# Community-based Therapeutic Care (CTC)

## A Field Manual

First Edition, 2006

This manual was produced by the CTC Research and Development programme, a collaboration between Valid International and Concern Worldwide.

Valid International

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Valid International was established in 1999 as a private research and consultancy company to help improve the efficiency and effectiveness of humanitarian interventions.

Concern is an international NGO dedicated to the reduction of suffering and working towards the ultimate elimination of extreme poverty in the world's poorest countries.

## Manual Availability

This manual is available in print and on CD from Valid International, Concern Worldwide and FANTA/AED. It can be downloaded at www.validinternational.org, www.concern.net or at www.fantaproject.org.



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## ABBREVIATIONS AND TERMS

| | |
|---|---|
| ACT | Artemisinin-Based Combination Therapy |
| CBO | Community based organisation |
| CDR | Crude death rate |
| CHW | Community health worker |
| Community volunteer | Volunteer conducting mobilisation, community referrals and follow-up in the community |
| Community referral | The process of identifying malnourished children in the community and sending them to the programme site for entry into the programme |
| CSAS | Centric systematic area sampling |
| CSB | Corn soya blend |
| CTC | Community-based therapeutic care |
| DOTS | Directly observed therapy short course |
| EPI | Extended programme of immunisation |
| F100 | Formula 100 therapeutic milk for Phase 2 inpatient treatment |
| F75 | Formula 75 therapeutic milk for Phase 1 inpatient treatment |
| FGD | Focus group discussion |
| GAM | Global acute malnutrition |
| GFD | General food distribution |
| HBC | Home-based care |
| IM | Intra-muscular |
| IMCI | Integrated Management of Childhood Illness |
| INACG | International Nutritional Anaemia Consultancy Group |
| MCH | Mother and child health |
| Medical referral | Child referred to a hospital or other medical centre outside of the programme for specific medical treatment or investigation |

| | |
|---|---|
| MoH | Ministry of Health |
| MUAC | Mid upper arm circumference |
| NGO | Non governmental organisation |
| NRU | Nutrition rehabilitation unit |
| OTP | Outpatient therapeutic programme |
| Outreach worker | Person employed to conduct community referrals and follow-up |
| PLWHA | People living with HIV/AIDS |
| RUF | Ready-to-use food (collective term for RUTF, RUSF and others) |
| RUSF | Ready-to-use supplementary food |
| RUTF | Ready-to-use therapeutic food |
| SAM | Severe acute malnutrition |
| SC | Stabilisation centre |
| Self-referral | Carers bring their child to the site without having been referred by outreach workers or community volunteers |
| SFP | Supplementary feeding programme |
| TFC | Therapeutic feeding centre |
| Therapeutic programme | The OTP and SC together make up the therapeutic programme |
| Transfer | A child in the programme who is moved to a different component, e.g. from SFP to OTP or SC, from SC to OTP |
| UNICEF | United Nations Children's Fund |
| VCT | Voluntary counselling and testing |
| WFP | World Food Programme |
| WHM | Weight for height, percentage of median |
| WHO | World Health Organisation |

## PREFACE

This manual reflects the experience gained over five years of implementing and developing Community-based Therapeutic Care (CTC). It is a practical guide that aims to help health and nutrition managers to design, implement and evaluate CTC programmes. It will also be relevant to a variety of others working in relief and development:

- Field practitioners who want a better understanding of CTC programmes.
- Project managers with Non-governmental Organisations (NGOs) and United Nations (UN) agencies addressing problems of acute malnutrition.
- Government officials within Ministries of Health and other government and middle-level agencies who want to learn about CTC and where it might be an appropriate response.
- Technical specialists with the UN, donor agencies and non governmental organisation (NGO) headquarters who want to understand what CTC programmes involve and deliver.
- Evaluators who want to know the issues relevant to CTC.

CTC is an evolving model. This manual should therefore be considered as dynamic. It will be periodically revised and updated. In recognition of the context-specific nature of CTC, this manual is not intended as a 'cookbook', whereby the reader follows a recipe and achieves the desired result. Rather, it is meant to be a tool to enable the reader to ask the right questions and determine the processes that will form the building blocks of effective programming.

CTC experience to date has been primarily with children aged six months to five years. Therefore this manual principally refers to the management of children in this age group and refers to child/children throughout the text. Guidelines for other groups are not included. This does not imply that other groups in the population such as adolescents, adults and the elderly cannot be treated using CTC protocols. However, this will require a modification of the protocols.

Check lists and protocols can be found in the annexes and these can be printed from the accompanying CD.

# Chapter 1
# Introduction

CTC allows children to be treated in their own homes rather than in large centres

# 1. INTRODUCTION

Severe malnutrition has traditionally been managed in inpatient facilities. However, in several large-scale humanitarian crises in the 1990's, it became evident that the traditional therapeutic feeding centre (TFC) model of inpatient care was unable to provide an effective response. For example, during the famine in south Sudan in 1998, only a small proportion of acutely malnourished people were treated in NGO-run TFCs. Access was a considerable obstacle, and coverage was very limited. People who did reach a TFC were congregated together, exposing them to the risk of cross infection and to additional security risks. Furthermore, the opportunity costs to the family of having to stay in the centre were high. Carers, usually mothers, had to stay in centres for several weeks leaving their other children and family members at home and rendering them unable to engage in daily activities.

Community-based Therapeutic Care (CTC) was designed to address these limitations. Its underlying aims are to maximise coverage and access. In practice, this means prioritising providing care for the majority of the acutely malnourished over inpatient care for a few extreme cases. This can only be done by providing treatment in people's homes. Community mobilisation techniques are used to engage the affected population and maximise coverage. Wherever possible, programmes build on local capacity and existing structures and systems, helping to equip communities to deal with future periods of vulnerability (Collins, 2001).

Acutely malnourished children are identified through screening of the affected population or by community or self-referral. Three forms of treatment are provided according to the severity of the child's condition:

- Those with moderate acute malnutrition and no medical complications are supported in a supplementary feeding programme (SFP) which provides dry take-home rations and simple medicines.
- Those with severe acute malnutrition (SAM) with no medical complications are treated in an Outpatient Therapeutic Programme (OTP), which provides ready-to-use therapeutic food (RUTF) and routine medicines to treat simple medical conditions. These are taken at home, and the child attends an OTP site weekly for check ups and more supplies of RUTF.

- Those who are acutely malnourished and have medical complications are treated in an inpatient stabilisation centre (SC) until they are well enough to continue with outpatient care.

The first pilot CTC programme was implemented out of necessity during the famine in Ethiopia in 2000. The local government had prohibited TFCs and malnourished people had to be treated as outpatients. The impact of the programme was positive, demonstrating that, for individual children, the clinical effectiveness of the outpatient therapeutic approach was equivalent to, or better than that achieved in TFCs (Collins and Sadler, 2002). A much larger programme followed in Darfur, Sudan, in 2001. The programme treated 1,000 severely malnourished and 24,000 moderately malnourished children; it achieved similarly positive clinical outcomes (Grellety, 2001).

In 2002, Valid International formalised the development of the CTC model, and Concern Worldwide agreed to fund a three-year research and development programme. In 2002, FANTA/AED also provided financial support and technical assistance to Valid International for the further development of the model. A focus on operational research, systematic analysis and documentation has resulted in a strong evidence base. This provides governments, donors and implementing agencies with the necessary background to make an informed choice regarding treatment options for acute malnutrition. Over 25,000 severely acutely malnourished children and over 130,000 moderately acutely malnourished children have now been successfully treated in CTC programmes in a variety of contexts and with a range of partners.

# Chapter 2
# The CTC Model

The decentralised nature of CTC allows the programmes to access even highly dispersed rural populations in harsh environments.

# 2. THE CTC MODEL

This chapter presents the principles and innovations that underlie CTC. An understanding of these is important for those planning, implementing and evaluating CTC programmes. The chapter then outlines the various components that make up a CTC programme and notes how they interlink and the sequence in which they are established. Lastly it explains how the CTC model can provide a framework for collaboration, and some of the implications for implementing agencies.

## 2.1 The Principles and Conceptual Basis of CTC

CTC is based on the fundamental principle that people whose lives are at risk from malnutrition should receive appropriate care and assistance. The provision of CTC should be impartial, and targeted solely on the basis of need. These are basic humanitarian principles (IFRC, 1994). In practice, these principles translate into a commitment and an obligation to provide the largest possible proportion of the acutely malnourished population with access to appropriate care. The core operating principles of CTC are thus:

**Maximum coverage and access.** CTC is designed to achieve the greatest possible coverage by making services accessible to the highest possible proportion of a population in need. It aims to reach the entire severely malnourished population.

**Timeliness.** CTC aims to begin case-finding and treatment before the prevalence of malnutrition escalates and additional medical complications occur.

**Appropriate care.** CTC provides simple, effective outpatient care for those who can be treated at home and clinical care for those who need inpatient treatment.

**Care for as long as it is needed.** By improving access to treatment, CTC ensures that children can stay in the programme until they have recovered. By building local capacity and integrating the programme within existing structures and health services, CTC also aims to ensure that effective treatment remains available for as long as acute malnutrition is present in the population.

CTC is founded on the understanding that, if malnourished children have access to nutritional care early on and can remain in a nutritional programme until they have recovered, success rates and impact will be high. If children get care late and/or they are discouraged from staying in a

nutritional programme for as long as they need to, impact will be limited. The basis of this understanding is the fact that malnutrition is not a disease that can be caught. It is the result of a complex interaction of economic, social, political, nutritional, medical and public health factors. The severity of the condition is primarily a function of the stage of its evolution.

The serious physiological consequences of acute malnutrition appear late in the evolution of the condition.[1] As the condition develops, metabolic and immunological consequences become more marked, and treatment becomes more difficult, more costly and more likely to fail. Acute malnutrition that has progressed to the stage where people face life-threatening complications must be treated on an inpatient basis. Inpatient treatment has major opportunity and economic costs for affected families and for service providers (costs which they often cannot afford). As a result, programmes often have low coverage and high default rates, and inpatient services are inadequate.

If, however, severe malnutrition is caught in the early stages, the technical aspects of treatment are very simple: all that is required is a balanced diet of sufficient quantity and quality in terms of proteins, carbohydrates, fats and micro-nutrients. The composition of such diets is well known, and they are relatively cheap to produce and easy to administer.

CTC programmes therefore focus on finding and addressing acute malnutrition early in the progression of the condition, before its metabolic and immunological aspects become marked and require inpatient treatment. To achieve this, and to ensure that children stay in treatment with few costs to them or to their families, programmes are designed to minimise barriers to access. Physical and logistical barriers are overcome by providing services close to where the target population lives. Social and cultural barriers to access are overcome through understanding the socio-cultural milieu in which CTC programmes operate. Developing such understanding is not necessarily expensive or time-consuming but it has to be planned properly and appropriately resourced. Reducing socio-cultural barriers also requires that people understand the services that are available to them and participate in developing and implementing programmes. This is vital in order to ensure that issues of importance to potential clients, such as the location of sites and the organisation of services at the site, are factored into programme design.

[1] These conditions have formed the focus of texts books and guidelines on the treatment of severe malnutrition because treatment has always been centralised and cases have presented late.

CTC's focus on engagement, understanding and participation, distinguishes it from other health extension and outreach services. Treatment models based on the extension concept, such as 'Home Treatment' and 'Ambulatory Care', start with a medical focus, and aim to extend services out from treatment centres into the community. These programmes are therefore designed from the perspective of health care providers and have difficulty fostering sufficient community understanding to sustain early presentation and high coverage.

## 2.2 CTC Innovations

The CTC model is further inspired and enabled by three key innovations:

- Ready-to-use therapeutic food (RUTF);
- A new classification of acute malnutrition; and
- Screening and admission by mid upper arm circumference (MUAC).

### 2.2.1 Ready–to-Use Therapeutic Food

RUTF was invented in the late 1990's by research scientist Andre Briend and Nutriset, a private company making nutritional products for humanitarian relief. RUTF is an energy-dense mineral/vitamin-enriched food, specifically designed to treat severe acute malnutrition (Briend et al., 1999). It is equivalent in formulation to Formula 100 (F100), which is recommended by the World Health Organisation (WHO) for the treatment of malnutrition (WHO, 1999/a). However, recent studies have shown that RUTF promotes a faster rate of recovery from severe acute malnutrition than standard F100 (Diop et al., 2003).

RUTF has many properties that make it extremely useful in treating malnutrition. It is usually oil-based and contains little available water (low water activity), which means that it is microbiologically safe and will keep for several months in simple packaging. As it is eaten uncooked, it is ideal for delivering many micronutrients that might otherwise be broken down by heat. Due to these properties, RUTF has enabled the treatment of severe acute malnutrition to move outside of feeding centres and into the community. These properties also make it potentially useful for the management of chronic illnesses such as HIV/AIDS.

Oil-based Ready-to-Use Foods (RUF) (RUTF, RUSF etc.) can also be made easily using low-tech production methods. They therefore lend themselves to local production which can reduce the price of the product and ensure local availability (see Chapter 12).

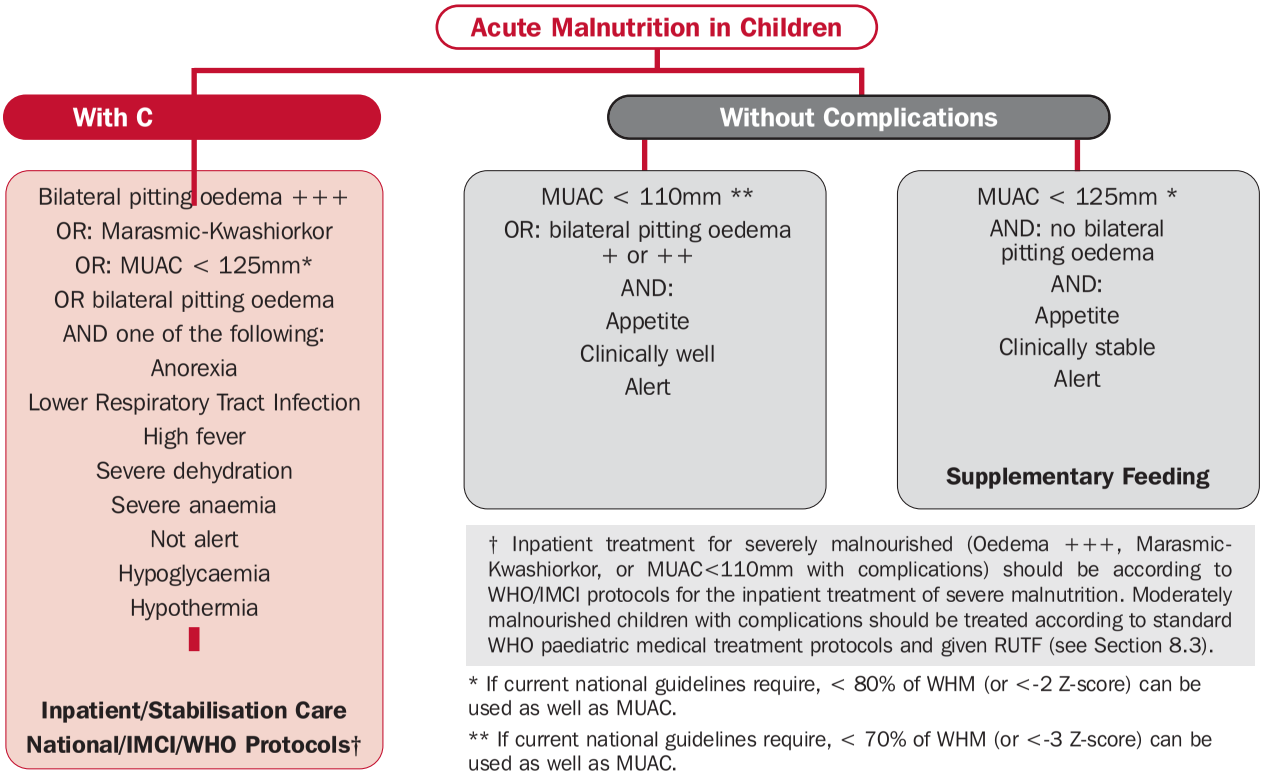
Non-oil based therapeutic foods such as BP100 (produced by COMPACT) are sometimes used in emergency situations. BP100 is a solid food based on the F100 formula with some iron added. It can be eaten as a biscuit or as a porridge mixed with water or breast milk (the porridge is recommended for children under two years of age). Because of this need to mix the BP100 biscuit with water for the younger age group, CTC programmes recommend that where BP100 is used it is in combination with oil-based RUTF. This ensures that the younger children are also treated with a ready-to use food that does not require mixing.

### 2.2.2 A New Classification of Acute Malnutrition

The existing WHO classification of malnutrition has two categories: severe acute malnutrition and moderate acute malnutrition, defined according to anthropometry and the presence of bilateral pitting oedema (see Annex 1 for definitions of grades of oedema). This classification is operationally useful when there are two modes of treatment: inpatient therapeutic feeding centres for children with severe acute malnutrition and outpatient supplementary feeding programmes for those with moderate acute malnutrition. CTC, however, has a third treatment mode: outpatient therapeutic feeding for children who are acutely malnourished but do not have additional complications. A new classification of malnutrition has therefore been devised to include the new category: acute malnutrition with complications. The new classification is used to decide whether a child needs inpatient or outpatient treatment. It ensures that all those who can be treated as outpatients are treated as outpatients, and only those who need inpatient care are treated in inpatient centres (Collins and Yates, 2003).

The new classification is used to decide whether a child needs inpatient or outpatient treatment. The additional category enables programmes to avoid many possible negative consequences for the child and the programme. If children with severe acute malnutrition without complications are admitted into inpatient centres, they are exposed unnecessarily to additional risk of infections. The carer, usually the mother, has to spend a substantial period away from her family including other children. This may result in increased malnutrition in the other children and undermine the economic activity and food security of the household. Space and resources in resource-intensive inpatient centres will be allocated to children who do not need inpatient care, so reducing the programme's impact and increasing its costs. On the other hand, if cases of moderate acute malnutrition with complications are not admitted for inpatient care, morbidity and mortality will increase.

**Figure 1: CTC Classification of Acute Malnutrition**




† Inpatient treatment for severely malnourished (Oedema +++, Marasmic-Kwashiorkor, or MUAC<110mm with complications) should be according to WHO/IMCI protocols for the inpatient treatment of severe malnutrition. Moderately malnourished children with complications should be treated according to standard WHO paediatric medical treatment protocols and given RUTF (see Section 8.3).

* If current national guidelines require, < 80% of WHM (or <-2 Z-score) can be used as well as MUAC.

** If current national guidelines require, < 70% of WHM (or <-3 Z-score) can be used as well as MUAC.

### 2.2.3 Screening and Admission by MUAC

In order to give access to care to the largest possible proportion of the acutely malnourished population, a programme needs to be very effective at identifying children who need care and admitting them to the programme. Screening must take place in the community, using a simple, low cost method that is easy for community volunteers to use and which communities can accept as fair and transparent.

Therapeutic feeding programmes typically use weight-for-height percentage of median (WHM) and/or the presence of bilateral pitting oedema as admission criteria. Mobile teams screen communities in a two-stage process using both WHM and MUAC measurement.[2] Two-stage community screening can, however, be a lengthy and resource-intensive process. Normally it requires three people to perform and record the necessary measurements accurately. They need to be literate and numerate, equipped with scales, height boards, electronic calculators and WHM tables. Teams often need vehicles to transport them and their equipment to screening sites and they must deal with crowd control and the provision of temporary shelter for people attending the sites. In some cases it may be possible to store equipment locally, but skilled staff still need transport of some kind. These requirements tend to limit screening activity to particular areas, reduce the frequency of screening and make the timely identification of malnourished children more difficult.


**A MUAC band**

CTC programmes recommend the same MUAC criteria for community referral and admission to allow a community-based strategy for referral to be adopted whereby all children who are referred from the community by outreach workers or volunteers, and who arrive at a programme site, are admitted.

[2] First, potential cases are identified using a sensitive MUAC threshold (e.g. 130mm), or by the presence of bilateral pitting oedema; second, children with a MUAC below the threshold are weighed and measured and their WHM calculated. Children with a WHM below an admission threshold (usually 70% WHM) and those with bilateral pitting oedema are referred for admission. In this scheme, all children who are referred and arrive at a centre are admitted.

The recommended criteria for children >65cm height[3] (and/or age >6 months[4]) are (Myatt et al., 2006):

MUAC < 110mm and/or oedema: refer and admit to OTP
MUAC ≥ 110mm and < 125mm: refer and admit to SFP

Using only MUAC for screening and admission instead of a combination of MUAC and WHM has important practical benefits:

**The interface between the programme and the beneficiary community is strengthened.** MUAC is simple to use, and allows community volunteers to refer children directly to the programme.

**It is a one-stage process, in which community referral entitles an individual to admission to a programme.** Experience shows that a two stage process using a sufficiently-sensitive MUAC threshold for community referral, followed by admission using WHM, leads to many children being referred but not admitted. This results in reduced coverage by creating confusion and disillusionment.

**It is simple and cheap.** Other service providers can also screen and refer using MUAC without greatly increasing their workload. Links between the CTC programme and other sectors and services are therefore facilitated. The confusion caused by using different weight-based indicators (e.g. weight-for-age and weight-for-height in growth monitoring and mother and child health (MCH) programmes) is avoided.

**It enables programme sites to function more efficiently.** Delays and overcrowding are reduced because people do not need to be re-screened for admission.

**It is less prone to mistakes.** Comparative studies have shown that MUAC is subject to fewer errors than weight for height (Myatt et al, 2006).

**It is more sensitive.** MUAC is a better indicator of mortality risk associated with malnutrition than WHM. It is therefore a better measure by which to identify children most in need of treatment.

[3] Using a height cut-off means that outreach workers and volunteers can use a simply marked stick to assess eligibility.

[4] The age criteria may be added where there are high levels of stunting in the population. This enables inclusion of stunted children <65cm height but over six months in age, though particular attention should also be paid to promotion of breastfeeding in this group.

There are situations where WHM must still be used for admission to programmes – where national strategies dictate the use of it, for instance, or where other agencies working in the area are using it, and links between programmes need to be fostered. In these cases, compensation (soap, for example, supplementary rations or preventative services such as an extended programme of immunisation (EPI) or de-worming from the clinic) should be offered to people turned away, so that the visit to the clinic is still worthwhile.

Using a MUAC cut-off for referral and admissions, particularly in supplementary feeding programmes, can have implications for the size of the programme and for reporting. Ideally, a context-specific analysis of need, based on MUAC data collected during standard nutrition surveys would be conducted to estimate the expected programme size for SFP based on specific cut-offs. Tools are available to select the most appropriate MUAC cut-off to use for a given situation/population group (SCUK, 2004). Cut-offs for SFP can then be adjusted (e.g. reduced to 120mm) based on capacity and resources so that priority is given to identifying children most at risk of death and therefore most in need of treatment.

## 2.3 Programme Components

The CTC model has four key components:

**Community mobilisation** stimulating the understanding, engagement and participation of the target population (see Chapter 5).

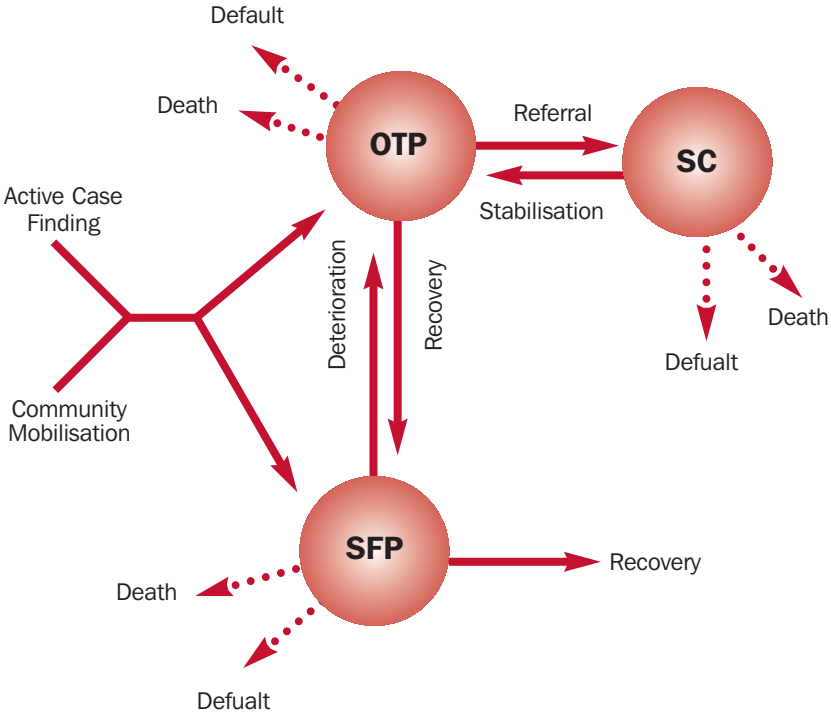
**Supplementary feeding programmes** providing dry take-home rations and routine basic treatment for children with moderate acute malnutrition without complications (see Chapter 6).

**Outpatient therapeutic programmes** providing RUTF and routine treatment using simple medical protocols for children with severe acute malnutrition without complications (see Chapter 7).

**Stabilisation centres** providing inpatient care for acutely malnourished children with medical complications (see Chapter 8).

In addition to these four components, CTC links the provision of care for the malnourished with measures aimed at addressing some of the underlying causes of malnutrition, such as public health, hygiene and food security (see Chapter 4).

**Figure 2: Components of the CTC Programme and How They Fit Together**




An acutely malnourished child is selected for admission through community mobilisation and active case-finding. If screening measurements and assessment indicate s/he has moderate acute malnutrition but no medical complications, s/he is admitted into the SFP and receives regular dry rations for consumption at home until fully recovered. If s/he has severe acute malnutrition with no medical complications, s/he is admitted into the OTP and receives RUTF and medicines to treat simple medical conditions. These are taken at home and the child attends an OTP site weekly for check-ups and to be re-supplied with food and medicines. If s/he is acutely malnourished and has medical complications, s/he is transferred from the OTP or SFP to the SC for inpatient treatment until well enough to return to outpatient care in the OTP. When the condition has improved, s/he is discharged into the SFP for supplementary feeding until fully recovered. A small number of children may also arrive directly at the SC and would be referred to the appropriate programme component from there.

## 2.4 Programme Evolution

The sequence in which the various CTC components are established varies according to the particular circumstances in which the programme is implemented. Ideally, a programme evolves as follows.

