake, skin synthesis reduces.	Sunlight exposure only in moderation or supplements may be beneficial.
Fibre	Likelihood of constipation increases with low food intakes and changes in the gastrointestinal tract.	Inadequate water intakes and lack of physical activity, along with some medications, compounds problem.
Water	Lack of thirst and decreased Total Body Water make dehydration likely.	Mild dehydration is a common cause of confusion. Difficulty obtaining water or getting to the toilet may compound the problem.

Many changes that accompany ageing impair nutrition status. A summary of some of the nutrient concerns affected by ageing is presented in **Table 3** below.

The immune system declines with age and it is compromised by nutrient deficiencies. This combination of age and malnutrition makes older people vulnerable to infectious diseases. Antibiotics are often not effective against infections in people with compromised immune systems. Consequently, infectious diseases are a major cause of death in older adults.

In the gastrointestinal (GI) tract, the intestinal wall loses strength and elasticity with age, and GI hormone secretions change and diminish appetite. All of these actions lead to decreased energy intake and weight loss, and slow motility. Constipation is much more common in older people than in the young. Atrophic gastritis (a condition that affects almost one-third of those over 60) is characterised by an inflamed stomach, bacterial overgrowth and a lack of hydrochloric acid and intrinsic factor. All of these can impair the digestion, and absorption of nutrients, notably vitamin B12, but also biotin, folate, calcium, iron and zinc.

Difficulty in swallowing (medically known as *dysphagia*) occurs in all age groups but especially in older people. Being unable to swallow a mouthful of food can be scary, painful and dangerous. Even swallowing liquids can be a problem for some people. Consequently, the person may eat less food and drink fewer beverages, resulting in weight loss, malnutrition and dehydration. Tooth loss and gum disease also have serious nutritional consequences, making chewing difficult and painful. People with tooth loss tend to limit their food selections. This often leads to a reduction of fruits and vegetables and lower intake of fibre and vitamins, which exacerbates their dental and overall health problems.

Sensory loss and other physical problems can also interfere with an older person's ability to obtain adequate nourishment. Failing eyesight can make getting to the store or market impossible or so difficult that the person avoids the activity. Carrying bags or baskets becomes an unmanageable task. Similarly a person with limited mobility may find cooking and cleaning hard to do. Loss of vision and hearing may contribute to social isolation, and eating alone may lead to poor appetite. Not surprisingly, the prevalence of undernutrition is high

Table 4: Macronutrient requirements for older adults

Energy	1.4-1.8 multiples of BMR to maintain body weight at different levels of physical activity (PAL) <ul style="list-style-type: none"> • General requirement is 2,100 kcals/day • <i>For men and women aged 30-59.9 years, and aged 60 or more</i> • <i>Adjustments will be needed for moderate and heavy activity levels</i> <i>FAO/WHO/UNU Expert Report (2004) presents reference tables for daily energy requirements according to BMR factor (or PAL) and body weight.</i>
Fat	30% of total energy intake in sedentary older people 35% of total energy intake in active older people
Protein	0.9-1.1 g/kg per day

Source: FAO/WHO/UNU, 2004. Human Energy Requirements: Report of joint Expert Committee, 17-24 Oct, 2001. Rome.

Note: The requirements as expressed above do not take into account the varying fibre content, digestibility and complex-carbohydrate composition of the diet. In low to middle income countries, a relatively high proportion of fibre and less-available carbohydrate is usually present. For more discussion, see WHO Technical Report Series No. 724, Section 7.1. If the Atwater factor (4 kcal per gram) is applied to carbohydrate by difference, the real energy available in the food should be decreased by 5% or the requirement for this type of diet increased by 5%; which, for this table, means an increase of +100 kcal in the energy requirement indicated.

among those who are homebound or bedbound, and who have high levels of sensory impairment. Sensory losses can also interfere with a person's willingness to eat and enjoyment of eating. There is deterioration in taste and smell sensitivities with increasing age, and this impacts on dietary intake and nutritional status. The texture and flavour of food may be particularly important for some older people in order for them to meet their nutritional requirements.

Although not an inevitable component of ageing, depression is common among older people. Depressed people, even those without disabilities, lose their motivation to perform simple physical tasks (e.g. to cook or even eat). An overwhelming sense of grief or sadness at the death of a spouse, friend or family member may leave a person feeling powerless to overcome depression. When a person is suffering the heartache and loneliness of bereavement, cooking meals may not seem worthwhile. The support and companionship of family and friends, especially at mealtimes, can help overcome depression and enhance appetite. Older people who live alone do not necessarily make poor food choices, but they often consume too little food. Loneliness is directly related to nutritional inadequacies, especially overall energy intake.

As it ages in adulthood, the human body changes in its composition of fat and muscle, influenced by changing hormonal activity. There is also a progressive loss of muscle stores and an increase in fat stores. With increasing muscle loss, people lose their ability to move and maintain balance, making falls more likely. The limitations that accompany loss of muscle mass and strength play a key part in the diminishing health that often accompanies ageing. Changes in muscle mass and

quality play a central role in the pathway linking malnutrition, its biological and molecular consequences, and function. The functional consequences of this are discussed in the section on how to assess undernutrition in older people. In a vicious cycle related to *sarcopenia*, the prevalence of malnutrition increases with increasing frailty and physical dependence.^{74,75}

Nutritional requirements for older people

Setting standards for older people is difficult because individual differences become more pronounced as people grow older. People start out with different genetic predispositions and ways of handling nutrients, and the effects of these differences become magnified with years of unique dietary habits. For example, one person may tend to avoid most fruits and vegetables from his diet, and by the time he is old, he may have a set of nutrition problems associated with a lack of fibre and antioxidants. Also as people age they suffer different chronic diseases and take various medicines – both of which will affect nutrient needs. For all of these reasons, researchers have difficulty even defining healthy ageing, a prerequisite to developing recommendations to meet the needs of practically all healthy people.

It is usually the case that the nutritional needs for older people are sub-divided into different categories of 'old'. For example, the FAO/WHO/UNU human energy requirement data tables refer to women of 51 to 65 years, and those over 65. In the USA, the Dietary Reference Intakes (DRI) group people over 50 years into two categories: 51 to 70, and 71 and older. Increasingly, research is showing that the nutrition needs of people who are 50-70 years old are different from those over 70.

⁷⁴ MacIntosh C, Morley J and Chapman I, 2000. The anorexia of aging. *Nutrition*: 2000; 16; 983-995.

⁷⁵ Visvanathan R, Newbury J and Chapman I, 2004. Malnutrition in older people: screening and management strategies. *Australian Family Physician*: 33 (10), 799-805.

Macronutrients

Since 1949, the FAO, and, since the early 1950s, WHO have convened groups of experts to evaluate current scientific knowledge in order to define the energy requirements of humans and propose dietary energy recommendations for populations. The latest recommendations from this group were published in 2004.⁷⁶ Energy requirements of adults were calculated from factorial estimates of habitual total energy expenditure. With growth no longer an energy-demanding factor, it is habitually physical activity and body weight which are the main determinants for the diversity of energy requirements of adult populations with different lifestyles.⁷⁷ *Basal metabolic rate*⁷⁸ (BMR) declines from about 50 years because lean body mass and thyroid hormones diminish.

Table 4 above presents general requirements for macronutrients for older adults. These requirements are based on the assumption that, on average, energy needs decline an estimated 5% per decade, as people usually reduce their physical activity as they age, although they need not do so. In fact, this assumption may be inappropriate in the context of the higher levels of activity of many older people in low to middle income countries, still involved in livelihood work and less sedentary than their counterparts in the developed countries.

Energy requirements for older people can be calculated on the basis of physical activity levels (PALs) just as they are for younger adults. Allowances must be made for population groups who are more or less active at an advanced age, rather than using age as the single cut-off point to define energy requirements for the older people.⁷⁹ Dietary energy intake of a healthy well-nourished population should allow for maintaining an adequate BMI at the population's usual level of energy expenditure. At the individual level, a normal range of 18.5 to 24.9 kg/m² BMI is generally accepted⁸⁰ (see later in the Assessment section for classification of undernutrition using BMI).

Protein is especially important for the elderly to support a healthy immune system, prevent muscle wasting and optimise bone mass. Because energy needs decrease, protein must be obtained from low kilocalorie sources of high-quality protein, such as lean meats, poultry, fish and eggs, milk products and legumes. Abundant carbohydrates are needed to protect protein from being used as an energy source.

As with adults of all ages, fat intake needs to be moderate in the diets of most older people, enough to enhance flavours and provide valuable nutrients (but not so much as to raise the risks of cancer, atherosclerosis and other degenerative diseases).

Micronutrients

Table 5 summarises current recommended vitamin and mineral nutrient intakes for older people according to gender. Note that the age group classifications used are not comparable by gender.

Micronutrient deficiencies are widespread in low to middle income countries with more than two billion people affected (see HTP Module 4). The main cause of micronutrient malnutrition is usually an inadequate dietary intake of vitamins and minerals in relation to the physiological requirements of an individual, which are sex and age dependent. Micronutrient deficiencies occur most frequently in individuals on a monotonous or restricted diet, or in those with infection and illness such as malaria, diarrhoea and tuberculosis.

Iron deficiency anaemia is a debilitating condition that leads to fatigue, restricting the individual's ability to travel around and do physical work. Although data on anaemia prevalence among older people are limited, as most national surveys only collect data on adults up to 49 years old, WHO/CDC estimates that nearly a quarter of elderly people worldwide are anaemic.⁸¹ The absorption of iron appears to decrease with age so that iron deficiency anaemia prevalence may be high among older people who are reducing their intake of promoters of non-haem iron absorption such as fruit, beans and vegetables or haem iron such as animal food (due to cultural/religious reasons, difficulty chewing).

In displaced camps, people depend on the General Food Ration (GFR) distributed by WFP. This is usually cereal-based, poor in green leafy vegetables, fruit and meat, and poor in iron (for more on the GFR, see Intervention section later in this module).

The European Survey on Nutrition and the Elderly (SENECA) has noted **Vitamin D** insufficiency in many European populations.⁸² This is not surprising considering that about one-third of the vitamin D requirements can be obtained by the diet and the rest by exposure to sunlight where it is synthesised in

⁷⁶ FAO/WHO/UNU, 2004. Human energy requirements: Report of joint FAO/WHO/UNU Expert Committee, 17-24 Oct, 2001. Rome.

⁷⁷ James and Schofield 1990.

⁷⁸ BMR is the rate of energy expenditure of the body when at complete rest, e.g., sleeping.

⁷⁹ FAO/WHO/UNU, 2004. Human energy requirements: Report of a joint FAO/WHO/UNU Expert Committee, 17-24 Oct, 2001. Rome.

⁸⁰ WHO 1995.

⁸¹ WHO/CDC, 2008. World prevalence of anaemia 1993-2005. WHO Global Database on anaemia.

⁸² De Groot L and Van Staveren W, 2010. Nutritional concerns, health and survival in old age. *Biogerontology*: 11; 597-602.

Table 5: Recommended nutrient intakes by population group: micronutrients

	Female 51-65 years*	Male 19-65 years	Female 65+	Male 65+
Iron $\mu\text{g/day}$	10.0	10.0	10.0	10.0
Calcium mg/day	1,300.0	1,000.0	1,300.0	1,300.0
Selenium mg/day	26.0	34.0	25.0	33.0
Magnesium mg/day	220.0	260.0	190.0	234.0
Zinc $\mu\text{g/day}$				
<i>High bioavailability</i>	3.0	4.2	3.0	4.2
<i>Moderate bioavailability</i>	4.9	7.0	4.9	7.0
<i>Low bioavailability</i>	9.8	14.0	9.8	14.0
Vitamin C mg/day	45.0	45.0	45.0	45.0
Thiamine mg/day	1.1	1.2	1.1	1.2
Riboflavin mg/day	1.1	1.3	1.1	1.3
Niacin mg/NE/day	14.0	16.0	14.0	16.0
Vitamin B6 mg/day	1.5	1.3 (19-50) 1.7 (50+)	1.5	1.7
Pantothenate mg/day	5.0	5.0	5.0	5.0
Water soluble vitamins				
Biotin $\mu\text{g/day}$	30.0	30.0	30.0	30.0
Folate $\mu\text{g/DFE day}$	400.0	400.0	400.0	400.0
B12 $\mu\text{g/day}$	2.4	2.4	2.4	2.4
Fat soluble vitamins				
Vitamin A $\mu\text{g/RE day}$	500.0	600.0	600.0	600.0
Vitamin D $\mu\text{g/day}$	10.0	5.0 (19-50) 10.0 (51-65)	15.0	15.0
Vitamin E mg alphaTE/day	7.5	10.0	7.5	10.0
Vitamin K $\mu\text{g/day}$	55.0	65.0	55.0	65.0

* post-menopause

Source: WHO/FAO, 2004. Vitamin and mineral requirements in human nutrition. 2nd Edition. Geneva.

the skin. With calcium, Vitamin D is known for its critical importance for bone health. Both seem crucial targets for preventive and treatment measures of osteoporosis. Deficiency in vitamin D may also affect the broader spectrum of functional outcomes, involving brain, muscle, vascular and heart health.

Vitamin B12 deficiency is highly prevalent in older people, particularly where digestive problems, such as atrophic gastritis, reduced the absorption of several nutrients. An estimated

10-30% of older adults over 50 have atrophic gastritis. The bacterial overgrowth that accompanies this condition uses up the vitamin and, without hydrochloric acid and intrinsic factor, digestion and absorption of Vitamin B12 are inefficient. Poor cognition, anaemia and neurological damage are negative effects associated with B12 deficiency, although the effects appear reversible if treated relatively soon. Both Vitamin D and Vitamin B12 are predominantly derived from animal sources.

Table 6: Nutrients that influence the development and activities of the ageing brain

Brain function	Depends on an adequate intake of:
Short-term memory	Vitamins B12, C, E
Performance problem solving tests	Riboflavin, folate, Vitamins B12, C
Mental health	Thiamin, niacin, zinc, folate
Cognition	Folate, iron, Vitamins B12, B6, E
Vision	Essential Fatty Acids, Vitamin A
Neurotransmitter synthesis	Tyrosine, tryptophan

Source: Rady Rolfe et al, 2008.

Some micronutrients are particularly important for the brain, which responds to genetic and environmental factors that can enhance or diminish its capacities. Age-related blood supply decreases the number of neurons (brain nerve cells that specialize in transmitting information), affecting hearing and speech, posture and balance. Some of the cognitive loss and forgetfulness generally attributed to ageing may be in part environmental, and therefore controllable, including by nutrient deficiencies. **Table 6** below outlines some of the interactions between intakes of micronutrients and aspects of brain function.

In poor areas of low to middle income countries, and in emergencies, some nutritional deficiency diseases, such as anaemia and Vitamin A deficiency, primarily affect children and women. Others, such as pellagra, are found more frequently in adults, men and women. Micronutrient deficiencies have also been documented in adolescents in African refugee camps. Older people are rarely, if ever, referred to in studies and reports on micronutrient malnutrition in emergencies. Certainly, the level of the challenges in assessing micronutrient problems in emergencies, and intervening appropriately and with beneficial effect for this population group, is even harder than for children.⁸³

More attention needs to be paid to this area of the emergency response. Those micronutrient deficiencies for which older people can be included as part of 'whole population' in assessments are:

- Beriberi (clinical signs, thiamine level in blood and urine, dietary intake);
- Pellagra (clinical signs of dermatitis, diarrhoea and dementia, niacin level in urine, dietary intake of niacin equivalents); and

- Scurvy (by clinical signs, levels of serum ascorbic acid).

Assessments for Vitamin A deficiency, iodine deficiency and or iron deficiency do not include older adults or older people as an appropriate target group for detecting a suspected micronutrient problem.

Fluids and other requirements

Dehydration is a real risk for many older adults. Total body water decreases with age so even mild stresses such as fever or hot weather can precipitate rapid dehydration in older adults. Dehydrated older adults seem to be more susceptible to urinary tract infections, pneumonia, pressure ulcers, and confusion and disorientation. Despite their physiological needs, many older people do not seem to feel thirsty or notice mouth dryness. Many older women who have lost bladder control related to childbirth or obstetric fistula may be afraid to drink too much water to avoid the stress and stigma of incontinence. To prevent dehydration, older people need to drink at least 6 glasses of water a day. Clinical support may be necessary to advise on quantity, because too much water in undernourished old age can cause cardiac failure.

Eating high fibre foods and drinking water can alleviate constipation. Sources of complex carbohydrates such as legumes, vegetables, whole grains and fruits are rich in fibre and essential vitamins and minerals. Average fibre intakes among older adults are often lower than recommendations (14gm per 1,000kcal). Physical inactivity and medications also contribute to the high incidence of constipation.⁸⁴ Generic guidance on a healthy diet for older people is provided by a number of international bodies.⁸⁵

⁸³ Seal A and Prudhon C, 2007. Assessing micronutrient deficiencies in emergencies: current practice and future directions. *Journal of Nutrition, Health and Ageing*: vol 12 (8); 599-604.

⁸⁴ Jones J Duffy M, Coull Y and Wilkinson H, 2009. Older people living in the community – nutritional needs, barriers and interventions: a literature review. Scottish Government Social Research.

⁸⁵ WHO, 2002. Keep fit for life: meeting the nutritional needs of older persons. WHO/Tufts University School of Nutrition and Policy.

Food intake in its social context

Across human cultures, food is never just food and its significance can never be purely nutritional. Humans share food. It is our central social ritual, it is a focus for social exchange, it acts as social and intergenerational glue.⁸⁶ Anthropological literature provides many examples of how food and meal rituals and practices contribute to family identity and domestic life. So, for older people who have spent so many years involved in the provision of food for their families, food and eating can never be removed from its social context.

Even in emergencies, food is intimately bound up with social relations, including those of power, of inclusion and exclusion, as well as with cultural ideas about classification, the human body and the meaning of health.⁸⁷ While these issues are not important for young children, they are very important for older people whose seniority is often tied up with the provision, choice and preparation of food for family members. In an emergency, this role is frequently undermined, if not completely disrupted. In addition to the other stresses of the emergency or conflict, this unfamiliar loss of control over food can have negative consequences on older people's emotional and psychological health, in turn impacting on their appetite, food intake and choices dependent on food preferences, regardless of what food is available.

Food is shared and allocated differently within different types of households depending on demographic composition, who within the household is sick or has died, has social standing or economic status and other power factors, many of which are related to gender and age seniority.⁸⁸ Intra-household food distribution, and patterns of self-abstinence, can also be important causes of undernutrition in older people in low to middle income countries, both in long-term, development settings and in emergencies.

The focus on children in most work on undernutrition also misses this intra-household context in which older people may voluntarily miss meals, or certain nutritious foods, so that other family members can be fed. HelpAge's operational programmes, and those of many other development agencies, are frequently reporting examples of many older people going short of food themselves to feed other family members, particularly children. For example, in Sri Lanka, where the price

of milk powder almost tripled in February 2009, older people went without, so that children in their care did not.⁸⁹ However, there is little systematic research on this.⁹⁰

Undernutrition in older people in middle and low income countries

In middle and low income countries, there is very little research on the nutritional status of older people. The WHO/Tufts University School of Nutrition and Policy publication "Fit for Life: meeting the nutritional needs of older persons" (2002) acknowledged that, despite the rapidly increasing proportion of older persons in the populations of low to middle income countries, there is a scarcity of information concerning this group's specific nutritional needs. However, we can be sure that the vast majority of older people in low to middle income countries enter their later years after decades of poverty and deprivation, poor access to health care, and a diet that is usually inadequate in quantity and quality.

For Europe's community-living older people, it was found that although general undernutrition is not common, they are at risk for developing poor nutritional status. As described in the preceding section, the reasons for poor nutrition are multifaceted and include the physiological, psychological and social changes associated with ageing which affect food intake and body weight, possibly exacerbated by the presence of disease and illness. Such multifaceted causes will require multifaceted responses. This will also apply for older people with, or at risk of, malnutrition in humanitarian situations.

The ACC/SCN 4th World Nutrition Situation Report published in 2000 was themed 'nutrition through the life cycle'. For the first time, a specific section was included relating to adult malnutrition. However, since then, older people in particular have not featured in World Nutrition Situation reports.

During the 1990s, a research programme partnership between the London School of Hygiene and Tropical Medicine and HelpAge documented the prevalence of, and risk factors for, undernutrition among large numbers of older people (aged 50-96 years) in several sites in Africa (rural area near Lilongwe, Malawi;⁹¹ refugee camp for Rwandans in Tanzania⁹²) and Asia (urban slums in Mumbai, India⁹³). The highest prevalence of

⁸⁶ Quandt S, Arcury T, Bell R, McDonald J and Vitolins M, 2001. The social and nutritional meaning of food sharing among older rural adults. *Journal of Aging Studies*: 15; 145-162.

⁸⁷ Caplan 1997. *Food, health and identity*. Routledge, London.

⁸⁸ Haddad L, Pena C, Nishida C, Quisumbing A, Slack A, 1996. Food security and nutrition implications of intra-household bias: a review of the literature. Washington DC; International Food Policy Research Institute.

⁸⁹ Beales, S, 2011. *Ageways*. Issue 76. February; p5.

⁹⁰ Gorman 2011. Why NCD strategies must include older people. *Ageing and Development*. September; pp 6-7.

⁹¹ Manandhar M, 1999. Undernutrition and impaired function amongst elderly slum dwellers in Mumbai, India. PhD thesis. London School of Hygiene and Tropical Medicine.

⁹² Pieterse S, Manandhar M, and Ismail S, 1990. The nutritional status of older Rwandan refugees. *Public Health Nutrition*: 1; 250-264.

⁹³ Chilima D and Ismail S, 1998. Anthropometric characteristics of older people in rural Malawi. *European Journal of Clinical Nutrition*: 52; 643-649.

Table 7: Prevalence of undernutrition among older people (60+ years) in African countries

Country	BMI <16		BMI <18.5		MUAC ≤24 cm	
	Men	Women	Men	Women	Men	Women
Benin	–	–	8.0	11.8	–	–
Botswana	4.2	1.6	20.1	14.8	–	–
Cameroon	–	–	7.7	4.2	6.7	1.5
Ethiopia	–	–	30.1		50*	23.3*
Ghana	30.0	17.1	62.2	44.6	25.3	12.2
Kenya	–	–	15.3	10.0	–	–
Malawi	4.0	4.9	36.1	27.0	23.0	–
Senegal	4.0	3.0	14.5	9.0	18.5	14.0
South Africa	5.8	1.3	19.2	2.2	21.2	4.8
Tanzania	0.8	2.0	7.6	10.8	–	–
Uganda	2.9	1.4	13.3	9.4	–	28.5
Emergency situations						MUAC ≤22 cm
Kenya – Turkana	15.2	12.5	–	–	19.6	17.7
Kenya – Wajir	–	–	–	–		
Sierra Leone – Kenema	42.0	48.0	–	–	86.0	77.0

* using MUAC <23cm

Source: HelpAge International Africa Regional Development Centre, 2004. Summary of research findings on the nutritional status and risk factors for vulnerability of older people in Africa. Nairobi.

undernutrition (BMI<18.5kg/m²) and severe undernutrition (BMI<16kg/m²) was in India where 35% of older people were undernourished. Figures from Malawi were similar. In contrast, the vast majority of refugees (97%) came from villages in East Rwanda where the food situation had been good. The refugee population was also a specific group, probably representing the fittest and healthiest people who had managed to reach the camp.

This multi-site research led on to the development of a research and advocacy programme within HelpAge. From 2000-2003, there was an intensification of research on older people's nutritional situation in Africa, coordinated by HelpAge's Africa Regional Development Centre. **Table 7** below summarises the information obtained from this research, using the recommended cut-offs for BMI and MUAC at the time (for more on this, see section on assessment below).

As well as highlighting the prevalence of undernutrition in older people across Africa, this work also contained valuable lessons relevant to understanding nutritional vulnerability

among older people throughout the developing world, including in emergency situations. All the risk factors depicted in Figure 3 above were identified, and the particular vulnerability of older people to undernutrition in emergencies was highlighted, including their:

- Ability to queue, fetch fuel and water, prepare food and cook;
- Mental health and emotional well-being;
- Lack of care and supports;
- Shelter and their vulnerability to hypothermia and/or dehydration; and
- Physiological state.

In many rural parts of the developing world, the acquisition of *wild foods* is still an important activity, particularly for older people. Older men tend to focus on small game hunting whereas women tend to forage for berries, mushrooms, roots, leaves and tubers and other items like caterpillars. **Box 13**

Box 13: Consumption of wild foods in southern Sudan

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. Older women can recognize the 'good food types' and will know where they are likely to grow. It is generally the younger women and men who are reluctant to make use of wild foods as a result of their lack of knowledge as well as the stigma associated with eating them. In this context, there is not only the potential for utilizing the older women's knowledge and experience but also to promote and support the use of wild foods as a valuable source of micro-nutrient rich food source for older people.

Source: quoted in Borrel, 2001, Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International, Africa Regional Development Centre, Nairobi (page 46).

describes how wild foods continue to be an important activity among the Dinka of southern Sudan. During emergencies, the acquisition and consumption of wild foods needs to be investigated.

Assessment of nutritional status and vulnerability of older people

This section presents the rationale behind, and techniques for, assessing the nutritional status of older people. It focuses on social and nutritional vulnerability risk factors to determine the underlying causes of undernutrition, on clinical signs and symptoms of physiological vulnerability, and on anthropometry for the assessment of physical nutritional status. This section also considers the relevance of *functional ability* in older people, based on the premise that impaired functional ability is an important outcome indicator for this population group against which to measure indicators of nutritional status. Only assessment methodologies that can be used in humanitarian settings are presented.

Assessing the nutritional vulnerability and nutritional status of older people is a requirement for ensuring an impartial humanitarian response. Moreover, ***given what we know about the crucial role of older people in households and families, it could be argued that another approach to avoiding mortality in young children in an emergency would be to ensure the nutritional status and functional ability of their older carers.***

The assessment of older people is currently not considered a key indicator for the severity or extent of an emergency or crisis, nor as a proxy for the situation in the whole community. However, there are signs that attention is now turning to their nutritional situation, as population groups in emergencies.

In 2001, in recognition of the fact that "what gets measured, gets noticed";⁹⁴ an expert group (UN Administrative Committee on Coordination, Sub-Committee on Nutrition – ACC/SCN) met in Nairobi to discuss the assessment of adult malnutrition in emergencies. They agreed that it was appropriate to consider assessing malnutrition in adults as well as in children in specific circumstances, and made recommendations, as presented in **Box 14**.

Another meeting of the SCN Nutrition in Emergencies Working Group took place in New York in 2004.^{95,96} These developments represented a pragmatic approach to the issues, and signalled progress in tackling the historical neglect of this population group in the field of undernutrition. However, since then, the focus on older people has not been maintained and efforts to reinvigorate work on assessment methods and nutritional vulnerability in older people in emergencies are urgently needed.

In 2001, HelpAge's Africa Regional Development Centre published a report on addressing the nutritional needs of older people in emergency situations in Africa.⁹⁷ The rest of this section and the following section on interventions draw heavily on this publication, as well as the ACF publication on adult malnutrition in emergencies.⁹⁸

Because of the multi-dimensionality of the causes of undernutrition in older people as described earlier, it is important to take a **broad approach** in any assessment of undernutrition in older people, taking into account the complexity of vulnerability risk factors and the non-food determinants of nutrition and functional outcomes. As anthropometric measurements cannot distinguish between acute malnutrition and stable malnutrition, it is necessary to first look at risk factors for undernutrition in order to differentiate between them.

⁹⁴ Woodruff B, 2004. Postscript on older people, nutrition in emergencies. *The Field Exchange*. Issue 14 <http://fex.enonline.net/14/scn.aspx>

⁹⁵ Nutrition in emergencies Working Group report, 2004. *The Field Exchange*. Issue 22. <http://fex.enonline.net/22/scn.aspx>

⁹⁶ Wyness L, 2004. Taking forward research on adult malnutrition. *The Field Exchange*. Issue 22 (see 101).

⁹⁷ Borrel A, 2001. Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International Africa Regional Development Centre. Nairobi.

⁹⁸ Navarro-Colorado C, 2006. Adult malnutrition in emergencies: an overview of diagnosis and treatment. Field Guidelines. ACF, version 3.

Box 14: ACC/SCN recommendations on when to assess adult malnutrition in emergencies

- If the crude mortality rates begin to approximate or surpass the under-five mortality rates, suggesting that the over-five population is as vulnerable as the under-five population.
- If the prevalence of malnutrition is very high in the under-fives and is not due to a health problem mainly affecting that age group.
- If there is reasonable doubt that the nutritional status of children does not reflect the adult situation. For example, in Bosnia and Kosovo, it was suspected that older people were particularly vulnerable to malnutrition.
- If many adults attempt to enrol in selective feeding programmes or present to health posts.
- If anecdotal reports of adult malnutrition are received.
- If there is low coverage of food aid in dependent populations.
- If data is required to act as an advocacy tool to lever resources.

Source: ACC/SCN 2001. 31st Session: Report of the Working Group on Nutrition in Emergencies. <http://www.unsystem.org/scn/Publications/AnnualMeeting/SCN28/28emergencies.htm>

Table 8 below summarises the variety of different methods to assess the nutritional status and nutritional vulnerability of older people in emergency situations, each of which will be described in more detail in this section. The choice of all, or some of these, will depend on context, stage of the crisis, available resources and technical capacity.

Assessing complex vulnerabilities

In line with the humanitarian principle of fulfilling rights and acting with impartiality, the nutritional status and vulnerability assessment of older people in emergencies should be a standard component of humanitarian programming.

Social and psychological factors assume greater significance in the nutritional and functional profiles of older people. These are important in emergency situations when factors such as loneliness, bereavement and depression become prevalent. Widowhood (especially later in life) and forced displacement (due to political conflicts or natural disasters) lead to psychological insults from which it is difficult to recover, and which have profound nutritional and health consequences.⁹⁹ Wars, famines and disasters can act against older people as a form of forced triage phenomenon, whereby the old and frail are either left behind or not cared for, in favour of the younger and fitter majority.

Even when included in relief efforts, older individuals are less likely to adapt to new environments and situations and are more likely to feel the negative consequences of leaving a familiar home environment. In poor areas of the USA, the death rates from malnutrition are significantly higher where older adults were more likely to live alone or be widowed. Being

socially isolated can be harmful because social supports affect psychosocial well-being and foster healthier behaviours.¹⁰⁰

Nutritional vulnerability among older people, as stated above is influenced by a variety of social, emotional, physical, economic and community factors. These are captured in several Vulnerability Risk Factors as shown in Figure 3 above and Figure 4 below.¹⁰¹

Various tools exist for assessing vulnerability risk factors for older people, including:

- Disabled, Vulnerable and Frail Persons (DVFP) Assessment Module
- Mini-Nutritional Assessment (MNA), and shortened version (MNA-SF)
- Subjective Global Assessment (SGA)

Of these, only the **Disabled, Vulnerable and Frail Persons (DVFP) Assessment Module**, developed by Handicap International (see **Annex 4**) is used in emergency situations. Although it focuses on disability and frailty, it includes information relevant to the vulnerability assessment of older people in emergencies, including:

- type of vulnerability: fast screening (*it includes if the person is cared for, though not if s/he is a carer*);
- causes of vulnerability;
- level of independence and participation, including the ability to prepare and cook food, and walking short distances;
- psychosocial issues, including changes in appetite;

⁹⁹ Zohoori N, 2001. Nutrition and healthy functioning in the developing world. *Journal of Nutrition*: 131; 2429S-2432S.

¹⁰⁰ Lee and Berthelot, 2010.

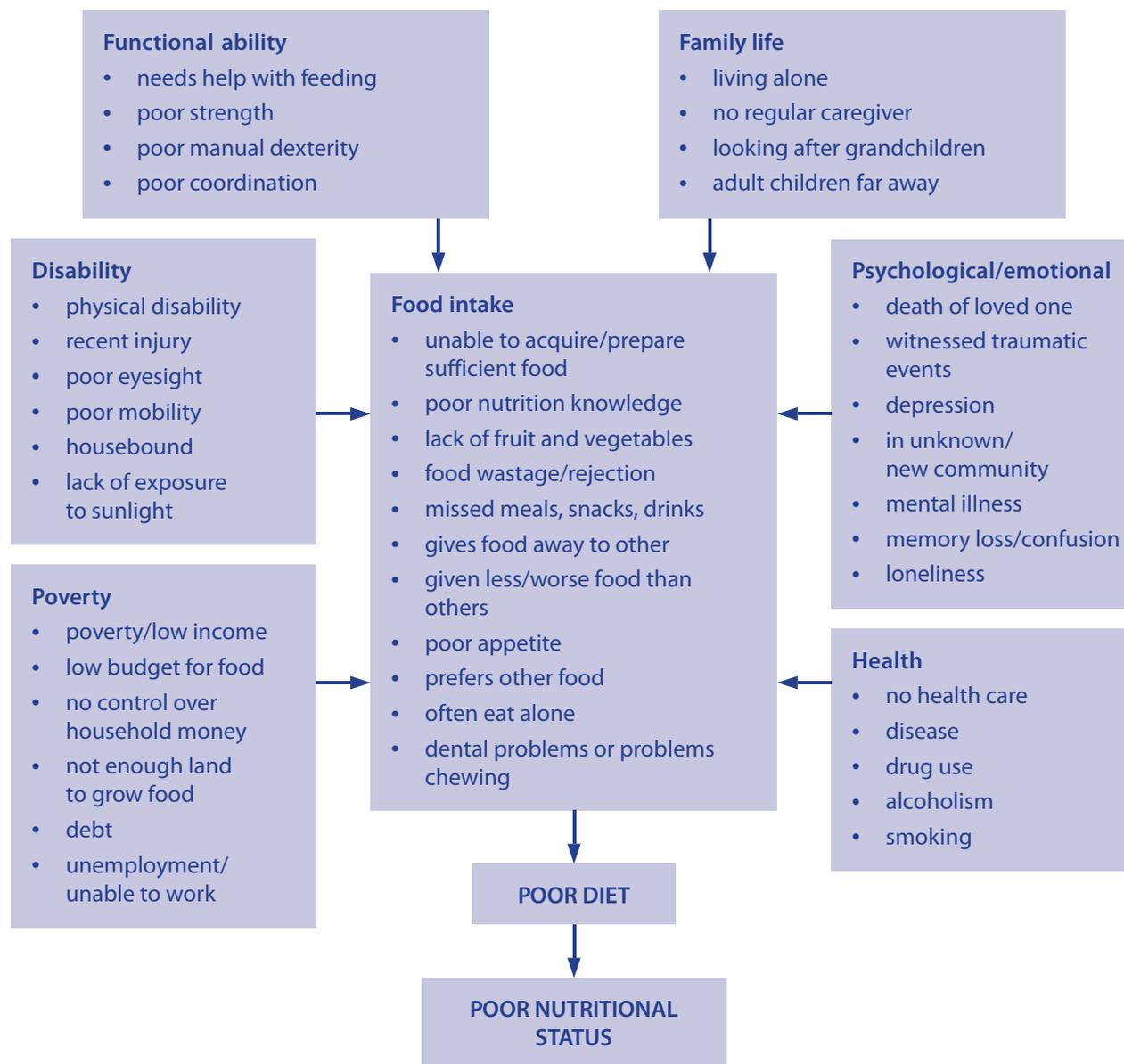
¹⁰¹ Ismail S and Manandhar M, 1999. Better nutrition for older people: assessment and action. Joint publication of HelpAge International and the London School of Hygiene and Tropical Medicine.

Table 8: Summary of assessment methods for nutritional status and vulnerability of older people in emergency situations

Assessment method	Indicators	Tools available
Vulnerability risk factors	Functional abilities affecting Activities of Daily Living (ADLs) related to collecting food, water and fuel, queuing, preparing food, cooking and chewing (e.g. sight, mobility, dentition) Social risk factors	<ul style="list-style-type: none"> Disabled, Vulnerable and Frail People Checklist (DVFP) (Annex 4) Risk factors diagram (Figure 4) Mini-Nutritional Assessment (MNA) and MNA-short version (MNA-SF) (Annex 5) Qualitative (participatory) research
Clinical symptoms, observations	Oedema, dehydration, anorexia, sarcopenia, infection and disease	Table 9: ACF Flow Diagram, Figure 6
Anthropometry for: <ul style="list-style-type: none"> Identification of acute and/or stable malnutrition at population and individual levels. Entry and exit criteria for interventions at individual level. 	MUAC BMI <i>(using armspan or halfspan if an accurate measurement of standing height is not possible, e.g. due to kyphosis) and taking into account the Cormic Index for standing-height: sitting-height ratio, and famine oedema</i> See more technical details on BMI measurements – p.49	Table 10: for classification cut-offs Table 11: for classification cut-offs Figure 6: ACF Flow Diagram Calculation of Cormic Index
Criteria for referral and intervention	Admission and discharge criteria into selected feeding programmes (CSP, SFP, TFP)	Table 15: Screening of older people for admission into targeted SFP Table 17: Anthropometric, clinical and social criteria for older people's admission into CSP, SFP and TFP
Dietary intake http://www.nutricalc.co.uk/home.php http://www.nutval.net/	Nutrient density in GFR Intake of micronutrients (Vitamins B12, D, iron etc) Fluid intake (to avoid dehydration) Intake of wild foods Intra-household food allocation	Calculate using computer software programmes (e.g. NutValu, NutCalc) Assess micronutrient intake versus requirements (Table 5) Clinician referral and advice Qualitative (participatory) research Qualitative (participatory) research
Participation of older people	Level of involvement of older people in nutrition and vulnerability assessments (<i>older people are often excluded in research and assessments</i>)	It is important to take enough time to adapt the environment and methods to maximise the participation of older people ¹⁰²

¹⁰² HelpAge International, 2002. Participatory research with older people: a sourcebook.

Figure 4: Risk factors for nutritional vulnerability in older people



Source: Ismail S and Manandhar M, 1999. Better nutrition for older people: assessment and action. Joint publication of HelpAge International and the London School of Hygiene and Tropical Medicine.

- family information;
- level of handicap, such as visual, deformity, pain, restricted use of body parts such as hands;
- income generating activities and contribution to household livelihood;
- medical needs and support;
- need for items and equipment, such as to help with sight and mobility; and

- need for further referral.

The **Mini-Nutritional Assessment (MNA)**¹⁰³ is the only nutritional tool that incorporates special consideration of the older adult (i.e. functionality, mobility, depression and dementia). It was specifically developed to identify older people at risk of malnutrition without the need for more invasive tests such as blood sampling.

¹⁰³ Guigoz et al, 2002; Abellan Van Kan G and Vellas B, 2011. Is the Mini-Nutritional Assessment an appropriate tool to assess frailty in older adults? *Journal of Health, Nutrition and Ageing*: 15 (3); 159.

Table 9: Guidelines for recognising basic clinical symptoms associated with severe acute malnutrition in older people in emergencies

Clinical symptom	Observation: <i>through physical examination during patient consultation. A physician or senior health worker usually carries out a physical examination on patients admitted to a TFP.</i>
Famine oedema <i>accumulation of fluid in tissues</i>	<ul style="list-style-type: none"> Occurs bilaterally (e.g. in both feet or legs). On pressing down gently with a thumb for 10 seconds, a pit forms and remains visible for a few seconds ('pitting oedema'). On pressing down gently with a thumb for 10 seconds, a pit forms and remains visible for Oedema following sleep or immobility which disappears after some exercise is usually a result of poor circulation or heart condition.
Inability to stand/immobile	<ul style="list-style-type: none"> Some patients will be too weak to stand/walk, and are usually carried in with stretchers by family members or out-reach workers. This inability to stand may be part of the natural ageing process and general debilitation, for example where there is kyphosis.
Extreme weakness	<ul style="list-style-type: none"> 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 himself. Patient will spend long hours sitting or resting. Muscle strength is severely depleted and muscle tissue is wasted.
Dehydration <i>(see p.35 for the importance of fluids for older people)</i>	<ul style="list-style-type: none"> Patient has dry mucosal membranes and dry mouth. When the skin is gently lifted away from the bone, skin remains upright for a few seconds.
Anorexia	<ul style="list-style-type: none"> Patient is vomiting and unable to keep food in their stomach. Often the patient will refuse to take food. Psychological aspect of anorexia, depression.