In the initial stage of an emergency CTC programme, the population is sensitised and mobilised. Key community figures (traditional and political leaders, traditional healers, religious leaders, representatives of women's groups) are contacted and community meetings are held to provide information about the programme's aims, methods and target group, and to solicit help in mobilising the population. An SFP can be rapidly established through multiple access points and the outpatient element (OTP) is then added (at existing health facilities where possible). The initial stage can occur within days.

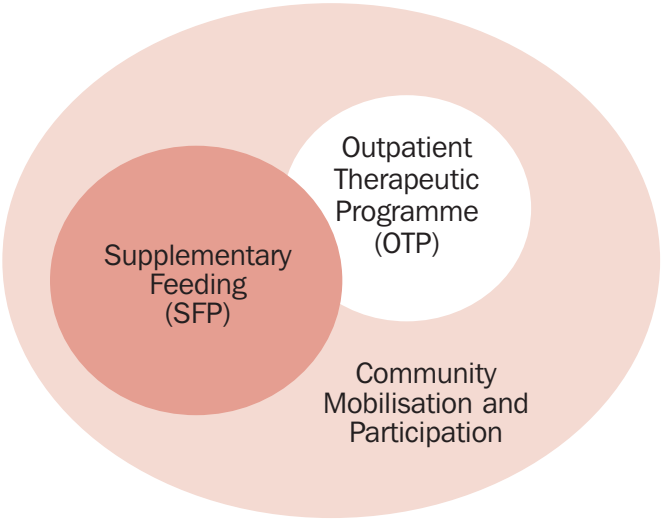
As the programme evolves, resources can be put into selecting and mobilising volunteers from the community, supported by outreach workers employed by the programme. These volunteers are responsible for finding new cases, tracing defaulters and encouraging them to return to the programme, and following up with particular malnourished children in their homes. The aim is to increase programme coverage, improve compliance with treatment regimes and increase the participation of the community in order to provide a platform for the longer term.

When the SFP and OTP have achieved good coverage of the target population, resources can be invested in creating stabilisation centres. Where possible, these are located within existing structures. If competent local healthcare structures exist, needing relatively limited resources to strengthen them, it is appropriate to do this at the early stages of the programme, so long as this does not detract from the resourcing of the outpatient community components. Where local infrastructure does not exist or is very weak, it is important not to divert resources to establish SCs before the OTP and SFP elements have achieved good coverage.

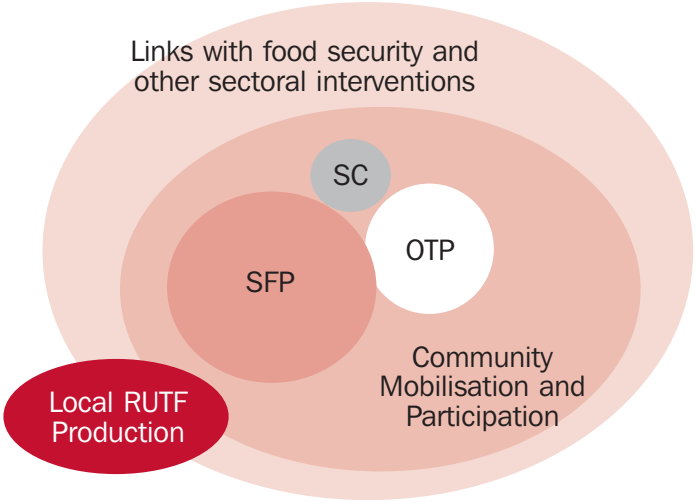
As the CTC programme evolves into the final stages, efforts are made to increase the links between the programme and work in other sectors, particularly public health and hygiene and food security interventions, as well as initiating the local production of RUTF.

**Figure 3: The Evolution of a CTC Programme**

**Early Stages**




**Fully Evolved**



## 2.5 Integration, Collaboration and Coordination

A wide range of interventions are required to ensure an effective nutritional response. CTC offers a common framework within which agencies, local/regional/national government and communities can collaborate to implement the various CTC programme components. It also includes the promotion of links with interventions in other sectors to take into account the social, economic and political aspects of food insecurity and malnutrition.

### 2.5.1 Intra-Sectoral Collaboration and Integration

A CTC programme demands a wide range of skills and capacities. An agency can implement one or more of the CTC components while working closely with local ministries, organisations and other agencies implementing other elements of the programme. CTC can thus be complementary to traditional TFC/SFP programmes by integrating these elements into a broader framework. Effective collaboration can ensure that the various components combine to form a coherent and comprehensive response, thus achieving the greatest possible impact for the target population. Collaboration may include:

- Integration of the OTP into existing health facilities to run alongside primary health care services.
- Integration of the SC into hospitals and health centres with an existing inpatient facility (see Box 1).
- Links with health interventions such as Integrated Management of Childhood Illness (IMCI), immunisation (EPI), malaria prevention, growth monitoring, micronutrient supplementation, health and nutrition education, ante-natal programmes and family planning programmes.
- Implementation of different CTC components by different agencies (see Box 2).

**Box 1. Integration of CTC with Existing Clinical Health Systems**
*(Concern Wollo, Ethiopia 2003 onwards)*

At initial programme set-up, plans were made to establish a stabilisation centre for children requiring inpatient care in the local health centre. However, this was revised after a visit to the zonal referral hospital which found that there was a 50-bed paediatric ward with one room already allocated as a nutrition unit.

Practices were out of date, for example a 'kwash' milk recipe containing eggs and milk which was being used. It was being made once a day in the morning and left in a container beside the bed for 24 hours. Concern helped the hospital obtain F100 and F75 and supplies such as nasogastric tubes that were not available in the hospital, and worked closely with the medical director to revise and update protocols. The medical director also attended training on updated Ethiopia National protocols for inpatient treatment of severe malnutrition and was then able to pass this training on to all the hospital paediatric staff.

Concern appointed one hospital liaison assistant (deliberately non-medical) to facilitate the admission, stay and discharge of children. No incentives or per diems were provided to health staff. Concern also facilitated the transfer of children to and from hospital and paid for medical expenses incurred while in hospital.

This investment in building local capacity and working within the current system paid off. Results are extremely encouraging. 168 children were treated during the first year period by the hospital staff as part of their normal workload. The hospital death rate for severely malnourished children dropped from an estimated 50% before the start of the project to 9.5% in this time. An excellent relationship has developed between Concern and the hospital and long-term capacity for the hospital to treat severe malnutrition has been markedly increased.

*Source: (Mates, 2004).*

### Box 2. Collaboration in Darfur, 2004

During the emergency in Darfur in 2004, six different NGOs implemented the various components of the CTC programme in El Geneina. TFC interventions were run by MSF-France and MSF-Switzerland; medical care was provided through clinics operated by MSF-Switzerland and Medair; outpatient therapeutic care was provided by Concern, Tearfund and SC-US and outreach by Medair, Concern and MSF-Switzerland. Collaboration between the NGOs for coherent protocols and referral was facilitated by Valid and United Nations International Children's Emergency Fund (UNICEF). This cooperation resulted in the decongestion of inpatient care and the more efficient use of resources. It enhanced case-finding, case follow-up and hygiene promotion. Case fatality rates for severely malnourished individuals fell and programme coverage increased dramatically.

*Source: (Walsh and Faroug, 2004).*

### 2.5.2 Inter-Sectoral Collaboration and Linkages

Nutritional crises are caused by a combination of factors including conflict, economic deprivation, social exclusion, chronic vulnerability and individual pathological changes. Activities in a variety of different sectors are needed to restore acceptable levels of nutrition and health. A CTC programme does not provide this range of support, instead, it aims to form links with local structures, services and agencies in different sectors in order to contribute to a more comprehensive response.

The relevance of particular sectoral links depends on local morbidity and existing services. Usually, links are made with the public health, agriculture and water and sanitation sectors. The kind of links that might be considered include:

- Links with HIV/AIDS programmes such as voluntary counselling and testing (VCT) programmes, home-based care (HBC) and mitigation interventions.
- Links with water and sanitation interventions.
- Links with food security and agricultural interventions.

By forming intersectoral links, a CTC programme can capitalise on existing programmes and services to increase coverage and effectiveness while helping to strengthen other programmes and services, thus also increasing their coverage and impact. CTC can also provide an entry point for other interventions (see Box 3). Strategies and joint protocols can be developed to enable CTC and programmes in other sectors to support each other's activities. For example, existing volunteer networks put in place by food security or water and sanitation programmes can be mobilised for mutual objectives so that public messages about the various sectoral activities can be delivered more efficiently.

Potential links should be identified early in the planning process and should be incorporated in programmes as soon as is appropriate. In an emergency, when a rapid response is required, a staged approach is needed: priority is given to the most urgent elements and components and links are developed with food security and public health interventions only after the SFP, OTP and SC have been established. In developmental contexts, a comprehensive approach can be taken from the outset.

### Box 3. Sectoral Links in Malawi, Linking CTC with HIV/AIDS Interventions

Severe malnutrition and HIV/AIDS are inextricably linked. In many countries, a sizable proportion of the caseload of severely malnourished in inpatient facilities is infected, or otherwise affected by HIV/AIDS. CTC has proven to be a viable entry point for nutritional care and support for people living with HIV/AIDS. For example, the CTC programme in Dowa, Malawi, has built up a strong community base. This has allowed it to make links with other community-based interventions aimed at people with HIV/AIDS, such as home-based care. As a result, there has been high uptake of voluntary counselling and testing for children and their families, and effective links to treatment.

*Source: (WHO, 2005/a).*

### 2.5.3 Coordination

The requirements for collaboration and integration that are inherent in the CTC model require strong coordination systems to promote discussion and information sharing. Agencies need to be willing to coordinate effectively, on two levels:

- Working together on the ground – taking responsibility for complementary programmes and running shared training exercises.
- Working together on joint monitoring and on establishing standards of best practice, and developing locally appropriate tools to ensure the quality and accountability of programming.

As a new and highly-designed model, CTC offers implementing agencies and donors a unique opportunity to establish high standards in CTC programming to ensure the best possible impact. In addition to contributing to the development of this manual and its future revisions, interagency collaboration might involve developing a code of good practice, training and inter-agency mentoring, a system of collective self-regulation whereby agencies are recognised for meeting agreed CTC standards, and the incorporation of CTC into international technical guidelines such as those from WHO.

## 2.6 Implications for Implementers

Implementing CTC entails some important changes in impact assessment, funding, staffing and logistics.

### 2.6.1 Assessment of Impact and Funding

As CTC is based on public health priorities, implementing agencies, donors and other stakeholders need to develop and evaluate interventions according to population-level impact, rather than the clinic-level outcome indicators that currently prevail.

In order to rapidly achieve high coverage, CTC programmes give priority to resourcing and establishing outpatient services (SFP and OTP) and admitting high numbers of malnourished people. Overall, mortality in a CTC programme is lower, but agencies and donors need to be prepared for the possible political and emotional repercussions of reporting higher *initial* numbers of deaths.

Donor policy also needs to take account of the longer-term benefits of the CTC model. Relatively long-term funding cycles are required to enable the integration of CTC services into existing health services, and to allow for the gradual handover to local control. This applies to CTC programmes financed from emergency as well as developmental sources.

### 2.6.2 Staffing

CTC programmes are carefully tailored to the context in which they operate. Adapting programmes to fit the context is not work for inexperienced managers or advisors, and programmes therefore require managers with extensive experience of humanitarian or development programming and cultural understanding. They also call for expert technical advice. On the other hand, the actual implementation of CTC requires few, if any, imported specialist medical staff, and only a small number of skilled local staff. CTC protocols are short, simple and easy to teach to primary healthcare workers.

### 2.6.3 Logistics

In comparison with TFC programmes, CTC interventions require relatively little support infrastructure. However, the highly decentralised nature of the CTC approach, with its numerous OTP/SFP points, creates major logistical demands, particularly where programme areas are remote and travel is difficult. Challenges include transporting programme teams, supervisory staff and supplies to sites, and finding suitable storage space for RUTF and supplementary food at programme sites. Establishing a functioning logistics system and ensuring its continuity over the life of a programme calls for expertise in transport and procurement.

# Chapter 3
# CTC - In Context

Children under 5 years old, as commonly the most vulnerable to mortality and mobidity in emergencies, have been the main focus of CTC pregrammes to date.

# 3. CTC IN CONTEXT

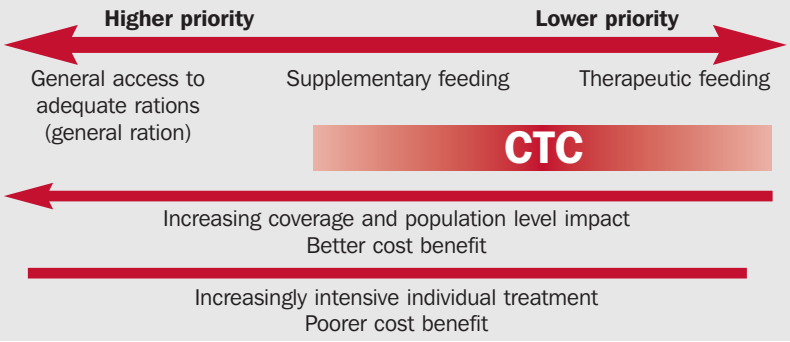
CTC is a highly adaptable model, and can be used to address acute malnutrition in most contexts. This chapter describes CTC's place within the hierarchy of interventions necessary for an effective nutritional response and how CTC can be adapted to individual contexts.

## 3.1 Hierarchy of Nutritional Interventions in an Emergency

In an emergency, CTC programmes take place within a hierarchy of interventions needed to address the nutrition crisis. The impact of therapeutic feeding on levels of severe acute malnutrition is considerably reduced if appropriate general support for the population is not in place (for example, if there is a failure in the general food pipeline or acute food insecurity). The hierarchy of nutrition intervention therefore prioritises the provision of basic food stuffs to the majority of the population over intensive, specialised nutritional support to malnourished individuals. Once the majority of the population has access to adequate quantities of food, the second priority is to provide high quality supplementary food to individuals with acute moderate malnutrition. When adequate supplementary rations are available to the majority of people affected by moderate acute malnutrition, therapeutic care for those with severe acute malnutrition can then be effective.

CTC programmes should complement the provision of general food to the population. It may be necessary for the agency implementing CTC to take a strong advocacy role to try to ensure the provision of a general ration where appropriate. Starting a CTC programme may itself act as a powerful tool for advocacy.

**Figure 4: Hierarchy of Nutritional Interventions in an Emergency**



## 3.2 Emergency and Development Contexts

When there are large-scale, life-threatening needs in the context of a humanitarian crisis, the design and implementation of the CTC programme needs to give priority to overarching humanitarian principles that ensure rapid response for those in immediate need. In practice this entails using the quickest, most effective means to establish immediate life-saving components, regardless of issues of longer-term sustainability. During conflict, for example, the programme may have to operate independently of national or international authorities and/or government services if they are a party to the conflict (working directly with communities can facilitate this). While community mobilisation, participation and capacity building are perfectly feasible during emergency interventions, where communities are weak or fragmented, or where community structures are subject to manipulation by political or military actors, the potential for community participation and mobilisation is likely to be reduced. In extreme circumstances - in Rwanda in 1994, for example - liaison with formal community structures may be impossible or counter-productive.

The CTC model can also be adapted to stable development situations. The treatment of severe acute malnutrition is regarded by many as specialised and expensive and is therefore often ignored by health systems. Many children in developing countries die as a result. It is not difficult to integrate OTP protocols into existing primary health care protocols and thus have a substantial impact on child mortality. Positive results achieved in developmental as well as emergency settings strongly suggest that OTP, SC and community mobilisation components of CTC should be an essential component of the primary health care system in developing countries.

When acute malnutrition is the result of chronic poverty and lack of development in a stable situation, the CTC programme should emphasise developmental principles and approaches - sustainability, ownership and capacity-building – that will address needs in the long term. In practice, this is likely to mean planning and implementing the programme in close cooperation with relevant actors, and building local capacity from the start. It may mean taking a demand-driven approach, in which the programme is implemented first in locations with the infrastructure and level of local commitment that give it a good chance of success. Such ‘starter sites’ can be used as demonstration and training facilities to introduce potential actors and beneficiaries to the methods and benefits of CTC.

In many situations, the context combines elements of humanitarian crisis with long-term underdevelopment. In these situations, experienced, well-

informed programme planners and managers are essential to ensure that the programme has the appropriate strategic balance for the context. The initial design and setting up of the programme is particularly important, as the directions and working arrangements established at the start can affect a programme for months or even years.

## 3.3 Target Groups

The objective of selective feeding programmes is to reduce the prevalence of malnutrition and mortality among vulnerable groups. Increased malnutrition and mortality in emergencies are normally observed in children under five years of age. Children are more susceptible to malnutrition because of their higher nutritional requirements in relation to their weight in comparison with adults, mainly as a result of a different body composition. Increased exposure to infections contributes to the higher mortality. Exclusively breastfed children below six months are less affected by malnutrition and infections. Children aged six months to five years are therefore given by WHO as the priority target group for nutritional assistance in any food emergency.

This manual reflects this WHO prioritisation by focusing on treatment for children in the 6-59 months age group. In addition, guidelines on the inclusion of pregnant and lactating women in supplementary feeding programmes can be found in Chapter 6.

To date, CTC has not been implemented in a situation where there are a large number of malnourished individuals in other age groups. Guidelines for other groups are therefore not included here. However, this does not mean that adolescents, adults and the elderly cannot be treated using the CTC model with modified protocols (see Chapter 12).

The treatment of acutely malnourished infants under six months of age in emergencies is an area of continued research and debate. CTC programmes have treated infants by referring them to the stabilisation centre (see Chapter 8) and using recommended protocols. However, the number of malnourished infants encountered in this age group has been small. WHO is developing guidelines for this age group, in consultation with other members of the international nutrition community (Interagency Working Group, 2001) and (ENN et al., 2004). It is hoped that in the future, these guidelines can be incorporated into CTC protocols. SFP protocols include support for infants through nutritional support to breastfeeding mothers (see Chapter 6).

## 3.4 Intervention Criteria and Decision-Making Tools

The decision about whether and when it is necessary to intervene with a CTC programme is based on four main considerations:

- The prevalence of, and trends in, malnutrition.
- The context - including the causes of the malnutrition, the socio-economic situation, the food security situation, general ration quantity and allocation, the presence of other interventions and projected future needs.
- Available resources – human, material and financial.
- Public health priorities - i.e. the hierarchy of intervention.

### 3.4.1 Prevalence of and Trends in Malnutrition

The decision to start a CTC programme can be based solely on the presence of a large number of severely acutely malnourished children requiring immediate life saving treatment. (WHO, 2000a). The following factors in relation to prevalence should also be taken into account:

- Levels of global acute malnutrition (GAM) and severe acute malnutrition (SAM) and the relationship between the two. For example, if SAM is high while GAM remains relatively low, it is likely that non-food factors such as disease, particularly HIV/AIDS, are important determinants of malnutrition. It may be that a particular group (e.g. recently displaced people) is at much higher risk compared to other groups, or there may be high levels of kwashiorkor.
- Trends in malnutrition prevalence. When available, the findings of earlier surveys in the same or a similar area can be compared and trends plotted. This allows judgements to be made about the 'normality' of the malnutrition levels found. Information on trends may also come from routine nutritional surveillance collected from clinics where these systems exist.
- The geographical spread of the affected population. It may be dispersed and mobile or higher levels of malnutrition may be present in particular areas that should be targeted.
- The reliability of the data. Sources of possible bias must be identified and the implications taken into account (see Annex 2 for sources of bias in nutrition surveys).

WHO's guidance for decision-making is described in Figure 5. However, this is based on the prevalence of wasting and food availability, does not take account of oedema prevalence, and includes a limited number of aggravating factors. It is therefore essential that these criteria are adapted to the local context, and that additional aggravating factors are considered (see Section 3.4.2).

**Figure 5: Decision Chart for the Implementation of Selective Feeding Programmes** *(WHO, 2000/a)*

| Finding | Action Required |
|---|---|
| Food availability at household level <2100kcal/person/day. | Unsatisfactory situation:<br>• Improve general rations until local food availability and access can be made adequate. |
| Malnutrition rate* 15% or more or 10-14% with aggravating factors.** | Serious situation:<br>• General rations (unless situation is limited to vulnerable groups); plus<br>• Supplementary feeding generalised for all members of vulnerable groups, especially children and pregnant and lactating women;<br>• Therapeutic feeding for severely acutely malnourished individuals. |
| Malnutrition rate 10-14% or 5-9% with aggravating factors. | Risky situation:<br>• No general rations; but<br>• Supplementary feeding targeted to individuals identified as malnourished in vulne'able groups;<br>• Therapeutic feeding for severely acutely malnourished individuals. |
| Malnutrition rate under 10% with no aggravating factors. | Acceptable situation:<br>• No need for population interventions;<br>• Attention to malnourished individuals through regular community services.*** |

* The malnutrition rate is defined as the percentage of the child population (six months to five years) who are less than -2SD (Standard Deviations or z scores) below the median weight-for-height of the international reference distribution, or less than 80% of the reference median weight-for-height.

** For WHO aggravating factors are:

- General food ration below the mean energy requirement (<2100kcal/person/day).
- Crude Death Rate greater than 1/10,000/day.
- Epidemic of measles or whooping cough.

*** The CTC model falls within both the therapeutic and supplementary feeding categories. It can also fit into the category of 'attention to malnourished individuals through regular community services', as it has the potential for implementation through existing services. By strengthening existing services, it creates capacity to treat acute malnutrition in the long term where prevalence is low (see Section 3.2).

### 3.4.2 The Context in which Malnutrition is Occurring

A range of factors should be taken into account when adapting decision making, based on the above mentioned WHO guide to the local context. Sources of information are outlined in Section 3.4.4.

**The causes of malnutrition.** Different factors cause malnutrition in a population and it can be difficult to determine the most important factors. The UNICEF conceptual framework for the determinants of nutrition is a useful tool. It provides the basis for a causal analysis of malnutrition in a particular population and can help in prioritising interventions (see Annex 3 for the UNICEF framework).

**Death and morbidity rates and trends.** It is important to know whether death rates are above acceptable levels (see Figure 6), whether there has been an increase in death rates or morbidity and whether there has been, or there is a risk of, epidemics of measles or whooping cough. Consideration of death rates is important as in some cases a survey can find misleadingly low malnutrition rates because of high death rates among malnourished children.

**Figure 6: Death Rates and Stage of Alert**
*(adapted from SPHERE, 2004 and USAID, 2000).*

| | **Baseline Crude Death Rate** Deaths 10,000/day | **Baseline Under 5 Death Rate** Deaths 10,000/day |
|---|---|---|
| Average for least developed countries | 0.38 | 1.03 |
| Average for Sub Saharan Africa | 0.44 | 1.14 |
| Average for industrialised countries | 0.25 | 0.04 |
| When unknown, agencies should aim to maintain rate below: | 1.00 | 2.00 |
| Average for the developing world | 0.27 | 1.0 |
| In an emergency: *not critical* | <1 | <2.0 |
| In an emergency: *serious* | 1-2 | 2-4 |
| In an emergency: *out of control* | >2 | >4 |

The crude death rate (CDR) is the most specific and useful health indicator in a disaster situation. A doubling of the baseline CDR indicates a significant public health emergency, requiring an immediate response.

**Socio/economic context.** Livelihoods, market trends and debt levels are important for an understanding of the current and future vulnerability of the community.

**Cultural context:** caring practices and beliefs concerning food and disease. For example, in some contexts children's nutrition is protected to such an extent during periods of food insecurity that high malnutrition rates are not seen in this group, though they exist in other groups, such as adults. In this case a CTC programme with wider targeting criteria may be required.

**Agricultural/ecological context.** Including climate patterns, harvest calendar, food security situation (food access, availability and future vulnerability of agricultural production). For example, high levels of malnutrition after a harvest are more alarming than similar levels immediately preceding the harvest period.

**Coping strategies: types of coping strategy, trends in their use, who is applying them, how well they work and their potential adverse consequences.** This provides an understanding of the current situation and the extent to which current behaviour may be creating future vulnerability. In such situations a feeding intervention can help to prevent future deterioration.

**Additional potential aggravating factors that could increase vulnerability and the risks of malnutrition-related mortality.** These may include insecurity, population movements, climate, the availability of shelter, vaccination and water and sanitation. Such factors may necessitate intervention even at relatively low rates of malnutrition prevalence. The consequences of some aggravating factors can be measured against the SPHERE standards; others require judgements by experienced staff.

**An estimate of the population's future needs.** Including future food prospects, potential disease outbreaks and potential changes in caring practices.

**Other interventions being carried out or planned in the area.** Intervention is necessary only if services are not being provided already. Rather than starting a new CTC programme, it may be appropriate to support or supplement an existing programme, for instance by providing an OTP to work alongside an existing SFP. The presence and adequacy of general food distributions (GFDs) is a key factor: if a population is highly dependent on food aid, the adequacy of the general ration is crucial.

### 3.4.3 Available Resources

Decisions about whether to implement CTC, and the form the programme should take, are also determined by the resources available, including staff, supplies, logistics, funding and the capacity of the local health system. An understanding of existing capacity is essential to ensure that, whenever possible, programmes build on and strengthen existing systems capacity to treat severe acute malnutrition. The main considerations are:

- The personnel, expertise, supplies, logistics capacity and funding of the CTC implementing agency.

- The personnel, supplies and logistics capacity of existing services, including government health services, other government departments, international and local NGO programmes and religious groups. They may be able to provide resources such as seconded staff or community workers who can help to disseminate information about CTC.
- A reliable supply of RUTF.

### 3.4.4 Information Sources

The information needed to make decisions about whether to implement a CTC programme may come from secondary data or fresh data may be collected in the field. The more sources of information that are available, the better informed the decision will be. Information sources include:

- Host government documentation/resources on the current situation and context.
- Nutrition surveys.
- Food security assessments.
- Interviews and focus group discussions with key informants and community members.
- Routine screenings.
- Monitoring data on therapeutic and supplementary feeding programmes.
- Clinic records.
- Routine health surveillance.
- The population records of the local authority.
- Information from other programmes in the area (general ration provisions, food security, health and health education, water and sanitation).

# Chapter 4
# Planning and Design

Emergency CTC programmes provide services within a maximum of one days walk for the target population.

# 4. PLANNING AND DESIGN

CTC is a new model which differs considerably from conventional approaches, and therefore requires a shift in thinking and analysis. This chapter explains how a CTC programme is planned and designed, how the capacity of the community and existing services are assessed and incorporated in programme design, and the resources required.