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

The MNA consists of a simple, non-invasive, clinician-completed assessment and screening instrument (**Annex 5**). This comprises 18 easily measureable items, classified into four categories:

1. Anthropometric measurements (four questions on weight, height and weight loss)
2. Dietary questionnaire (six questions related to number of meals, food and fluid intake, autonomy of feeding)
3. Global assessment (six questions related to lifestyle, medication and mobility)
4. Subjective assessment (two questions on self-perception of health and nutrition)

All answers and measurements are attributed a score, and a total score summed from all elements is calculated.

A short form (MNA-SF) has also been elaborated to screen older adults for malnutrition. The MNA-SF takes three minutes to administer and includes measurement of height and weight for the calculation of BMI.¹⁰⁴ Calf circumference has recently been added, for use when BMI calculation is not possible.

Subjective Global Assessment (SGA)¹⁰⁵ is a method commonly used for assessing nutritional status in various clinical situations, particularly in surgical patients and cancer care. First described in 1982 as a screening tool, it better identifies established malnutrition than nutritional risk but its sensitivity is suboptimal.¹⁰⁶ It is not routinely used in emergencies.

Assessing nutritional status

Compared to guidance and methodologies for assessing the nutritional status of children (see HTP Module 6), there is only

¹⁰⁴ Rubenstein et al, 2001.

¹⁰⁵ Barbosa-Silva M, Ga C, Barros A, 2006. Indications and limitations of the use of subjective global assessment in clinical practice: an update. *Current Opinion in Clinical Nutrition & Metabolic Care*.

¹⁰⁶ Makhija S and Baker J, 2008. The Subjective Global Assessment: a review of its use in clinical practice. *Nutrition in Clinical Practice*.

limited literature on assessing the nutritional status of older people, and on diagnosing and treating malnourished individuals in the age group above 50 years old.

In line with the HTP Module 6: Measuring Malnutrition, which states that nutritional status cannot be observed directly in emergency field conditions, four observable proxy methods are used to **assess an individual's nutritional status**, some of which are appropriate and feasible for use in emergencies. These four methods are:

- Dietary intake;
- Biochemical assessment (*generally not practical in emergency situations*);
- Clinical assessment, including signs of micronutrient deficiencies; and
- Anthropometry.

Dietary intake

There are numerous methods for assessing dietary intake, including diet histories, diet recalls and food-frequency questionnaires. These rely on locally-appropriate, accurate and validated food composition tables. Their accuracy is poor in most community-living populations. The situation is even more difficult in an emergency setting where the General Food Ration (GFR) and feeding programmes are controlled, but gathering of wild foods, exchange of food for cash or other goods, and the unknown factor of intra-household food distribution may complicate the picture.

Clinical assessment

A number of clinical observations can be made to assess older people in an emergency, as outlined in **Table 9**. More detail is also given in HTP Module 3.

All the symptoms of kwashiorkor and marasmus usually observed in children can also be seen in adults, although they are less common. These include the presence of: anorexia, weakness, enlarged (fatty) liver, full moon face (signs of excessive cortisol); skin lesions and ulcerations; pale sparse hair and hair loss; discoloration of skin and hair; thinness; associated infections and other signs of immune depression; amenorrhoea in women and loss of libido.

The current recommended assessment methodologies and appropriate population groups for the assessment of suspected **micronutrient** problems in emergencies are presented in a 2007 SCN publication¹⁰⁷ (see HTP Module 4: Micronutrient Malnutrition). While there is no specific mention of older adults or older people in the SCN document, this group is captured in the 'whole population' assessment for the indicators of:

- Beriberi¹⁰⁸ (*through observation of clinical signs, thiamine levels in the blood and urine, dietary intake*);
- Pellagra¹⁰⁹ (*through observation of clinical signs of dermatitis, niacin levels in urine, dietary intake of niacin equivalents*); and
- Scurvy¹¹⁰ (*by observation of clinical signs, levels of serum ascorbic acid*).

Several other micronutrients that are regarded as particularly important for older people, particularly Vitamin D and Vitamin B12 need more consideration in the future. Iron deficiency¹¹¹ is also an important omission, given the increasing evidence for anaemia among many older women and its potential relationship with functional outcomes such as handgrip strength.

Anthropometric assessment of nutritional status

In emergency situations, MUAC and BMI are the two anthropometric indicators most commonly used to assess under-nutrition in older people.¹¹² However, **there are no internationally agreed indicators and related cut-off points to assess nutritional status in older people, including in emergency situations.**

This section discusses some of the practical issues that need consideration when making anthropometric measurements of older people. Illustrations for taking MUAC, weight and height measurements can be found in HTP Module 6.

Using Mid-Upper Arm Circumference (MUAC)

Mid-upper arm circumference is the circumference of the left upper arm, measured at the mid-point between the tip of the shoulder and the tip of the elbow (olecranon process and the acromium). The use of MUAC for nutritional assessment of older people has many advantages, as it does for use in children (see HTP Module 6).

¹⁰⁷ A.Seal, C.Pruhdon, 2007. Assessing micronutrient deficiencies in emergencies. Current practice and future directions. NCIS, UNS/SCN.

¹⁰⁸ WHO/UNHCR, 1999. Thiamine Deficiency and its prevention and control in major emergencies. Geneva WHO/NHD/99.13.

¹⁰⁹ WHO/UNHCR, 2000. Pellagra and its prevention and control in major emergencies. WHO/NHD/00.10 and WHO, 2000. Management of nutrition in major emergencies (Provisional criteria).

¹¹⁰ WHO/UNHCR, 1999. Scurvy and its prevention and control in major emergencies. WHO/NHD/99.11 (Provisional criteria).

¹¹¹ WHO, 2000. The management of nutrition in major emergencies.

¹¹² WHO, 1995. Physical status: the use and interpretation of anthropometry. Report of a WHO Expert Committee. Technical Report Series No. 854. Available at: [http://whqlibdoc.who.int/trs/WHO_TRS_854_\(chp3\).pdf](http://whqlibdoc.who.int/trs/WHO_TRS_854_(chp3).pdf)

Table 10: Summary of MUAC classifications used to assess undernutrition in older people

Author/source	Age (years)	Indicator of undernutrition using MUAC in mm		Rationale based on	Comment	
Ferro-Luzzi and James, 1996 ¹¹³	18-60	SAM MAM Under Normal	Men <169 170-199 200-229 ≥230	Women <159 160-189 190 - 219 ≥ 220	Extrapolated from more normally nourished populations in low to middle income countries	Criteria “probably inappropriate for screening acutely undernourished adults” (Collins, Duffield and Myatt, 2000).
Ismail and Manandhar, 1999 ¹¹⁴	50-96	Undernutrition <231 MAM 221-230 (in Africans) SAM <221 (in Africans) <i>HelpAge produced a Shakir strip with colour band cut-offs: Red 0-220 Yellow 220-230 Blue 230-240 Green 240-250</i>		Cut-offs were linked to <16 BMI ¹¹⁵ distribution as well as actual functional ability performance test values	Data from multi-site cross-sectional research among poor older people in Asia (urban slum India) and Africa (Rwandan refugee camp in Tanzania, rural farmers in Malawi). Not acute emergency situations.	
Collins, Duffield and Myatt (UN/SCN), 2000 ^{116*} Based on Concern’s CHANCES model	20-60	Severe undernutrition Admit into adult TFC if: MUAC <160 irrespective of clinical signs OR: MUAC 161-185 + one of the following: <ul style="list-style-type: none"> • bilateral pitting oedema (Beattie grade 3 or worse) • unable to stand • apparent dehydration <p>Also admit if famine oedema (<i>Beattie grade 3 or worse</i>) alone, by clinician assessment</p> Moderate undernutrition Admit into adult SFC if: MUAC 161-185 and no relevant signs or few social criteria via screening for: <ul style="list-style-type: none"> • access to food (quantity, quality) • distance from centre • presence/absence of carers • dependents • cooking utensils • shelter 		Applying these MUAC cut-offs to BMI distribution, a MUAC of 185mm corresponded to BMI 13 kg/m ² , <i>when applied to data from Ferro-Luzzi and James*</i> It is considered as severe undernutrition and is associated with risk of mortality	Applies to extreme situations such as famine, and scarcity of resources. Deals solely with adults in emergencies. These are suggested starting points and will require consideration of additional situation-specific factors. Recommends development of specific cut-off points to account for changing redistribution of fat during ageing. Questions whether there is also a need for ethnic differences to be investigated.	

* based on James, Mascie-Taylor, Norgan, Bistriaw, Shetty & Ferro-Luzzi, 1994; Collins, 1996.

¹¹³ Ferro-Luzzi A and James W, 1996. Adult malnutrition: simple assessment techniques for use in emergencies. *British Journal of Nutrition* 75 (1); 3-10.

¹¹⁴ Ismail I and Manandhar M, 1999. Better nutrition for older people: assessment and action. HelpAge International and the London School of Hygiene and Tropical Medicine.

¹¹⁵ Using armspan, or another proxy, for height when an accurate height measurement is not possible.

¹¹⁶ Collins S, Duffield A and Myatt M, 2000. Adults: assessment of nutritional status in emergency-affected populations. ACN/SCN.

Table 10: Summary of MUAC classifications used to assess undernutrition in older people (continued)

Author/source	Age (years)	Indicator of undernutrition using MUAC in ms	Rationale based on	Comment
Borrel, 2001 ¹¹⁷	>60	Entry into selective feeding programmes: No admission: >185 Normal (<i>unless famine oedema present, refer to clinician</i>) SFC: 160-185 MAM TFC: <160 SAM Entry into Community Support Programme CSP: >185 High nutritional risk If one or more social criteria but no anthropometric or clinical criteria, enter into CSP with the purpose of preventing further deterioration in nutritional status.	Based on data from Nilotic populations	Formed the basis for UNHCR/WFP 2011 recommendations, see Table 11. Applies to emergency situations and famines. Use in Burundi/Congo failed to confirm its usefulness as a diagnostic tool. ¹¹⁸ Not yet validated in other populations.
Grellety (ACF), 2001 ¹¹⁹		SAM <200 MAM 200-210	Figures are between WHO 1995/Ismail and Manandhar 1999/ Collins et al 2000	Personal communication based on experience in Rwanda, not research-based.
Navarro-Colorado, 2006 ¹²⁰	20-50 50+	<210 thin, select for further evaluation (weight loss, physical strength and clinical signs) <180 select for evaluation (weight loss, physical strength and clinical signs)		These are not meant as admission criteria or criteria for malnutrition.

Despite its simplicity and practical advantages (less affected by oedema than BMI and relatively independent of height), the use of MUAC to assess, and screen, the nutritional status of adults and older people in emergencies remains controversial. There is disagreement on the cut-off points to be used, the efficiency of a two-tiered screening process and poor reproducibility in the measurements. However, it is increasingly being recommended for use in emergencies.¹²¹

Table 10 summarises the different cut-offs for MUAC recommended in the nutrition literature. **The latest guidelines from UNHCR/WFP (January 2011), state that, until new evidence is available, the cut-off points from the WHO Expert Consultation Report (1995) should be applied for adults (top line in the table).**

¹¹⁷ Borrell A, 2001. Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International Africa Regional Development Centre. April.

¹¹⁸ Navarro-Colorado C, 2006. Adult malnutrition in emergencies: an overview of diagnosis and treatment. Field Guidelines. ACF, version 3.

¹¹⁹ Grellety, 2001 personal communication, as quoted in: Tilstone V, 2001. Older people, nutrition and emergencies in Ethiopia. *The Field Exchange*. Issue 14 <http://fex.enonline.net/14/older.aspx>

¹²⁰ Navarro-Colorado C, 2006. Adult malnutrition in emergencies: an overview of diagnosis and treatment. Field Guidelines. ACF, version 3.

¹²¹ Collins S, Duffield A and Myatt M, 2000. Adults: assessment of nutritional status in emergency-affected populations. ACN/SCN.

Table 11: Using BMI (kg/m²) to assess undernutrition in people up to 65 years

Age in years	Classification and recommended use		Reference
≤65 and >18	≥18.5 (<25)	Normal	James, Ferro-Luzzi and Waterlow, 1988 WHO 1995
	17.0-18.4 16.0-16.9 ≤15.9	Undernutrition Grade I Undernutrition Grade II Undernutrition Grade III	
	<13 <10	Severe wasting Extreme wasting (<i>incompatible with life</i>)	Ferro-Luzzi and James, 1996
≥50*	≥18.5 (<25) 17.0-18.4 16.0-16.9 ≤15.9	Normal Undernutrition Grade I Undernutrition Grade II Undernutrition Grade III <i>Developed BMI charts in colour coded bands for different populations to avoid need for calculation</i>	Ismail and Manandhar, 1999
20-60**	<p>BMI using James, Ferro-Luzzi and Waterlow (1988) classification is appropriate for assessing the prevalence of undernutrition in a population survey.</p> <p>BMI using James, Ferro-Luzzi and Waterlow (1988) classification is NOT appropriate for individual screening in emergencies because it is affected by oedema and body shape, and is also difficult to measure.</p>		Collins, Duffield and Myatt 2000 (based on James, Mascie-Taylor, Norgan, Bistriaw, Shetty and Ferro-Luzzi, 1994; Collins, 1996)
18-50 50+	<p><17: select thin patients for further evaluation (in a developing country emergency) ; see Fig.6</p> <p><16: select for further evaluation; see Fig.6</p> <p>Admission into TFC should also take into account social factors such as lack of support, physical or mental disability, difficulty or weakness affecting cooking, psychologically traumatised.</p>		Navarro-Colorado, 2006

* When height cannot be measured accurately or easily due to kyphosis, a proxy for height such as halfspan should be used; see below.

** The **Cormic Index** (sitting height/standing height) should be taken into account, and standardised for, when comparing BMI across different populations.

The main problem with classifications on undernutrition (acute and stable) based on MUAC is that we have insufficient data available that links MUAC with predictive risk of mortality, as well as with other outcomes of functional relevance to older people (i.e. those that will affect their strength and mobility, their ability to care for others, maintain livelihoods and avoid illnesses).

Using Body Mass Index (BMI)

$$\text{BMI} = \text{mass (kg)} / (\text{height (m)})^2$$

The most widely used methodology for nutritional assessment of older people is BMI, using weight and height, or proxy measurements of height. Since its first recommendation in 1988, BMI has been used for population-level assessments of stable undernutrition.¹²² The recognised categories of undernutrition for adults up to 65 years of age using BMI are shown in **Table 11**.^{123,124} **Note that there are NO recommended categories for use in people aged over 65.**

¹²² James W, Ferro-Luzzi A and Waterlow J, 1988. Definition of chronic energy deficiency in adults. Report of a working party of the International Dietary Energy Consultative group. *European Journal of Clinical Nutrition* 42 (12): 969-981.

¹²³ Ferro-Luzzi A, Sette S, Franklin M and James W, 1992. A simplified approach to assessing adult chronic energy deficiency. *European Journal of Clinical Nutrition* 46: 173-186.

¹²⁴ WHO, 1995. Physical status: the use and interpretation of anthropometry. Technical Report Series 854, Geneva.

Table 12: Alternatives measurements for standing height in older adults/older people

Proxy for height	Method	Interpretation
Armspan ¹²⁵	Measure between tips of middle fingers of both hands across the sternum, with both arms outstretched.	This measurement is known to approximate attained height at maturity across human groups before age-related changes begin. The usual approach is to substitute the arm proxy measurement directly for a measure of standing height and then calculate BMI.
Halfspan ¹²⁶	Measure from mid-sternal notch to the tip of middle finger of the hand of one outstretched arm.	This is doubled, and then used as armspan.
Demispan ¹²⁷	Measure from mid-sternal notch to the finger root of one hand of one outstretched arm.	Derived indices from arm measurements have also been suggested (for example, Mindex: weight/demispan for women; Demiquet: weight/demispan ² for men ¹²⁸) although these are mainly used in hospital settings.
Knee height ¹²⁹	Measure from the bottom of the heel pad and the top of the knee when both are flexed at 90 degrees, and measured in a sitting or recumbent position with a sliding calliper.	Requires the application of sex- and race- specific regression equations of height from knee height derived from data on population surveys (only available for Caucasians and African-Americans in the USA). Suitable population-specific correction factors to apply to proxy measures of height are not usually available in emergencies.

There are difficulties obtaining an accurate measurement of weight and height in many older people, described below. Despite this, BMI is used as the main anthropometric technique for the nutritional assessment of older people in many settings.

Weight

The use of weight alone should be limited to monitoring the progress of patients suffering from long-term morbidity (illness), recovering from disease or surgery, or during nutritional rehabilitation within a therapeutic feeding centre. Weight measurements can be difficult to obtain in emergency situations. Chair or bed-scales are usually unavailable so older people must be able to stand unsupported in order to be weighed. Many severely undernourished adults requiring admission to therapeutic feeding centres cannot stand, so BMI cannot be estimated where this is the case. Older people who are unable

to stand should be weighed using a hanging scale of 50kg (similar to that used for children, but with a larger range) or MUAC should be used.¹³⁰

Height

After reaching skeletal maturity, humans tend to shorten with age. Evidence from longitudinal studies suggests that a male of 60-64 years could be 5-6cm shorter than he had been in his mid-20s, and as much as 7-8cm shorter by age 80. With increasing age, related physical activity and postural changes, the muscles of the back get weaker and the top of the backbone becomes curved, causing spinal *kyphosis*, particularly common in older women. The muscles of the legs also become weak, so that the legs cannot be fully straightened. Standing height should not be measured if the person's back is bent (e.g. due to *kyphosis* or *scoliosis*) and she/he cannot stand up straight,

¹²⁵ Haboudi N, Hudson P and Pathy M, 1990. Measurement of height in the elderly. *Journal of the American Geriatrics Association*: 38; 1008-10; Kwok T and Whitelaw M, 1991. The use of armspan in nutritional assessment of the elderly. *Journal of the American Geriatrics Association*: 39 (5); 492-6.

¹²⁶ Bassey J, 1986. Demi-span as a measure of skeletal size. *Annals of Human Biology*: vol 13 (5); 499-502.

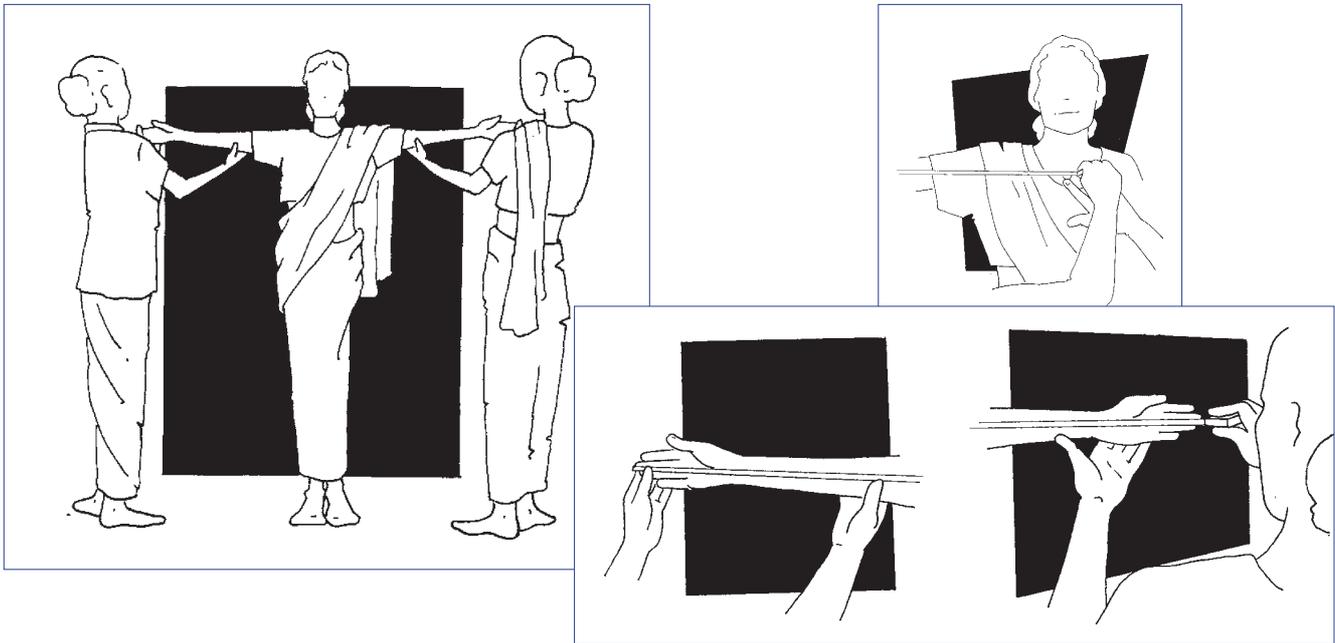
¹²⁷ Bassey J, 1986. Demi-span as a measure of skeletal size. *Annals of Human Biology*: vol 13 (5); 499-502.