## 4.1 Planning a Programme

The programme planning process clarifies:

- What the programme aims to achieve;
- Which aims take priority; and
- How the programme will achieve its aims.

Programme planning is not a single activity that aims to produce a blueprint for action. Aspects of the plan are likely to alter as the programme develops, and it is important to ensure that teams have the time to engage in this process.

CTC programmes are planned so as to achieve certain objectives by the end of the programme period. However, in line with the principles outlined in Chapter 2, they also emphasise integration with, and the development of, local capacity to respond to nutritional problems not just in the nutritional crisis but also in the longer term. Planners must therefore consider how the project can transition into the longer term so that mortality associated with severe malnutrition is kept at a low level.

### 4.1.1 Who is Involved in Programme Planning?

The details of a programme plan are worked out by the team that will supervise and implement the plan. The relevant local health service structures and other local agencies must also be involved. Ideally, all the agencies involved should plan the CTC programme together, and should meet regularly to review progress. Adequate liaison between the components needs to be carefully planned for, to allow proper coordination and monitoring.

Senior managers and officials responsible for the national or regional programme within which the CTC programme is situated should also be involved in the formulation of (and commitment to) the programme's aims

and objectives. Since the activities of agencies outside the CTC programme may have an impact on its success or failure, the programme plan should also take into account the plans of other agencies.

The affected community's knowledge of the situation and how it could be addressed is invaluable, and community representatives should be involved in the planning process. This may present some problems, as planning is likely to precede activities aimed at building up community involvement. Nevertheless, some degree of involvement is usually relatively easy to achieve.

### 4.1.2 The Planning Stages of a CTC Programme

Once the decision has been made to implement a CTC programme, the following planning stages need to be undertaken. These are linked and may occur simultaneously:

**Stage 1: Analyse the opportunities and constraints.** This may be done through a SWOT analysis (strengths, weaknesses, opportunities, threats). The analysis should address issues internal to the agency and its implementing partners, as well as the external environment. It is important to include an investigation of the opportunities for, and obstacles to, integration with existing health services and community mobilisation.

**Stage 2: Determine objectives and develop a plan to achieve them.** In CTC programming this is done through the use of a logical framework (logframe). Logframe analysis has several advantages: it is explicit about aims and the relationships between them; it makes a clear distinction between aims and strategies; and it is clear about how monitoring will be conducted and used, and how risks will be managed. (This manual assumes a basic knowledge of logframes but provides a logframe refresher in Annex 4).

A generic example of a CTC logframe is given in Annex 5. This is an example only; the generic suggestions given should not be copied or adapted. It is essential that these suggestions are carefully considered and developed specifically for each project and context.

**Stage 3: Determine verifiable indicators. Planners should refer to the table in Annex 6.** This provides a guide to key indicators of quality and appropriateness in CTC programmes.

**Stage 4: Assess existing capacity and potential.** The planning process should involve local authorities and/or health service implementers in the

assessment of existing capacity to implement components and services within the CTC programme. Annex 7 gives a framework that can be used to aid this process. Assessment of community capacity is also a key part of an effective planning process (see Section 4.2). Both these aspects will ensure the appropriate integration of programme components and will contribute to the programme's appropriateness and longer-term sustainability.

**Stage 5: Planning for long-term CTC programming.** An essential part of CTC planning is to incorporate an integration strategy from the beginning (see Section 4.3).

**Stage 6: Determine resource requirements.** See Annex 8.

**Stage 7: Use a planning feedback loop.** It is important to examine the objectives and implementation plans with all planning parties and to adapt and adjust them as knowledge and understanding increases. The feedback loop in Figure 7 shows how implementation and monitoring lead to learning.

**Figure 7: Objective and Planning Feedback Loop**

## 4.2 Assessing Community Capacity

The inception of a CTC programme is normally preceded by an assessment of the capacity of the target community. Insights gathered during the assessment form the basis for the programme architecture (see Chapter 5).

### 4.2.1 What To Assess

A good understanding of five aspects of the community is needed:

**Key community figures.** The involvement of key figures in the community can help in gaining the community's acceptance and trust, and in communicating and disseminating key messages. Potentially important individuals include social or political leaders (traditional and modern), religious leaders (priests, imams), traditional health practitioners (healers, birth attendants), teachers (religious and secular) and elders. The programme should also engage with additional people who have a lot of interaction with children in the first ten years of life.

**Community groups and organisations.** These include groups created by communities themselves, as well as those supported externally, for instance by NGOs or the government. A community assessment should try to understand the interests and concerns that cause people to form organisations for the communal good. Agricultural and farmers' associations are common examples. It is important to investigate issues that particularly concern women's associations, since women are most often the primary carers of children.

**Formal and informal channels of communication.** Understanding how information travels within and between communities is crucial when designing and planning sensitisation activities. It is important to understand the subtle (and often more effective) ways in which information flows, as well as more obvious means of dissemination. Formal channels can include village and area meetings and the dissemination of information by local leaders. Informal channels include conversations where people gather: at water-points, for instance, or at markets and ceremonies, such as weddings and funerals.

**Paths to treatment of severe malnutrition.** This element of the assessment explores how the local population currently seeks treatment for childhood diseases. Are folk or 'traditional' treatments sought and administered before children are taken to a clinic? If so, how can people be encouraged to seek treatment from the clinic earlier, and who would need

to be involved? How are local differences in concepts and vocabulary likely to affect the way that the CTC programme's intentions are communicated? Developing a rough idea of local understanding of causation and the names used to signify oedematous and wasted children (e.g. swollen, thin) would help to describe the target population accurately, and to minimise potential misunderstanding. Local NGO and government staff can help with creating a list of disease names, but biases are common so triangulation with other sources (carers, traditional healers, cultural gatekeepers) is important. Provided that an effort is made to put informants at their ease, a great deal can be learned by discussing case histories with parents.

**Motivating factors.** The motivation people require to participate in a programme is related to the amount of effort they need to make to do so. Thus, using channels and behaviours that already exist involves less effort, and therefore requires less motivation. Requiring people to do something new might involve a lot of effort, and thus require a lot of motivation. Motivation is normally addressed at two levels: the motivation of parents (to attend screenings, follow protocols, return for re-weighing); and the motivation of volunteers or outreach workers to perform their roles diligently (case-finding, assisting at sites, following up children in their homes where required). The successful treatment of sick children is a powerful motivating force for families and volunteers alike; however, it is often possible to anticipate sticking-points. For example, the additional elements of motivation for a volunteer case-finder might include some or all of the following: a fair division of labour with fellow volunteers; opportunities for in-service training; accountability to a health committee or local leadership; or possession of a MUAC tape. There is also a need to anticipate and avoid things that might de-motivate people (for example, not paying them when they expect it), or that might motivate them to speak badly of the programme (for example, through being marginalised in an area in which they are usually involved).

### 4.2.2 How To Assess It

Assessing community capacity does not require specialist help, although some familiarity with qualitative research is useful in examining paths to treatment. Assessment requires an open mind and the ability to cross-check and triangulate. The implementing agency's local staff should be involved in collecting this information. Government ministries (health and agriculture in particular) and sister agencies may also have staff in the field who can offer candid opinions about capacity in a variety of areas. The process need not

be time-consuming: key information can be gathered rapidly if an individual is assigned exclusively to the task. An assessment adequate enough to inform subsequent mobilisation activities can be completed in less than three weeks.

It is important to be aware of the preconceptions and bias that might influence the assessment process. For example, agency staff from the capital may be unfamiliar with the local culture, or dismissive of rural institutions and practices. Community assessment should therefore draw on information sources that reflect a reasonable mix of perspectives.

The process of community assessment builds insight into capacity, but it also builds relationships that can serve as a continual source of knowledge and information for the programme. Regular dialogue through these channels will reveal needs, opportunities and obstacles as they develop, allowing adjustments to programme strategy and implementation (see Annex 9).

## 4.3 Planning for Longer-Term CTC Programming

The development of local capacity to respond to severe acute malnutrition in the long term is a key aspect of CTC. In places that are prone to disasters, it is also desirable to leave behind an improved capacity to provide emergency CTC in future crises. By continuing to provide the services below, outside of crisis periods (where numbers are low), existing institutions can retain the necessary knowledge and skills, networks (communities) and contacts (donors etc.) which will allow them (with additional support where required) to respond to future crises.

The components of a CTC programme in the longer term are:

**Outpatient therapeutic care within the primary health care system.** Even in 'normal' times, substantial numbers of children may have severe acute malnutrition. Health systems in developing countries often neglect malnutrition and health staff can do little more than advise carers to attend hospital or feed children better. Outpatient therapeutic care can have a significant long-term impact on child mortality, and clinics can use OTP protocols to treat acutely malnourished children at costs similar to those of drug therapies.

**Stabilisation care.** Provision of inpatient care for the treatment of severely malnourished children is already included in international WHO protocols. By minimising the number of children requiring inpatient care, CTC helps health

ministries to provide these services through existing hospital structures.

**Community mobilisation.** The community mobilisation component of a CTC programme may remain an effective interface between nutrition/health services and the communities they serve. Community institutions can also be useful in responses to future crises.

**Supplementary feeding.** It would be unusual to continue a standard SFP after the relief stage of a response. In the longer term, however, other nutrition programmes targeting the chronically malnourished (PDHearth[5] and growth monitoring) may exist and links to these can therefore be sought.

External support for CTC implementation is usually given in the form of an institutional framework, funding and expertise, each of which should be considered in planning for the longer term.

### 4.3.1 Institutional Frameworks

Where acute malnutrition is less widespread, it is possible to address it with CTC delivered solely through an existing health care structure. If the relevant local institutions have been involved in the planning and implementation of a CTC programme, they are much more likely to be able to continue CTC services when external support ends. National as well as local level institutions need to be involved as national management systems, policies, protocols and budgets are crucial in the continuation of CTC services. Integration of OTP into primary health care activities and provision of RUTF through national drug delivery logistic systems will be key elements.

If the official health system is not able to provide CTC services, it may be possible for private practitioners to do so, in collaboration with government structures.

The community's part in the institutional framework is essential. Community mobilisation also has a major role in ensuring that people are able to identify acute malnutrition, understand its implications and know how it can be

[5] Positive Deviance/Hearth is a home and neighbourhood-based nutrition program for children who are at risk of malnutrition in developing countries. The 'positive deviance' approach is used to find uncommon, beneficial practices carried out by carers of well-nourished children from impoverished families. The approach then spreads these practices and behaviours to others in the community with malnourished children through a series of sessions run in homes where carers and volunteers prepare "positive deviant" foods, feed children and practice beneficial child care behaviours.

treated. Other health providers, traditional and modern, can play an important part in this.

Possible output objectives to ensure that an appropriate institutional framework continues could include:

- National health policies harmonised with CTC protocols.
- Agreement that health budgets can be used to purchase RUTF.
- Local/national RUTF production.

This will call for liaison, negotiation, advocacy and partnership with national ministries and donor representatives.

### 4.3.2 Funding and Supplies

The continuation of CTC services will depend on funding being available. This can be a challenge when an emergency or a development project comes to an end. If the context is one of transition from emergency relief to a development programme, the donor agencies and the types of funding available may change. It is therefore useful, even in emergency programmes, to encourage development and health sector donors to take an interest in the programme. Donors with a specific policy focus on child survival may be the most relevant. Funding limitations should not be seen as a deterrent. CTC components that are fully integrated in an existing (and, presumably, funded) health programme or system are unlikely to be prohibitively expensive.

Sustaining CTC services also depends on the availability of affordable RUTF for outpatient care, and F75 for inpatient care. Local production of RUTF can help to reduce costs and logistical constraints (see Chapter 11). Discussion and advocacy should also be carried out at the planning stage with UNICEF and the health ministry to ensure that food can be supplied in a sustainable way.

### 4.3.3 Expertise (Knowledge and Skills)

The transfer of knowledge and skills is vital to the longer-term maintenance of CTC programmes. Agencies should provide ongoing training and mentoring support for ministry of health staff and managers, so that they continue to build their capacity to implement and supervise the programme. Opportunities to incorporate CTC training into standard staff training should be explored.

## 4.4 Determining Resource Requirements

The resources required for a CTC programme (human resources and technical expertise, finances, equipment and supplies, transport and physical structures) vary considerably according to the context of the programme. Important variables include the presence or absence of a functioning health system, which the affected population can access; the extent to which communities are intact and functional (refugee or displaced populations may differ from settled communities); the accessibility of the affected population (how dispersed and remote it is, the road and transport infrastructure and the security situation); and local capacity to produce or import RUTF.

### 4.4.1 Direct and Indirect Costs and Savings

The community-based focus of CTC means that the opportunity costs to children, carers and their families are much lower than in traditional approaches because the vast majority need only visit a CTC site once a week or fortnight. Outreach and case-finding is almost exclusively implemented by community volunteers, traditional practitioners or mothers whose children have benefited from CTC. Since cases are usually found and treated early, before complications occur, only 10%-15% require inpatient treatment. This reduction in inpatient requirements greatly reduces any additional workload for inpatient facilities, reducing or eliminating the requirements for additional curative staff and additional inpatient beds. If the RUTF is made locally, it can also help provide economic benefits to local communities.

### 4.4.2 Human Resources and Technical Expertise

CTC programmes require skilled health and nutrition technicians with experience of working in programmes addressing acute malnutrition. That experience may have been gained in therapeutic and supplementary feeding programmes. Knowledge and experience of community development are also required. If an agency does not have the requisite knowledge and skills in-house, they should be contracted in from an agency with experience in CTC programming. Such technical support can assist in planning, implementing and evaluating a CTC programme, whilst also helping to develop the implementing agency's own skills and capacity. The staff requirements for each of the components of a CTC programme are described in more detail in the chapters that follow.

# Chapter 5
# Community Mobilisation

Identifying key people who can pass messages about the programme to the rest of the community and potentially act as case-finders is an integral part of community mobilisation.

## 5. COMMUNITY MOBILISATION

In CTC, the term 'community mobilisation' refers to a range of activities designed to help implementers understand affected communities, build a relationship with them and foster their participation in the programme. It discusses why mobilisation is important to CTC, describes the elements of a successful mobilisation effort and explains how to formulate and implement a mobilisation plan.

### 5.1 Why Mobilise?

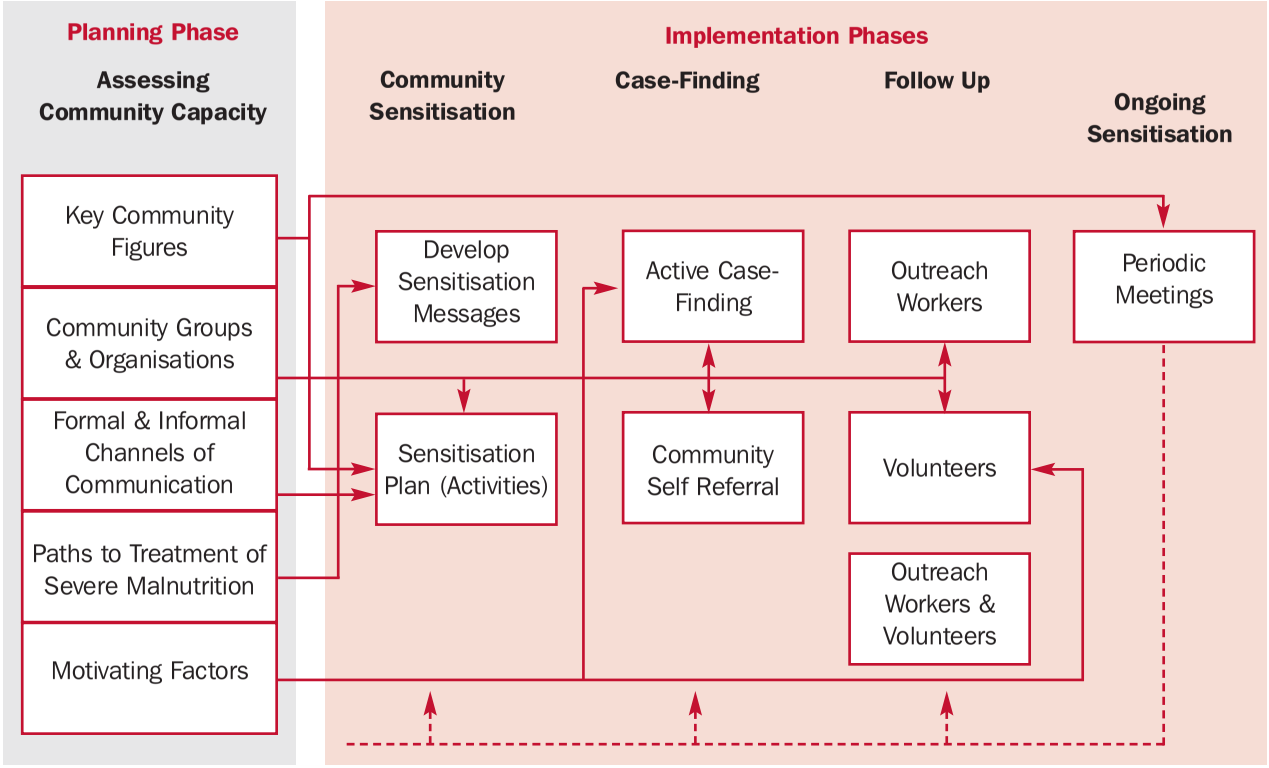
**Establishing coverage.** CTC's success hinges on the question of coverage. Experience to date with CTC suggests that there is normally a moment when the community comes to recognise the effect of RUTF on sick children. Once recognised, programme admissions increase rapidly, leading to good coverage levels. Reaching this point is largely a matter of effective mobilisation. Without effective mobilisation, the programme may find itself attracting the wrong people (healthy children, families that expect a general ration) and create misunderstanding regarding entitlements. The ill-feeling generated by turning away those who perceive themselves to be entitled can reduce participation among target families. However, with good channels of communication, a clear description of the target population and efforts to allay concerns or misunderstandings, a programme stands maximum chance of creating a positive cycle, in which the good experience of families participating in CTC is related back to their neighbours through word of mouth encouraging attendance and increasing coverage.

**Ownership and sustained coverage.** CTC relies on an active, volunteer labour force to carry out a variety of outreach functions, including case-finding in the community, assisting with OTP/SFP and following-up OTP children where required. Through efforts to establish genuine community participation, the programme can maximise the chance that volunteers have a good understanding of their duties, that they are selected from the most committed pool of candidates, and that their work is scrutinised and facilitated by community leaders. The objective is to combat any tendency to offload responsibility for difficult programme legwork to a few, already overburdened individuals, and to establish an outreach system that makes the best use of all available community resources – material, human and intellectual.

## 5.2 Elements of Community Mobilisation

The process of mobilising communities varies widely depending on the context and on the programme's overall objective (e.g. emergency relief versus long-term developmental work). However, in most cases the implementation phase of community mobilisation covers at least four activities: community sensitisation, case-finding, follow-up and ongoing sensitisation.

**Figure 8: Elements of Community Mobilisation**



### 5.2.1 Community Sensitisation

Community sensitisation promotes understanding of programme objectives and methods. Typically there are three steps in this process: planning, formulating sensitisation messages, and disseminating these messages. Information gathered in the assessment of community capacity (see Section 4.2) guides planning. The more comprehensive the assessment, the more targeted and effective the sensitisation messages are likely to be. Common features of a sensitisation campaign might include:

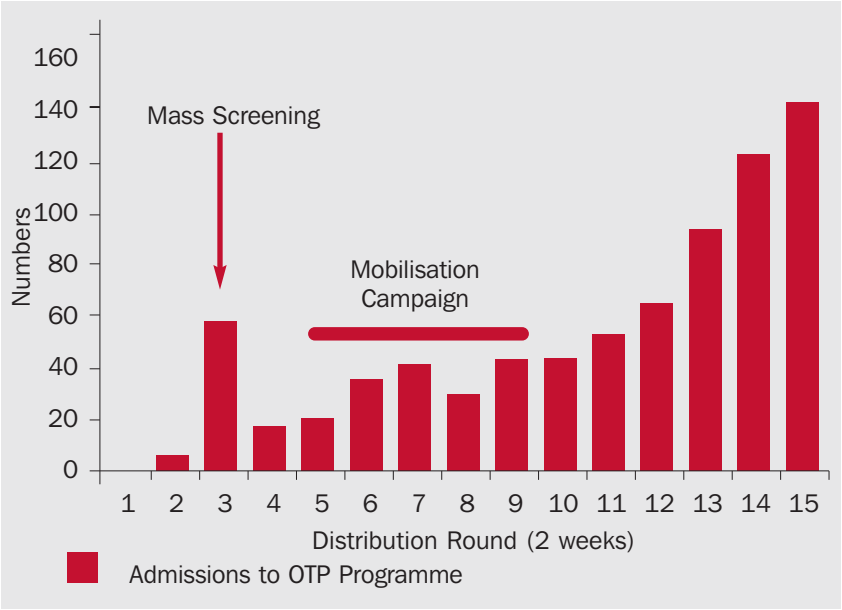
- Information sessions with village leaders;
- Training sessions with Community Health Workers and volunteers;
- Announcing schedule of activities to local people; and/or
- Describing the physical characteristics of target children based on local understanding of, and the terminology used to describe, malnutrition.

### Box 4: Traditional Leaders and Community Sensitisation in Malawi

The CTC programme run by Concern Worldwide and Valid International in Dowa District, Malawi since 2001 demonstrates the important role traditional leaders can play in increasing programme uptake and coverage and in identifying and addressing obstacles at a community level. In the initial stage of the programme, there was insufficient communication with local social structures and contact with traditional leadership networks was neglected. This had a substantial impact on programme coverage and uptake at the start. The programme was not well understood and people distrusted the unfamiliar weight-for-height measurement procedure used at that time. The failure of the programme to recognise this and to inform and involve local leaders resulted in low attendance and coverage in the first three months.

Once the reasons for this poor participation were understood, changes were made to the programme. As a result, traditional leaders became more positively involved. Understanding of CTC improved and there was a rapid rise in admissions to the programme (see Figure 9). Seasonal factors and the successful treatment of children in the programme probably contributed to this increase, but the active involvement of traditional leaders in mobilising the community also helped to dispel doubts and increase the community's engagement.

**Figure 9: Admissions, Exits and Total in OTP Programme, Dowa District, Malawi, August 2002 - March 2003**




## 5.2.2 Case-Finding

In CTC programmes, self-referrals from the community stimulated by community sensitisation activities may in time represent the bulk of admissions. However, especially at the outset, CTC normally supplements self-referral with active case-finding. The aim is to repeatedly screen children under five years of age, usually via a network of volunteers. There may also be some individuals (teachers, traditional healers, pharmacists) who are normally in contact with malnourished children in the course of their work and who can be recruited into both sensitisation and opportunistic case-finding. The particular balance struck between these two approaches to case-finding will depend on the context. If the programme is an emergency response, rapid high coverage is the priority, making active case-finding important; in a development context, greater weight may be given to sustainability, and an opportunistic approach may be a better use of scarce resources (see Section 5.3.3).

### 5.2.3 Follow-Up

Follow-up aims to investigate the reasons for absence and defaulting and encourage return to the programme. It also aims to investigate reasons for poor response and provide support for any problems carers are having with the protocols. It should be carried out according to the action protocol (see Annex 10). Deciding on who should carry out the follow-up of children who fall within the action protocol will be context-specific and will depend on the overall numbers of children who require monitoring.

### 5.2.4 Ongoing Sensitisation

Community sensitisation is an ongoing two-way process between the programme and the community. While much of the activity takes place early in the programme, it should be continually reinforced in order to be effective. The process should be seen as a constant dialogue, in which communities periodically voice their views and suggest alternative courses of action. Regular community contact can help identify new barriers to access, and can provide timely, jointly-developed solutions. The information gathered during the planning stage will help to determine the most appropriate mechanisms for carrying out periodic dialogue with the community.

## 5.3 Formulating and Implementing a Mobilisation Plan

Defining the mobilisation approach, based on the information collected during planning, starts with the specific components that a given CTC programme will have – for example, the presence of SFP, health education or food security components will each have different implications for mobilisation. So too will the degree of severe malnutrition present in the community. Where SAM is comparatively rare, it may be hard to justify a broad, campaign-style mobilisation, and a narrower mobilisation centred on sensitisation and self-referral may be preferable.

The plan should determine the principal vehicles for mobilisation activities. Using insights from the assessment of local capacity, the plan should identify the most useful health sector partners (e.g. health promoters, community health workers), as well as resources from other sectors, such as women's groups, farmers' unions, traditional health practitioners and youth groups. It is important to consider the long term implications of various mobilisation techniques. For example, choosing between a paid or a voluntary outreach network (see Section 5.3.2).

### 5.3.1 Develop a Sensitisation Strategy

Once the overall mobilisation approach is formulated, a sensitisation strategy needs to be developed. Sensitisation messages are formulated to provide essential information about CTC; what the programme does, where and how services will be offered and to whom. Messages should be tailored to the target population, using the local vocabulary of malnutrition and addressing in advance potential pitfalls or community sensitivities identified during the community capacity assessment. It may be helpful to consider giving messages in the form of one-page leaflets addressed to specific audiences (secular leaders, traditional healers and local heath sector partners). Messages addressed to a general audience should usually be simple enough that they can be read to an illiterate audience by unsupervised volunteers. They should be brief but comprehensive. Visual aids can greatly enhance the impact of the message and the community's level of engagement with the information offered. Achieving the right balance between simplicity and specificity may require some practice with translation and back-translation. Guidance on the content of sensitisation messages is given in Annex 11.

The messages are formulated for dissemination through channels of communication identified during the assessment stage. These may be a combination of formal and informal, traditional and modern; informal channels tend to be particularly useful. It is important to consult and involve key community figures, community organisations and groups such as volunteer networks and women's associations. Money and material goods can be a strong motivating factor but are inadvisable. People who are paid for delivering messages may not necessarily be convinced of the message or convincing in communicating it. If material benefits are offered, communities often put forward more powerful and privileged individuals to do the work, excluding more motivated, interested and credible people.

### 5.3.2 Determine the Appropriate Structure for Outreach Activities

Outreach consists of case-finding, case follow-up through home visits, and any other activities undertaken in the community outside the health facility or OTP site. Based on information gathered during the planning stage, a system of outreach can be designed that is appropriate to the local context. The system should take maximum advantage of existing health structures and networks, while recognising their limitations. It should allow room for

community initiative, be aware of potential barriers to access and assign clear responsibility for supporting outreach activities.

Key decisions include deciding on the balance of active and opportunistic case finding, choosing between paid outreach staff and volunteers, and deciding on the level of involvement of traditional practitioners. These decisions are discussed further below. The conclusion from CTC programming to date is that most outreach systems will comprise elements of all these. The needs of outreach in any given location also tend to change over time, from intense activity at the start of a programme to a more routine rhythm of activities, making it appropriate to think in terms of more than one style of outreach.

**Opportunistic versus active case-finding.** How mobile should case-finding be? At the inception of CTC in nutritional emergencies, in order to identify the majority of cases in a timely manner, active case-finding should be energetically pursued across the widest possible area on a regular basis. This can be done using a large, very mobile team of case-finders with MUAC tapes. It may also be done by less-mobile case-finders working in a similar way but in small catchment areas close to their homes, thus reducing the time they need to devote to case-finding activities. This second option is likely to be more appropriate where access to the community is intermittent due to insecurity and has the advantage of not requiring case-finders to travel large distances. This approach may be supplemented – or replaced in some non-emergency situations – by a more opportunistic approach to case-finding. This involves working with a network of 'CTC focal points' whose social role (church pastor, traditional healer, pharmacist or teacher) means that they come into regular contact with children. These CTC focal points are trained to carry out MUAC measurements and check for oedema on the children they encounter and refer into the programme. This approach might be particularly appropriate where the prevalence of severe malnutrition is low – making it costly and impractical to mobilise the community or employ programme staff to carry out active case finding.

**Salaried workers versus volunteers.** Discussions during the assessment of community capacity will normally provide a good sense of the issues around paying for outreach work. CTC programmes to date have had good results from the use of both paid and unpaid outreach. The advantage of employing outreach workers is that case-finding tends to be better organised and efficient because workers are accountable to the programme. However, this needs to be weighed against the risks to sustainability: a

programme that wants outreach to continue after the cessation of NGO operations may wish to forfeit this efficiency in favour of lasting outreach arrangements. On the other hand, while using volunteers is arguably more sustainable, the fact that they are unpaid may incline the implementing NGO to engage less closely in the appointment process. This can lead to inappropriate individuals being 'assigned' to outreach by the community leadership. This tendency can be minimised by discussing and agreeing with community leaders the characteristics that are desirable in volunteers – both as individuals (degree of literacy, age and mobility) and as a group (desired gender balance, mix of ethnicities, or religious affiliation). Before volunteers are accepted, it is important to be clear about the degree of effort required of the position and that can be appropriately expected of unpaid workers. Ultimately, many situations call for a mix of paid and unpaid outreach work. For instance, volunteers may be used to visit households in a small area close to their own home, while one or more paid outreach supervisors monitor and support their work over the entire programme area. It is also possible to find ways of offering rewards and incentives without paying salaries – e.g. through in-service training, or by paying allowances during periods of particularly intensive activity, such as initial community screenings.

**Involvement of traditional practitioners.** In isolated, rural settings, traditional practitioners are usually far more in evidence than government-trained clinical staff, and they represent an important first line of consultation for the families of malnourished children. CTC capacity assessments in Ethiopia, Sudan, Malawi and Zambia have found that numerous OTP cases have previously been under the care of a traditional practitioner – sometimes many months before admission to the CTC programme. The cooperation of traditional practitioners in the referral of swollen or wasted children can allow us to catch the child before malnutrition and disease are too advanced. However, this is sometimes easier said than done. Local clinic or health centre workers may have an adversarial relationship with healers, making it difficult to secure the latter's cooperation; healers tend to work in isolation, making it necessary to meet them on an individual basis; and the arrival of a CTC programme may threaten healers' livelihoods. Sensitivity and perseverance are needed.

### 5.3.3 Establish Means of Regular Contact with the Community

Once the programme has become operational and mobilisation activities are underway, appropriate mechanisms should be established to maintain

regular contact with the community. The information collected during the planning stage is key to identifying the most appropriate channels, individuals and forums in which to conduct this dialogue. In the past, this has taken the form of monthly meetings with key community figures and regular meetings with members of the community directly involved in the programme. These meetings should aim to provide the community with a forum to discuss CTC-related issues, as well as any information that the community requires or wishes to transmit to the programme implementers. Discussions should aim to be a two-way process of communication. These meetings should ideally be conducted in a setting conducive to open dialogue – in areas with opposing socio-political or cultural groups, integration should be sought only if the outcome seems justified.

**Figure 10: Implementing Community Mobilisation**

| Methods | Considerations | Outcomes Sought |
|---|---|---|
| **Develop Sensitisation Messages** | | |
| Decide on a set of core messages (see Annex 11) and refine them for maximum clarity and brevity, beginning in English. Translate into local language(s), and back-translate to ensure accuracy. | Information on differences in clinical versus local definitions of malnutrition may be important here.<br><br>Local terms for diseases of swelling and wasting can be used to refer to the target children. Stress the symptoms of wasting and swelling, rather than simply describing the target group as "malnourished". | A one-page leaflet that can serve both as a reference in explanatory meetings held with leaders and community organisations, and as an accurate description of CTC objectives and procedures when read verbatim to community members by unsupervised extension workers (see Annex 11). |
| **Develop Case-Finding and Follow-Up Strategy** | | |
| Assessment of existing outreach structures and their applicability to CTC screening.<br><br>Assessment of other potential case-finding agents (community based organisations (CBOs), Home-based Care groups, clinic staff, community health workers (CHWs) to determine whether additional actors can be harnessed for screening and case-finding. | The prevalence of severe malnutrition will determine the type of outreach that is appropriate. In humanitarian emergencies a blanket mobilisation for mass screening is usually needed. Where severe cases are rare, a more targeted approach can utilise strategically placed individuals (teachers, traditional healers, CHWs) who may be in close contact with the malnourished or their families. | A list or matrix summarising strengths and weaknesses of potential outreach agents, around which screening and case-finding strategies can be formulated. |

| | | |
|---|---|---|
| Assessment of the training and resource implications of the chosen outreach plan/strategy. | Since malnourished children are often from among the most marginalised families in the community, it is important to ensure that outreach plans make provision for excluded groups (occupational, ethnic, spatial). | |
| **Initiate Case-finding and Community Referral** | | |
| **Outreach** by various means, including:<br>• Existing CHWs or other extension staff.<br>• Specially recruited volunteers.<br>• Specially recruited paid workers.<br>• Informal volunteers (e.g. traditional health practitioners).<br>**Referral** by strategically placed individuals in the community (e.g. teachers, traditional healers) and local health facilities using MUAC.<br>**Self-referral** by families and communities. | Experience has shown that if sustainability is an objective, it should be addressed at the planning stage, rather than as an afterthought.<br>If outreach workers are unpaid volunteers, it is important to be clear at the outset about the level of effort expected of them. | Malnourished children are identified in their homes and villages, circumventing barriers to existing health service access.<br>Successful case-finding helps to establish a good understanding among community members about the CTC target group – leading to a surge in appropriate referrals and self-referrals. |

| Methods | Considerations | Outcomes Sought |
|---|---|---|
| **Initiate Follow-Up** | | |
| Follow-up by various means, including:<br>• CHWs or other health staff as new part of their official duties.<br>• Specially hired workers in the case of short-term emergency programmes.<br>• Trained volunteers – working independently or supporting Ministry of Health (MoH) outreach networks. | Follow-up in the home frequently confronts workers with additional questions about the sick child. Choosing workers who have some clinical or health education experience in the areas of breastfeeding, dehydration and weaning foods can make the home visits more effective. | All OTP cases that fall within the action protocol are followed-up and the condition of the child observed.<br>Parents are re-instructed when necessary on feeding the child.<br>Rate of RUTF consumption is checked and parents advised on adjustments if necessary. |
| **Ongoing Sensitisation** | | |
| Including key community figures and other relevant people who can provide direct feedback about the impact of CTC programmes. | Ongoing dialogue with the community must consider possible social, political, religious or ethnic divisions within the beneficiary community. All sectors should be involved in this process (to identify possible marginalised groups). | Identify new barriers to access.<br>Assess impact from a community perspective.<br>Develop joint solutions to problems limiting the impact of the programme.<br>Foster community ownership over the development and implementation of the programme. |

## 5.4 General Considerations

Some challenges are common to community mobilisation. The most important are:

**Travel requirements.** Volunteers and outreach workers may have to travel long distances on foot each week to visit villages and individual houses. This needs careful consideration when the case-finding strategy is developed. Various factors have to be taken into account: the size of the area and nature of the terrain, the number of case-finders involved and the capacity of the implementing agency to reward them.

**Coordination.** In situations where many NGOs are working in an area, volunteers may be working alongside others who are supported by a different agency. This is particularly common in large emergency responses. Approaches to active case-finding should be coordinated to avoid counter-productive activity. For example, a strategy based on unpaid volunteer case-finders can be threatened if a neighbouring agency introduces payment for their own volunteers.

### Box 5: Traditional Health Practitioners and CTC in South Sudan

Traditional health practitioners such as birth attendants and healers are often the first tier in health response. Among the Dinka of South Sudan, banybith (spearmasters) have a special place as providers of a range of treatment for health-related conditions. Their role has not been significantly challenged by the arrival of 'Western' medicine.

In 2003-2004, CTC programmes implemented by Concern Worldwide and Tearfund in Bahr-el-Ghazal, explored ways to involve banybith. In Aweil East, banybith were initially sceptical but then spontaneously started attending CTC programme sites in order to observe and understand the services on offer. Subsequently they began referring malnourished children to the programme. In other areas of Bahr-el-Ghazal, the agencies approached banybith more proactively in order to boost community awareness of the CTC programme and increase the number of self-referrals.

Involving traditional health practitioners in the CTC programme offered them a way to help their community without undermining their role and position, and strengthened the CTC programme by raising awareness and trust in the community, and generating referrals.

# Chapter 6

# Supplementary Feeding Programme

SFP programmes provide a supplementary ration for malnourished children and pregnant and lactating mothers, Wollo, Ethiopia.

# 6. SUPPLEMENTARY FEEDING PROGRAMME

The supplementary feeding component of a CTC programme aims to support moderate acutely malnourished children without complications and others with special nutrient requirements by providing a supplement of energy and/or nutrients in a dry take-home ration. By doing this the SFP seeks to prevent deterioration to severe acute malnutrition; reduce excess mortality by catching children before they are at high risk of dying and prevent deterioration of maternal nutritional status and subsequent poor birth weight. This chapter describes issues involved in the planning of an SFP, admission and discharge criteria, the treatment provided and protocols used. Lastly, the chapter outlines the data required to ensure effective monitoring in the SFP.

The decision to start an SFP is usually based on a raised prevalence of acute malnutrition among children under five years and/or the presence of aggravating factors such as poor food security in the general population, disease epidemics and raised mortality (see Chapter 3). Where this is not the case CTC programmes do not provide supplementary feeding. All severely acutely malnourished children are treated through outpatient and inpatient therapeutic treatment sites (OTP and SCs) and OTP discharge criteria are raised to compensate for the follow-up that would have been given in the SFP.

A wide variety of guides exist detailing the rationale and protocols for running standard emergency SFPs. These can be used in conjunction with this chapter to provide additional detail:

- MSF. *Nutrition Guidelines* (revised), In Draft, 2004.
- UNHCR. *Handbook for Emergencies, Second Edition*. Geneva, 2000.
- USAID Bureau for Democracy, Conflict and Humanitarian Assistance Office of U.S. Foreign Disaster Assistance. *Field Operations Guide for Disaster Assessment and Response: Version 4.0*, September 2005.
- World Food Programme (WFP). *Food and Nutrition Handbook,* Rome, 2001.
- WHO. *The Management of Nutrition in Major Emergencies*, Geneva, 2000.

## 6.1 Planning

In most situations, an SFP acts as a safety net preventing excess mortality among vulnerable groups. The rations provided should be in addition to, and not a substitute for, the normal diet. A significant and continued reduction in the prevalence of malnutrition in a population is likely only if an SFP is implemented in conjunction with a general food ration. In situations where financial, political or logistical constraints prevent an adequate ration from being provided, supplementary feeding programmes can provide interim support. In such cases, a programme should continue to review and analyse the situation to ensure that the problem is addressed appropriately.

The SFP component of a CTC programme is implemented through a large number of decentralised sites. These are always at the same place as, or near to, the sites chosen for the OTP programme, and should be within a maximum of three hours' walk (a one-day round trip) for all target communities. This facilitates transfer between the OTP and SFP components of a CTC programme. OTP sites are, wherever possible, set up within existing health structures. Space constraints and considerations of other ongoing activities may necessitate placing an SFP nearby, rather than in the health structure itself.

The justification for intervention, the objectives and the target groups and a viable exit strategy must be defined at the start of the programme. (SPHERE, 2004) and (FANTA, 2004/a). The local community should be involved in the planning process in order to avoid common problems such as defaulting and non-response, sharing of food at household level and inappropriate timing of CTC programme days. The objectives of an SFP intervention should be measurable and time-bound. They may include:

- Preventing further deterioration in the nutritional status of moderately malnourished children for a pre-defined time period.
- Preventing deterioration in the nutritional status of a specific target group based on social or socio-economic criteria, for a pre-defined time period.
- Preventing excess mortality in the population.

### 6.1.1 Staff

The SFP requires at least one clinic staff member to perform medical checks on children who require more in-depth assessment. Ideally, this staff member should be a nurse. If the number of moderately malnourished children is low, it may be possible for existing Ministry of Health staff to

screen, admit and follow up the moderately malnourished children in their catchment area. Nurses and health workers may be assisted by other clinic support staff, such as guards, or cashiers who can be trained to do measurements and other tasks. If numbers are high (in particular during emergencies and at the start of a programme), additional support staff are needed to do measurements, distribute food rations and supervise the programme. In this case it is likely that the SFP will require a separate site nearby rather than alongside the health structures to avoid disrupting existing services.

If there are insufficient staff based at each site, or temporary programme sites have to be set up, they may be managed by mobile teams. Each team can usually visit five sites a week (more if the sites are close together). Each mobile team should comprise at least:

- A team leader, who should ideally have experience in distributions.
- Two measurers to weigh and measure the children. They can also help the OTP team leader with tasks such as counting packets (sometimes referred to as sachets) of RUTF and checking that carers understand the instructions they are given by the team leader. They may be part of the mobile team or they could be extension workers based at programme sites who, on non-programme days, lead mobilisation and follow-up activities in their area.
- One or two general assistants to register the children.
- medicines and carry out basic medical checks for transfer to inpatient care or medical referral for treatment in the clinic or hospital.
- A food distributor to mix food commodities and distribute rations.

In addition, an overall CTC supervisor is needed to manage the teams and ensure coherence between the SFP, OTP, SC and community components of the programme.

An initial one or two days of training is normally sufficient for SFP teams. This must be immediately followed by on-site training. A trainer or CTC supervisor should work with clinic or NGO staff as they admit and follow-up children in the clinics. Direct supervision should be given for the first two days of the programme, when children are being admitted for the first time, and then for the first follow up two weeks later. Supervision should include decision-making concerning transfer to OTP and inpatient care.

### 6.1.2 Equipment and Supplies

The equipment and supplies needed for an SFP are listed in Annex 12. All equipment and supplies, including food commodities, can be kept and managed at clinic stores if there is capacity, or transported by mobile teams in a strong equipment box. Alternatively, equipment and supplies could be stored in community stores where these exist. In addition, transport is needed for the small number of children who have to be transferred to the stabilisation centre. In an emergency context, transport is normally provided by the implementing NGO. In a longer-term programme, a transport provider must be identified.

## 6.2 Target Group and Admission/Discharge Criteria

There are usually insufficient resources to assist all vulnerable groups in a population, and it is necessary to identify and prioritise certain groups. This can be done through two types of supplementary feeding intervention:

**Blanket supplementary feeding.** In which a supplementary ration is provided to everyone in an identified vulnerable group (e.g. children under five or women of child-bearing age) for a defined period in order to prevent deterioration in nutritional status.

**Targeted supplementary feeding.** In which a supplementary ration is targeted on specific members of vulnerable groups whose requirements may not be met by the general ration (e.g. moderately malnourished children under five years or pregnant and lactating women).

**Figure 11: Vulnerable Groups and Target Groups for SFP**
*(Modified from WHO, 2000/a).*

| Vulnerable Sub-Group | Specific Target Group |
|---|---|
| Population under five years. | Moderately malnourished and/or those discharged from therapeutic treatment. |
| Pregnant and lactating women. | Third trimester mothers, mothers who are visibly pregnant and/or lactating mothers with babies under six months. |

| | |
|---|---|
| Individuals with social and medical problems. | Twins, orphans, unaccompanied children, the physically and emotionally challenged, HIV-infected and affected people, people suffering from tuberculosis. |
| The elderly. | |

CTC has experience so far with the first two sub-groups only and limited experience working with HIV-infected children. This chapter therefore addresses SFPs for children aged 6-59 months and for pregnant and lactating women.

### 6.2.1 Admission and Discharge Criteria for Children

There are many types of SFP and the admission and discharge criteria vary widely. The following are some common types of criteria in use.

**Children are admitted to the SFP if they:**

- Have MUAC <125mm (see Section 2.2.3);
- Are less than 80% of median weight-for-height;
- Have been discharged from the OTP.

**Children are discharged from the SFP when they:**

- Are more than 85% of median weight-for-height for two consecutive programme distributions (for MUAC admissions a fixed length of stay may be required, as for OTP);
- Have been absent for more than three consecutive distributions;
- Have to be transferred to OTP with MUAC <110mm, less than 70% of the median weight for height or on developing nutritional oedema;
- Have to be transferred to a stabilisation centre or hospital due to severe medical complications;
- Are non-responding, i.e. the child does not reach the target weight after four months of treatment;
- After being discharged from OTP, have received at least two months follow up in the SFP and have been more than 85% of the median weight-for-height for two consecutive programme distributions.

### 6.2.2 Admission and Discharge Criteria for Pregnant and Lactating Women

**Pregnant and lactating women are admitted to SFP if they are:**

- MUAC <210mm and second or third trimester (visibly pregnant); or
- MUAC <210mm and the baby is under six months of age.

**Pregnant and lactating women are discharged from SFP when they are:**

- MUAC ≥ 230mm or when their baby reaches six months of age.

A disadvantage of using MUAC in these cases is that, because of the way fat is accumulated, weight increase in women is not directly reflected in an increased MUAC. MUAC is therefore unlikely to increase substantially as a direct result of supplementary feeding. Many women may therefore remain in the programme until their child is more than six months old.

## 6.3 Treatment Protocols and Procedures

In most situations, the methodology and nutritional and medical protocols need to take into account national protocols for supplementary feeding. This may necessitate some revision of the basic protocols given below. This should be discussed with local health staff and nutrition/health advisors.

### 6.3.1 Nutritional Management of Moderately Malnourished Children

A dry food ration is provided weekly, every two weeks or monthly. The frequency of provision depends on resources, the need of the target population and ease of access to SFP sites. Food is distributed by weight using a balance or calibrated container and, wherever possible, should be transported home by mothers in their own containers. Where this is not possible, plastic bags can be provided.

The ration for one child should provide a maximum of 1000 to 1200kcal/person/day and 10-12% of energy from protein. The following foods are used (more information on these can be found from various sources):

- UNHCR and WFP. *Food and Nutrition Needs in Emergencies*, 2000.
- USAID. *Commodities Reference Guide*, 2000 http://www.usaid.gov/our_work/humanitarian_assistance/ffp/crg/.

- WHO. *The Management of Nutrition in Major Emergencies*, Geneva, 2000.

**Blended cereals.** Most blended cereals (corn soy blend is a common example) provide 350-400kcal per 100g of dry product. Supplementary porridges, made up to 150-200kcal per 100 ml, can be made up by carers at home.[6] If available, mineral and vitamin mixes for supplementary feeding should be added to blended cereals which are not pre-fortified. Blended cereals are often mixed with oil and/or sugar prior to distribution. This increases energy density, improves palatability and helps prevent rations being sold. However, the process of pre-mixing can be difficult in emergency settings and can reduce the shelf life of the ration (around two weeks when mixed with oil and sugar). Recipes for the pre-mix are given in Figure 12.

**Local foods and family diets.** Where possible, supplementary rations should be based on locally available foods, such as beans, rice and vegetables purchased or grown locally. However where animal source foods are in limited supply, a fortified food or a micronutrient supplement should be added.

**High-energy and protein biscuits.** High energy and protein biscuits are suitable for use in SFPs. They significantly increase the energy content of the supplementary diet and can be particularly useful at the beginning of an emergency operation. However long-term dependence on these products should be avoided. They are expensive and it is unlikely that families will be able to afford them when food aid stops. They may also be more likely to be sold. They therefore should not be given priority over locally available products.

**Ready-to-use supplementary foods (RUSF).** The nutritional composition of RUTF, which is currently used to treat severe acute malnutrition, may be adapted for moderate malnutrition. This option is being explored (see Chapter 12).

**Milk.** Whole or dry skimmed milk powder should not be distributed alone as a dry ration because when mixed with water becomes an ideal growth medium for bacteria and causes diarrhoea, or could be used inappropriately as a breastmilk substitute. It can be added to a blended food pre-mix for distribution.

[6] Using one part CSB/pre-mix and three parts water, the mixture is cooked until it has boiled and the consistency has thickened. A local measure is usually used to help the mother decide how much of each ingredient to use at home, e.g. one cup of premix to three cups of water.

Some examples of the composition of a weekly ration using blended cereal are outlined in Figure 12, other examples can be found in MSF's *First Edition Nutrition Guidelines*. (MSF, 1995).

**Figure 12: Four SFP Daily Rations** *(adapted from WHO. 2000/a)*

| Commodity | Ration 1 (g) | Ration 2 (g) | Ration 3 (g) | Ration 4 (g) |
|---|---|---|---|---|
| Blended food, fortified | 200 | 300 | 250 | 140 |
| Sugar | 15 | 20 | 20 | 30 |
| Oil | 20 | 0 | 25 | 50 |
| DSM | 0 | 0 | 0 | 50 |
| Energy (kcal) | 1000 | 1140 | 1250 | 1250 |
| Protein (% of energy) | 14 | 8 | 14.5 | 14.5 |

In some countries, blended food is premixed with sugar at source.

### 6.3.2 Medical Management of Moderately Malnourished Children

The following routine medicines are recommended in an SFP. A table with dosages is given in Annex 13; it should be used in conjunction with national guidelines.

**Vitamin A.** Children suffering from moderate malnutrition are likely to suffer from Vitamin A deficiency. Ideally, Vitamin A should be provided as a frequent low-dosage supplement. In reality, however, contact opportunities with young children and other vulnerable groups may be infrequent, and guidelines prepared by WHO, UNICEF and International Nutritional Anaemia Consultancy Group (INACG) take this reality into account (WHO, 2005/b). Routine supplementation with Vitamin A on admission is recommended, except for children being referred from a TFC or other health facility where Vitamin A has already been given, or where recent supplementation campaigns have achieved high coverage (see Annex 13). Often both blended cereals (such as corn soya blend (CSB)) and vegetable oil are fortified with Vitamin A. Ensure that in examining the need for Vitamin A supplementation, the content of Vitamin A in the ration is estimated. A child

showing clinical signs of Vitamin A deficiency should be referred immediately to the nearest health facility for treatment according to WHO guidelines.

**Antihelminths.** To ensure adequate weight gain, it is necessary to treat all children routinely for worm infections with Mebendazole or other appropriate antihelminth.

**Measles vaccinations.** All children between nine months and fifteen years of age should be immunised with measles vaccine. The vaccination status of the child should be checked on admission and where no record exists, referral should be made to an EPI site or clinic for vaccination. Where no facilities are available for referral, the vaccination should be provided within the programme at the SFP site.

**Iron and folic acid.** Where anaemia is identified according to IMCI guidelines, treatment should be provided according to WHO guidelines (INACG, 1998) ideally through referral to a health clinic or, where anaemia is severe, to an inpatient facility according to the action protocol (see Annex 10). Preventative daily (recommended by WHO) or weekly doses of iron and folic acid are difficult to provide in emergency feeding programmes due to the lack of follow-up, and so should be avoided unless they are specifically included in a national protocol.

**Other treatments.** Treatment for moderately malnourished children for additional specific medical conditions, that can be treated on an outpatient basis, should be provided through referral to existing clinic services and administered in line with national and international protocols. Children should remain registered in the SFP programme.

### 6.3.3 Monitoring and Transfer of Moderately Malnourished Children

Monitoring of children in SFP is important so that deterioration of their condition can be picked up and actioned. Weight and MUAC taken on every visit will allow children fulfilling criteria for OTP to be transferred appropriately.

Children with moderate malnutrition with severe medical complications (characterised by anorexia and life-threatening clinical illness) are sent to an inpatient facility for stabilisation. Where possible, transfer should be made to an inpatient structure, such as a health centre or district hospital. If this is not possible and the CTC programme has set up stabilisation centres, the child should be transferred to one of these. Annex 10 details medical

conditions that should action this transfer to inpatient care. At the inpatient facility these children should be treated in line with IMCI protocols for the management of the child with serious infections and standard WHO paediatric medical treatment protocols. See Chapters 1 to 6 of the WHO and UNICEF publication: *Management of the child with serious infection or severe malnutrition: guidelines for care at the first-referral level in developing countries* (2000). During their time in inpatient care children referred from the SFP should also receive RUTF rather than F75 in order to prevent nutritional deterioration.

### 6.3.4 Nutritional and Medical Management of Moderately Malnourished Pregnant and Lactating Women

The quantities, types of food and frequency of provision for moderately malnourished pregnant and lactating women depend on the adequacy of the general ration and the foods available, and should be defined to suit the context of the programme. The decision should take into account:

- The national protocol and norms for the area.
- The type, composition and quantity of food appropriate for supplementary feeding of moderately malnourished children, as described above. This provides an appropriate guideline.
- Discussion with key informants and participatory exercises in the community. These will provide information on appropriate methods of distribution and suitable foods.

The aim need not be to achieve nutritional recovery since this is not necessarily the objective. Rather, the aim is to provide additional or special nutritional requirements. This is especially relevant during pregnancy, when the nutritional status of the mother is directly linked to the birth weight of the newborn. Monitoring of women in the programme should link closely with ante and post-natal services, although this may be difficult in emergency settings.

Medical support for this group should be according to national and international protocols and should, where possible, be linked with existing ante-natal services. Routine supplementation in line with general WHO guidelines includes the provision of ferrous-folate for both pregnant and lactating women (INACG 1998) and Vitamin A for post-partum, lactating women only (WHO, 2005/b) and (LINKAGES/CORE, 2004).

### 6.3.5 Demonstration of Food Preparation

It is important to provide information to carers on the preparation of the supplementary food. This can most simply be achieved through a cooking demonstration at the SFP site, where the proportions of pre-mix to water, the cooking time, and the consistency of the porridge are demonstrated.