¹²⁸ Lehmann A, Bassey J, Morgan K and Dallosso H, 1991. Normal values for weight, height, skeletal size and body mass indices in 890 men and women aged over 65 years. *Clinical Nutrition*: 10; 18-22.

¹²⁹ Chumlea W, Mukherjee D and Roche, 1987. Nutrition assessment of the elderly through anthropometry. Ohio: Fels Research Institute, Ross Laboratories; Kelly P and Kroemer K, 1990. Anthropometry of the elderly: status and recommendations. *Human Factors*: 32; 571-595.

¹³⁰ Navarro-Colorado C, 2006. Adult malnutrition in emergencies: an overview of diagnosis and treatment. Field Guidelines. ACF, version 3 (see page 64).

Figure 5: Risk factors for nutritional vulnerability in older people



Source: Ismail S and Manandhar M, 1999. Better nutrition for older people: assessment and action. HelpAge International and the London School of Hygiene and Tropical Medicine. **Drawings by Tricia Kelly.**

or if the person cannot straighten his/her legs. A measurement taken on a person with some curvature of the spine will underestimate real stature, and therefore overestimate BMI.¹³¹ A study among older Rwandan refugees in Tanzania showed that individuals with kyphosis had a higher prevalence of under-nutrition (measured with MUAC and BMI using armspan as a proxy for height – see below) than those without, illustrating the importance of including this group in nutritional status assessments.¹³² Many other studies have also reported extreme weakness, flexor contractions and scoliosis.¹³³

There are a number of alternatives to standing height: (see **Table 12**), some of which are highly correlated with height at maturity and change little, if at all with age (although most evidence for this comes only from Caucasian populations).

Armspan and halfspan

The recommended proxy measurements for height are **arm-span**¹³⁴ or **halfspan**, see **Figure 5**.

Halfspan measurement is advised when a person has difficulty straightening one arm or whose back is badly bent, or if one arm or hand is missing, injured or badly affected by arthritis. If it is not possible to take armspan or halfspan properly, then MUAC should be measured.

There is considerable individual variation in trunk and limb proportions and the width of the sternal notch, and errors in measurement. For example, the standard error of the estimate of standing height from armspan is reported to be between 2.5cm and 3.8cm,¹³⁵ and any errors are magnified once the value is squared for calculation of BMI.

BMI: body shape and body composition issues (see also HTP Module 6)

While BMI continues to be the nutritional status indicator of choice for adults across the world, its use and interpretation in emergencies is increasingly questioned. This is mainly related to issues of oedema, the influence of body shape and changes in body composition with ageing.

¹³¹ WHO 1995 Physical status.

¹³² Pieterse S, 1998. The nutritional status of older Rwandan refugees. *Public Health Nutrition*: 1 (3); 1-6.

¹³³ Collins S, Duffield A, and Myatt M, 2000. Adults: assessment of nutritional status in emergency-affected populations. ACC/SCN. July.

¹³⁴ Ismail S and Manandhar M, 1999. Better nutrition for older people: assessment and action. HelpAge International and the London School of Hygiene and Tropical Medicine. Drawings by Tricia Kelly.

¹³⁵ Steele M and Chenier T, 1987. Armspan, height and age in black and white women. *Annals of Human Biology*: 17 (6); 533-541.

Box 15: Correction of BMI using the Cormic Index (Sitting Height: stature ratio, SH/S)

In order to standardize BMI to take into account changes in SH/S ratio, we recommend using the equations below to calculate BI standardized to the actual SH/S ratio for the population under study:

$$\text{Males} \quad \text{BMI} = 0.78 (\text{SH/S}) - 18.43$$

$$\text{Females} \quad \text{BMI} = 1.19 (\text{SH/S}) - 40.34$$

Note: SH/S should be expressed as a percentage

The observed BMIs can then be standardized to a SH/S ratio of 0.52 by adding the differences between the observed BMI and BMI standardized for the population SH/S ratio to a BMI standardized to 0.52 using the equation below:

$$\text{BMISstd} = \text{BMI}_{0.52} + (\text{BMlob} - \text{BMles}),$$

Where:

BMI = standardized BMI

BMI_{0.52} = estimated BMI at SH/S of 0.52

BMlob = actual BMI

BMles = estimated BMI at actual SH/S

Examples:

Male population has a mean BMI of 18.5 kg/m² and a mean SH/S ratio of 50%.

$$\text{The BMI}_{0.52} = 0.78 * 52 - 18.43 = 22.13$$

$$\text{The BMI}_{es} = 0.78 * 50 - 18.43 = 20.57$$

$$\text{Therefore, the BMlstd} = 22.13 + (18.5 - 20.57) = 20.06 \text{ kg/m}^2$$

Female population has a mean BMI of 17.0 kg/m² and a mean SH/S ratio of 54%.

$$\text{The BMI}_{0.52} = 1.19 * 52 - 40.34 = 23.92$$

$$\text{The BMles} = 1.19 * 54 - 40.34 = 21.54$$

$$\text{Therefore, the BMlstd} = 21.54 + (17.0 - 23.92) = 14.62 \text{ kg/m}^2$$

Source: Collins S, Duffield A, Myatt M, 2000. Adults: assessment of nutritional status in emergency-affected populations. ACC/SCN (page 4).

Oedema

The oedema of malnutrition is an accumulation of fluids in the interstitial space, producing swelling of the affected area. Its development is associated with an increase in weight, producing an upward bias in BMI. Severe oedema may represent the accumulation of 10 or more litres of extracellular fluid.¹³⁶ The frequent co-existence of pitting oedema and ascites means that oedema fluid can often account for over 10% of body weight.¹³⁷ Adult nutritional oedema is common during famine but the prevalence of diseases that can produce oedema increases with age, so this needs to be taken into account when assessing whether a patient has non-nutritional oedema. Adults presenting with oedema should be referred to a clinician who is able to make this differentiation. Patients with severe famine oedema and a high BMI often have a poorer prognosis than those without oedema but lower BMI.¹³⁸

Correcting BMI for sitting height (Cormic Index)

BMI is determined by nutritional status but also by other factors of which the most important is the body shape, in particular the ratio of leg-length to trunk-length, sometimes called the sitting-height to standing height ratio (SH/S) or the Cormic Index. It varies widely both between populations and within populations,¹³⁹ and can have a considerable influence on BMI, equivalent, at the extremes of the range, to a variation of over 6kg/m². Sitting height can be measured by sitting the person on a straight-backed chair with a height board strapped to the back. The measurement is then used to correct BMI by applying a correction factor (Norgan's correction) based on a linear regression model.¹⁴⁰

Comparisons of nutritional status using BMI between different populations can be made by applying a correction factor

¹³⁶ Navarro-Colorado C, 2006 Adult malnutrition in emergencies: an overview of diagnosis and treatment. Field guidelines. Action Contre la Faim, version 3.

¹³⁷ Collins S, Duffield A, and Myatt M, 2000. Adults: assessment of nutritional status in emergency-affected populations. ACC/SCN. July.

¹³⁸ Collins S, 1995. The limits of human adaptation to starvation. *Natural Medicine*: 1 (8); 810-814.

¹³⁹ Collins S, Duffield A, and Myatt M, 2000. Adults: assessment of nutritional status in emergency-affected populations. ACC/SCN. July.

¹⁴⁰ Collins et al, 2000. See Box 1, page 4.

Box 16: Age-related changes in body composition

- Loss of muscle mass with advancing age (called sarcopenia);
- Increase in body fat, especially internally;
- Redistribution of fat from limbs to trunk;
- Decrease in body water;
- Muscle tissue replaced by intramuscular fat (marbling); and
- Changes in the compressibility and elasticity of skin.

based upon the mean Cormic Index for each population, see **Box 15**. Follow-up surveys for the comparison of within-population data will not require this correction. If BMI is used to assess an individual's nutritional status, then the estimation of the individual's Cormic Index should also be used as a correction factor. Without this correction, the sensitivity and specificity of BMI as a screening indicator may be low.

There is a difference of opinion over whether or not it is appropriate or feasible to use sitting height and the Cormic Index correction for calculation of BMI in emergencies. The argument against is that, during emergencies, and especially at the peak of a famine, when there are large numbers of people competing for relatively scarce resources, there is almost never sufficient time or staff to perform this standardisation, rendering BMI an inappropriate indicator to use for assessment at either population, or individual screening, levels in an emergency, **so MUAC is preferred**¹⁴¹ (See **Table 10** above on MUAC). However, the 2001 Expert Group meeting on nutrition in older people in emergencies¹⁴² supported the use of *sitting-height: standing-height* in emergencies. They argued that, just as there was initial resistance to the measuring of weight and height for children and the calculation of Z scores, the resistance to the complex Cormic Index adjustment of BMI could be overcome once personnel are fully trained and computerised techniques become available.

Body composition changes with ageing

Ageing is associated with many changes in body composition, which affect the measurement and interpretation of nutritional status of older people, as shown in **Box 16**.

In young adults, BMI, highly correlated with the fat mass of the body, is a reasonably good index of the body energy stores

as fat and, in some age groups, is highly correlated with *fat-free mass*. Low BMI reflects a low body energy store and a low fat-free mass (FFM) or lean body mass (LBM) for a given stature. Thus BMI appears to be a plausible choice for the anthropometric assessment of nutritional status in adults for epidemiological studies.¹⁴³ However, BMI is also influenced by declining bone mass and changes in the hydration of the fat-free body with age.

These changes are still poorly understood but it is acknowledged that they will limit the specificity of BMI with age among normal individuals compared to those with disease. Body composition studies have also shown that BMI can overestimate body fat in older people because of the higher proportion of internal fat than in younger adults.¹⁴⁴ There are reports of BMI failing to change when weight or FFM fall at the same time.¹⁴⁵ So the use of BMI cut-offs as health indicators in older people has also been questioned. A comparative study of low BMI and morbidity among adults in the Philippines¹⁴⁶ reported that the threshold at which morbidity begins to rise is generally not consistent with the accepted cut-off for BMI at 18.5kg/m² (see **Table 11**).

The measurement of BMI is not entirely appropriate on its own for assessing individual undernourished adults for entry into feeding programmes: the presence of famine oedema, and the *sitting-height: standing-height* ratio for the population in question, first need to be accounted for.

Figure 6 below is a flow chart for the assessment of, and interventions for, acute malnutrition and stable malnutrition in adults without oedema, taken from ACF's Technical Guidelines on Adult Malnutrition.¹⁴⁷ Note it is based on BMI cut-offs, and does not include MUAC.

¹⁴¹ Collins S, Duffield A, and Myatt M, 2000. Adults: assessment of nutritional status in emergency-affected populations. ACC/SCN. July.

¹⁴² SCC/SCN 2001. 31st Session: Report of the Working Group on Nutrition in Emergencies.

¹⁴³ Shetty P and James W, 1994. Body Mass Index: a measure of chronic energy deficiency in adults. UN FAO, Nutrition Paper 56, Rome.

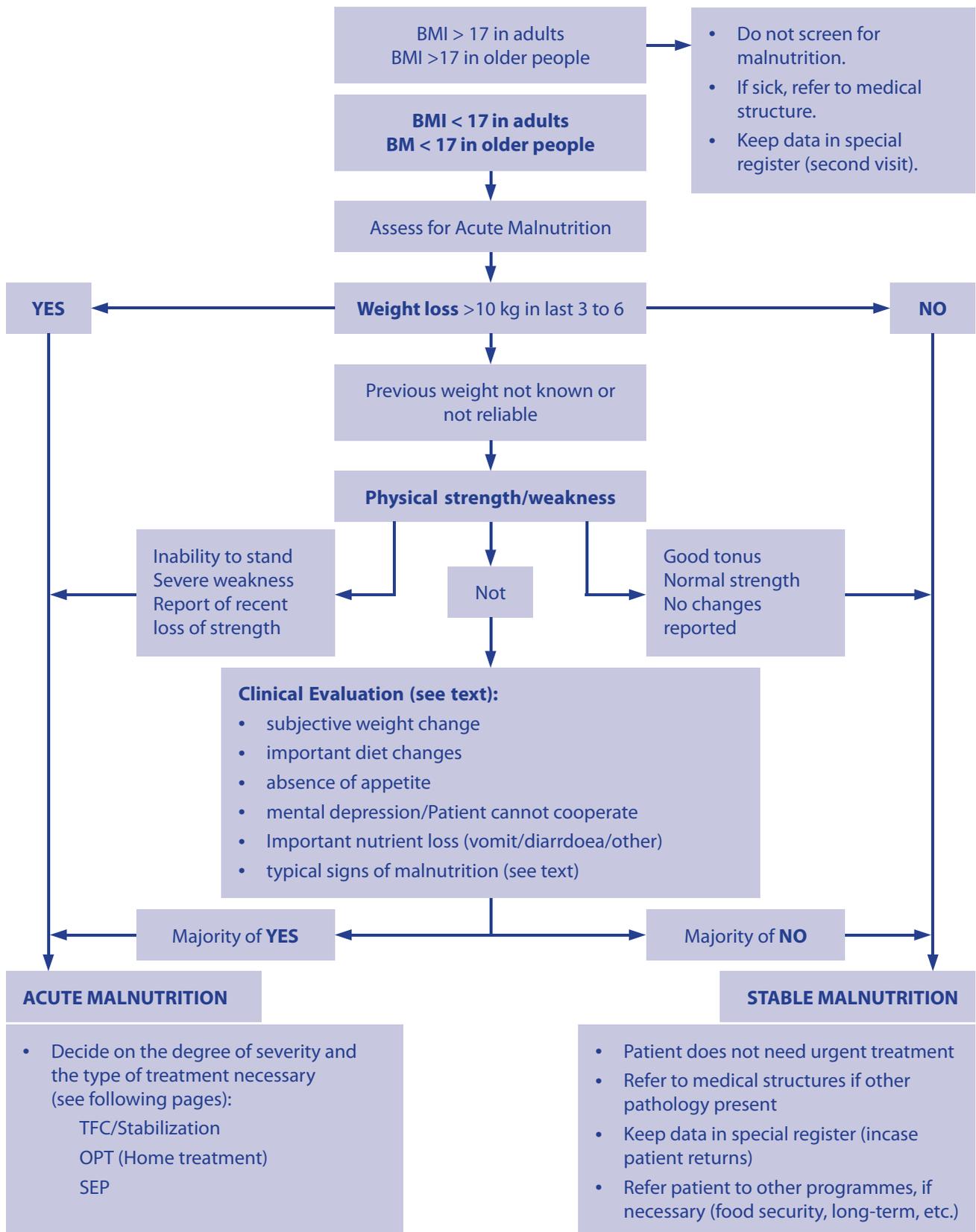
¹⁴⁴ Deurenberg P, van der Kooy K, Hulshof T and Evers P, 1989. Body mass index as a measure of fatness in the elderly. *European Journal of Clinical Nutrition* 43 (4): 231-6.

¹⁴⁵ Chumlea W, Guo S, Vellas B and Guigoz Y, 1997. Assessing body composition and sarcopenia with anthropometry. In: *Nutrition personnes agees* (Colloque Internationale) CERIN Symposium, Paris. 6-7 December.

¹⁴⁶ Garcia M and Kennedy E, 1994. Nutrition and health of the elderly in five selected baranuays in the Philippines. *Nutrition Research* 2: 545-60.

¹⁴⁷ Navarro-Colorado C, 2006. Adult malnutrition in emergencies: an overview of diagnosis and treatment. Field Guidelines. ACF, version 3.

Figure 6: Flow chart for dealing with acute malnutrition and stable malnutrition in adults without oedema



Source: Navarro-Colorado, 2006. Adult malnutrition in emergencies: an overview of diagnosis and treatment. Field guidelines. Action Contre la Faim, version 3 (page 31).

Box 17: What is functional ability?

Functional ability has been defined as “the ability to perform basic activities of daily life (ADLs) without support which is the key to overall independence and quality of life”. It involves ordinary activities and self-maintenance (transferring from bed or off the floor, getting dressed, using the toilet, self-bathing and level of continence).

ADL performance has been shown to decline with age, and to be associated with levels of physical disability, mobility, flexibility, strength and physical activity. If undernutrition compromises functioning to the point that older people cannot fully care for themselves then the burden on the family and the community as a whole will be substantial. Moreover, if nutritional status proves to be a correctable source of maintaining and postponing, for as long as possible, functional ability decline amongst older people, then early nutrition interventions may have considerable beneficial impact for all concerned.

Source: Manandhar, MC. (1995). Functional ability and nutritional status of free_living elderly people. *Proceedings of the Nutrition Society*, 54, 677_691.

The relationship between nutrition and functional outcomes

The usefulness of any anthropometric indicator for nutritional status lies in its ability to identify and predict those at risk in terms of an important functional health outcome, giving it validity as a screening, assessment and monitoring tool. Without that prediction ability, the nutrition indicator is just a number, and any cut-off chosen for it will be a purely arbitrary choice of no functional relevance.

With infants and young children, the outcome of functional significance is mortality. However, with older people, the risk of death becomes increasingly likely with age, and the long- and short-term causes and effects of disease, diet and lifestyle are hard to disentangle from the onset of an emergency. Their nutritional outcomes are complicated by the accumulated level of their exposure to disease and illness throughout their life, together with known behavioural indicators that relate to mortality such as smoking, alcohol and drug use, and physical activity, as well as initial birth weight.

With older people, there is a complex and confounding relationship between anthropometric measurements, nutritional status, body composition and morbidity and mortality. Adults also tolerate a loss of a higher proportion of their body mass than do children. So in the absence of growth, and with mortality and morbidity outcomes overly confounded by other variables, **functional ability is emerging as the most relevant outcome against which to measure nutritional status in older people, see Box 17.**

One of the most important factors limiting independence in functional ability is **muscle weakness**. Many of the ADLs

involve mobility and strength, with muscle contractions being the basis for movement. Ageing is associated with decreases in muscle mass, muscle strength and muscle power, with muscle strength declining at a higher rate than muscle mass, but at a lower rate than muscle power. From research in developed countries, it is thought that, by age 70, muscle strength is about 35-40% lower than its peak value in youth, although this decline varies according to activity levels, muscle group and gender. As limb circumference measurements of MUAC (and calf circumference) are sensitive indicators of the loss of muscle mass in older people, they are appropriate measurements to take in nutritional assessment.

A major constraint to our understanding of the relationship between nutritional status and functional ability as an appropriate outcome indicator is that data on both themes for older people in low to middle income countries are scarce. During the 1990's, a research partnership between the London School of Hygiene and Tropical Medicine and HelpAge in various sites in low to middle income countries explored the relationship between anthropometric measurements and functional ability tests, including handgrip strength among community-living populations of poor older people (aged 50-96 years). **As expected, MUAC was found to be a more powerful predictor of impaired handgrip strength and mobility than BMI.**

Other research has also investigated the relationship between handgrip strength, BMI and arm muscle measurements in community-living young and older adults in Australia,¹⁴⁸ India (older female labourers)¹⁴⁹ and Nigeria.¹⁵⁰ However, much has to be inferred from studies based on adults and older people living in the developed world. Their relevance in humanitarian emergency situations is even more problematic.

¹⁴⁸ Massy-Westropp N, Gill T, Taylor A, Bohannon R and Hill C, 2011. Hand Grip Strength: age and gender stratified normative data in a population-based study. *BMC Research Notes* 4:127. <http://www.biomedcentral.com/1756-0500/4/127>

¹⁴⁹ Koley S and Kaur N, 2009. A study on handgrip strength and some anthropometric variables in younger and older female labourers of Jalandhar, Punjab, India. *The Internet Journal of Biological Anthropology*: 3 (2).

¹⁵⁰ Adedoyin R, Ogundapo F, Mbada C et al, 2009. Reference values for handgrip strength among healthy adults in Nigeria. *Hong Kong Physiotherapy Journal*: 27 (1): 21-29.

Box 18: Anthropometric and vulnerability criteria used in Ethiopia, 2000

Agencies have faced many challenges when including older people in targeted SFPs. HelpAge Ethiopia found that BMI measurements were problematic as different ethnic groups had different sitting:standing height ratios, while MUAC cut-offs recommended at the time were found to be very low and had to be adjusted.

Oxfam working in Bolosso Sore, Ethiopia, in 2000 enrolled over 200 older people (over 50 years old) in their SFP. The criteria used for selection was MUAC <18.5cm and >16.0cm. Almost all (98%) of those admitted were female – mostly widows without access to land. Many had lost their community support networks and had no relatives nearby to support them. Their nutritional problems were compounded by poor use of food and chronic illness.

Forms of welfare in Ethiopia at the time, such as the employment generation scheme, were not available to them as many were displaced. In this case, anthropometric indices as well as vulnerability criteria could have been appropriate to define the target group.

Source: Borrell A (2001). Addressing the needs of older people in emergency situations. Ideas for Action. *Field Exchange* 12 p.3.

Box 19: Recommendations to agencies for assisting older people in emergencies

- Make older people visible in research, planning and implementation of humanitarian and emergency relief responses, ensuring that they are given equal recognition as a vulnerable group, and that their specific needs are met.
- Ensure that data collection in times of humanitarian crisis assesses the needs of all vulnerable groups, is disaggregated by age and sex, and includes older age groups.
- Ensure that programme staff are familiar with the UN IASC Guidelines: *Humanitarian Action and Older Persons: an essential brief for humanitarian actors* (2008).
- Make preparations for the growth in the number of older people living in countries that are vulnerable to humanitarian emergencies.

Source: HelpAge and Age UK (2011): On the edge. Why older people's needs are not being met in humanitarian emergencies.

What to use in emergencies?

Table 8 at the beginning of this section summarised the broad variety of methods available to assess nutritional status and vulnerability among older people. Guidelines on these for older people in emergency situations are still scarce, and those few that do exist^{151,152} have not been fully evaluated. It is also unclear to what extent those that refer specifically to older people^{153,154} are known and have been applied.

Whilst there are statements above regarding MUAC as a preferred method to ascertain older nutritional status in an emergency, it is important to point out that that in the section of this module related to existing challenges, further research on MUAC normative guidance including the relationship between MUAC cut-off points and functional outcomes, is recommended.

Box 18 presents an example of some of the assessment and contextual issues covered in this section.

Interventions and responses to address undernutrition in older people

The previous section has discussed assessment methods and the value of these indicators in their relationship with outcomes of functional importance for older people. This section presents the interventions appropriate for humanitarian responses to undernutrition in older people. It is based largely on the guidelines produced by HelpAge and by ACF, and also incorporates material on non-food interventions.

A broad range of intervention responses will be necessary to tackle all the different determinants of undernutrition and vulnerability in this population group: see Table 13.

¹⁵¹ Navarro-Colorado C, 2006. Adult malnutrition in emergencies: an overview of diagnosis and treatment. Field Guidelines. ACF, version 3.

¹⁵² Collins S, Duffield A, and Myatt M, 2000. Adults: assessment of nutritional status in emergency-affected populations. ACC/SCN. July.

¹⁵³ Borrell A, 2001. Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International Africa Regional Development Centre. Nairobi.

¹⁵⁴ Ismail S and Manandhar M, 1999. Better nutrition for older people: assessment and action. Joint publication of HelpAge International and the London School of Hygiene and Tropical Medicine.

Table 13: Key cluster issues for interventions for older people in humanitarian response

Cluster	Key humanitarian requirements
Food Security and Nutrition	<ul style="list-style-type: none"> • Older persons have access to food distribution points and are able to carry rations for long distances. • Older persons' access to appropriate nutritious foods is guaranteed. • Older persons' inclusion in nutritional assessments and monitoring is guaranteed. • Older people are screened and have access to treatment of moderate and severe acute malnutrition. • Older people have access to micronutrient malnutrition control and treatment interventions. • Older women's role in IYCF practices is emphasized.
Health	<ul style="list-style-type: none"> • Older persons have access to all health services and disability aids they need. • Medications for chronic diseases are included in emergency health kits. • Staff attitudes, skills, training on older persons' health issues are ascertained. • Data disaggregated by age and sex are collected to determine the number and specific needs of older persons.
Water, Sanitation and Hygiene	<ul style="list-style-type: none"> • Appropriate water carrying containers are provided to older persons (max 10l). • Latrines designed in such a way that older persons can use them e.g. handrails. • Older women's role in hygiene promotion is emphasized. • Distribution of hygiene kits?
Shelter	<ul style="list-style-type: none"> • Assistance with early warning and evacuation to safe places is provided. • Particular attention for the ill and disabled is ensured, e.g. provision of mattresses, warm blankets and clothing. • Assistance is provided to older persons to construct shelter if they are without family support. • Consultation of older persons on cultural practices and privacy is guaranteed.
Camp coordination and management	<ul style="list-style-type: none"> • Identification of housebound, vulnerable older persons is guaranteed as is assistance with replacing or accessing relevant documentation. • Inclusion of age/sex disaggregated data in camp population figures is ensured.
Early Recovery	<ul style="list-style-type: none"> • Livelihood programmes target older persons, particularly those who are alone or caring for children. • Return programmes take into account the needs of older persons.
Protection	<ul style="list-style-type: none"> • All data are disaggregated by sex and age to determine the numbers and kind of protection needed. • Older persons' involvement in decision-making, and in humanitarian prevention and response activities is facilitated. • The protection of older persons left without caretakers is ensured. • Older displaced persons are included in tracing and re-unification activities • Protection strategies include: <ul style="list-style-type: none"> ◦ older persons caring for young children/persons with disabilities; ◦ addressing abuse of older persons and older women as victims of gender-based violence and sexual abuse; and ◦ land/property rights for women, in particular for widows.

Source: IASC, 2008. Humanitarian action and older persons: an essential brief for humanitarian actors.

Table 14: Summary of non-food and food interventions for older people in emergencies

Rationale for intervention	Type	Activity
Prevent undernutrition, and/or Prevent deterioration of stable malnutrition	Food	<ul style="list-style-type: none"> • General Food Distribution (GFD) and food ration • Blanket Supplementary Feeding • Micronutrient interventions (e.g. fortification)
	Non-food	<ul style="list-style-type: none"> • Income/livelihood supports, e.g. cash transfers • Social supports to reduce vulnerability and risk • Health support e.g. clean water and sanitation • Shelter and equipment • Community Support Programme (CSP)
Treat moderate and severe acute malnutrition <i>(MUAC screening inclusion/ discharge criteria -see Table 16)</i>	Food	<ul style="list-style-type: none"> • Targeted Supplementary Feeding • Community Management of Acute Malnutrition (CMAM) with food aid commodities (RUTF, RUSF, F75, F-100, fortified biscuits), stabilisation centre, outpatient therapeutic care, community involvement and home visiting. • Treatment of micronutrient deficiency diseases (using oral supplement tablet or capsule, new micronutrient powders approach)
	Non-food	<ul style="list-style-type: none"> • Medical check-ups and inpatient care • Community Support Programme (CSP)

Source: based on HTP Module 1, pages 34-38; UNHCR 2011; and Borell A, 2001. Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International Africa Regional Development Centre. Nairobi.

Interventions for infants, young children and mothers in complex emergencies and refugee situations¹⁵⁵ are well documented (refer to HTP modules). However there are almost no documented experiences of planning, applying and evaluating nutrition interventions for older people. As stated in the 4th Report on the World Nutrition Situation, we have little idea of what works, nor do we even know if their nutritional status can be improved, or if such improvement would lead to better functional ability. Operational research in these areas is needed to fulfil the right of older adults to adequate nutrition.

Box 19 summarises key recommendations made by HelpAge to agencies to underpin the process of planning and implementing interventions for older people in emergencies. They lay important foundations for the implementation of all non-food and food-based interventions.

Because the causes of undernutrition in older people and the determinants of their nutritional vulnerability are complex, a simple 'one-size-fits all' approach to interventions will not suffice. Table 13 below lists some of the key issues faced by the various clusters for interventions for older people in emergencies.

Studies by HelpAge have shown that shelter, food, health and livelihoods are the most critical needs for older people in an emergency. So any intervention for this population group should be implemented in coordination with other clusters such as the Health, Water, Sanitation and Hygiene (WASH) and Food Security Clusters. NGO partners and local government networks will need to link older people to a range of services and supports. Promoting partnerships and sharing resources and expertise among agencies will also allow gaps to be identified and a greater number of older people to be assisted.

Multiple vulnerabilities may need to be considered. For example, many older people care for children or people with disabilities. A large proportion of older people are women, who are heads of households. Older people may have disabilities. Older people also have particular nutritional, physiological, social, cultural and health needs that will often not be met by food, and a general food distribution alone.

Table 14 below summarises the variety of food and non-food interventions needed to prevent and treat undernutrition in older people in emergencies. Interventions to support caring and social networks for socially vulnerable groups of older

¹⁵⁵ Toole MJ and Waldman RJ, 1997. The public health aspects of complex emergencies and refugee situations. *Anne Rev Public Health*: 18; 283-312.

TECHNICAL NOTES

people will be as important as interventions to prevent and alleviate malnutrition.

Some practical considerations are relevant for interventions including older people:¹⁵⁶

- **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. Efforts should be made to provide appropriate bed facilities that offer adequate comfort for the patient. Adequate space and privacy should be provided, with separate wards for women and men.
- **Older people who are too weak to be weighed:** For purposes of monitoring, weight need only be taken once they are strong enough to stand. 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 responsibility for young children (e.g. if parents have died or fled). If other family members or older siblings are absent, young children will need to be taken care of, especially if the older carer has to be admitted in a stabilisation centre.
- **Decision-making and management of patients with chronic illness:** It may be clear on admission if an older person is suffering from a chronic illness. However, sometimes this may only become evident after several weeks when the person fails to show signs of recovery, including weight gain. Where health services exist for diagnosis and treatment of chronic illness (e.g. TB, HIV/AIDS) patients should be referred to these facilities. However, in emergencies, these services are not always available. In this situation, providing support and care in the community is more appropriate when applicable. Following an individual case-assessment and consultation with family and/or carer, the patient should be referred into a 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 stabilisation centre. Older people may prefer to die in their own home 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.

- **Being active** aids digestive functions, and this is particularly relevant for older people in emergencies who are suddenly no longer engaged in their normal routines and physical activities. As part of the general approach to the care and well-being of older people in emergencies, it is important to keep older people active, as much as it is possible. For example, during the floods of 2010, HelpAge International's Pakistan Programme introduced daily walks and collective exercises into Older People's meetings to increase digestion, mobility, social interaction and improve general health.¹⁵⁷

Non-food interventions

Non-food interventions for older people during emergencies include income generating and livelihood activities, cash transfers, psychosocial support, social activities, and health promotion and education. The value of these non-food interventions to older people should not be underestimated, and equal attention should be given.

Income and livelihoods

A household's livelihood is secure when it can cope with and recover from shocks, and maintain or enhance its capabilities and productive assets.¹⁵⁸ As outlined at the beginning of this module, many older people continue to work into advanced age and contribute actively to the household income, so they should not be left out of livelihood interventions to reduce food insecurity during emergencies.

Once families become destitute, 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. Keeping older people actively involved in income generation will have multiple advantages.

Conditional and unconditional **cash transfers** are becoming an increasing component in humanitarian relief situations. However, their use among older people is often restricted to specialist agencies like HelpAge. They are a regular component of HelpAge's programmes on the grounds that the chronically vulnerable (sick, older people, disabled) usually need a separate safety net of direct food or cash distribution.¹⁵⁹

Box 20 below gives an example from Pakistan during which Older People Associations (OPAs) were established. They aimed to assist in integrating older people, enhancing networking, as well as promoting experience sharing and learning. OPAs

¹⁵⁶ Borrel A, 2011. Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International Africa Regional Development Centre. Nairobi.

¹⁵⁷ HelpAge Pakistan Policy Programme Policy Brief. Lessons learned Response to 2010 Floods.

¹⁵⁸ SPHERE, p 145.

¹⁵⁹ Beales C, 2011. Ageways: February; p.5.

Box 20: Use of cash grants for older people during the Pakistan floods, 2010

HelpAge International's Pakistan programme set up a Community Revolving Fund (CRF) in an effort to provide access to credit for older people. Financial institutions were reluctant to provide credit facilities for people over 50 years old, even those that were physically active, leaving them with little opportunities for accessing loans. CRF had a zero interest rate credit facility at the doorstep, increasing older people's options in taking initiatives that required capital.

With low levels of management skills for operating a micro-credit scheme, older people needed technical assistance on how to manage this money, and to ensure that the money was not diverted or used by people other than the intended beneficiaries.

Older people were made the custodians of this credit facility, and ownership of the process was high. HelpAge extended unconditional grants to the selected flood affected older people to help re-establish their basic life and fulfil their needs.

This was coupled with the conditional grants, which helped the older people in establishing businesses or fulfilling other agreed needs. These grants included: Noted Medication Assistance Grant, Food Purchase Grant, Shelter Construction Grant, Livelihood Assistance Grant (for purchase of goats, sheep, chicken flock).

Source: HelpAge International Pakistan. HelpAge Policy Brief: Lessons learned, response to Pakistan floods. HelpAge Pakistan Programme (2010).

advocated on behalf of older people and did training in financial management, project management and report writing.

In the planning of a livelihood intervention, it is important to consult older people to provide appropriate space for livelihood activities close to their shelters. Because of mobility problems, many older people prefer to set up small stores in front of their homes.

Shelter (including food distribution and health centres)

Shelter, including facilities to collect, prepare and cook food, are a vital component for meeting the physical, nutritional and emotional needs of older people in an emergency. Older people are physiologically more vulnerable to extreme temperatures of heat and cold. The loss of their homes with the onset of a crisis can have profound emotional effects.

A number of practical aspects of shelter should be considered during interventions targeting older people, including:

- **Ramps:** when building shelters and stores for livelihood activities and holding community meetings, ramps make access easier for older and disabled people (and pregnant women with children). Ramps with non-slip grips and no gaps will reduce the chance of crutches or walking sticks becoming stuck;
- **Lay-out and design:** involve older people to make sure they are age-friendly and culturally acceptable;
- **Lights:** ensure that light switches and electrical sockets are at a height that everyone can reach (between 45cm and 120cm from the floor);
- **Toilets and kitchens:** should be located where older people can access them easily. Entrance to toilets and kitchens should be kept clear. There should be adequate lighting for people to access at night;

- **Location and allocation:** decisions on the location and allocation of distribution points, supply depots, feeding centres, shelters should take into account levels of mobility and vulnerability. Older people prefer to live near facilities such as water sources, markets and health centres. With temporary and transitional shelters, older people should be allocated shelters that are close to toilets, health centres, feeding centres, cyclone shelters or other community centres and distribution points;
- **Safety and fall prevention:** non-slip floors, handrails on ramps and stairs, and grab bars in toilets can improve safety and prevent falls. Indicate changes in elevation, such as steps or slopes, by signs or colours;
- **Seasonal weather:** ensure that priority items such as winterisation kits containing blankets are distributed in good time. Weather-proofing or making shelters safe from flooding is also crucial to ensuring people's safety; and
- **Adaptation and flexibility:** providing gutters to harvest rain water from the roof, plus chlorination tablets, gives people access to water for drinking, cooking and washing without having to carry it far; provide adequate lighting, including natural light, into shelters helps to compensate for older people with poor eyesight and makes shelters more comfortable, cooking and other tasks easier.

Psychosocial support interventions

Appropriate psychological care should be provided for older people with symptoms of mental illness, such as depression or post-traumatic stress. Psychosocial assessment and treatment of older people, particularly those who are caring for young children and pregnant and lactating women, are frequently needed. They can positively impact on nutritional intake, food behaviours, appetite and ultimately nutritional status; see examples in **Box 21** and **Box 22**.

Box 21: Social and economic support to older people through OPAs, Haiti (See also Part 3: Trainer's Guide, Case study 6)

In Haiti, HelpAge International established Older People Associations (OPAs) in displaced camps and communes immediately after the earthquake. These OPAs aimed to involve older people in community activities such as home visiting, disaster risk reduction, livelihood and income generating activities, and social inclusion. They also aimed to strengthen representation of older people in the community and defend their rights. HelpAge provided each OPA with a small functioning budget (to be maintained through income generating activities) and with media equipment (TV, DVD, CD players) for each community centre.

Anecdotal evidence reveals the following initiatives and actions resulting from these OPAs:

- Croix des Bouquets: successful advocacy for the integration of older people in a cash for work activity.
- Croix des Bouquets: dismissal of a camp committee that was not working for the well-being of camp residents.
- Jacmel: created a cash box for members' contributions from which they were able to support members with their problems (e.g. covered funeral fees for one member).
- Petion-Ville: started a literacy programme and, in RSS camp, replicated a training programme on hygiene promotion to prevent cholera. Evidence of a more vocal demanding of rights.
- Petit-Goâve: OPA set up at the communal section level.
- In two camps (Marassa 14, Theatre National), OPA members joined the camp committee.
- Two health centres (Eliazar Germain in Petion-Ville, Memphis Medical Mission in Croix des Bouquets) opened up special lines for older people as a new good practice.
- Increased socialisation of older people, through games sessions and media club.

Source: HelpAge International, 2012.

Box 22: Example of a psychosocial-income generation intervention for displaced older people in Congo

The IDP camp of Mugunga III in eastern DRC, is home to around two thousand people originally from North Kivu who have been displaced due to the on-going violence and conflict in the region. The residents of Mugunga III have been victims of human rights violations such as physical and sexual violence, and as a consequence have suffered severe physical and psychological illnesses, and mental trauma.

HelpAge has been reaching out to this affected displaced population through a programme of social integration and income generation using rabbits. One hundred people psychologically traumatised by the on-going conflict are participating in the project, including 35 older people. The project is a rabbit-rearing programme run by a local psychologist. It is quite different from other forms of income generation. The aim of the project is to provide income and to support older people, severely affected by different forms of mental and physical trauma, using animal assisted therapy. Caring for the animal breaks down their barriers to society and gives them an activity, allowing them to take steps towards improving their mental health. In addition to psychosocial support, the project has also given older people the opportunity to gain a source of income.

Source: HelpAge, February 2012.

Appropriate activities include:

- Supporting groups for older people; and
- Ensuring neutral community spaces where elders can meet for conflict resolution or social and cultural activities.

Information and communication on all aspects of the humanitarian intervention response needs to be inclusive of, and appropriate for, older people (see HTP Module 19: Working with communities).

A caring approach is particularly important when assessing and responding to undernutrition in older people in emergencies. The following principles should be reflected in all activities of the programme and be addressed in 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 open to learning new behaviours.

Box 23: Medical and micronutrient treatment used in therapeutic supplementary feeding for people in Juba, Sudan: 2000

All adults and older persons received systematic treatment, which included Vitamin A (in post-menopausal women), folic acid, amoxicillin, mebendazole, ferrous sulphate and chloroquine.

They were seen daily by a medical assistant in Phase 1 to assess and follow up on their underlying medical problems. In Phases 2 and 3, older adults were attended to once every two days. For those whose condition was deteriorating, reviews were increased to once a day until their condition improved. Specific treatment was given according to diagnosis.

During the treatment, health education relating to the prevention and management of malnutrition was imparted to the beneficiaries on a daily basis.