This and other health and nutrition topics can be discussed with carers while they are waiting to receive their supplementary food, thereby capitalising on the opportunities of contact. It is important however that health and nutrition education messages are formulated, delivered and discussed in an appropriate manner.

## 6.4 Data Collection and Monitoring

Essential data are recorded to ensure that children can be tracked through the various components of the CTC programme. Each child is given an individual case number on entering the SFP (see Chapter 9) and retains this number in all CTC programme records, including the SFP record card or register and the SFP ration card.

The case number and information on the child's nutritional and medical treatment and progress are recorded either on individual SFP record cards filed at the programme site, or in an SFP register kept at the programme site. A register may be more manageable with the large numbers of children commonly in SFPs. Agencies usually have their own record cards or registers for this purpose so examples are not given here. The amount of information recorded on the card or register is kept to a minimum. MUAC and weight gain/loss is recorded at every visit and height is recorded at admission and discharge and, for children, once a month if possible. An SFP ration card is also given to the individual or carer. An example is given in Annex 14.

# Chapter 7
# Outpatient Therapeutic Programme

The Outpatient Therapeutic Programme provides medical treatment and food in the form of RUTF for severely malnourished children with appetite through weekly visits to decentralised sites.

# 7. OUTPATIENT THERAPEUTIC PROGRAMME

The majority of severely acutely malnourished children are treated in the outpatient therapeutic feeding component of a CTC programme. The OTP provides home-based treatment and rehabilitation for children who are severely acutely malnourished but who have appetite and are free of medical complications. Around 85%-90% of severely acutely malnourished children are normally treated in the OTP. Children can be admitted directly into the OTP, treated with routine drugs and given RUTF to eat at home. They attend the OTP every week for a medical check up, to receive additional medical treatments if required and to be given their one-week supply of RUTF. This chapter describes issues involved in the planning of an OTP, the admission and discharge criteria that define its target group, the treatment provided and protocols used, and the data that needs to be collected to enable effective monitoring and evaluation.

## 7.1 Planning

An OTP is implemented through a large number of decentralised points. Existing health structures are used wherever possible and appropriate. There should be an OTP at as many MoH or other health facilities as possible. If there is no such structure, an OTP can be run from a temporary shelter such as under a tree or in a community building or other space offered by the community.

In planning the location, number and schedule of OTP days, the following should be considered:

- The availability and capacity of existing health facilities.
- The distance people will need to travel to reach the service; ideally, OTP facilities should be a maximum of three hours' walk away (a one-day round trip).
- The predicted number of target beneficiaries according to nutrition survey findings, where available.
- The opinions of key community figures on appropriate sites.
- Areas with the highest malnutrition levels, either according to existing data or local opinion where data is lacking.
- How access to sites may be affected by climate or other factors (e.g. rain affecting roads and river crossings).

- The timing of market days and general distribution days, and the schedule for health facilities' outreach activity (i.e. days when health centre/clinic workers are away from their facility).

During a nutritional emergency, the OTP should always be run alongside an SFP. The OTP and SFP should be close to each other, but sufficiently separate so that the OTP is not disturbed by the large numbers attending the SFP.

OTPs can also be implemented in non-emergency settings (i.e. relatively food-secure situations) where there are severely acutely malnourished children who require therapeutic care as part of the primary health care service. The OTP offers a way for clinics to treat the severely acutely malnourished and prevent excess mortality. In these circumstances, it may not be necessary or feasible to set up an SFP as well as the OTP (see Section 4.3).

### 7.1.1 Staff

The OTP is run by clinic staff who are ideally at the level of a nurse or where MoH policy allows, a health worker. They are given specific CTC training and support throughout the programme. If the number of severely acutely malnourished children is low, it may be possible for the existing MoH staff to do the screening, admission and follow up themselves. A clinic worker treating OTP children as well as their existing caseload may be able to treat ten to fifteen OTP children in a day. If sites are able to admit and follow up OTP children on any clinic day, the numbers of cases they can treat each week may be considerably more. Support staff, such as cashiers and guards, can be trained to take measurements and perform other tasks. If numbers are high (particularly during emergencies and at the start of a programme), and clinic staff are stretched beyond their capacities, additional support staff will be needed to do measurements, treat children and supervise the programme.

If there are insufficient staff based at each site, or temporary programme sites have to be set up, they may be managed by mobile teams. Each team can usually visit five sites a week (more if the sites are close together). Each mobile team should comprise four team members:

- A team leader, who should be a qualified health worker (a nurse or medical assistant).

- Two measurers, to carry out measures on the children. They can also help the OTP team leader with tasks such as counting packets of RUTF and checking that carers understand instructions given by the team leader. They may be part of the mobile team or they could be extension workers based at programme sites who, on non-programme days, lead mobilisation and follow-up activities in their area.
- One assistant for the health worker (if numbers at the programme site make it necessary).

In addition, an overall CTC supervisor is needed to manage the teams and ensure coherence between the SFP, OTP, SC and community components of the programme.

As a general rule one health worker, with support for taking measurements, can treat up to thirty children on a programme day. If there is a high proportion of new admissions, or if health workers are new to CTC, twenty children per day is a more realistic guide.

An initial one or two days' training is normally sufficient for OTP teams. A suggested plan for a training day is given in Annex 15. This must be followed immediately by on-site training. A trainer or the CTC supervisor should work with clinic or NGO staff as they admit and follow up children in the clinics. Direct supervision should be given for at least the first two days when children are being admitted for the first time, and then for the first follow-up a week later. Supervision should include decision-making concerning transfer to inpatient care.

### 7.1.2 Equipment and Supplies

The equipment and supplies needed for an OTP are listed in Annex 16. This annex includes a table to calculate the quantities of RUTF required. All equipment and supplies, including the RUTF, can be either kept and managed at clinics stores if there is capacity, or transported by mobile teams in a strong equipment box. If numbers are small and storage sufficient, SFP food may also be kept at clinics. If numbers are large, however, a network of main and sub-stores will be needed for provision of supplementary food at programme sites. Transport is also needed for the small number of children who have to be transferred to the stabilisation centre. In an emergency context, transport is normally provided by the implementing NGO. In a longer-term programme, a transport provider must be identified.

## 7.2 Target Group and Admission/Discharge Criteria

The target group for CTC to date is primarily children aged 6-59 months. Other severely acutely malnourished individuals such as adolescents and adults who are identified according to standard assessment criteria may be admitted to the OTP and the protocols adapted accordingly (Woodruff and Duffield, 2000) (Collins et al., 2000). Severely malnourished infants should be transferred to the stabilisation centre (see Chapter 8).

### 7.2.1 Admission Criteria

Children are screened, referred and admitted by MUAC and presence of bilateral pitting oedema (see Annex 1 for definitions of grades of oedema). Figure 13 (overleaf on page 76), describes the admission criteria that apply to OTP.

If children fulfil any of the above criteria, they are given a medical check and their appetite is assessed. Children can be admitted directly to the OTP as long as they have no major medical complications and are able to eat the RUTF.

The child's medical condition is assessed by a health worker. The assessment includes a history of the child's condition, taken from the carer. The health worker also gives the child a full medical examination to rule out complications requiring inpatient care. The examination includes checks for oedema, appetite, vomiting, temperature, respiration rate, anaemia, superficial infections, alertness and hydration status[7]. All information from the medical check is recorded on the child's OTP card (an example is given in Annex 17).

Appetite is assessed by giving the child some RUTF to try at the site. A child may refuse to eat RUTF because it is unfamiliar and because the child is in a strange environment. In this case, the carer should move to a quiet, private area and slowly encourage the child to take the RUTF. This may take some time. It is, however, essential that the health worker observes the child eating the RUTF before the child can be accepted for outpatient treatment. A child who continues to refuse to eat should be sent to the SC for inpatient care until appetite is re-established. Appetite must be tested

[7] Due to the difficulties of using standard clinic signs to identify dehydration in the severely malnourished child, this is based primarily on recent history of diarrhoea, vomiting, fever and sweating, and on recent changes in the standard clinical signs of dehydration (WHO, 2000/b) as reported by the carer.

each time the child visits the OTP as lack of appetite may indicate a deterioration in nutritional status and poor liver or gastrointestinal function.

**Figure 13: OTP Admission Criteria** (all with appetite and free from severe medical complications).

| | |
|---|---|
| **New Admissions** Children aged 6-59 months (or ≥60 months - up to height 130cm) | Bilateral oedema grade + or ++ AND MUAC ≥ 110mm. |
| | MUAC < 110mm* (See Chapter 2). |
| **Other Admissions** | Admissions who do not fulfil age criteria (e.g. teenagers, adults) or anthropometrical criteria for admission (e.g. clinically very wasted moderate cases who had complications and need closer monitoring in OTP after stabilisation). |
| **Choice** | Carer refuses inpatient care despite advice (though these are treated as a new admission). |
| **Inpatient Discharges** | From inpatient care (SC/TFC/nutrition rehabilitation unit (NRU)/hospital) after 'stabilisation' treatment.** |
| **Readmission / Relapse** | Previously discharged as cured, but again fulfils OTP criteria. |
| **Returned** | After defaulting, or from inpatient care (hospital/TFC/SC).*** |

* If current national guidelines require, < 70% weight for height can be used as well as MUAC.

** In addition, infants who have been discharged from the SC can be admitted to the OTP so that their weight and general medical condition can continue to be monitored. They do not receive RUTF.

*** Returned defaulters are readmitted into the programme to complete their treatment if, on return, they have not yet reached the criteria for discharge.

### 7.2.2 Discharge Criteria

The discharge criteria currently in use are shown in Figure 14. In addition, any child discharged as cured from the OTP should be clinically well. Where MUAC admission criteria are being used (see Chapter 2), children should also remain in the OTP programme for a minimum of two months as some may reach discharge criteria by WHM within a few weeks, even though their MUAC remains low, and consequent mortality risk remains high.

**Figure 14: OTP Discharge Criteria**

| | |
|---|---|
| **Discharged cured*** | Minimum stay of two months in the programme, MUAC >110mm, no oedema for two consecutive weighings, sustained weight gain** and clinically well.*** |
| **Defaulted** | Absent for three consecutive weeks. |
| **Died** | Died during time registered in OTP. |
| **Transferred to inpatient care** | Condition has deteriorated and requires inpatient therapeutic (SC/TFC/NRU) or hospital care. |
| **Non-cured** | Has not reached discharge criteria within four months.**** |

* All OTP discharges should be sent to the SFP where they stay for a minimum of two months (longer if they have not attained the SFP discharge criteria by that time).

** Sustained weight gain is a gain in weight every week for two consecutive weeks.

*** Where national guidelines require the use of WHM for admission, discharge should be when the child reaches 80% weight for height and no oedema for two consecutive weighings and is clinically well.

**** Before this time, children must have been followed-up at home and should be transferred to SC inpatient care for investigations where possible. Discharged non-cured children should be sent to the SFP; they can be readmitted to the OTP if they fulfil entry criteria again and are therefore once more at high risk of mortality. No child should be discharged as non-cured if their MUAC is still <110mm.

### 7.2.3 Modifications to Admission and Discharge Criteria in the Absence of SFP

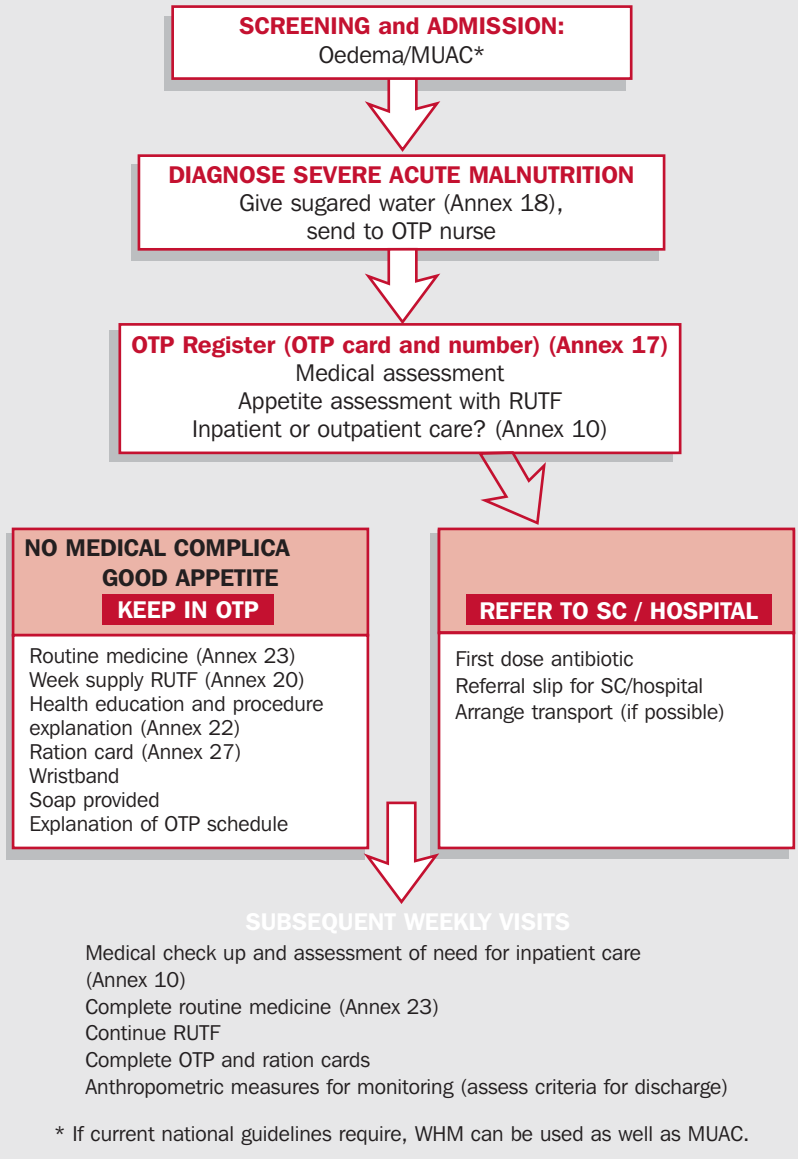
In some situations there may be no SFP. This can be because the SFP has not yet been set up due to a lack of resources or capacity, or if the situation is relatively food secure and an SFP is not required.

In these situations, admission and/or discharge criteria of OTP may be increased. Admission criteria can be increased to MUAC 115mm (or if current national guidelines require 72% or 75% WHM) to ensure that children at risk are identified and to prevent further decline. Discharge criteria can also be increased to a longer minimum length of stay (or 85% WHM where national guidelines require), in order to ensure recovery and avoid readmission.

On arrival at the OTP, all children are given sugared water (10% solution) to aid general hydration (see Annex 18) while they are waiting to be assessed by a health worker. Health workers should move through the lines to triage obviously urgent cases to examine them first. OTP admission procedures are shown in Figure 15.

## 7.3 Treatment Protocols and Procedures

**Figure 15: OTP Procedures**




See Annex 19 for a pictorial diagram of OTP procedures.

### 7.3.1 Nutritional Treatment

Nutritional treatment is through the use of RUTF, an energy-dense mineral and vitamin-enriched food designed to treat severe acute malnutrition. It has a similar nutrient profile but greater energy and nutrient density than F100 the diet recommended by the WHO in the recovery phase of the treatment of severe acute malnutrition (Briend et al., 1999).

RUTF typically used in CTC programmes is oil-based: it does not have to be mixed with water and therefore avoids problems of contamination if clean water is not available for mixing and if storage of the mixed food is inadequate. The amount of RUTF a child should consume is determined by the need for an intake of about 200kcal per kilogram of body weight per day (200kcal/kg/day). This is the same energy level as a child in phase 2 of treatment in an inpatient setting and is sufficient to begin the rehabilitation of a severely acutely malnourished child. The number of packets consumed per day is based on the weight of the child and simplified to make it easier for the carer to follow (see Annex 20).

Experience shows that in the case of twins where one is severely acutely malnourished and the other is not, sharing of RUTF between the twins can be assumed. In this case the severely acutely malnourished twin should be registered and given a double ration of RUTF to compensate for this.

Non-oil based therapeutic foods such as BP100 are sometimes used in emergency situations. BP100 is a solid food based on the F100 formula with some iron added. It can be eaten as a biscuit or as a porridge mixed with water or breast milk (the porridge is recommended for children under two years). Because of this need to mix the BP100 biscuit with water or breast milk for the younger age group, CTC programmes recommend that where BP100 is used it is in combination with oil-based RUTF. This ensures that the younger children also have a ready-to use food that does not require mixing (see Annex 21).

The carer is taught how to open the packet and to give RUTF to the child in small frequent amounts (up to eight times a day), carers are also encouraged to allow their child to finish all of the allocated daily ration each day before giving the child any other food. If the mother is still breastfeeding, she is advised to continue breastfeeding as before and give the RUTF after breast milk. Apart from breast milk carers are advised, at least for the initial weeks of treatment, to give RUTF and no other foods to the child. Health workers must emphasise that the RUTF is both a medicine

and a food, and that it is vital to the recovery of the child. They must also explain that water should always be given to a child eating RUTF to maintain sufficient hydration. Carers are also asked to return empty packets of RUTF each week. This is meant to avoid littering (packets can then be buried or burnt) rather than as a 'policing' method to ensure that packets are not sold. (See key messages in Annex 22).

A ration of CSB/UNIMIX is also given to the carer. This is provided for the other children in the family to try to avoid the RUTF being shared. It is given every two weeks as part of the supplementary feeding programme and may vary between 1000 and 1200kcal/person/day. Where OTP is functioning without an SFP in a non-emergency setting, it may not always be possible to supply this ration, though in such contexts we would expect the general food security of the household to be such that sharing of RUTF is less of a risk.

On discharge from the OTP to the SFP each child is given seven packets of RUTF and the normal SFP ration. This is to ensure that RUTF is not removed too abruptly from the child's diet. Carers of children approaching discharge should be encouraged to begin feeding more of the supplementary food in addition to the RUTF ration.

### 7.3.2 Medicines

Routine medicines are given to all children admitted to the OTP. Treatment is based on the principles used for medical treatment in a TFC and drugs are based on the Essential Drug List for the country and should be adapted to national protocols. (See routine medicines protocol Annex 23 and drug dosages Annex 24). The protocol has been adapted so that, where possible, medicines are given as a single dose which means that the health worker can observe them being taken and avoid problems with compliance. The exception is the first line antibiotic, Amoxycillin. The first dose of Amoxycillin should be given in front of the health worker and a clear explanation given to the carer on how to continue the treatment at home. The carer should then be asked to repeat the instructions back to the health worker to make sure he/she has clearly understood the dose instructions. Additional medicines are given to children based on clinical diagnosis during each weekly medical check according to protocols. Supplemental medicines are given in Annex 25 and the rationale for all medical protocols is given in Annex 26.

### 7.3.3 Health Education

When a child is first admitted to the programme, it is essential to ensure that information about how to give RUTF, how to take the antibiotic at home and basic hygiene are clearly understood. Key messages have been developed for this (see Annex 22). No other health education messages should be given on the first visit to avoid overloading the carer with new information. It is also important to encourage carers to return to the clinic at any time between OTP visits if their child's condition deteriorates. At the end of the first OTP visit, it is vital to check whether carers have understood the advice given by the health worker by asking some simple questions before they leave.

To accompany basic hygiene messages, soap should be given to all OTP carers every two weeks so that carers can wash their hands and the child's hands before feeding of RUTF. Additional health, nutrition and hygiene messages can be provided during follow-up visits to the OTP site each week, as part of an extended health and nutrition education programme. These messages should be based on discussion with the target group to identify appropriate messages and vehicles of communication. Links should be made with any existing programmes providing health and nutrition education at community level.

### 7.3.4 Follow-Up

Children's progress is monitored on a weekly basis at the programme site.[8] It can also be monitored for particular cases, where required, through visits by outreach workers or volunteers, so that issues can be discussed in the home environment. CTC experience to date has been that routine home follow-up between clinic visits is not required. However, in some cases follow-up is called for to check whether a child should be referred back to the clinic between visits and to discuss aspects of the home environment that may be affecting the child's progress in the OTP (see Annex 10). Cases include instances where health workers have identified weight loss or mild deterioration in the medical condition, where the carer has refused admission to the SC, and cases in the first two weeks after discharge from the SC. In these situations, the need for follow-up is identified by the health worker after discussion with the carer. The health worker can then liaise with outreach workers or volunteers.

[8] If access is difficult or the capacity of health services is limited, monitoring may be carried out every two weeks.

All absences from the OTP should be followed up by outreach teams, volunteers, key community figures or other carers. It is important to gain an understanding of the reason for absence and to encourage return. The absentee should not be reprimanded as this can discourage return. Instead, information on reasons for absence should be used to see if there are ways that the organisation of the programme could be modified to facilitate carers being able to attend each distribution.

### 7.3.5 Links to Other Programmes

The CTC model actively encourages links between the CTC programme and other sectors such as general food distributions, health education, food security and water and sanitation. Advocacy for beneficiaries to be enrolled in general ration programmes is important. Information gained through carers in the OTP programme may help in understanding the needs of the population in the area, and therefore help with the design of programmes in other sectors. However, the OTP should not be used as the only indicator of poverty for targeting non-health and non-nutrition inputs: OTP beneficiaries are a small and manageable group for the targeting of additional inputs, but it is inappropriate to assume that they are the most in need.

## 7.4 Data Collection and Monitoring

Essential data are recorded to ensure the child can be tracked through the CTC programme components, ensure the follow up of defaulters, and to monitor the effectiveness of the programme. (The CTC monitoring system and procedures are covered in detail in Chapter 9).

When an eligible child arrives at the OTP site, the health worker begins to fill out an OTP card (see Annex 17). All OTP cards should be kept in a file, which can either stay at the clinic or move around with the mobile teams. The file should have divisions so that cards of the defaulters, deaths, recovered and transfers can be filed separately.

A ration card is also filled out with basic information about the child; this is updated on each visit (see Annex 27). The card stays with the carer as a record of the child's progress. Carers should bring the card with them to the site each week. On discharge, the card should be marked as exited from the programme, but it should stay with the carer when they go to the SFP. A non-removable wristband is also given to the child marked with his or her registration number.

If the child is assessed to have poor appetite, grade three oedema or major medical complications, the OTP card is still completed and an OTP number assigned but the carer is also given a transfer slip and the child is taken to the SC for inpatient care. The OTP card will stay at the OTP site in a separate section in the OTP file until the child returns after stabilisation treatment.

Once a child has been assigned a number on entry to the CTC (either at SFP, OTP or SC) they retain the same case number in all CTC programme records, including the OTP card, OTP ration card and the identification wrist-band and SFP card when discharged recovered. This enables monitoring data on the child to be tracked in different programme components (SFP, OTP and SC).

At the end of each programme day, the health worker or supervisor fills in a tally sheet that records OTP activity and outcomes. The number of children registered in the programme is checked against the number of 'active' cards in the file, (i.e. not including exits). The tally sheet is used in monitoring the overall effectiveness of the programme.

# Chapter 8
# Stabilisation Care

Children with severe medical complications or no appetite are treated in small inpatient facilities like this paediatric ward of the general hospital Blantyre, Malawi.

# 8. STABILISATION CARE

In a CTC programme, intensive inpatient care is provided in stabilisation centres. These cater for the small proportion of children with acute malnutrition, complicated by anorexia, severe medical complications, or severe oedema. These children are at the highest risk of death and receive 24-hour care until their condition is stabilised and appetite returns. Normally around 10%-15% of severely acutely malnourished children admitted into the programme require treatment in the SC. SCs are therefore small (a maximum of thirty children) and operate with few staff and infrastructural requirements.

This chapter describes the key issues involved in the planning of an SC, the admission and discharge criteria that define the target group, the treatment provided and protocols used, and the data collected for monitoring.

## 8.1 Planning

The SC focuses on treatment for a small number of complicated cases. Its impact on the malnourished population is therefore small in comparison to the other components of an emergency CTC programme. The priority at the start of a CTC programme is to reach the majority of children by focusing time and resources on establishing the OTP and SFP and maximising community mobilisation. In emergencies, alternatives should be explored for transporting complicated cases to existing TFCs run by other organisations, or to hospital paediatric wards with some nutritional capacity.

Like OTP sites, stabilisation care should be set up within existing structures and, where possible, with existing MoH staff. This allows paediatric capacity in hospitals or health centres to be strengthened. It also means that inpatient facilities can be set up quickly as infrastructure and staffing already exist. As often some treatment protocols are already in place, the programme may only need to discuss protocols and systems with health staff and provide training and supplies. Decisions regarding the opening and location of the inpatient SC should be taken jointly with the local MoH, where this is possible and appropriate, and should take into account existing capacity (e.g. staff, bed space, 24-hour cover). Local health authorities should lead the detailed planning for the SC in order to gain a sense of ownership and to ensure the integration of the SC into the wider management of health facilities. In all cases discussion and agreement on CTC protocols with senior MoH staff is essential.

Where there is insufficient local capacity, or where it is not appropriate to work with government institutions (in some conflict situations, for example), separate small SC facilities need to be set up.

SCs require relatively little infrastructure and only one or two skilled medical staff. The resources needed are largely determined by the context in which the SC is set up, the degree of integration with local structures and the expected caseload. A larger number of admissions can be expected at the beginning of an emergency, when many cases will be presenting in an advanced state of malnutrition. However, case turnover is usually quick. The length of stay is normally a maximum of seven to ten days, and the initial influx of cases can be treated and discharged quite rapidly. The number of complicated cases is likely to decline as the OTP and SFP programmes expand their coverage and treat more cases of acute malnutrition before complications develop. A surge in admissions is possible if, for example, there is population movement with high numbers of malnourished, or an epidemic or seasonal disease outbreak occurs.

### 8.1.1 Staff

There are no strict rules on how staff roles are filled in an SC; it all depends on the level of integration with local structures and the capacity and staff of those structures. The SC should aim to adhere to the SPHERE recommendation of one feeding assistant/health worker per ten inpatients. The following staff roles are required:

- Health staff: a minimum of one per shift for 24-hour care. Staff should be qualified according to national policy.
- Nutrition/assistant health staff: the number and role vary according to patient numbers. Assistants are primarily responsible for helping health staff, in particular at meal times and during medication rounds.
- Support staff: to prepare or help prepare therapeutic milk and food for carers and to clean the SC.
- NGO liaison/support staff: to facilitate admissions and discharges and to help with coordination with other components of the programme, liaison with local MoH (if the SC is a Ministry facility), transport arrangements for referrals, reporting and troubleshooting. Liaison staff have an advisory or training role and are not responsible for the direct care of children.

The physiology and medical treatment of the severely acutely malnourished is very different from that of normally nourished children. A short orientation

period in the OTP is useful, even for nursing and medical staff who have previous experience in this area. In particular, it makes staff more confident in following SC discharge guidelines, keeping the length of stay in the SC short and allowing resources to be used more efficiently.

### 8.1.2 Equipment and Supplies

The supplies and equipment needed for an SC are generally the same as those required for phase 1 care in a TFC albeit for a smaller number of children. The main requirements are:

- F75 therapeutic milk and RUTF.
- Essential medicines and medical equipment.
- Food for the carers and others accompanying inpatients. As far as possible this should be according to local preferences.
- Soap for washing hands and general hygiene.
- Reliable source of clean water.
- Equipment for food preparation and distribution (jugs, cups etc.).
- Protocols and supporting documents (WHO and national guidelines).

Where the SC is integrated into existing MoH services, most of the equipment may already be available. In addition, transport is needed to take discharged children and their carer home. In emergency contexts, transport is normally provided by the implementing NGO. In development programmes an alternative transport provider must be identified.

## 8.2 Target Group and Admission/Discharge Criteria

The target group for CTC to date is primarily children 6-59 months. Other severely acutely malnourished individuals such as adolescents and adults who are identified according to standard assessment criteria may be admitted to the SC and the protocols adapted accordingly (Woodruff and Duffield, 2000) (Collins et al., 2000). Severely malnourished infants should be admitted to the stabilisation centre and treated according to WHO protocols (Interagency Working Group, 2001) and (ENN et al., 2004) (see Section 8.2.1).

### 8.2.1 Admission Criteria

Children are admitted to the SC either directly through self-referral or, more commonly, by transfer from the OTP or SFP according to the medical action protocol (see Annex 10) because they have severe acute malnutrition with complications or lack of appetite.

**Oedema.** Oedema of + or ++ without severe complications can be treated successfully in an outpatient setting. However children with oedema of +++ or with Marasmic-Kwashiorkor should be transferred to the SC.

**Appetite.** A poor appetite, demonstrated by refusal of RUTF, may be the result of poor liver and/or gut function due to severe acute malnutrition. Alternatively, it may be due to infection or could be a behavioural issue. These causes can be difficult to distinguish and the carer should spend time trying to coax the child to eat the RUTF. Continued refusal indicates admission to the SC.

**Medical Complications.** Underlying or acute medical conditions other than those outlined above may require specialised diagnosis and treatment which is not available in the SC. These cases should be identified and referred for medical treatment to an appropriate facility, such as a hospital or TFC. If the child is referred to hospital for medical treatment they can continue to be registered in the CTC programme and return once their treatment is complete. If the child has appetite and the hospital lacks nutritional care, the child can be sent with one week's supply of RUTF. If the child's stay in the hospital is prolonged, an arrangement may need to be made to provide an additional supply of RUTF.

**Infants.** Infants younger than six months with WHM <70%, oedema or visible wasting may be admitted initially to the SC to receive special inpatient care. Management of infants requires a combination of:

- Improved or re-established breastfeeding (unless the infant has to be artificially fed);
- Temporary or longer term therapeutic feeding; and
- Nutritional, psychological and medical care for mothers.

Feeding severely acutely malnourished young infants is labour intensive and requires different skills to those needed for older children. Training is essential for staff to understand the particular needs of malnourished infants. For detailed treatment guidelines, see Infant and Young Child Feeding in Emergencies that have been developed as a joint effort by WHO, UNICEF, UNHCR, WFP and international NGOs (Interagency Working Group, 2001) and (ENN et al., 2004) and the 2004 review of current WHO guidelines (WHO, 2004).

## Figure 16: SC Admission Criteria

| | | |
|---|---|---|
| **New Admissions** Children 6-59 months (or including >=60 months and up to 130 cm height) | **Anthropometry/ oedema** | Bilateral oedema grade +++ or Marasmic-Kwashiorkor*.<br><br>MUAC <125mm**, Bilateral oedema grade + or ++ AND no appetite/severe medical complications. |
| | **Appetite** | No appetite or unable to eat test dose of RUTF. |
| | **Severe medical complications** | Intractable vomiting. |
| | | Fever > 39°C or hypothermia < 35°C.<br>Lower respiratory tract infection according to IMCI guidelines for age:<br>• ≥ 60 respirations/minute for under two-months.<br>• ≥ 50 respirations/minute from two to twelve months.<br>• ≥ 40 respirations/minute from one to five years.<br>• ≥ 30 respirations/minute for over five years. |
| | | Any chest in-drawing. |
| | | Severe anaemia – very pale (severe palmar pallor), difficulty breathing. |
| | | Extensive superficial infection requiring intramuscular (IM) treatment |
| | | Very weak, apathetic, unconscious, convulsions. |
| | | Severe dehydration based primarily on recent history of diarrhoea, vomiting, fever or sweating and on recent appearance of clinical signs of dehydration as reported by the carer. |
| **Other Admissions** | | Severely acutely malnourished infants under six months of age – see Section on Infants below. |
| **Choice** | | Carer refuses outpatient care. |
| **Transfer*** ** | | From OTP due to:<br>• Severe medical complication or anorexia.<br>• Worsening oedema.<br>• Weight loss for three weeks.<br>• Non recovery after three months in the OTP programme.<br>From SFP due to :<br>• Severe medical complications.**** |
| **Readmission/Relapse** | | Previously discharged and again fulfils criteria. |

* Marasmic-Kwashiorkor – a child with MUAC<110mm or WHM<70% who also has oedema grade +, ++ or +++

** If current national guidelines require, < 80% WHM can be used as well as MUAC.

*** Transfer is according to the action protocol for OTP (see Annex 10). Before admission to the SC, the reasons for non-recovery in the OTP should be investigated by discussion with the carer at the programme site and through home visits by the outreach team.

**** These children are referred to the SC for treatment of life-threatening medical complications whilst also receiving nutritional support to prevent nutritional deterioration.

### 8.2.2 Discharge Criteria

Children discharged from the SC are transferred to the nearest OTP to continue their therapeutic treatment, except moderately malnourished children, who are referred to the SC from the SFP on development of medical complications. These children can be discharged directly back to the SFP once their complications have resolved.

**Figure 17: SC Discharge Criteria**

| | |
|---|---|
| **Appetite** | Appetite returned (eats at least 75% of RUTF). * |
| **Medical Complications**** | Controlled. |
| **Oedema** | Resolving. |

* Eating 75% of the RUTF ration would provide the child with the minimum requirement of 150kcals/kg/day.

** These should be resolved before transfer to the OTP for continued therapeutic feeding. Where the condition is chronic, the symptoms should be controlled by giving appropriate medical treatment in the outpatient setting.

If at any point a carer no longer wants to stay in the SC, the importance of treating the child should be explained. If they still want to leave, the child should be transferred to the OTP to continue treatment, with follow-up by the outreach/volunteer team.

All children discharged from the SC are a priority for outreach follow-up during their first week in the OTP (see Annex 10). Home visits support the carer with any problems in feeding the child, and ensure that the child is referred to the nearest health facility if his/her condition deteriorates. If a child dies in the SC, the cause of death should be reported as required by local regulations and, if applicable, in accordance with regulations concerning notifiable diseases. If possible, help should be given to transport the bereaved carer and the child's body to their home.

## 8.3 Treatment Protocols and Procedures

Medical and nutritional treatment for severely malnourished children and infants in the stabilisation centre should be carried out according to standard WHO protocols for phase 1 inpatient care. This section should therefore be used alongside:

- WHO. *Management of Severe Malnutrition: A Manual for Physicians and Other Senior Health Workers,* Geneva, 1999.
- WHO. *Report of a Consultation to Review Current Literature on Severe Malnutrition,* Geneva, 2004.
- WHO. 'Management of the Child with Serious Infection or Severe Malnutrition: Guidelines for Care at the First-Referral Level in Developing Countries'. *WHO Department of Child and Adolescent Health and Development*, Geneva, 2000.

These guidelines provide detailed information on the ten step treatment of severely acutely malnourished children. The first seven steps are appropriate for treatment in the stabilisation centre before the child is discharged to OTP; they are outlined in Figure 18.

Care in the SC follows standard protocols for the initial stage of inpatient treatment for severe acute malnutrition. Life-threatening problems are identified and treated, specific deficiencies are corrected, metabolic abnormalities are reversed and feeding is begun. The process should take four to seven days to complete.

Medical treatment for moderately malnourished children referred to the SC as a result of medical complications should be according to WHO/IMCI protocols for the management of the child with serious infection and standard WHO paediatric treatment protocols (WHO, 2000/b). RUTF should be given to these children during their stay to prevent nutritional deterioration.

**Figure 18: Timeframe for the Management of a Child with Severe Malnutrition** *(WHO, 2000/b)*

When these seven steps have been accomplished, the child's appetite for RUTF is tested (on day five, six or seven) (see Section 8.3.2), to determine whether they can be transferred to the OTP for continued nutritional rehabilitation. Discharge should take place (see Section 8.3.6) once the child can eat more than 75% of their RUTF ration, medical complications are controlled and oedema is resolving (maximum seven to ten days).

Where possible, SC protocols should be integrated with existing national drug and feeding protocols provided that they follow the principles of care for this patient group set out in the WHO manual (WHO, 1999/a).

### 8.3.1 On Admission

Transfers to the SC are triaged and the most urgent cases treated first. When first seen, the child must be examined, a history and measurements taken and a decision made on the treatment to be given. Treatment should begin immediately after the history and examination are completed. For children coming from the OTP or SFP, anthropometric measurements (weight, height, MUAC) and other information will already have been taken and recorded on a transfer slip and use of this information can speed up the process. (A sample transfer slip is given in Annex 28).

Treatment for severely malnourished children then begins according to the seven steps outlined in Figure 18.

All details are recorded on the patient card and the admission register is completed using the case number that was assigned by the OTP/SFP. Direct admissions are assigned a number with an SC code on it. If the child does not already have one, an identity bracelet with the case number is fastened to his/her leg. SC routines and treatments are explained to the carer, including meal times, good hygiene routines and safe feeding methods. Carers should also be given soap for hand-washing and general hygiene.

### 8.3.2 Nutritional Treatment

Initial nutritional treatment for the majority of children is provided with F75 therapeutic milk feeds (100kcal/kg/day) at regular intervals according to the WHO protocol. Depending on the context and the capacity of the SC, feed may either be at regular three-hourly intervals (thus eight feeds in 24 hours), or five or six feeds at regular intervals throughout the day.

Infants less than six months of age are also treated with F75 (or expressed breast milk, if available) according to the protocol for infant feeding in

emergencies (WHO, 2004) (Interagency Working Group, 2001). These children should not be given RUTF and appropriate breast feeding should be promoted at all times.

Following initial stabilisation care and nutrition treatment with F75, the child's appetite is assessed (on day 2-3 of treatment) by testing the desire to eat RUTF at alternate feeds. Once the child is able to eat at least 75% of their RUTF ration at each meal in a day, nutritional support can continue with RUTF (200kcal/kg/day) according to the RUTF protocol (see Annex 21). If the child refuses the RUTF, the carer is encouraged to try to get the child to start eating. In the meantime, F75 is continued until appetite returns. At this point, the correct use of RUTF and basic hygiene are discussed with the carer (see Annex 22).

Moderately malnourished children referred to the SC from the SFP with medical complications can be given RUTF immediately to prevent nutritional deterioration unless they do not have appetite (in which case they can initially be given F75).

Children transferred to the SC as a result of static weight or loss of weight, rather than with severe complications, may also be treated immediately with RUTF if they already have appetite. It is therefore important to conduct a medical check on admission in order to prescribe the correct diet. If a child's medical condition requires them to be transferred for further diagnosis or treatment to a medical facility that is not within the CTC programme, the child can remain registered in the CTC programme. If the child has appetite and the hospital lacks nutritional care, the child can be sent on with a supply of RUTF as noted above.

### 8.3.3 Medical Treatment

Medical treatment and protocols for severely malnourished children with complications in the SC follow standard WHO protocols for the seven steps of initial phase care. Protocols should also take national policy into account. Routine CTC medications should be given if they have not already been administered in OTP (see Annex 23 and Annex 24). Medication should be closely coordinated with the site that transferred the child.

Care must be taken in the calculation of weight-related paediatric dosing of medications. The routine use of IV fluids is discouraged and they should only be used to resuscitate severely acutely malnourished children from hypovolaemic collapse (shock). They should only be given by a skilled health

worker, experienced in the care of the severely acutely malnourished.

Medical treatment for moderately malnourished children referred to the SC for treatment of severe medical complications should be according to standard WHO/IMCI paediatric treatment protocols.

### 8.3.4 Observation and Monitoring

Meal times should be observed and the proportion of the feed consumed should be recorded, with any instances of vomiting noted so that appropriate and timely action can be taken if needed (e.g. inserting a nasogastric tube). The medical condition of the child should be fully checked each day. Routine observation should take place at least twice a day and more frequently according to the severity of the child's condition. Findings are recorded on the SC patient card, an example of which is in Annex 29.

The information on the patient card includes:

**Personal information.** Home location and the names of carers to enable follow-up after discharge or if the patient defaults.

**Anthropometry.** MUAC, weight and height are recorded on admission and the child's weight is then measured daily. This information is correlated with other medical findings to decide on the treatment to be given that day.

**Feeding information.** The proportion of the calculated feeds that the child consumes and any vomiting can be correlated with medical findings to determine treatment.

**Clinical data/medical findings.** Deterioration can occur quickly in severely acutely malnourished children, and this information is vital in making a correct diagnosis and providing timely treatment.

**Medications.** Indications for medications and their administration are recorded. Medical or assistant health staff should directly observe the medication being taken and the child's response to treatments and the therapy's outcome.

### 8.3.5 Hygiene

Stabilisation centres gather immuno-compromised children and their carers together, which means that it is vital that a reliable safe water source is obtained and standard hygiene practices are observed for sanitation,

general centre hygiene, storage, preparation and handling of food. It is essential that workers, carers and children wash their hands with soap after defecation and before handling food. Food should be hygienically prepared, thoroughly cooked and served promptly (cooked food should not be stored for more than two hours). All carers should be given soap on admission to the SC. Detailed hygiene standards and guidelines for therapeutic feeding centres and health facilities can be found in:

- SPHERE Project Team. *The SPHERE Humanitarian Charter and Minimum Standards in Disaster Response.* 2 ed. Geneva: The SPHERE Project, 2004.
- CDC. *Guidelines for Environmental Infection Control in Health-Care Facilities*, 2003.
- WHO. *Management of Severe Malnutrition: A Manual for Physicians and Other Senior Health Workers*, Geneva, 1999.

### 8.3.6 On Discharge

When a child is ready to be discharged, weight, height, MUAC and oedema are measured. The register and a discharge transfer slip are completed, including a summary section informing workers at the OTP of any medical interventions and medicines given to the child. The carer is supplied with a ration of RUTF and CSB or an equivalent (for the family) sufficient to last until the next OTP appointment. The key education messages regarding the correct use of RUTF and basic hygiene are discussed again with the carer (see Annex 22). Carers are also given any remaining medications and instructions on how to use them. It is important to check that these instructions have been understood.

Discharge from the SC may take place on any day, particularly if the SC is in a hospital. It is therefore important for the SC team or liaison officer to explain the following to the carer:

- The appropriate use of RUTF at home;
- The OTP follow-up routine;
- The next appointment at the OTP site; and
- Where they can seek urgent medical care if the child's condition deteriorates.

Where possible, the SC liaison officer should inform the OTP site to which the child is being transferred.

## 8.4 Data Collection and Monitoring

Essential data are recorded to ensure that the child can be tracked through the inpatient and outpatient therapeutic care process and to monitor the effectiveness of the programme. (The CTC monitoring system and procedures are covered in detail in Chapter 9).

### 8.4.1 Tracking the Child

Children transferred from the OTP/SFP to the SC have already been assigned an OTP/SFP number, and this is recorded on the child's individual patient card along with the other information from the transfer slip. On discharge from the SC, the child's number is recorded along with treatment information on a transfer slip that is taken to the OTP health worker or SFP team. Direct admissions are assigned a number at the SC. A child keeps this number for the duration of its time in the CTC programme.

### 8.4.2 Monitoring the Programme

Information on children transferred from the OTP is already included on the tally sheets. If one of these children defaults or dies in the SC, the supervisor of the OTP site should be informed by the SC team or liaison worker so they know not to expect their return. Information on direct SC admissions should be given to the OTP site to which they will be discharged, so that they are expected. In order to monitor the effectiveness of the SC, a simple register is kept recording all admissions and exits and tally sheets are filled in weekly.

# Chapter 9
# Monitoring

Meetings with community leaders are vital for planning and continued feedback on the running of the programme and for discussing increased community involvement.

# 9. MONITORING

In order to know whether a CTC programme is making progress towards achieving its objectives, monitoring is essential.[9] By systematically monitoring progress and impact during the course of a programme, strengths and weaknesses can be identified, informed judgements made, and timely adjustments carried out. Monitoring and evaluation (see Chapter 10) are also important in supporting institutional and sectoral learning and in aiding the continued development of CTC.

At the core of monitoring is the capacity to collect, manage and utilise key information. In a CTC programme, quantitative data is collected in the SFP, OTP and SC. Qualitative data is collected through consultation with affected communities and stakeholders at various stages of the programme. This chapter explains how these data are collated and analysed in order to monitor:

- The treatment the programme is providing;
- Its appropriateness;
- Its effectiveness; and
- Its coverage.

It is important to prioritise information needs. As CTC aims to integrate as much as possible with existing services, it is important to take into account the fact that data collection through programme sites will be carried out by front line health staff. Data collection requirements must be easily manageable if data is to be collected accurately. Systems need to be designed to minimise the demands placed on programme staff whilst providing sufficient information for essential monitoring.

## 9.1 Monitoring Individual Treatment

In a CTC programme children are transferred between the components (SC, OTP, SFP) as their condition improves or deteriorates. They may also move between the decentralised OTP and SFP programme sites if, for example, a new site is opened closer to the child's home or when the population is mobile. It is essential to be able to track children between the programme

[9] Performance and impact monitoring takes place alongside other forms of monitoring performed by agencies, such as institutional, input, output and financial monitoring.

components and programme sites. To allow this, the links between the SC, OTP, SFP and programme sites have to be well managed. A child's progress in a CTC programme is closely monitored and recorded throughout their treatment. Medical checks, illnesses reported by the carer, medicines received, anthropometric measurements, appetite assessment, attendance and follow-up organised are all noted regularly. This information together with information on transfer and follow-up visits are used to ensure that a child's progress is monitored and problems identified in a timely manner and action taken. Key elements of a system to track and monitor the child are:

- The routine collection of medical, nutritional and follow-up data, recorded on cards and maintained in an efficient filing system.
- Supervision and case review.
- A clear numbering system.
- The effective exchange of information on individual children among the programme's components, and between the programme and the community.

### 9.1.1 CTC Cards

Children are monitored using CTC record cards and ration cards. Samples are given in Annexes 17, 27 and 29.

**Record Cards.** These are kept by the CTC teams or clinic workers at the site where the child is being treated. They are stored in a file with separate sections for:

- Transfers awaiting return. (This ensures that transfers are not overlooked and that follow-up takes place if they do not return. On return, monitoring continues on the same card).
- Defaulter cards awaiting return. (On return, monitoring can continue on the same card).
- Deaths.
- Recovered cases. (The cards of children who have recovered are usually kept separately because there are so many. It is useful to have these at the site to check any relapses).

The number of cards in the file represents the number of children currently in the programme. At the end of the day, this can be checked against tally sheets (see Section 9.3.3) to ensure that reporting is accurate.

**Ration Cards.** Carers are given a ration card to take home. This contains key information about the child and basic information on their progress (weight, height, ration received). This is the carer's record of the child's progress in the programme. It can be presented at any clinic visit to inform health workers of the child's progress.

### 9.1.2 Supervision and Case Review

It is essential to ensure that record cards are being filled in correctly. Supervisors should check that admissions and discharges are made according to protocols and that routine and supplemental medicines and RUTF have been given correctly. They must also regularly check that deterioration in the condition of the child is identified and acted upon according to the action protocol, and that absences and transfers are noted and followed up.

Health workers should review the management of children with static weight or weight loss or those that have not recovered after thee months, at monthly meetings. They should discuss the information on the card, received from the carer and collected during follow-up in order to decide on appropriate action. These monthly meetings should also include a review of deaths occurring in the OTP and SC in order to identify any problems in the use of treatment and action protocols. These can be used as teaching examples to improve practice.

### 9.1.3 Numbering System

A unique registration number is given to each child when the child is first admitted into the SFP, OTP or SC. Each registration number is made up of three parts, for example:

**NYL / 003 /OTP**

**NYL** refers to the name of the programme site where RUTF or supplementary food is received, or the centre where inpatient treatment is given.

**003** is the number allocated to the child (this runs in sequence from the previous child registered at that site or centre).

**OTP** refers to the programme component where the child entered the CTC. So it could equally be SFP or SC.

To ensure that children can be tracked, the full number allocated when a child enters the programme (either in SC, OTP or SFP) is retained until the child is discharged from the CTC programme.

To facilitate tracing and follow-up in the community, all registrations should follow this numbering system. It is quoted on all records concerning the child, i.e. on SC, OTP and SFP cards and registration books, ration cards, transfer slips and identity bracelets.

Returning defaulters retain the same number that they were first given, as they are still suffering from the same episode of malnutrition. Their treatment continues on the same monitoring card.

Readmissions after relapse are given a new number and a new card as they are suffering from a seperate episode of malnutrition and therefore require full treatment again.

If the SC or SFP are run by a different agency, numbers should be allocated in the OTP. Care must be taken to ensure that the number appears on transfer slips that accompany the child to the SC or SFP. The other agency should put this number on their transfer slip when the child returns.

### 9.1.4 Exchange of Information

An important element of the monitoring system is the tracking and exchange of information on individual children between components and between the programme and the community.

**Transfers to inpatient care.** Contact between the components of the programme (often managed by different agencies) needs to be established to ensure that children are admitted and transferred with adequate information to ensure correct medical and nutritional treatment. It is also vital to make sure no children are lost in the transfer process between components by providing transport and by engaging outreach to follow them up at home.

**SC deaths and defaulters.** If a child is transferred from OTP to SC, his/her card remains in the OTP file. If that child does not return to the OTP site after one or two weeks, information should be sought from the SC team where possible, or through outreach workers or volunteers visiting the child's home. If a child dies in the SC or defaults, the SC team should pass this information on to the OTP site so that the team know not to expect them back and the card can be completed and filed.

**OTP absences and defaulters.** Absences and defaulters from the OTP should be followed up by outreach workers or volunteers and the carer encouraged to return with the child to complete treatment. If children do not return, the reason for defaulting should be recorded on the card to help health workers understand the family's circumstances and avoid further absences. In some cases, this information can help health workers to modify protocols (e.g. children may be allowed to attend every two weeks rather than weekly).

**Deaths.** If a child dies in the SFP, OTP or SC, a record is kept of their symptoms and the suspected diagnosis. For OTP and SFP this information is collected by outreach worker or volunteers and should be recorded on the child's card as it can help to identify problems in treatment and action protocols.

**Non-cured.** When follow-up visits are required for children not responding well in the programme, information collected by outreach workers or volunteers during follow-up visits is important for the analysis of underlying causes of non-recovery. Information received during follow-up should be recorded by the health worker, along with that reported by the carer, as additional information on the child's card. This is used in further discussion with the carer, and to inform decisions about whether to transfer the child for further investigation.

## 9.2 Monitoring the Appropriateness of the Programme

Quantitative indicators, such as mortality, default and cure rates, are complemented by qualitative information collected from the community. This two-way process helps to identify issues affecting the programme at a community level as well as to strengthen the community's sense of ownership of the programme.

Two kinds of community-level monitoring can be used: focus group discussions and interviews with key members of the community.

### 9.2.1 Focus Group Discussions

Focus groups discussions (FGDs) improve understanding of perceptions of a programme at community-level. They involve small groups of unrelated people who are brought together to discuss specific topics. The interaction between participants is analysed and a record made of individual opinions and collective ideas (focus groups are not intended as a way of rapidly conducting multiple interviews, developing consensus or making decisions).

An FGD should have between five and fifteen participants, identified according to the nature of the enquiry. They are selected on the basis of gender, age, ethnicity and religious, political or group affiliation to form a set of people either with similar positions and experience (e.g. carers of children in the CTC) or with different ones (e.g. mothers in the CTC programme and mothers not included in the programme).

The focus group format allows the direction of discussion to be guided and enables the issues raised by participants to be probed. It provides insight, not only into what people think but also why they think it (why mothers find it difficult to access CTC services, for example). They do not require a lot of resources.

On the negative side, the researcher has less control of proceedings than in individual interviews. While the introduction of new topic areas may be useful, it may distract from the original aims of the discussion, information may be difficult to analyse and the small size of the sample means that it may not be representative. Gathering all the participants in the same place at the same time can be difficult.

A CTC programme should consider using FGDs when:

- There is a gap in communication or understanding between groups or categories of people, or between programme staff and the target community.
- Issues relating to complex behaviour, motivation or perceptions (e.g. traditional treatments for malnutrition) need to be unravelled and analysed.
- Ideas from a group or community are needed.
- Information is needed to prepare for a large-scale study (e.g. a nutrition or coverage survey or a socio-cultural study).

FGDs should be avoided when:

- The situation is emotionally charged and drawing out information is likely to cause or intensify tensions.
- The researcher cannot ensure the confidentiality of sensitive information.
- Statistical projections or numerical data are needed.

Experience shows that, for the purposes of CTC programmes, FGDs are particularly useful in shedding light on:

**Coverage.** Whether individuals or groups in the community who could be in the programme are not, why this is so and how it could be changed.

**Access.** Whether there are barriers preventing people from accessing the programme and what might be done about them.

**Recovery.** Whether carers perceive changes in children treated in the programme and whether anything can be done to strengthen the recovery process.

**Service delivery.** Whether beneficiaries are happy with the CTC services they receive and the means of delivery, and whether either could be improved.

**Cultural appropriateness.** Whether the programme is culturally sensitive or doing something inappropriate.

**Lessons learned.** What should be done differently and what should be replicated in future programmes.

Suggestions for conducting and analysing FGDs are given in Annex 30.