Source: Action Contre La Faim (ACF) and HelpAge in Juba, 2004. Case study of supplementary selective feeding programmes by ACF and HelpAge in Juba. In: HelpAge International Africa Regional Development Centre. Summary of research findings on the nutritional status and risk factors for vulnerability of older people in Africa. pp 58-61. April: Nairobi.

- **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 a feeding 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, so carers and health/community workers should be sensitive to their needs. Older persons should also be encouraged and given support to maintain some physical mobility while in the feeding centre. Those who are bed-ridden will need assistance to turn over or be moved regularly to prevent bedsores.
 - **Burial arrangements:** death due to old age or failure to recover may be relatively common. If older people have no family support, it may be necessary to support burial arrangements for the deceased.
- ing the “Management of Severe Malnutrition: a manual for physicians and senior health workers” (WHO 1999). In summary, following a thorough medical and nutritional history, the following clinical outcomes should be systematically addressed: dehydration; hypoglycaemia; hypothermia; infections; iron deficiency and anaemia; Vitamin A and B deficiencies; intestinal parasites.
- More information can be found in HTP Module 15. An example of a combination of medical and micronutrient treatment for older people is given in **Box 23**.

Older people living with HIV and AIDS¹⁶⁰

Dietary interventions as part of care and support for older people living with HIV and AIDS (PLHIV) will need specialist advice. A therapeutic high-energy diet may be appropriate for older PLHIV, whether or not they are on ART. Hypoglycaemia is common in older people with or without HIV. It is important to establish whether the condition is present in PLHIV because of the following nutritional considerations:

- Quantity and timing of food and drinks containing carbohydrates;
- Timing of meals in relation to medication; and
- Effects of alcohol on hypoglycaemia.

Older people are at greater risk of dehydration. PLHIV with diabetes may be at high risk of dehydration. These people should be monitored and provided with fluids and treatment modified to limit symptoms of hypoglycaemia.

Health interventions

Medical complications are common in older people. In particular, dehydration and chronic illnesses will hinder the nutritional rehabilitation process if they are not addressed. Access and referral to medical facilities for diagnosis and treatment is essential. Descriptions of medical protocols in therapeutic feeding programmes can be found in other references, includ-

Interventions to improve food security for older people in emergencies

This section summarises the issues related to food security for older people according to four components: availability, access, consumption and utilisation (The Sphere Project 2011, page 145).

¹⁶⁰ Ministry of Health, Zambia, 2011. Nutrition guidelines for care and support of people living with HIV and AIDS. February.

Availability:

This refers to the quantity, quality and seasonality of the food supply in disaster-affected areas. It includes local sources of product (agriculture, livestock, fisheries, and wild foods) and foods imported by traders, government and agencies interventions can affect availability). Local markets are able to deliver food.

Interventions for older people should ensure:

- **Ensuring non-discrimination** by age (and with other co-grounds such as gender) and impartiality in fulfilling older people's right to receive humanitarian assistance.
- **Involvement of older people in assessing the food supply context** and drawing on their knowledge and expertise of climatic conditions, markets, agriculture, seasonality, livestock, fishing and wild foods.

Access

This refers to the capacity of a household to safely procure sufficient food to satisfy the nutritional needs of ALL its members. It measures the household's ability to acquire available food through a combination of home production and stocks, purchases, barter, gifts, borrowing or food, cash and/or voucher transfers.

Interventions for older people should ensure:

- **Inclusion of older people** as a target group for non-food and food interventions, including participation in vulnerability mapping, assessments, planning and monitoring.
- **The design of food distributions** in emergencies often results in poor access to food rations by older people. Design factors can increase the risk of the elderly suffering from inadequate food intakes: an inadequate needs assessment and poor physical access to the ration. For example, during the Pakistan flood emergency in 2010, HelpAge recommended age to be considered when designing food packages, so that they could be easily divided according to the age group of the beneficiaries.¹⁶¹
- **Addressing distances to collection points:** in centralised food distributions, the distances are often too long for many sick and frail older people. 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 sacks of grain and other non-food items; forcing their sale at nearby markets. Decentralisation of distribution sites and more frequent distributions to reduce weight are recommended.

- **Improving queuing** systems at distributions sites. These seldom prioritise older people, who may be physically weaker than other population groups. Provide shelter, seats, hand holds and smaller jerry cans for carrying (e.g. 10 litres capacity, not 20).
- **Checking for who is absent:** older people may be too weak to get to information meetings about entitlements and food distribution, or too busy caring for sick children or partners. They may also exclude themselves from social gatherings because of depression or psychological trauma.

Consumption

This reflects the energy and nutrient intake of individuals in the households (not normally measured). A proxy for this can be changes in the number of meals consumed before and after a disaster. This can be a simple, yet revealing, indicator of food security. The number of food groups consumed by an individual or household and frequency of consumption over a given reference period reflect dietary diversity.

Interventions for older people should ensure:

- **Checking the Dietary Diversity Score** (see HTP Module 6). However, the dietary diversity score is only a rough indicator: many inadequate rations pass this, but would fail in terms of nutrient density for older people's requirements.
- **Checking the Nutrient Density** of the general ration using proper software with an integrated food composition table (see HTP Module 4). Nutrient density is very important for older people given their lower energy requirements. Micronutrient requirements can stay the same, or in some cases increasing. Underweight or malnourished older adults need protein and energy-dense snacks such as hard-boiled eggs, tuna fish and crackers, peanut butter on wheat toast and hearty soups. Drinking liquid nutritional formulas between meals can also boost energy and nutrient intakes.
- Taking into account cultural norms of **intra-household food distribution**, such as cultural and religious food taboos and self-abstinence by older people.
- Taking into account **household behaviours** that are coping strategies to deal with change, such as the preferential feeding of younger members.

Utilisation (and acceptability)

Refers to a household's use of the food to which it has access, including storage, processing and preparation, and distribution within the household. It also refers to an individual's ability to absorb and metabolise nutrients, which can be affected by disease and malnutrition.

¹⁶¹ HelpAge Pakistan Programme, Policy Brief: Lessons learned Response to 2010 Floods.

Box 24: Some examples of inadequate foods for older people

In 1994, pastoralists in Turkana, northern Kenya, complained of severe bloating and discomfort after consuming inadequately cooked whole grain maize and beans that they were unfamiliar with.

During an ACF-run therapeutic supplementary feeding that included older people in Juba, Sudan (2000), the number of older people defaulting was 5.4%, which was considered to be satisfactory.¹⁶² The main reason given for defaulting was the preference for special solid food instead of the formula diet (i.e. milk).

Box 25: UNHCR/HelpAge International 2000. Guidelines for good practice in addressing the special food needs of older people in disasters and humanitarian crises

- ✓ Provide food that is digestible for older people (such as maize flour rather than whole grain maize), and that takes account of digestive disorders and a common lack of teeth.
- ✓ Food should be familiar and culturally acceptable.
- ✓ Provide support for feeding programmes to enable the inclusion of older people.
- ✓ Ensure that food for work programmes do not exclude older people.
- ✓ Ensure that older people have the resources, such as fuel, water and utensils, to cook their food ration.
- ✓ Ensure utensils available to older people are manageable; smaller cooking pots or even two smaller water containers rather than one large one (e.g. 10 litre capacity rather than 20).
- ✓ Link older people with supporting families for joint preparation of meals.
- ✓ Understand the particular risk factors and issues affecting the nutritional status of older people.
- ✓ Ensure that older people have access to food distribution.

Interventions for older people should ensure that:

- Constraints in **food processing and preparation** such as milling are understood and overcome.
- Food is **appropriate for older people to chew** and digest because of problems with teeth, and conditions that affect the absorption of nutrients (e.g. atrophic gastritis).
- Age-related changes in **taste and smell** senses, which reduce the enjoyment of food, and affects appetite, are accounted for. Blended foods, moist, soft-textured, tender-cooked pureed foods and thickened liquids are often needed. Thickened liquids or pureed food are also needed to avoid *fausse route*,¹⁶³ a high mortality cause among older people when liquid enters the lungs.
- **Whole grain cereals and beans are often difficult to digest** for older people, and they are relatively difficult to prepare.
- Older people may find it more difficult than other age groups to adapt to **new and unfamiliar foods**. Some examples are presented in **Box 24**.
- Training on how to prepare and cook new and unfamiliar foods. Many older people may lack the knowledge and skills to prepare non-indigenous foods. Training on food preparation usually targets mothers and younger women. Older people require a greater extent of assistance and support.
- Creative and participatory food-related projects can contribute to nutrient intake as well as support cohesion and mental health among older people. For example, a seasonal food preservation project was initiated for IDPs in Kyrgyzstan in 2010.¹⁶⁴

Many of these food security interventions are reflected in HelpAge's Guiding Principles to address food needs are shown in **Box 25**.

Food-based interventions

Access to food and the maintenance of adequate nutritional status are critical determinants of people's survival in a disaster.¹⁶⁵ Often the parts of the population most affected are already chronically undernourished as the disaster hits, many of whom will be older people.

¹⁶² ACF's target is <15%.

¹⁶³ Food passes into the windpipe/lungs and not into stomach, dysphagia.

¹⁶⁴ Ageways, 2011. Feb, page 7.

¹⁶⁵ Sphere 2011.

Box 26: Suitable rations for older people

Theoretically, a well-planned general ration (GFD) is usually adequate for older persons. However, in practice, a number of other factors often result in the general ration not actually meeting the nutritional needs of this demographic group. Some of these factors include: poor physical access to the ration as a result of marginalization or isolation; poor digestibility, especially of whole-grain cereals; lack of motivation or inability to prepare foods; and poorer access to opportunities for supplementing the ration.

In emergency situations, these factors are exacerbated due to a general breakdown in normal family and community-support mechanisms. Older people need access to easily digestible micronutrient rich foods with family and community support for food preparation.

Energy requirements usually decrease in older people, but micronutrient requirements remain unchanged, therefore older people should have access to foods that are nutrient dense and of a high nutrient quality. Current standard GFD rations are often inadequate for older people and more attention should be placed on using fortified blended foods or possibly ready to use food designed for the prevention of malnutrition.

Food-based interventions aim to provide for the consumption of sufficient, safe and nutritious food that meets dietary needs and food preferences for different parts of the population.

The most recent guidelines for selective feeding interventions for the management of malnutrition in emergencies are available from UNHCR (Public Health and HIV section). While older adults are referred to in sections about food aid, the general distribution and supplementary feeding programmes, they are not referred to in terms of therapeutic feeding.

The first food-based intervention for older people will be their inclusion in the General Food Distribution. For more information on this, see HTP Module 11.

General Food Distribution

This section draws on information on targeting and the general food distribution provided in HTP Module 11 (see **Box 26**).

The initial reference value for planning 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 and can be increased based on specific requirements, or 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:

- Provide 2,100kcal per day;
- Protein should provide at least 10-20% of total energy;
- At least 17% of the energy should be provided in the form of fat; and

- The overall micronutrient content of the ration meets the needs of the whole population.

The nutrient content of the general ration is often inappropriate for older people since they need relatively more vitamins and minerals, and less energy, than do younger people (see Undernutrition section above). For example, the Vitamin B12 content of the general ration is poor and will not meet the particular nutrient requirement for older people. This vitamin is mostly available in animal foods. UNHCR acknowledges that nutritionally, food aid is sub-optimal and that, in the case of refugee populations, even greater constraints to achieving good nutrition exist, given that, in many cases, their ability to produce food or access land or meat from wild animals is extremely compromised.

The adequacy of the general ration for older people needs to be considered in the context of intra-household food distribution where the older person lives in a household with other people.

The provision of no less than 50g of blended food per person per day as part of the general ration is recommended¹⁶⁶ by HelpAge. If quantities of blended food are limited, children under five 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.

A full individual food ration for one month weighs roughly 18kg; a family of five, of which three are small children (and, thus, cannot carry their ration), must then carry away 90kg at once, that is, 45kg per adult – a considerable weight for most

¹⁶⁶ Borrel A, 2001. Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International Africa Regional Development Centre. Nairobi.

adults. For many older people, this can be near their own body weight, and impossible to carry. The frequencies of distribution rounds must therefore be set by referring to common sense, and adapt to circumstances. It may be more practical to conduct distributions on a weekly basis as agencies already often make arrangements for more manageable bag sizes.

Box 26 presents a summary of the challenging issues related to providing suitable food rations for older people: (from HTP Module 11 on General Food Distribution).

HTP Module 4 covers micronutrient malnutrition, including the **lack of micronutrients in the general ration** provided by WFP. Techniques exist for the indirect assessment of micronutrient intakes, such as Dietary Diversity Score and Food Variety Score using Food Frequency Questionnaires. Please refer to HTP Module 4.

A variety of computer software tools have also been designed for calculating the nutrient content of food aid rations and fortified blended food (FBF) rations. The most well-known include NutCalc, which was developed by EpiCentre for Action Contre la Faim, and NutVal, which was developed for UNHCR and WFP by University College, London Centre for International Health and Development. NutVal 3.0 is currently recommended by WFP and UNHCR for use in planning and monitoring food aid rations (<http://www.nutval.net/>).

The level of the challenges in assessing micronutrient problems in emergencies, and intervening appropriately and with beneficial effect for this population group is even harder than for children.¹⁶⁷ However, given the heightened requirements for some micronutrients in terms of age-related deterioration in immune status and response, and co-morbidity, in older people, attention needs to be paid to this area of the emergency response.

The WFP nutrition toolbox already includes **fortified staples, fortified condiments and fortified blended foods**. Among the fortified blended foods is corn soya blend (CSB), which WFP has used for decades. WFP is working on ways of improving the composition of these foods (such as CSB++) to better meet the nutritional needs of specific groups (young children, pregnant and lactating women, the chronically ill). The WFP toolbox also includes new strategies such as home-fortification with multi-micronutrient powder (MNP, also known as 'sprinkles'). Home fortification means that beneficiaries themselves sprinkle the powder onto food after they have cooked it. It is a viable option when households already have some food but the food they have lacks important micronutrients, and it is suitable for older people.

Micronutrient supplementation refers to periodic administration of pharmacological preparations of nutrients as cap-

sules or tablets or by injection. Supplementation is necessary as a short-term emergency measure to reverse clinical signs of micronutrient deficiencies or for prevention in at-risk groups. Micronutrient supplementation should be restricted to vulnerable groups who cannot meet their nutrient needs through food: this applies to older people as well as women of child-bearing age, infants and young children, displaced people, refugees and populations experiencing other emergency situations.

In emergency interventions, a number of **complementary strategies for supplementary food should be adopted**:

- **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.
- **Supplements of specific vitamins** (Vitamin A, folic acid) are given routinely on admission into rehabilitation programmes.
- **A supplementary Concentrated Mineral and Vitamin pre-mix (CMV)** can be added to blended foods, 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/vitamin mix should not be added to dry-ration mixtures.
- **All food aid commodities should be fortified:** e.g. oil with Vitamin A, salt with iodine.

Supplementary Feeding Programmes (SFP)

Table 15 shows the recommended assessment criteria for admission of older people into SFP.

Depending on the prevalence of undernutrition and availability of partners, supplementary feeding can be provided through two different types of interventions:

- Blanket supplementary feeding
- Targeted supplementary feeding

Blanket Supplementary Feeding Programmes (BSFP)

Blanket SFP are often implemented when the GFD has not been established or is inadequate, when numbers of vulnerable people are very large or when GAM levels are so high that blanket coverage is required (see HTP Module 12: Supplementary Feeding).

A BSFP has several objectives:

- To prevent nutritional deterioration and related mortality and morbidity in those who have additional nutritional requirements: *this should include older people, especially if they are sick or have a chronic condition.*

¹⁶⁷ Seal A and Prudhon C, 2007. Assessing micronutrient deficiencies in emergencies: current practice and future directions. SCN.

Table 15: Anthropometric, clinical and social criteria used for older people's admission into Selective Feeding Programmes (CSP, SFP, TFP)

Type of criteria	Measurement	Remarks	
Anthropometric	MUAC, using adult MUAC band	Measures acute loss of fat and muscle tissue	
Clinical	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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 socioeconomic 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. Older persons with one of more of these criteria (but no anthropometric/clinical criteria present) are admitted into a Community Support Programme CSP.	
Category and related action	MUAC mm	Criteria present (+) or absent (-)	
		Clinical	Social
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	-	+/-
	<160	+/-	+/-

* Except those older people presenting with bilateral oedema (regardless of MUAC status) who should be referred to a clinician.

** With the purpose to prevent any further deterioration in nutritional status.

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

- To restore nutritional status in those moderately malnourished among nutritionally vulnerable groups: *this should include older people, especially if they have disabilities, lack social support or have psychosocial problems. It could also be argued that they should be targeted if they are the sole carers for children under five.*

Targeted Supplementary Feeding Programmes (SFP)

SFP are meant to treat moderate acute malnutrition.

Emergency SFP for older people can be fraught with problems. They often lack a clear rationale and the monitoring, evaluation and phase-out criteria are not sufficiently considered. Targeting generally falls into two broad categories: individuals or households (or groups of households).

Targeting individual older people

Older people may be nutritionally vulnerable. Reduced physical or mental function may make it difficult for them to access food, particularly in situations of displacement where social support networks or access to traditional foods is disrupted. The nutritional vulnerability of older people should not be assumed in every context, but some specific older people may be nutritionally vulnerable in a situation where the majority of the population comprises of older people (e.g. the remainder of the population has fled or migrated).

Targeting institutions

Institutions may be targeted to reach specific groups who are thought to be vulnerable, e.g. hospital patients or old people's homes. These groups may face special problems, as relatives find it difficult to provide support and government institutions may collapse.

Table 16: Advantages and disadvantages of different types of supplementary feeding for older people

Type	Characteristics	Advantages	Disadvantages
Dry ration: take home	Should provide 1,000 to 1,400kcal per person/day. Ration should provide at least 25% of energy from fat, 10-15% from protein. Dry rations are usually larger in comparison to prepared (wet) rations to take into account intra-household sharing. Normally provided on a weekly basis.	<ul style="list-style-type: none"> Leaves responsibility of preparing food with household, either with older person/carer. Reduces travel time and distance for older person and/or family. Ration may be perceived as a contribution to food available to the household, 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	Prepared ration should provide at least 700kcal energy per person/day. Should provide at least 25% of energy from fat and 10-15% from protein.	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> Older people may be too weak to travel to centre every day. May be reluctant to go to crowded places. May encourage 'temporary' displacement of the population to a centralised location, increasing exposure to environmental public health risks, disease, infection. May erode family and/or community responsibility.

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

Targeting households

Households are usually targeted by socio-economic indicators, health or nutritional status (usually of children under five) and are based on assessment or assumption that specific types of households in the population cannot meet their survival or livelihood needs. Targeted vulnerable feeding will provide a family ration to households on the basis of individual eligibility criteria, i.e., the household has a malnourished child, someone who is chronically ill (e.g. with tuberculosis or HIV), has a pregnant or lactating woman, an older person, a disabled person, or someone who is socially vulnerable, such as an orphan. This system recognises that vulnerable individuals are part of a household, and household members will share the food ration. By virtue of having a vulnerable individual in the household, all members of the household may be at an increased risk of food insecurity and possibly undernutrition. Targeting households headed by females, on the basis that such households are most vulnerable to food insecurity, is another strategy that is often used by agencies.

Wet and dry feeding

Supplementary food can be distributed in two ways, as shown in **Table 16**, which outlines some of the advantages and disadvantages of the different types of supplementary foods for older people. The type of intervention will depend on the context.

Older people are less likely than others to eat foods that are unfamiliar to them (see **Box 27**). Efforts should be made to consult with them on the types of foods they prefer and the techniques to prepare them. These recipes then need adapting to the supplementary food basket and to meeting their protein and other nutrient needs.

Therapeutic Feeding Programmes, CMAM

The principles of **therapeutic feeding programmes for severely malnourished older people**, and the overall phased approach to the management of severe acute malnutrition, are the same as for other adult groups. For more details on the treatment of severe acute malnutrition see HTP Module 13.