### 9.2.2 Interviews with Key Community Members

A more comprehensive picture of the community's perspective can be obtained by conducting structured or semi-structured interviews with key members. Particular issues raised by FGDs can be explored, such as barriers to access and ways in which leaders can help the programme to reach more people. Thus community members can raise issues and also be involved in seeking solutions. This process helps to devise practical and feasible solutions in a particular context and to strengthen community ownership.

## 9.3 Monitoring the Effectiveness of the Programme

Quantitative data are collected on the outcome of all activities in a CTC programme, and standard indicators for nutritional interventions are calculated. This enables the effectiveness of programme activities to be monitored.

Routine programme data are collected in four categories:

- Total admissions, exits and the number of children in the programme;
- The number of admissions by category;
- The number of exits by category; and
- Additional information on exits, weight gains and lengths of stay.

These four categories represent the minimum information needed to effectively monitor a programme (they are explained in more detail in Sections 9.3.1 and 9.3.2). Data collection is kept to a minimum in order to make the process practical and sustainable. However in some circumstances it may be necessary to collect additional information (on gender or age distribution, for example, or place of origin, displaced/resident status, or whether the household is receiving a GFD) according to reporting needs and the context of the programme.

**Total admissions, exits and number registered.** Trends in total admissions, total exits and numbers registered help programme managers to see how quickly the programme is reaching the target population and the effect of any changes made in the programme (e.g. opening of new sites, recruitment of volunteers etc.). These trends can also show the effect of events such as public holidays and harvest times and trigger programme adjustments that might be required to accommodate them.

**Admissions by category.** Monitoring the composition of admissions by category can identify differences in the nature of malnutrition in different areas. It can also show trends over time, such as an increase in other admissions (adults and adolescents). If there is a significant difference in the composition of admissions between sites, it may be necessary to check for differences in the way particular groups are classified (e.g. how oedema is identified, or how the 'other' category is understood).

**Outcomes/exits by category.** Trends in outcomes/exits are monitored to identify any changes in the number of deaths, defaults or non-cured cases and to indicate areas that require further investigation.

Routine programme data is collected together in tally sheets (see Section 9.3.3 and Annex 31). The tally sheets are compiled into weekly and monthly reports for programme monitoring (see Section 9.3.3 and the CTC Manual CD).

A computerised database has also been developed to automatically compile information from the tally sheets. This is useful, but requires specific skills and equipment and may detract from the other activities of the field staff. Hand-written records and compilations can be as useful and are more likely to be accessible to all members of the team. Hand-drawn graphs also demonstrate trends and changes as effectively as computer-generated graphics. Monitoring and reporting based on the compilation of tally sheets is described here. Instructions for setting up and using a computerised database are given in Annex 32.

Programme data is collected by field staff every week. This allows continuous monitoring of activities, assessment of changes and trends and timely action. Monthly reporting is recommended for deeper analysis of programme outcomes and for the presentation of data to external agencies. More in-depth evaluations using extended databases, retrospective analysis of admission cards or specific coverage surveys or studies may be conducted as necessary. All routine monitoring data should be compared to key indicators of quality and appropriateness for CTC programmes (see the quality grid in Annex 6).

### 9.3.1 Admission and Exit Categories and Definitions

The following system for data collection can be used either where the same agency is managing OTP, SC and SFP, or where different agencies are managing different components.

In this system each OTP site collects information on the children it is treating. All severely malnourished children who arrive at the OTP sites are registered. Children who are then transferred to the SC, either immediately or after some time in the OTP, are recoded as transfers. When the child returns to the OTP from the SC, the child is recorded as ‘from SC’, not as a new admission. Severely malnourished children presenting directly to the SC are registered there as new admissions. When they arrive at the OTP after discharge they are also recorded as 'from SC'. This avoids double counting of new cases of severe malnutrition between the programmes. Data from the OTP and SC can be easily compiled on a monthly basis to give overall outcomes.

Admission and exit categories and definitions are given in the tables and notes below.

**Figure 19: Admission and Exit Categories - SC**

| Category | Definition |
|---|---|
| **ADMISSIONS** | |
| **New admissions** | New cases that comply with admission criteria. |
| **Other new admissions** | Admissions who do not fulfil age criteria or anthropometrical criteria for admission. Examples include infants, clinically very wasted, moderate cases with medical complications, and previous admissions returning after referral to hospital. |
| **Moved in – from OTP** | Children transferred to SC from OTP according to the action protocol. |
| **EXITS*** | |
| **Discharged to OTP**** | Cases meeting programme discharge criteria. |
| **Death** | Cases who die whilst in the SC. |
| **Defaulter** | Cases are classified as defaulter after being absent from the SC for two days. This provides time for follow-up after the first absence to allow transfer to OTP. |
| **Medical Referral out of programme***** | Where the medical condition of the child requires referral out of the SC to hospital. |

* Where an inpatient facility is also offering TFC care for a proportion of children e.g. due to the absence of an OTP in all areas, an additional exit category for discharged cured will need to be added.

** Though in this system children discharged to OTP should be considered a movement within the programme rather than as a true exit, they are included as such here and subsequent reporting to allow the success of the SC to be monitored i.e. the percentage of children stabilised successfully and discharged to OTP. They will not be counted when overall therapeutic programme outcomes are calculated (see Annex 33).

*** In other programme components, medical referrals are not counted as exits from the programme as they can continue their nutritional treatment with RUTF. For SC this option is given as children may not be able to continue their treatment in the SC if referral is to another health facility.

**Figure 20: Admission and Exit Categories - OTP**

| Category | Definition |
|---|---|
| **ADMISSIONS** | |
| **New admissions*** | New cases that comply with admission criteria. |
| **Other new admissions** | Admissions who do not fulfil age criteria or anthropometrical criteria for admission. Examples include clinically very wasted moderate cases who had complications and need closer monitoring in OTP after stabilisation. |
| **Moved in – from SC** | Children discharged to OTP after stabilisation – includes both children previously registered in OTP and direct SC admissions. |
| **Moved in – returned after default** | Returned defaulters who, on return, have not yet reached programme discharge criteria. |
| **Moved in – from other OTP site** | Children moved from another OTP site to continue their treatment. |
| **EXITS**** | |
| **Discharged cured** | Cases meeting programme discharge criteria. |
| **Death** | Cases who die while registered in the programme (including those referred to a health facility for medical treatment while remaining registered in OTP). |
| **Defaulter** | Cases are classified as defaulter on their third absence. This provides time for follow-up after the first absence to encourage return. |
| **Non-cured** | Cases who do not meet discharge criteria after four months when all investigation and transfer options have been carried out. Or, medical referrals who do not return. |
| **Moved out – to SC** | Children who are transferred to the SC either when they first arrive at the OTP site or after deterioration during treatment in the OTP. |
| **Moved out – to other OTP site***** | Children moved to another OTP site to continue their treatment. |

* New Admissions
  - Includes all children presenting to the OTP site who are transferred immediately to the SC.
  - Includes all children refusing transfer to the SC on presentation.
  - Includes all children transferred from SFP to OTP due to deterioration in their condition.
  - Direct admissions to the SC are recorded as 'from SC' when they arrive in the OTP because they will already have been recorded as new cases of malnutrition in the SC.

**Exits
  - Medical referrals from OTP to a hospital or medical facility other than the SC for medical treatment or investigation are not recorded as exits. However, if they fail to return they are recorded as non-cured.

*** Moved In/Moved Out
  - These are not completely new admissions or full exits – they are movements between components or programmes offering nutritional care for severe malnutrition. They are recorded in tally sheets and databases to help sites keep track of their numbers, ensure an accurate reflection of programme activity and improve tracking of cases across different sites and between OTP and SC. Even when different agencies are managing OTP and SC it is important that children moving from OTP to SC are not considered to be full exits as outcomes must be followed up.
  - Moved to and from SC can also include children moved to or from TFCs if these are in operation.

**Figure 21: Admission and Exit Categories - SFP**

## SFP Children

| Category | Definition |
|---|---|
| **ADMISSIONS** | |
| **New admissions** | New cases that comply with admission criteria. |
| **Other new admissions** | Admissions that do not fulfil age criteria (e.g. teenagers, adults) or anthropometrical criteria for admission. |
| **Moved in - from OTP** | Discharged from OTP to SFP to continue recovery. |
| **Moved in - returned** | Returned defaulters who, on return, have not **after default** yet reached programme discharge criteria. |
| **Moved in – from other SFP site** | Children moved from another SFP site to continue their treatment. |
| **EXITS** | |
| **Discharged cured** | Cases meeting programme discharge criteria. |
| **Death** | Cases who die while registered in the programme. |
| **Defaulter** | Cases are classified as defaulter on their third absence. This provides time for follow-up after the first absence to encourage return. |
| **Transfer to OTP/SC** | This is used for children who deteriorate in the SFP and need to be transferred to the OTP or SC. |
| **Non-cured** | Cases who do not meet discharge criteria after four months where all investigation and transfer options have been carried out. Or, medical referrals who do not return. |
| **Moved out – to other SFP site** | Children moved to another SFP site to continue their treatment. |

## Pregnant and Lactating Women

| Category | Definition |
|---|---|
| **ADMISSIONS** | |
| **New admissions** | New cases that comply with admission criteria. |
| **EXITS** | |
| **Discharged cured** | Cases meeting programme discharge criteria. |
| **Death** | Cases who die while registered in the programme. |
| **Defaulter** | Cases are classified as defaulter on their third absence. This provides time for follow-up after the first absence to encourage return. |
| **Non-cured** | Cases who do not meet discharge criteria after four months where all investigation and transfer options have been carried out. Or medical referrals who do not return. |

### 9.3.2 Additional Routine Information

Other information is collected routinely to complement the data on admissions and exits and allow deeper analysis. Some can be included at the end of tally sheets. The following additional information is recommended:

**Relapses (readmissions after discharge).** A record of the number of readmissions helps programme managers to understand the situation outside the programme (interventions at the household level may be needed to address high readmission levels). It can also indicate that children are being discharged from the programme too early.

Other information can be collected and compiled separately. The following is recommended:

**Cause of death.** When a child dies in the SFP, OTP or SC, a record is kept of symptoms, suspected diagnosis and management. (In the OTP and SFP, this is collected where possible by outreach workers/volunteers). All of this information should be recorded on the child's card. Compiling this

information routinely (using a simple report form or spreadsheet) can help to identify problems with treatment and action protocols and show where training and supervision are needed.

**Reasons for default.** This information is collected either by outreach workers/volunteers and recorded on the child's card (or on a paper kept with the card), or through FGDs in the community. It can help to identify trends in defaulting and identify adjustments to the programme that should be considered (e.g. the need to open new sites to facilitate access).

**Reasons for non-recovery (non-cured).** Routine review of this information can help to identify common problems of non-recovery such as tuberculosis, HIV/AIDS, sharing food in the household or poor access to clean water. It can indicate the need for stronger sectoral links and advocacy for general ration distributions, directly observed therapy short course (DOTS) tuberculosis programmes or water and sanitation interventions.

**Additional demographic information.** Other information may be required (for instance by donors) and can be included at the end of tally sheets, covering areas such as gender, age, and residential status (displaced/resident/returnee).

**Weight gain and length of stay.** The weight gained and length of stay of each child should be calculated every month for OTP discharges recovered (only those who were classified as 'new admissions' to OTP). If a large number of children are discharged as recovered in a given month (over thirty), a random sample of cards can be taken (see Annex 34 for formula).

### 9.3.3 Tally Sheets and Compilation Reports

Routine data is collected in SFP, OTP and SC sites using tally sheets. It is then compiled into reports. Sample tally sheets are given in Annex 31. Tally sheets should be completed immediately after each CTC programme day. Tally sheet data from each site is compiled to form weekly and monthly reports. A separate row for number attending the programme in a given round can be added to the bottom of the tally sheets if this is required for logistical/justification of resources purposes.

During compilation, data is reorganised so that new therapeutic admissions can be separated out, avoiding double counting either within the programme (OTP and SC components) or between the programme and others run by other agencies (e.g. when a TFC run by another agency is the transfer centre for stabilisation).

Weekly compilation reports are compiled into monthly and yearly reports. Examples of these can be found on the CTC Manual CD.

Compilation reports for the different components (SFP, OTP, SC) can also be generated using an Excel spreadsheet and pivot table (instructions are given in Annex 32).

In order to compile information for SC and OTP components and get an overall picture of outcomes from therapeutic care the compilation reports can be used to calculate the overall programme outcomes for SC and OTP together (See Annex 33).

## 9.4 Monitoring Programme Coverage

The priority in CTC is to make treatment available to the greatest possible number of acutely malnourished children in an affected population. It is important, therefore, to assess the proportion of children in need of assistance who actually receive care in the programme, i.e. the coverage.

Coverage is usually expressed as a percentage. (For example, if there are 100 severely acutely malnourished children living in a programme area and 70 of them are in the programme, programme coverage is 70%).

Coverage is one of the most important indicators of how well a programme is meeting need. A high coverage programme with a low cure rate may be better at meeting need than a low coverage programme with a high cure rate. See Figure 22 for a hypothetical illustration of this.

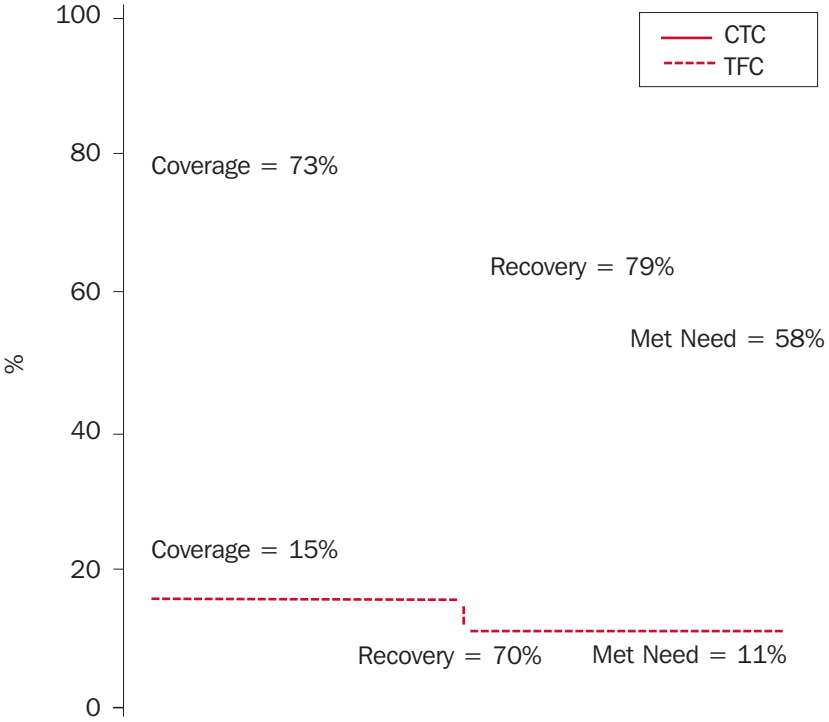
Met need is the product of the coverage and the cure rate. If, for example, a programme has a coverage of 70% and a cure rate of 90% then met need can be calculated as:

$$((70/100) \times (90/100)) \times 100 = 63\%$$

Thus we can say that the programme is meeting 63% of need.

High quality programmes have both high coverage and high cure rates.

**Figure 22: Coverage, Cure Rate and Impact**




### 9.4.1 Coverage Surveys

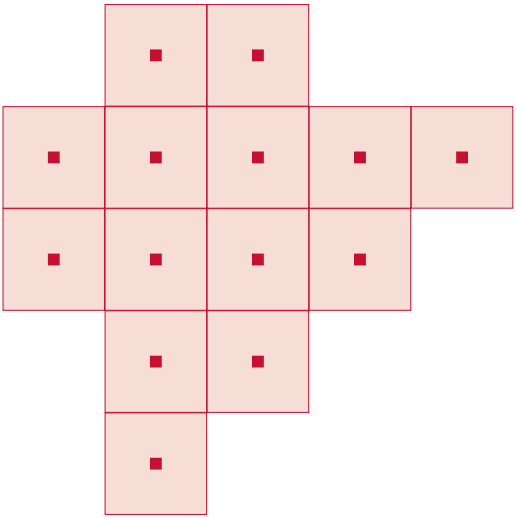
The coverage of a CTC programme is mapped and estimated using a technique called the CSAS Coverage Survey Method. (Myatt et al., 2005). CSAS stands for centric systematic area sampling and refers to the way communities are selected for sampling. It is performed as follows.

**Step 1.** Find a map of the programme area showing the location of towns and villages. A 1:50,000 scale map is ideal.

**Step 2.** Draw a grid over the map. The squares in the grid should be small enough that it can be reasonably assumed that coverage will be similar throughout the square. A square of 10 km x 10 km is small enough in most circumstances.

**Step 3.** Identify the squares to sample. Select squares with about 50% or more of their area inside the programme area.

**Figure 23: Identifying Squares to Sample**



**Step 4.** Identify the communities to sample. Select the community closest to the centre of each square. If the prevalence of malnutrition is low, it may be necessary to select more than one community from each square. Try to select the communities to be sampled and the order in which they should be sampled before visiting the area represented by the square.

**Step 5.** Identify cases in the community. A community is visited and cases are identified using an active case-finding method. It is usually sufficient to ask community health workers, traditional birth attendants, traditional healers and other key informants to take you to see 'children who are sick, thin, have swollen legs or feet, or attending a feeding programme' and then ask the mothers of confirmed cases to help identify other cases. It is helpful to use the local terms for thin, wasted, oedema, kwashiorkor, baggy-pants, sickness, feeding programme, wrist-band etc. It is important that the case-finding method used finds all, or nearly all, cases in the sampled communities (see Annex 35 for information on identifying how well a case-finding procedure works). Each suspected case is confirmed by applying the programme's entry criteria. When a confirmed case is identified, find out whether the child is in the OTP.[10] It is important to follow up on children

[10] If a child who should be in the OTP is found to be in the SFP, the child should be recorded as not covered and referred to the OTP.

reported to be in an SC or at a programme site on the day of the survey. When a child is found who meets the entry criteria but is not in the programme, it is useful to ask the mother or carer why not - this information can help to identify problems with information, outreach and community referral activities. All cases found who are not already in the programme should be referred to the OTP.

**Step 6.** Record the data. It is necessary to record the number of cases found, the number of cases found that are in the programme, and the number of children who are in the programme but who are not currently cases (i.e. children now in recovery who were recently severely acutely malnourished) for each sampled square.

**Figure 24: Recording Data from a Sampled Square**

| X | Y | Cases | Covered | In Programme (cases & non cases) |
|---|---|---|---|---|
| 1 | 2 | 7 | 4 | 7 |
| 1 | 3 | 5 | 3 | 4 |
| 2 | 1 | 3 | 1 | 1 |
| 2 | 2 | 7 | 6 | 11 |
| 2 | 3 | 4 | 3 | 7 |
| 2 | 4 | 5 | 2 | 3 |
| 2 | 5 | 4 | 1 | 3 |
| 3 | 1 | 5 | 2 | 6 |
| 3 | 2 | 7 | 7 | 10 |
| 3 | 3 | 9 | 6 | 6 |
| 3 | 4 | 4 | 2 | 8 |
| 4 | 2 | 4 | 3 | 3 |
| 4 | 3 | 2 | 1 | 3 |
| 5 | 2 | 4 | 3 | 4 |

Key:

**X:** The x (east-west) co-ordinate of the sampled square.

**Y:** The y (north-south) co-ordinate of the sampled square.

**Cases:** The number of cases of severe acute malnutrition found in the sampled communities in the sampled square identified by X and Y.

**Covered:** The number of "cases" currently enrolled in the programme.

**In Programme (cases and non cases):** The number of children who are currently enrolled in the programme (both cases and non cases) found in the sampled communities in the sampled square identified by X and Y.

**Step 7.** Calculate coverage. Two estimates of coverage should be calculated from the data: the point coverage estimate and the period coverage estimate. The point coverage estimate shows how well the programme is doing at the time of the survey. The period coverage estimate shows how well the programme has been doing in the recent past.

Point coverage is calculated using the following formula:

(Number of cases attending the feeding programme)
Divided by (total number of cases)
Multiplied by 100

Period coverage is calculated using the following formula:

Number of respondents attending the feeding programme
Divided by (number of cases not attending the feeding programme
+ number of respondents attending the feeding programme)
Multiplied by 100

For example, in the first square in Figure 23, represented by the first row of data in Figure 24, there are seven cases and four of these cases are already in the programme. There are also a total of seven children (cases and non-cases) who are currently in the programme (i.e. severely acutely malnourished children and those now in recovery who were recently severely undernourished).

The point coverage estimate is:

**Point coverage = (4 / 7) x 100**
**= 57%**

The period coverage estimate is:

**Period coverage = [7 / ((7 – 4) + 7)] x 100**
**= (7 / 10) x 100**
**= 70%**

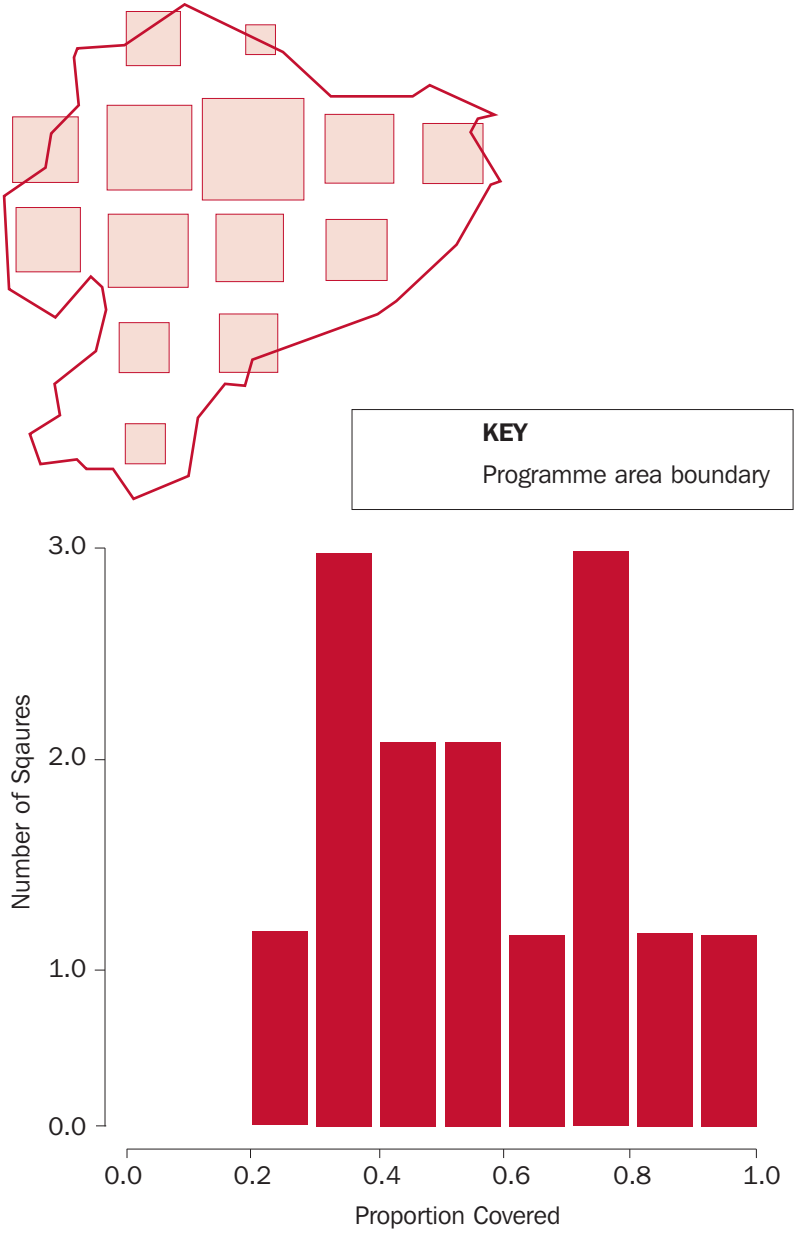
**Figure 25: Other Examples for Recording Data Taken From Figure 24**

| X | Y | Cases | Covered | In Programme (cases & non cases) | Point Coverage (covered / cases) x 100 | Peroid Coverage In programme / ((cases – covered) + in programme) x 100 |
|---|---|---|---|---|---|---|
| 1 | 2 | 7 | 4 | 7 | (4/7)x100=57% | 7/((7-4 +7) x100=70% |
| 1 | 3 | 5 | 3 | 4 | (3/5)x100=60% | 4/((5-3)+4) x100=67% |
| 2 | 1 | 3 | 1 | 1 | (1/3)x100=33% | 1/((3-1)+1) x100=33% |
| 2 | 2 | 7 | 6 | 11 | (6/7)x100=86% | 11/((7-6)+11) x100=92% |

These are calculated for each square as well as for all squares together. Sometimes a weighted method is used to calculate the coverage estimates for all squares together, but this is not essential. Annex 36 describes how to calculate a weighted coverage estimate.

**Step 8.** Plot the data. Coverage data is plotted as a mesh map and as a histogram (see Figure 26). The length of the sides of the filled squares on the mesh map reflects the level of coverage found in each square (calculated in step 7). Small open squares may be used to indicate survey squares with zero coverage. It may be useful to mark the approximate location of feeding centres, programme sites, health posts and roads on the map. This may help in interpreting the results of the coverage survey. The height of the columns in the histogram reflects the number of squares in which a particular range of coverage was found.

**Figure 26: Plotting Coverage Data**



### 9.4.2 Interpreting Survey Results

There are two components to evaluating coverage:

**Overall coverage.** The coverage estimate calculated for all squares together. CTC programmes usually achieve an overall coverage of 65% or higher for both point and period coverage.

**Coverage in each square.** Coverage should be similar in each square. The mesh map and histogram show how equitable the programme is. A programme should aim for even and high coverage across the entire programme area. If there are squares with low or zero coverage, it may be necessary to modify the programme to avoid excluding children in these areas, e.g. by increasing outreach activities and/or opening new programme sites in low or zero coverage squares.

The point and period coverage estimates should be compared. In many situations they will be similar. Differences may have more than one explanation and can be difficult to interpret. For example, a period coverage estimate that is considerably higher than the point coverage estimate could result from a premature relaxation of outreach activities; alternatively it may be because uncovered cases are difficult to recruit or retain in the programme. Asking the mothers of uncovered cases why their children are not in the programme may help to explain a difference between the point and period coverage estimates.

# Chapter 10
# Evaluation

Continuous monitoring and evaluation is built into the design of CTC programmes

# 10. EVALUATION

## 10.1 Why Evaluate?

Evaluation is often seen as having two distinct aims: lesson-learning and accountability. In fact, these aims work together. Programmes need to be evaluated to see where and how they can be improved. Evaluations offer an opportunity to stand back and take an analytical look at performance to date. At the same time, an organisation using public resources to implement a CTC programme needs to be held to account: Is it doing the work well? Should more funds be committed to this sort of work? How do beneficiaries perceive the programme?