Box 27: Older people and food issues during displacement in Liberia, 2004

The plea for help of the older people at Fendall and Soul Clinic IDP camp has turned into an outcry. Their condition is critical. In the last six months, 15 have died due to hunger and lack of medical care. Most have spent the last five years running from one place to the other in search of shelter from the war. In June 2003, during the height of the conflict in Liberia, many of these old people arrived at Fendall and the Last Displace Camp, Soul Clinic, located on the outskirts of Monrovia. They resolved never to run anywhere again. There are 3,810 old people here, between the ages of 60 and 98. They are subsisting only on the meagre food rations provided by WFP. The elderly have no relatives to take care of them, nor is the government in a position to do so. Even those who have children do not know their whereabouts. Often the children are not capable of taking care of them.

Each month, an individual receives 6.9kg of maize meal, 0.45kg of vegetable oil, 1.05kg of beans/lentils, 1.8kg of corn soybean and 0.15 kg of salt. Liberia's staple food is rice. The old people find it very difficult to get adjusted to the new diet, so different from their own. Having no source of income, or any relatives to assist them, they are spending their last few days on the earth in misery. The blankets, and other clothing received from UNHCR in July 2003, have worn out. UNHCR also distributed cooking utensils to family heads only. Since most of these old people came to the camps unaccompanied, they did not receive pots and pans. Instead, they are using empty oil tins as cooking utensils and as buckets to do their laundry or taking a bath. They no longer have footwear. Soap, toothpaste, toothbrushes and other necessities are just not available to these older people.

Source: Maxi M, 2004. Report on the situation of the elderly at the Fendall and Soul Clinic Internally Displaced People Camps <http://www.globalaging.org/armedconflict/countryreports/Africa/fendall.htm>

There is very little information in humanitarian guidelines about older people and therapeutic feeding. Most information and guidance comes from HelpAge, and sometimes other agencies that have included older people directly. For example, **Box 28** describes a therapeutic feeding programme for older people from Juba, Sudan, in 2000.

Discharge criteria are defined as those that have attained a stable and satisfactory nutritional status and who are free from disease. UNHCR/WFP (2011) recommend discharge for adults achieving a BMI of 18.5 or more.

HelpAge recommends discharge of older persons to depend on anthropometric (MUAC >185mm), clinical and social risk factors.¹⁶⁸

Table 17 shows some criteria used for discharging older people from feeding programmes.

Community-Based Management of Acute Malnutrition (CMAM) is now an internationally established method of treating acute malnutrition in children under 5 years old during emergencies. To date, CMAM has not been implemented in large numbers of malnourished individuals in other age groups. Guidelines for other groups are therefore not included here. However, this does not mean that older people cannot be treated using the CMAM model with modified protocols.

Food products used in selective feeding programmes

Innovative and nutritious food products are being developed to prevent and treat undernutrition. There are new debates emerging about new products and approaches to supplementary and therapeutic feeding. It is being increasingly recognised that quantity is not enough and that a focus on the quality of food aid is needed.

Five key products are used by WFP to improve nutritional intake. These five products include Fortified Blended Foods (FBFs), Ready-to-Use Foods (RUFs), High Energy Biscuits (HEBs), Micronutrient Powder or "Sprinkles", and Compressed Food Bars (CFBs). (See also HTP Module 11 page 6, covers food interventions). RUFs products include ready-to-use supplementary foods (RUSFs), and ready-to-use therapeutic foods (RUTFs).

All these food products are specifically designed for acutely malnourished children and pregnant and lactating women. They are not designed for older people whose energy and micronutrient requirements are different and sometimes affected by illness and disease, particularly HIV and AIDS.

High Energy Biscuits (HEB) and 'BP5' are comparable in energy and protein and can be suitable to meet emergency food needs on a temporary basis. When cooking facilities are not in place, unknown or in case of sudden need, compact foods such as high-energy biscuits are easy to handle, transport and

¹⁶⁸ Borrel A, 2001. Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International Africa Regional Development Centre. Nairobi.

Box 28: Example of therapeutic supplementary feeding programme for older people implemented by ACF and HelpAge in Juba, Sudan (2000) (see also Part 3: Trainer's Guide)

The nutritional treatment of severe malnutrition in older people was based on the same formula used to treat children (F75, F100 or HEM*, porridge, family meal and fruits/vegetables), with added minerals and vitamins. However, the amount of milk given per kg/body weight was much less for adults than children as dairy-related energy needs decrease with age.

The nutritional treatment was phased as follows:

1. ACUTE AND TRANSITION PHASE

- During the **acute phase** of the treatment, older people and other adults received only a diet of F75 milk, which contains low levels of protein, fat and sodium. The initial goal of this phase was to prevent further tissue loss. The average duration of Phase 1 was four days. When appetite was regained and, as in the case of kwashiorkor, as the oedema was reduced, individuals were promoted to the transition phase.
- The **transition phase** allowed a gradual increase in the amount of protein and fat, in order to restore the physiological imbalances. In this phase, the same quantity of milk than in acute phase is given to the patient but F75 milk is replaced by F100 milk. After two days in the transition phase, older adults entered Phase 2.

2. REHABILITATION PHASE

- Beneficiaries began to regain lost weight and appetite increased. During rehabilitation, older people and other adults became very hungry and often refused formula feed (milk), demanding solid foods.
- At this stage meals were given, based on the recipient's traditional foods, with added oil, minerals and vitamins. The diet comprised a variety of foods and allowed the older people to eat as much as they desire. The variety of food included vegetables (tomatoes and green leaves), beans, meat, fish and fruits. Older adults continued to receive the formula feed (F100) milk, which was supplemented with porridge made from corn soya bean (CSB), oil and sugar, and enriched with vitamins and minerals. At this stage, eight meals (7 servings of milk and 1 of porridge) were provided to the beneficiaries each day, as they still required intensive care. The beneficiaries moved onto the Consolidation Phase (Phase 3) once they reached a BMI equal to, or above 15 (for older persons) or a BMI equal to, or above, 17 for other adults.

3. CONSOLIDATION PHASE

- This is the final stage of the treatment where the beneficiary was prepared for discharge. The beneficiary continued to receive a formula feed (F100 milk) but the number of meals was reduced to five. They continued to receive porridge made from CSB, oil, sugar and enriched with a mineral and vitamin complex. The family plate (pulses, vegetables, meat and fish) and fruits continued to be provided for adults and older persons in this phase.

* F75 and F100 are therapeutic milks used in Phases I and II in the treatment of severe malnutrition. F75 has an energy value of 75kcal per 100ml, while F100 provides 100kcal/100ml. Both milks are fortified with vitamins and minerals. HEM = High Energy Milk Formula is Dry Skimmed Milk + Oil + Sugar + Complex of minerals and vitamins.

Source: Action Contre La Faim (ACF) and HelpAge in Juba, 2004. Case study of supplementary selective feeding programmes by ACF and HelpAge in Juba. In: HelpAge International Africa Regional Development Centre. Summary of research findings on the nutritional status and risk factors for vulnerability of older people in Africa. pp 58-61. April: Nairobi.

distribute. BP5 requires no preparation and thus no additional resources are required to prepare it (e.g. fuel, cooking and serving equipment, water and trained personnel). Crushed into drinking water or milk they can produce porridge (thick or thin according to taste), no cooking is required and they are useful for feeding children/older people and/or those who are ill. HEBs also contain optimal amounts of minerals and are often used to complement a ration; BP5 has been developed for use as a complete food and sole source of both macro- and micro-nutrients. Both HEB and BP-5 contains about 458kcal, 15.5g of fat and 16.7g proteins per 100g. They are also vitamin and mineral fortified. 100-150ml of water should be provided

for every two biscuits consumed. However, BP5 is expensive; nearly three times as much compared to HEB, and is not a 'usual' food. Furthermore, it is monotonous to eat daily. As soon as possible normal food should be provided.

Meals ready-to-eat (MREs) or humanitarian daily rations (HDR). These rations are the most expensive food aid commodities and are usually reserved for immediate response during the first few days of a sudden disaster or the displacement of large numbers of people. Usually these products contain high quality protein, fat and carbohydrate with added vitamins and minerals.

Table 17: Transfer and discharge criteria for older people from feeding programmes

Type of support	Outcome	Criteria for exit or transfer
Community Support Programme CSP	<ul style="list-style-type: none"> • Death • Default from programme • Nutritional status remaining stable • Integration into formal/informal support system 	<p>Criteria for exit:</p> <ul style="list-style-type: none"> • 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
Supplementary Feeding Programme SFP	<ul style="list-style-type: none"> • Death • Default from programme • Nutritional status remaining stable • Integration into formal/informal support system 	<p>Transfer to CSP when:</p> <ul style="list-style-type: none"> • 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 is 8 weeks
Therapeutic Feeding Programme TFP	<ul style="list-style-type: none"> • Death • Transfer to hospital • Default from programme • Recovery – transfer to SFP 	<p>Transfer to SFP when:</p> <ul style="list-style-type: none"> • MUAC >185mm and absence of clinical factors and • Trend of positive weight gain <p>OR:</p> <p>Transfer to CSP when:</p> <ul style="list-style-type: none"> • 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 declined or • Maximum length of stay 6 to 8 weeks in TFP

Monitoring and evaluation

It is important to consider the extent to which any indicator of nutritional status or vulnerability in older people shows a positive response to a treatment or intervention at different levels of malnutrition. Some very old people are unable to walk unaided, not because of malnutrition, but as a result of a very low muscle mass and muscle function related to ageing. These physical conditions resulting from old age will not be addressed by nutritional supplementation or other food intervention. However, their quality of life and prolonged independence may be improved.

Unfortunately, there is very little documented on the effects of various interventions for older people in developing countries, either living in settled and stable communities or in humanitarian emergencies.

For more on Monitoring and Evaluation (M&E) see HTP Module 20. This refers to older people as a cross-cutting theme that needs to be taken into account in any M&E programme. The M&E of nutrition interventions for older people should include an analysis of their situation to better understand their specific needs, track their ability to access basic services and assess the appropriateness of food rations to meet their needs. Relevant factors to monitor and evaluate food security include:

- Are older people involved during the assessment phase?
- Is blended food provided as part of their ration?
- Is physical access to the general ration good enough?
- Do older people also have sufficient access to fuel and water for cooking?
- Is older people's nutrition status being assessed?
- Are older people with acute malnutrition receiving treatment?

Table 18: Indicators for monitoring progress of older people in a TFP, SFP or CSP

Therapeutic Feeding Programme (TFP)	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 muscle strength
	Monitor and address capacity of family or carer to support older people
Supplementary Feeding Programme (SFP)	Nutritional status (weight, 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 (CSP)	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

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

Most of the Sphere indicators that can be monitored in emergencies only refer to children aged 6-59 months, and cannot be adapted to older people without a consensus (Sphere, 2011, page 165-166).

The Minimum Reporting Package (MRP) (<http://www.mrp-sw.com>)

This package, i.e. the Emergency Supplementary and Therapeutic Feeding Programme User Guidelines,¹⁶⁹ consists of guidelines on what data to collect and provides software for standard analysis and reports. It refers to performance indicators and reporting categories for targeted Supplementary Feeding Programmes (SFPs), Outpatient Therapeutic Programmes (OTPs) and Stabilisation Centres (SCs). There is also guidance on interpreting and taking action on programme performance indicators. It targets two treatment groups for SFP: 6-59 months and pregnant and lactating women (PLW). However it also facilitates reporting against other categories e.g. 'elderly' (+60 years).

SQUEAC (Semi-Quantitative Evaluation of Access and Coverage).

This is a low-cost resource method **for evaluating access and coverage in selective feeding programmes**. SQUEAC, and

the Simplified LQAS Evaluation and Coverage (SLEAC)¹⁷⁰ were designed to evaluate community-based management of severe malnutrition in children. However, they could be adapted to evaluate community management of acute malnutrition in adults and older people. Information on both methods can be found here: www.brixtonhealth.com

Table 18 summarises suggested indicators for monitoring of an individual's progress in a TFP, SFP or CSP.

For monitoring and evaluation of the overall programme effectiveness, monthly information can be collected on various outcome levels:

- **Nutritional and health outcomes:** these include standard indicators such as the proportion recovered, died, defaulted; the average length of inclusion, average weight gain. It is also appropriate to record the proportion regaining some functional capacities such as strength and ADLs.
- **Community and family support outcomes:** indicators should relate to: proportion of older people with active and involved family or community members; proportion of older people maintaining good nutritional and health status; types of skills acquired and improvement in capacity of family and community to support older people.

¹⁶⁹ Save the Children/ECHO/ENN/USAID, April 2012

¹⁷⁰ Valid and Brixton Health.

Box 29: Including older people in feeding programmes in Southern Sudan, 1998

During early 1998, Ajiep in Bhar el Ghazal, Southern Sudan, was at the epicentre of the famine. The population of Ajiep had increased seven-fold from 3,000 to 21,000 persons, displaced as a result of severe food shortages, insecurity in the surrounding areas and the attraction of (potential) access to a general food ration.

Emergency nutrition interventions focused predominantly on the needs of children under 5 years old (with blanket feeding, supplementary and therapeutic feeding). However, levels of malnutrition among older people were extremely high, exacerbated by an outbreak of shigella caused by poor sanitation, over-crowding and lack of community-based public health interventions. By September, a therapeutic and supplementary feeding programme for adults and older people had been established. Patients with shigella were referred and treated in the field hospital and transferred to the TFP for nutritional recovery. Of the 440 people that were admitted into the TFP during the next months, over 20% were older people (over 50 years). The programme demonstrated high recovery rates (92%), low mortality (5%) and a low defaulter rate (3%).

As part of the programme evaluation, the community elders were asked their opinion. Their response was simply: "finally, the old people have been considered".

Source: Salama P, 1995 Presentation at ACC/SCN April 199. Reported in Borrel, 2001. Addressing the nutritional needs of older people in emergency situations in Africa: ideas for action. HelpAge International Africa Regional Development Centre.

Box 30: Older people: a vulnerable population of concern for disaster responses

Older people are often among the poorest in low to middle income countries and comprise a large and growing proportion of the most vulnerable in disaster or conflict affected populations and yet they are often neglected in disaster or conflict management. Isolation and physical weakness are significant factors exacerbating vulnerability in older people in disasters or conflict, along with disruption to livelihood strategies and top family and community support structures, chronic health and mobility problems, and declining family health. Special efforts must be made to identify and reach housebound older people and households headed by older people. Older people also have key contributions to make in survival and rehabilitation. They play vital roles as carers of children, resource managers and income generators, have knowledge and experience of community coping strategies and help to preserve cultural and social identities.

Source: Sphere, 2011 (page 16).

- **Perception of programme effectiveness:** qualitative information collected from the older participants themselves, as well as the wider community's perception should be included as part of the programme monitoring process.

Areas subject to recurrent natural disasters of long-running conflicts may have local early warning and emergency response systems or networks and contingency plans which should be incorporated into any assessment. In project design and implementation it is critical to equally engage older women and men.

Participation, voice and inclusion

Sphere¹⁷¹ calls for measures to ensure non-discrimination in the humanitarian assistance. Special measures to facilitate the participation of older people should be taken, while considering the context, social and cultural conditions and behaviours of communities. Any such measures should avoid the stigmatisation of this group. Meaningful participation of different groups of older women and men and appropriate local organisations and institutions at all stages of assessments and interventions are vital. Programmes should build on local knowledge, be based on need and tailored to the local context.

Older people often complain about being excluded from programmes in emergencies. **Box 29** describes what happened during emergency feeding programmes in Southern Sudan in 1998 and what older people thought about it.

In conclusion, **Box 30** from Sphere summarises why older people need consideration in responses to humanitarian emergencies. This will include nutritional and non-nutritional interventions to address the complex nature of their needs and vulnerabilities.

¹⁷¹ Sphere, page 37.

Box 31: What HelpAge does in emergencies

- **Identify older people:** carry out a rapid needs assessment, collect and analyse data broken down by age and gender.
- **Consult them:** ask people in later life what they need, and represent their interests. In the recovery stage, set up Older People's Associations (OPAs) so that older people can support themselves and others.
- **Make distributions accessible:** ensure that there are seats for those who cannot stand for long periods. Organise separate distributions for older women and men where this is culturally appropriate.
- **Delivery age-appropriate emergency relief:** ensure that food and non-food items are appropriate for older people. For example, ensure that contents take into account the difficulty that older people may have in chewing, digesting and absorbing nutrients; design packages so that they can be easily carried and opened.
- **Provide age-appropriate healthcare:** provide specialist staff in existing health facilities, deliver basic training in gerontology, distribute equipment such as mobility aids and glasses, and provide medication for chronic illnesses.
- **Provide financial support:** offer age-appropriate work, grants or loans for those who can work, and cash transfers to those who cannot.
- **Offer psychological support:** employ psychologists and recruit home-care volunteers to help older people recover from the trauma of disasters and conflict.
- **Provide protection:** if older people have been separated from their families, or are already alone, ensure that they are involved in family tracing and re-unification programmes.
- **Help communities prepare themselves against future disasters:** ensure that older people – with historical knowledge – are included in disaster-risk reduction work so that they can help their communities to prepare for future disasters.

Source: HelpAge International and Age UK (date). On the edge. Why older people's needs are not being met in humanitarian emergencies.

As the world's leading INGO focusing on older people, HelpAge delivers funds to support local partner organisations for age-friendly aid. It deploys specialist staff who provide training and resource materials about older people's needs to other aid agencies, give health and social support to older people living in refugee camps, and work with communities in disaster-prone areas to prepare for future emergencies by training and equipping networks of older volunteers. **Box 31** summarises the range of activities and interventions that HelpAge delivers in different emergency situations, all of which should be monitored and evaluated in terms of their existence and quality within a response. A more comprehensive list is also available in Annex 6.

Existing challenges and areas for research

Existing challenges and areas for research in the area of undernutrition of older people in emergencies include:

Advocacy, awareness and capacity

- a) Lack of awareness and knowledge within the humanitarian sector, including donors and governments, about the demographics of ageing, active roles of older people, the complexity of their vulnerability to undernutrition in emergencies, and their rights.

- b) Inadequate skills to deal with undernutrition in this population group within humanitarian agencies, national government systems and at operational level in emergencies.
- c) Persisting ageism and age discrimination within the humanitarian system, and breaches of the UN Principle of Impartiality.
- d) Underfunding of programmes tackling undernutrition in older people in emergencies, in marked contrast to funding levels for other population groups.
- e) The child-focused nutritional conceptual framework and focus on children under five, recently re-invigorated with prioritisation of the '1000 days' period, should not prevent inclusion of older people in nutrition policies and programmes.
- f) Address gaps and inconsistencies in existing policies and guidelines on nutrition, ageing and emergencies.

Assessment

- a) Lack of commonly agreed, functionally related, undernutrition classification system for older people using anthropometric assessment based on MUAC. Agreement is needed to develop normative guidance for assessments and responses.

TECHNICAL NOTES

- b) Continued preference for, and use of BMI, in the anthropometric assessment of older people despite problems in its measurement, particularly of standing height, and its interpretation in terms of age-related physiological changes.
- c) Research is needed on the relationship between various MUAC cut-offs and functional outcomes of importance to older people, such as muscle strength, mobility and ADLs.
- d) Lack of clarity and agreement on the best assessment methodologies for all aspects of nutritional vulnerability of older people in emergencies. This acts as an unacceptable barrier that sustains the nutritional neglect of this population group.

Interventions

- a) How can the recent proliferation of food-based products for the treatment of acute malnutrition be adapted for use in older adults?

- b) How to link nutrition interventions for older people with interventions for other population groups, and with other sectors?
- c) How to improve techniques and standardisation for non-food interventions?

Monitoring and evaluation

- a) Limited evidence for what works in the treatment of acute malnutrition in older people.

Participation

- a) Strengthen use of participatory methods with older people on all aspects of planning, assessment, intervention and monitoring programmes aimed at preventing and treating undernutrition in older people in emergencies.

Annex 1: Key events and documents related to older people in humanitarian situations

Year	Event or publication
1982	First World Assembly on Ageing, Vienna
1991	UN Declaration of International Year of Older Person IYOP and UN Principles for Older Persons (Resolution no 46/91, 1991) – see Annex 1
1995	UN Committee on Economic, Social and Cultural Rights: General Comment No. 6 on the economic, social and cultural rights of older persons
1998	UN International Plan of Action on Ageing and UN principles for Older Persons, UN Department of Public Information (DPI/932/Rev.1-98-24545. New York). Guiding Principles on Internal Displacement
1999	International Year of Older Persons
1999	HelpAge International and EarthScan publish <i>Ageing and development report: poverty, independence and the world's older people</i>
1999	World Health Day April 7th on theme of ageing
2001	State of the World's Older People
	UN General Assembly established Open Ended Working Group on Ageing
2002	Second World Assembly on Ageing and <i>Madrid International Plan of Action on Ageing (MIPAA)</i> with Political Declaration, signed by 159 governments and adopted by consensus later that year by the United Nations General Assembly
2002	WHO and Tufts University School of Nutrition and Policy published <i>Keep Fit for Life</i>
2002	African Union published a <i>Policy Framework and Plan of Action on Ageing</i>
2004	HelpAge International Africa Regional Development Centre: <i>Summary of research findings on the nutritional status and risk factors for vulnerability of older people in Africa</i> published
	UNHCR Policy on Older Refugees
2007	HelpAge International and Inter-Agency Standing Committee Working Group (IASC-WG) review report on the inclusion of older people in humanitarian action
2008	UN cluster mechanism (IASC) produced an <i>Essential brief and guidelines for Humanitarian Action and Older People</i>
2010	HelpAge International and UNFPA review policies, legislation and data on older people from 133 countries to assess progress in implementing MIPAA
2011	Revision of Sphere Humanitarian Charter and Minimum Standards in Disaster Responses to include more on older people
2011	HelpAge International and Age UK published <i>On the edge: why older people's needs are not being met in humanitarian emergencies</i>
2012	International Year of Older Persons (UN) and European Year of Ageing
2012	World Health Day (April 7th) on theme of older people
2012	Second review of MIPAA (MIPAA+10) Publication of second <i>State of the World's Older People</i>

Annex 2: UN General Assembly Resolution no 46/91: 18 General Principles for Older Persons, 1991

Participation

1. 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 generation.
2. Older persons 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.
3. Older persons should be able to form movements or associations of older persons.

Dignity

4. Older persons should be able to live in dignity and security and be free of exploitation and physical or mental abuse.
5. 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

6. 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.
7. Older persons should have the opportunity to work or to have access to other income-generating opportunities.
8. Older persons should be able to participate in determining when and at what pace withdrawal from the labour force takes place.
9. Older persons should have access to appropriate educational and training programmes.
10. Older persons should be able to live in environments that are safe and adaptable to personal preferences and changing capacities.
11. Older persons should be able to reside at home for as long as possible.

Self-fulfilment

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

Care

14. Older persons should benefit from family and community care and protection in accordance with each society's system of cultural values.
15. Older persons should have access to health-care to help them to maintain or regain optimum level of physical, mental and emotional well-being and to prevent or delay the onset of illness.
16. Older persons should have access to social and legal services to enhance their autonomy, protection and care.
17. 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.
18. 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 3: Madrid International Plan of Action on Ageing. Issue 8: Emergency Situations

In emergency situations, such as natural disasters and other humanitarian emergencies, older persons are especially vulnerable and should be identified as such because they may be isolated from family and friends and less able to find food and shelter. They may also be called upon to assume primary caregiving roles. Governments and humanitarian relief agencies should recognize that older persons can make a positive contribution in coping with emergencies in promoting rehabilitation and reconstruction.

Objective 1: Equal access by older persons to food, shelter and medical care and other services during and after natural disasters and other humanitarian emergencies.

Actions

- a) Take concrete measures to protect and assist older persons in situations of armed conflict and foreign occupation, including through the provision of physical and mental rehabilitation services for those who are disabled in these situations.
- b) Call upon governments to protect, assist and provide humanitarian assistance and humanitarian emergency assistance to older persons in situations of internal displacement in accordance with General Assembly resolutions.
- c) Locate and identify older persons in emergency situations and ensure inclusion of their contributions and vulnerabilities in needs assessment reports.
- d) Raise awareness among relief agency personnel of the physical and health issues specific to older persons and of ways to adapt basic needs support to their requirements.
- e) Aim to ensure that appropriate services are available, that older persons have physical access to them and that they are involved in planning and delivering services as appropriate.
- f) Recognize that older refugees of different cultural backgrounds growing old in new and unfamiliar surroundings are often in special need of social networks and of extra support and aim to ensure that they have physical access to such services.
- g) Make explicit reference to, and design national guidelines for, assisting older persons in disaster relief plans, including disaster preparedness, training for relief workers and availability of services and goods.
- h) Assist older persons to re-establish family and social ties and address their post-traumatic stress.
- i) Following disasters, put in place mechanisms to prevent the targeting and financial exploitation of older persons by fraudulent opportunists.
- j) Raise awareness and protect older persons from physical, psychological, sexual or financial abuse in emergency situations, paying particular attention to the specific risks faced by women.
- k) Encourage a more targeted inclusion of older refugees in all aspects of programme planning and implementation, inter alia, by helping active persons to be more self-supporting and by promoting better community care initiatives for the very old.
- l) Enhance international cooperation, including burden-sharing and coordination of humanitarian assistance to countries affected by natural disasters and other humanitarian emergencies and post-conflict situations in ways that would be supportive of recovery and long-term development.

Objective 2: Enhanced contributions of older persons to the reestablishment and reconstruction of communities and the rebuilding of the social fabric following emergencies.**Actions**

- a) Include older persons in the provision of relief and rehabilitation programmes, including by identifying and helping vulnerable older persons.
- b) Recognizing the potential of older persons as leaders in the family and community for education, communication and conflict resolution.
- c) Assist older persons to re-establish economic self-sufficiency through rehabilitation projects, including income generation, educational programmes and occupational activities, taking into account the special needs of older women.
- d) Provide legal advice and information to older persons in situations of displacement and dispossession of land and other productive and personal assets.
- e) Provide special attention for older persons in humanitarian aid programmes and packages offered in situations of natural disasters and other humanitarian emergencies.
- f) Share and apply, as appropriate, lessons learned from practices that have successfully utilized the contributions of older persons in the aftermath of emergencies.

Annex 4: Example of an older people's vulnerability assessment form (used in South Sudan)

Individual Assessment Form										
1. General information – Assessment										
Assessors' Name:				Camp:			Date:			
				Place of assessment:						
2. Personal Information										
Name, Surname:					Sex: <input type="checkbox"/> F <input type="checkbox"/> M		Age:			
Civil Status: <input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Widow <input type="checkbox"/> Divorced					Place of origin:			Date of arrival:		
Present address:										
Registered: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> In Process				If Yes, number/ID:			If No, Why: <input type="checkbox"/> didn't know <input type="checkbox"/> Issue to access			
Name of the head of household:					Other (precise):					
Age of the head household:				Number and age of children in the household:						
3. Economic situation										
Past activity (before displacement):										
Present activity:										
Household's source of income:										
4. Type of vulnerability (fast screening)										
<input type="checkbox"/> OP with permanent dependency			<input type="checkbox"/> OP with temporary impairment			<input type="checkbox"/> OP with chronic disease/ illness				
			<input type="checkbox"/> OP head of household			<input type="checkbox"/> Household without any/male presence				
5. Type of impairment										
<input type="checkbox"/> Physical impairment			<input type="checkbox"/> Hearing impairment			<input type="checkbox"/> Speech impairment				
<input type="checkbox"/> Visual impairment			<input type="checkbox"/> Mental illness							
Existing or past medical support:			<input type="checkbox"/> Need of long term medical treatment			If yes, medication still available: <input type="checkbox"/> Yes <input type="checkbox"/> No				
6. Nutrition										
<input type="checkbox"/> MUAC \geq 210mm			<input type="checkbox"/> MUAC <210mm			<input type="checkbox"/> MUAC <185mm		<input type="checkbox"/> Oedema		
7. Independence and participation 8. Psychosocial (only if response available)										
Daily activities	Yes	No	With help	Frequency	Always	Often	Sometimes	Never		
Bathing				Changes in sleep pattern						
Using toilets				Images about what happened						
Dressing				Feeling of being isolated						
Eating				Changes in the appetite						
Cooking				Changes in the behavior						
Cleaning				Crying spells						
Walking in the camp				Scared/fear						
IGAs				How would you describe your relationship? <input type="checkbox"/> Good <input type="checkbox"/> Average <input type="checkbox"/> Poor						
Community activities										
9. Protection										
<input type="checkbox"/> Isolation and dependency			<input type="checkbox"/> Neglect and deprivation			<input type="checkbox"/> Family situation				
<input type="checkbox"/> Family separation			<input type="checkbox"/> Loss/no documentation			Precise:				
<input type="checkbox"/> Unsafe living conditions: <input type="checkbox"/> Shelter <input type="checkbox"/> Environment						<input type="checkbox"/> Discrimination: <input type="checkbox"/> Family <input type="checkbox"/> Community				
<input type="checkbox"/> Threats and harassment						<input type="checkbox"/> Humanitarian assistance				
Precise:						<input type="checkbox"/> Violence				
						Precise:				
10. Needs of items										
Assistive devices:					Specific items:			Protection items		
<input type="checkbox"/> Crutches		<input type="checkbox"/> Walking aids (sticks)		<input type="checkbox"/> White		<input type="checkbox"/> Mattress		<input type="checkbox"/> Flashlight		
<input type="checkbox"/> Toilet Chair		<input type="checkbox"/> Wheel Chair		<input type="checkbox"/> Bedpan		<input type="checkbox"/> Jerri can		<input type="checkbox"/> Radio		
<input type="checkbox"/> Urine flask		<input type="checkbox"/> Incontinence kit				<input type="checkbox"/> Blanket		<input type="checkbox"/> Whistle		
11. Needs of referral										
<input type="checkbox"/> Health		<input type="checkbox"/> Psychosocial		<input type="checkbox"/> Child protection		<input type="checkbox"/> Shelter		<input type="checkbox"/> NFIs		
<input type="checkbox"/> Nutrition		<input type="checkbox"/> Protection		<input type="checkbox"/> Disability/Rehabilitee		<input type="checkbox"/> Livelihood				

Annex 5: Mini-Nutritional Assessment MNA used for nutritional assessment and screening of older people in high-income countries

In high-income countries, the comprehensive assessment of older people is a regular part of health screening and interventions, involving a combination of questions, measurements and clinical tests related to physical, psychological and social factors that may have an impact on nutritional status. These assessments typically cover a range of dimensions of physical and mental health and functioning, as shown in the following table:

Comprehensive Geriatric Assessment (CGA)

Domain	Assessment method	Acronym
Cognitive status	Mini Mental Status Examination	MMSE
Affective status	Geriatric Depression Scale	GDS
Mobility, gait and balance	Tinetti Performance-Orientated Mobility Assessment	POMA
Functional status	Activities of Daily Living	ADL
Functional status	Lawton Instrumental Activities of Daily Living	ADL
Nutritional Adequacy	Mini Nutritional Assessment	MNA

Click here for more information <http://www.mna-elderly.com>

As part of Comprehensive Geriatric Assessment, the rapid screen Mini Nutritional Assessment, MNA, was developed by Nestlé Research Centre and Toulouse University in 1991. Worldwide, it is the most validated and referenced nutrition screening and assessment tool for people over 65 years old. Validation criteria have been calculated as 96% for specificity (ability to identify malnourished or those at risk), specificity as 98% (ability to identify well-nourished) and predictive value as 97%. A strong correlation between the MNA and biochemical parameters has been shown, particularly with albumin.

The MNA is the only nutrition screening tool that incorporates special considerations of the older adult (i.e. functionality, mobility, depression and dementia) and was specifically developed to identify older people at risk of malnutrition without the need for more invasive tests such as blood sampling.¹⁷²

- In community-living older people, it detects the risk of malnutrition and life-style characteristics associated with nutritional risk while clinical markers of malnutrition, such as albumin levels, are still in the normal range.
- In outpatients and in hospitalized older patients, it is predictive of outcome and cost of care.
- In older home-care patients and nursing home residents, it is related to living conditions, meal patterns and chronic medical conditions, and allows targeted interventions.

The MNA has two components: screening and assessment.

Screening with MNA-SF

- A score of 11 or less in the screening indicates a problem and the need for a completion of the assessment portion.
- A MNA-SF score of 12 and above indicates a good nutritional status without the need to continue the whole assessment.
- The assessment score is then added to the screening score.

Screening plus assessment with full MNA

- If the total score on both parts totals 17-23.5, there is a risk of malnutrition
- A score of <17 indicates existing malnutrition

¹⁷² Guigoz et al, 2002; Abellan Van Kan G and Vellas B, 2011. Is the Mini-Nutritional Assessment an appropriate tool to assess frailty in older adults? *Journal of Health, Nutrition and Ageing*: 15 (3); 159.

The MNA includes several risk factors for 'frailty', such as low BMI, decrease of mobility, low muscle mass and low calorie intake. A statistically significant U-shaped association has been found between frailty and BMI. It has been shown to accurately identify older people at risk of increased mortality and morbidity.¹⁷³

In 2008-2009, Nestle Nutrition embarked on the MNA International Initiative, conducting research in geriatric settings across the globe to validate a new **MNA-SF**. The new features of this are:

- It is now validated as a standalone nutrition screening tool, which can be completed in less than 10 minutes.
- Calf circumference may be used instead of BMI.
- It can identify an older person as well nourished, at risk of malnutrition or malnourished.

The MNA requires at least 15 minutes with each patient so is hardly applicable in most humanitarian settings. The MNA-SF takes only 3 minutes but has not been validated or used in community-living settings in developing country contexts, or emergencies. For both the MNA and MNA-SF, cultural issues may apply that have not been considered.

¹⁷³ Visvanathan et al 2004

Annex 6: 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 produced.
 - 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 unavailable, 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 at 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 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.

Annex 7: Checklist for older people in internally displaced persons camps

Submitted to the Representative of the UN Secretary General on the Human Rights of Internally Displaced Persons Mr Walter Kalin by HAO and Global Action on Ageing, July 2005.

Demographic data

1. Is there demographic data available in the IDP camp disaggregated by age and gender? If not, could it be included in data collection?
2. What is the number of unaccompanied older people?
3. What is the number of children being cared for by older people?
4. How many older headed households are there?
5. How many housebound older persons are there?

Health

1. Are there special clinic days for older people?
2. Are there outreach health services for the housebound?
3. Are there drugs available to treat the common causes of morbidity amongst older people?
4. What are the main disabilities of older people? Is there a record in the camp?
5. Are mobility aids available?

Nutrition

1. Is the ration suitable for older people?
2. Have older people been screened to enter feeding programmes?

Distributions

1. Are there special provisions to avoid older people queuing for long periods of time?
2. Are there special provisions to help older people carry loads back from distribution points?
3. Are NFIs appropriate for older people? E.g. clothes, extra blankets etc.

Inclusion

1. Are older people represented on committees (e.g. health, water, women's aid etc.)?
2. Has an older people's committee been established?
3. Are older people active participants in camp activities e.g. literacy projects, life skills, agriculture, income generation etc.?
4. Are older people represented as a vulnerable group at camp management level?

Social support

1. Do older people receive support from family and neighbours?
2. Who is collecting fuel and water for older people?
3. Have older people been separated from their families?

Source: UNHCR/HelpAge International 2000. Older people in disasters and humanitarian crises. Guidelines for best practice.

Annex 8: Summary of supplementary foods recommended by WFP in an emergency

Food product	What they are/ ingredients	When, where used	How used	Nutritional value per 100g
Fortified Blended Foods	FBFs are blends of partially precooked and milled cereals, soya, beans, pulses fortified with micronutrients (vitamins and minerals). Special formulations may contain vegetable oil or milk powder. Corn Soya Blend (CSB) is the main blended food distributed by WFP but Wheat Soya Blend (WSB) is also sometimes used.	Designed to provide protein supplements. In food assistance programmes to prevent and address nutritional deficiencies Generally used in WFP Supplementary Feeding and Mother and Child Health programmes, and also to provide extra micronutrients to complement the general ration.	Usually mixed with water and cooked as a porridge.	Energy per 100g of product min 380Kcal Protein min. 18% Fat min. 6% Micronutrients added: Vitamins A, C, B12, D, E, K, B6, Thiamine, Riboflavin, Niacin, Pantothenic acid, Folic acid plus Zinc, Iron, Calcium, Potassium
Ready-to-Use Foods	Better suited to meet nutritional needs of young and moderate malnourished children than FBFs. May contain vegetable fat, dry skimmed milk, malt dextrin, sugar whey. Plumpy'Doz: peanuts paste, vegetable fat, skimmed milk powder, whey, maltodextrines, sugar. Supplementary Plumpy: peanut paste, vegetable fat, soy protein isolates, whey, maltodextrines, sugar, cocoa.	Mostly in emergency operations or at the beginning of a WFP intervention for prevention or treatment of moderate malnutrition. RUFs are to be used in addition to breast milk and other food for children (6 to 59 months) which are at high risk of developing malnutrition due to severe food insecurity.	<i>Plumpy'Doz</i> , (Nutraset) comes in tubs containing a weekly ration. <i>Plumpy Sup</i> (Nutraset) comes in one-day sachets. Both can be eaten directly from their containers and are designed to be eaten in small quantities, as a supplement to the regular diet.	Nutritional value per 100g of Plumpy'Doz: Energy 534Kcal, Protein 12.7g, Fat 34.5 g Micronutrients: Vitamin A, E, B1, B2, Niacin, Pantothenic acid, Vitamin C, B6, B12, Calcium, Magnesium, Selenium, Zinc, Iron, iodine, Copper, Phosphorus, Potassium, Manganese, Folic acid Nutritional value per 100g of Plumpy Sup: Energy 500kcal, Protein 12.5g, Fat 34.5g. Micronutrients: as above +Vitamin D, K and Biotin
High Energy Biscuits	Wheat-based biscuits which provide 450kcal, with a minimum of 10g and max of 15g of protein per 100g and fortified in vitamin and minerals. Price \$0.12 per 100g packet.	In the first days of emergency when cooking facilities are scarce. Easy to distribute and provide a quick solution to improve the level of nutrition.	Wheat flour, Hydrogenate Vegetable Shortening, Sugar, Soy flour, Invert Syrup, High fructose, Corn Syrup, Skimmed milk powder, Sodium and Ammonium, Bicarbonates, Salt	Energy 450Kcal Protein 10 to 15g Fat 15g Minerals and vitamins as: Calcium, Magnesium, Iron, Iodine, Folic Acid, Pantothenic Acid, Vitamin B1, B2,B6,B12b C,D,E, Niacine, Vitamin A-retinol.

Food product	What they are/ ingredients	When, where used	How used	Nutritional value per 100g
Micronutrient Powder “Sprinkles”	A tasteless powder containing recommended daily intake of 16 vitamins and mineral for one person. Can be sprinkled onto home-prepared food after cooking just before eating. Price: \$2-3 per 100 sachets.	Useful when fortification of cereal flour cannot be implemented or when it is inadequate for specific groups.	One sachet per person is sprinkled onto home prepared food. Can be used in school feeding programmes that provide a hot meal to children.	One individual sachet provides the daily intake of 16 vitamins and mineral for one person.
Compressed food bars	Bars of compressed food, composed of baked wheat flour, vegetable fat, sugars, soya protein concentrate and malt extract.	Used in disaster relief operation when local food can't be distributed or prepared. Should not be used for children under six months and in the first two weeks of treatment of severe malnutrition.	Can be eaten as a bar straight from the package or crumble into water and eaten as porridge. Drinking water must be provided as the bars are very compact and dry. Number of bars to be eaten depends on age, gender, weight and physical activity.	Ingredients: baked wheat flour, vegetable fat, sugars, soya protein concentrate, malt extract. Vitamins and minerals: Vit. A, D3,E, C, B1, B2, B6, B12, Niacin, Folic acid, Pantothenic acid, Biotin, Calcium, Phosphorus, Magnesium, Iron, Zinc, Potassium, Sodium, Copper, Selenium, Iodine Nutritional value per 56g bar: Energy 250kcal, Protein 8.1 Fat 9.4g