In some respects, the process of evaluation is similar to that of monitoring and both require collection and analysis of similar forms of information. However, monitoring describes an on-going process, in which managers use data analysis to identify areas of concern and make regular adjustments to a programme. Evaluation also involves such analysis, but it is also a more wide-ranging enquiry, looking beyond the confines of the programme at broader contextual, social, economic and political issues. Monitoring is generally carried out 'in-house' by agency staff, while evaluations tend to be more independent exercises. They may use personnel external to the implementing organisation: the presence of an independent evaluator can enhance the accountability function of evaluations. It can also result in a more objective and analytical look at the programme.

Evaluations provide a written record that is circulated amongst stakeholders. Sometimes (particularly in emergency operations) they are the only historical record of an intervention. As such, they are important as documentation of what happened and as a means to learn lessons that may be applied from one context to another.

## 10.2 Definition, Criteria and Questions

An evaluation is 'an examination, as systematic and objective as possible, of an on-going or completed project or programme, its design, implementation and results, with the aim of determining its efficiency, effectiveness, impact, sustainability and the relevance of its objectives' (OECD/DAC, 1991).

The evaluation criteria of efficiency, effectiveness, impact, sustainability and relevance evolved from the evaluation of development programmes. For humanitarian programmes, it has been customary to add other criteria, such as coherence, coverage and timeliness, as well as to adapt the original criteria to make them more relevant. All these criteria are briefly discussed below.[11] Included in the discussion of each criterion is a set of questions that could be asked by evaluators – this is intended to stimulate thinking, but is not an exhaustive list.

### 10.2.1 Design

Evaluators are interested in a programme's design and implementation, as well as in its outputs. How was the need for a CTC programme identified? On the basis of what information? Who requested the programme? Did it complement existing health programmes? What was the target population? Was the baseline analysis of need correct? What would have happened if no programme had taken place? What alternatives were considered? Did the implementing agency base its design upon the most recent literature? Does the same agency run both SFP and OTP programmes, and were these compatible? What assumptions were made and what risk analysis carried out? Did the implementing agency work closely with government counterparts, or did it set up a parallel programme? What level of staff input was included in the proposal, and was this necessary? How were beneficiaries involved in programme design? Was adequate provision made for managing and implementing the programme?

### 10.2.2 Efficiency

Efficiency (or cost-efficiency) measures the outputs – qualitative and quantitative – in relation to the inputs. Evaluations look at the costs of the programme and analyse whether these could have been lower for the same level of output. For humanitarian programmes, it might be useful to look at whether expatriate staff were flown in when suitable local staff were available, or whether therapeutic foods were imported when these could have been manufactured locally. Were transport systems run in an organised and rational manner? Did an agency incur high overhead costs in order to implement the programme, and were these necessary? Is it

[11] For a detailed discussion of evaluation criteria, see Hallam, A. *Good Practice Review: Evaluating Humanitarian Assistance Programmes in Complex Emergencies*, Relief and Rehabilitation Network, ODI, 1998.

possible to work out cost per child or adult treated? Is it possible to work out cost per life saved? Were staff management systems efficiently run? Were staff aware of programme goals, and kept informed of any changes? Were appropriate financial and administrative procedures in place?

### 10.2.3 Effectiveness/Impact

Effectiveness measures the extent to which a programme achieves progress towards its purpose, and whether this can be expected to happen on the basis of the outputs of the project. Impact, on the other hand, looks at the wider effects of the programme – social, economic, technical and environmental. Impacts can be short-term or long-term, intended or unintended, positive or negative. Impact studies ask whether the programme has made a real difference to beneficiaries.

Regarding effectiveness and impact, the evaluator would want to know whether there was an effective system for monitoring the progress of children within the programme. Were record cards maintained in an efficient filing system? Were regular meetings held to discuss the progress of programme participants? Was action taken to resolve difficulties? Was analysis carried out to determine why some eligible children were not in the programme? Were discussions held with local communities to determine whether the programme was meeting their needs?

Regarding impact, it is important to collect standard data used to assess selective feeding programmes. This includes data on:

- Death rates;
- Default rates;
- Recovery;
- Rate of weight gain; and
- Coverage.

All this data should be available from routine monitoring systems. If it is not, this suggests that the programme is not being adequately managed.

Impact evaluation also needs to look beyond the immediate actions of the programme, and assess the effects on the wider community. What happens to the siblings of those in the programme? Are there any adverse effects from participating in the programme? Is there any stigma attached? Do mothers queuing for admission to the programme or for RUTF distributions miss out on other important activities (market days, other health campaigns

etc) and can such adverse impacts be mitigated? Are local health posts included in the programme? What is the impact on staff morale of having a CTC programme alongside existing facilities? Have local health staff had training in new CTC techniques?

### 10.2.4 Sustainability/Connectedness

Sustainability is a recognised evaluation criterion when looking at development programmes. It is not always considered appropriate when evaluating an emergency programme, as the intervention may be designed to meet urgent, one-off needs rather than continuing over time. However, many emergencies are chronic in nature, or recur frequently in the same location, so the distinction between emergency and development programmes becomes blurred. For these reasons, many humanitarian programme evaluators use the criterion of connectedness. This refers to the need 'to ensure that activities of a short-term emergency nature are carried out in a context which takes longer-term and interconnected problems into account' (Minear, 1994). As CTC programmes take place in a wide variety of contexts, it is useful to consider these two criteria together. Relevant questions here include: What will happen when the programme closes? Will local health structures take over the management of the programme, where this has been started by an NGO? Who will guarantee the longer-term provision of RUTF and other programme inputs? Have short-term decisions made when the programme was set up led to long-term problems?

### 10.2.5 Relevance/Appropriateness

Relevance is concerned with assessing whether the programme is in line with local needs and priorities, and whether it is the most appropriate intervention. Timeliness can be considered under this criterion: if a programme to treat severe acute malnutrition as an emergency intervention is not able to gear up until after the peak of the emergency, this reduces its relevance. When did the programme start? How did this relate to the onset of the problem (e.g. famine, chronic food insecurity)? Was the programme culturally appropriate? Were foodstuffs palatable and acceptable to the local population? Did inclusion in the programme make excessive demands upon families and communities? Were women able to access the programme given cultural norms?

### 10.2.6 Coherence

Coherence evaluation looks at the wider environment in which an intervention has taken place. Does it make sense vis-à-vis the political, diplomatic, economic and military policies of international and local actors? This is an issue of particular importance when looking at emergency interventions as there may be many different actors involved at the same time, working in a fluid and changing environment. Did the implementing agency coordinate its activities with other organisations and with local structures? Were general distributions also going on? Was health care available? Was water and sanitation provision adequate? Was the programme in line with local government health priorities? In conflict situations, were opposing parties informed of the reasons for the programme, and were humanitarian principles upheld? Was the protection of beneficiaries affected (for better or worse) by the way the programme was implemented? Was staff security taken seriously?

### 10.2.7 Coverage

Coverage concerns whether all those in need have been considered, as discussed above. It is an essential criterion when looking at emergency and developmental interventions. An efficiently managed intervention that meets an important specific need is not enough if it excludes the bulk of the affected population. Were any children excluded from the programme? Were there gender/age/geographical biases to programme participation? Were children excluded because they belonged to certain ethnic groups, or because they were in conflict areas?

## 10.3 Indicators for Assessing Quality and Appropriateness

Annex 6 gives indicators to assess the quality and appropriateness of a CTC programme.

## 10.4 Information Sources

An evaluation draws on existing monitoring data and project and programme reports. Analysis of monitoring data is generally complemented by interviews with key informants, including the beneficiary population. Consideration needs to be given to ensuring that a representative sample of the local population is canvassed for their views, whether this is through semi-structured interviews or more formal questionnaire and survey methods (see Sections 9.2.1. and 9.2.2). It is important that non-participants are also

interviewed and their opinions taken into account in the evaluation analysis. Evaluators also need to talk to government officials, staff of other NGOs, UN agency personnel and coordination bodies, as well as project personnel.

## 10.5 Completing the Evaluation Process

It is important that evaluators feed back to those involved in the programme. While the evaluator(s) is/are still in-country, there should be a verbal feedback session to staff and other stakeholders, where appropriate. This allows for factual errors and misconceptions to be corrected, and for programme staff to provide further information on outcomes. It also provides an opportunity for lesson-learning. Similarly, a draft report should be circulated to those involved before the evaluation report is finalised. At some point, key stakeholders should have an opportunity to discuss and either accept or reject the findings and recommendations of the evaluation.

Once the evaluation is completed, there should be a follow-up process, in which the agency checks to see whether recommendations that were accepted have been implemented. The agency also needs to have a system for incorporating institutional level lessons into its systems and procedures, and for disseminating lessons more widely, where appropriate.

# Chapter 11
# Local Production of RUTF

Locally produced RUTF can be made using simple technology.

# 11. LOCAL PRODUCTION OF RUTF

There are a number of advantages to the local production of RUTF: it can reduce the cost of the product; can be made from local crops, which benefits local agriculture; it may be more responsive to local needs; it may create a feeling of ownership of CTC programmes and it can generate income for local manufacturers and suppliers and employment for local people.

## 11.1 Origins of RUTF

Oil based pastes such as tahini and peanut butter have long been used as nutritious foods. In the mid 1990's a new recipe was developed to have the same nutrient profile as the WHO F100, but with four times the energy density. This recipe used peanuts, oil, milk, sugar and a concentrated mineral and vitamin mix. It has shown to be highly effective in the rehabilitation of acute malnutrition. (Diop et al., 2003)

However, it is less suitable for widespread local production in developing countries because milk powder is often expensive and not locally available.

Peanuts are more prone to aflatoxin contamination than many cereals and legumes, which makes quality assurance more difficult and expensive in many developing countries. Peanuts can also cause allergic reactions, though there is no evidence that peanut paste based RUTF has created an allergic response (Nestel et al., 2003).

With support from FANTA/AED, Valid collaborated with Oxford Brookes University to develop RUTF recipes that use locally available grains and legumes. These contain a vitamin/mineral premix, but without the addition of peanuts and with substantially less milk powder. They provide the appropriate energy density, the full requirement for minerals and vitamins and a high protein biological value. Cereal and legume ingredients are toasted to destroy most anti-nutritional factors.

These new RUTFs have a low dietary bulk, a low potential for bacterial contamination because of their low water activity and are ready to eat without cooking or mixing with water. These products are currently being field tested. More information is available at **www.validnutrition.org**

# Chapter 12
# Future Developments

Contained development of the CTC approach includes working with national structures so that OTP can operate within existing primary health care services.

# 12. FUTURE DEVELOPMENTS

The focus of CTC in its first five years has been to develop a model that can achieve rapid and widespread impact on the mortality and morbidity of children under five in emergency situations. Data from CTC programmes demonstrate that CTC can achieve very high coverage and excellent recovery rates. CTC is rapidly gaining acceptance in the humanitarian sector as the preferred model for selective feeding in many emergency contexts.

CTC research and development is now focusing on expanding the application of CTC in other contexts. This chapter provides a brief overview. Advances in these areas will require increased knowledge, understanding and demand for CTC at the international, national, district and community level; more devolution of responsibility for implementation to the community; and a rationalisation and reduction in the resources required to implement CTC.

## 12.1 Long-Term CTC Programming

The CTC research and development programme is working with governments at national and local level to design CTC interventions that operate through local structures from the start. It is also seeking to improve the way NGOs work with local actors in the design of CTC programmes, such that they achieve rapid impact in emergencies and are also suitable for long-term implementation by the local government after the crisis has passed.

## 12.2 CTC and Primary Health Care

In most developing countries, the available resources cannot sustain CTC programmes with mobile teams, SFP, OTP, SC and imported RUTF in the long term. The CTC research and development programme is investigating an adapted model for long-term chronic needs, where there is no SFP. OTP services are operated from MoH clinics and small SCs operate in local hospitals. The programme is supported by self-sustaining community-based case finding. In addition, new RUTF recipes are being developed, which can be made in local health care facilities from local produce.

## 12.3 CTC in Remote, Insecure or Inaccessible Places

The CTC research and development programme is developing ways of further devolving responsibility for delivering care to malnourished children in dispersed, inaccessible populations. The main challenges are to:

- Enable screening and admission by community-based nutrition workers and volunteers.
- Enable the community to organise local transport to collect and distribute RUTF and supplementary food.
- Ensure quality control.

Studies are being conducted into the means of selecting representative and competent community nutrition workers; and the development of suitable and transparent local structures to oversee the implementation of CTC at village level. Investigations are being conducted into the feasibility of having more field-based teams moving from site to site by foot and mule, using pre-positioned RUTF and supplementary foods.

## 12.4 Monitoring Community Mobilisation

The CTC research and development programme is developing monitoring and evaluation tools for community mobilisation. These tools will provide concise, practical and relevant information to help implementing agencies identify the strengths and weaknesses of their engagement with communities. An example is the inclusion in coverage surveys (see Section 9.4.1) of a concise questionnaire that aims to identify the most prominent barriers to access and the most positive aspects of the mobilisation process. Programme managers can use this information to make context-specific improvements to mobilisation activities.

## 12.5 CTC and HIV/AIDS

The nutritional, medical, food security and material support delivered through CTC at the community level lends itself well to helping individuals and families affected by HIV. Adaptations to enable CTC to support HIV-affected households involve expanding the range of activities to include more comprehensive medical and material support for people living with HIV/AIDS and improving mechanisms to coordinate activities with formal and informal actors involved in the provision of care for HIV.

### 12.5.1 Home-Based Care (HBC)

The high number of people affected by HIV/AIDS and the limited capacity of the health services has led to general acceptance of home-based care as the most appropriate way of providing support. CTC contains most of the components of an HBC package, including physical care, a continuum of

care, health education, local capacity-building, ensured access, sustainable support and sustainable community-based case-finding strategies, and as such there are clear Links between CTC and HBC that can be exploited.

### 12.5.2 Voluntary Counselling and Testing (VCT)

HIV/AIDS still carries a significant stigma in many places, creating a major barrier to the early uptake of voluntary counselling and testing. The credibility of CTC and the lack of stigma associated with it, combined with the large overlap between acute malnutrition and HIV/AIDS, give CTC a potentially important role as an entry point for HIV/AIDS treatment and support programmes (Sadler et al., 2006). Where CTC has included the provision of VCT, uptake has been extremely high (Bahwere et al., 2006). In the light of concerns about the urban bias of HIV/AIDS services, there is great potential benefit from using CTC programmes to mobilise rural communities to demand VCT. In addition, the development of simple referral systems facilitating access to anti-retroviral therapy should enable more comprehensive, timely and effective HIV/AIDS services. The CTC research and development programme is working to adapt CTC to meet this need in both rural and urban communities.

### 12.5.3 Targeting People Living with HIV/AIDS (PLWHA)

In its present form, CTC targets only severely malnourished children. To achieve the necessary coverage of HIV-affected people, changes need to be made to CTC entry criteria and studies conducted of the possibility of adding adult and child anthropometric indicators in combination with a range of proxy indicators in order to expand the CTC target group. Through a combination of anthropometry and proxy indicators, it should be possible to increase the sensitivity with which HIV/AIDS-infected and affected people are identified, while maintaining high specificity thus enrolling only those who are likely to benefit from CTC.

### 12.5.4 Nutritional Support to People Living with HIV/AIDS

Nutritional status is a major determinant of whether people survive HIV/AIDS, and it is now generally accepted that the comprehensive care of HIV/AIDS-infected people must include nutritional support (FANTA, 2004/b). To be most effective, this support should be given before anti-retroviral therapy is started and as an adjunct to it.

Ready-to-use foods have the potential to greatly improve the effectiveness of nutritional support to PLWHA. These foods are energy dense and therefore not bulky, can be made with the appropriate balance of nutrients and do not require cooking. This means that the vitamins and minerals consumed can be carefully determined in advance and there are no additional labour demands placed on families. There is now increasing evidence that the provision of ready-to-use food can achieve positive impact in HIV-infected adults and children.

### 12.5.5 Managing Diarrhoea

Persistent diarrhoea is a major cause of morbidity and mortality in HIV/AIDS patients. Diarrhoea is associated with the malabsorption of macronutrients and micronutrients, resulting in weight loss and a deteriorating condition. The CTC research and development programme is exploring the addition of synbiotics (a combination of high-dose, acid-resistant probiotics with several types of prebiotic) to RUTF. Studies in post-operative immuno-compromised patients have demonstrated remarkable results from using these synbiotics in the treatment of diarrhoea. The programme has shown that the synbiotics remain viable in RUTF for several months, and field trials are now being conducted into their use as an adjunct in the treatment of malnutrition.

## 12.6 Ready-to-Use Supplementary Food

The CTC research and development programme is developing a range of new ready-to-use supplementary foods (RUSF) based on the energy-dense spread formula of RUTF. These new foods will be more expensive per metric tonne than blended cereals, but their possible greater clinical effectiveness will make their impact on mortality and morbidity much higher. The cost per unit of body mass that the malnourished child gains will therefore be lower, making these new RUSFs more cost-effective than blended cereals. Further studies are needed to ensure that the right RUSF is used for the different outcomes needed with any RUSF.

## 12.7 Other Age Groups

CTC has been developed through the treatment of children between six months and five years of age. Older children, adolescents and adults can also be effectively treated in CTC programmes. The CTC research and development programme is working on admission indicators to improve the sensitivity and specificity of selection for these groups.

# Annexes

## Annex 1: Definitions of Grades of Oedema

| Grades of Oedema | Definition |
|---|---|
| **Absent** | Absent |
| **Grade +** | Mild: both feet/ankles |
| **Grade + +** | Moderate: both feet, plus lower legs, hands, or lower arms |
| **Grade + + +** | Severe: generalized oedema including both feet, legs, hands, arms and face |

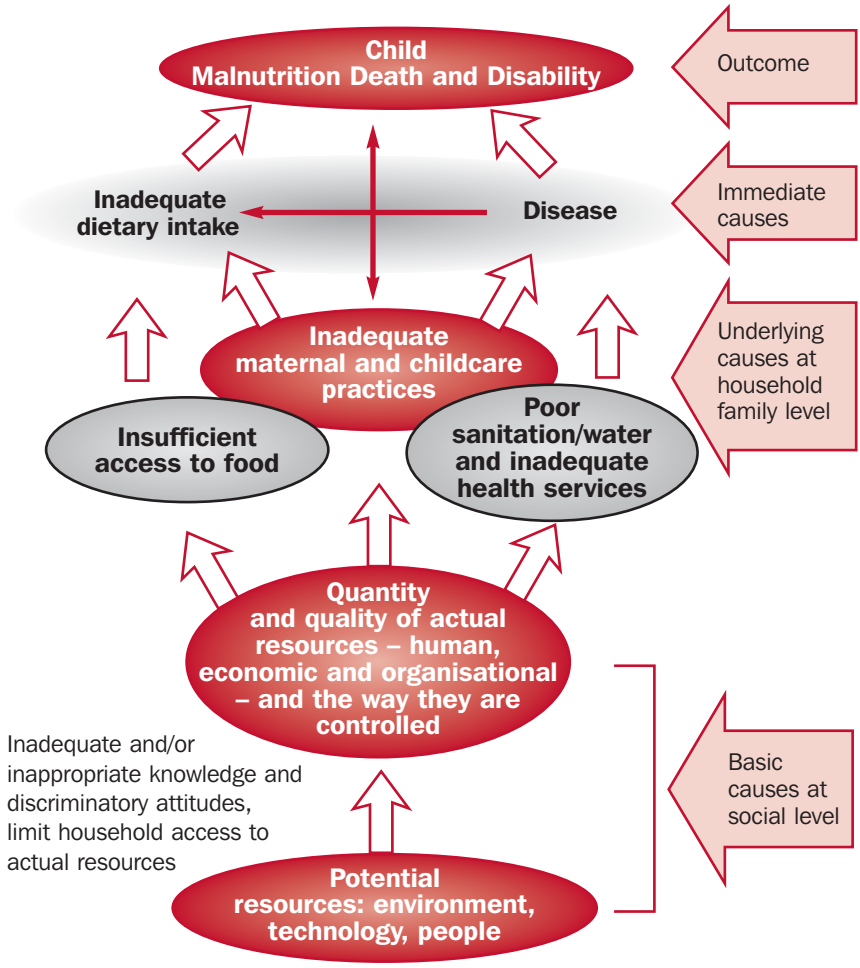
## Annex 2: Sources of Bias in Nutrition Surveys

| Type of Bias | Cause |
|---|---|
| **Incomplete coverage** | • Inaccurate or out-of-date sampling frame.<br>• Large-scale population movements, distress migration.<br>• Sampling subsections of the population, famine camps, feeding centres.<br>• Geographical bias towards more accessible, affluent or urban areas. |
| **Age or sex bias** | • Samples of varying age composition, Younger children are more susceptible to wasting, while older children are more susceptible to stunting. All nutrition indices therefore vary according to the age structure of the sample.<br>• If the population does not allow one sex to be measured for cultural reasons. |
| **Non-random measurement error** | • Systematic errors because of faulty weighing equipment or incorrect measuring techniques.<br>• Inadequate training and supervision.<br>• Non-standardised measuring equipment. |

## **Annex 3:** Causes of Child Malnutrition

*(adapted from UNICEF, 1990)*

This conceptual framework on the causes of malnutrition was developed in 1990 as part of the UNICEF Nutrition Strategy. The framework shows that causes of malnutrition are multi-sectoral, embracing food, health and caring practices. They are also classified as immediate (individual level), underlying (household or family level) and basic.



# Annex 4: Logframe Refresher

The logical framework (logframe) defines a project's goal, purpose, outputs and activities. These are logically linked, taking into account certain defined assumptions.

The framework is presented as a 4x4 matrix.

| Hierarchy of Objectives | Objectively Verifiable Indicators | Means of Verification | Assumptions and Risks |
|---|---|---|---|
| **Goal:** Highest level objective that the project will help to address (the project rationale). | The evidence (quantitative/qualitative) that will be used to judge achievement of the goal. | The specific sources of data necessary to verify the indicators of the goal. | External factors necessary to achieve the objectives. |
| **Purpose:** Impact the project intends to bring about with the outputs. | The evidence (quantitative/ qualitative) that will be used to judge achievement of the purpose. | The specific sources of data necessary to verify the indicators of the purpose. | External factors necessary for project purpose to contribute to the project goal. |
| **Outputs:** Specific results that the project will deliver. | The evidence (quantitative /qualitative) that will be used to judge the achievement of the outputs. | The specific sources of data necessary to verify the indicators of the outputs. | External factors necessary for project outputs to achieve the purpose of the project. |
| **Activities:** The actions carried out during the project to accomplish the outputs. | Inputs: A summary of the project budget and other key inputs relative to the tasks.i | The specific sources of data necessary to verify the indicators of the activities. | External factors necessary for activities to result in project outputs. |

The top two rows describe what it is you are trying to do and the bottom two rows describe how you are going to do it, Goals and Purposes are what we want to achieve and should not be changed. Outputs and Activities are like theories or hypotheses about how to achieve the aims – if they do not work well, they should be changed.

The first column (from the left) shows the hierarchy of objectives, defined in the table above. The second column shows indicators: measurements that will verify whether or not the objectives have been achieved. The intention of each part of the project is clear from the choice of indicators. Indicators should be expressed in terms of time, quantity and quality. They may also need to specify cost and/or place. They should be plausible and easy to measure.

The third column addresses how to verify that the indicators have been met. This column is used to plan the schedule for confirming that each objective has been achieved. The objectives and the indicators are part of the project. The column refers to measurements taken by the project in the environment. These are generally recorded details such as publications, surveys, project notes and reports.

The final column addresses important assumptions and risks, i.e. external conditions affecting the project that are either outside the control of the project, or the project chooses not to exert control over them. When considered along with the hierarchy of objectives, these should produce the necessary and sufficient conditions for achieving the next level up, e.g. IF [activities] AND [assumptions] THEN [outputs]. If something is in the direct control of the project, it cannot be an assumption or a risk. If a risk seems important (i.e. it is both likely to happen and is of serious consequence to the project's success), then the project design should be changed so that it can be managed and so cease to be a risk.

## Logframe Logic

The hierarchy of objectives expresses a chain of cause and effect. Moving down the objectives, the logic is: in order to achieve the purpose, we must have the following outputs. Moving up the objectives, the logic is: if we have these inputs, we can achieve these outputs.

| Hierarchy of Objectives | Objectively Verifiable Indicators | Means of Verification | Assumptions and Risks |
|---|---|---|---|
| **GOALS:** **If** we do these | to this standard | (measured like this) | **and** this assumption holds, **then** we are on track to accomplish bigger goals. |
| **PURPOSE:** **If** we do these | to this standard | (measured like this) | **and** this assumption holds, **then** we can contribute to the goals. |
| **OUTPUTS:** **If** we do these | to this standard | (measured like this) | **and** this assumption holds, **then** we will accomplish the purpose. |
| **INPUTS:** **If** we do these | to this standard | (measured like this) | **and** this assumption holds, **then** we can accomplish the outputs. |

The logic implies that the lower order objective(s) are both necessary and sufficient to achieve the higher order objective(s). If the objectives at one level are insufficient to reach the objectives at the next level, the project cannot do what it is trying to do. If the objectives at one level are not all necessary for reaching the next level, resources will be wasted and the project will risk losing its focus. (An exception here is the relationship between the purpose and the goals – the purpose need not be necessary and sufficient to achieve the goals: it should merely be necessary and sufficient to make an important contribution to the achievement of the goal).

## Annex 5: Example of a CTC Logframe

| Hierarchy of Objectives | Objectively Verifiable Indicators | Means of Verification | Assumptions and Risks |
|---|---|---|---|
| **GOAL:**<br>May be:<br>• Wider emergency programme aims, e.g. minimising losses associated with a nutritional crisis.<br>• Longer term aims, e.g. more general developments and improvements within the health service system. | These are important for the overall evaluation of a wider programme. They are less relevant for the monitoring and management of the CTC programme. | | |
| **PURPOSE**<br>Likely to concern the development or performance of a system that provides effective treatment for acute malnutrition for a defined population. | The purpose is the central aim of the project. It is important therefore to be able to measure it as *the project progresses* and to make any necessary changes to the outputs and inputs. Indicators are to be targets (with dates so that progress can be measured) for:<br>• Measures of mortality and the recovery of children in the programme.<br>• Measures of coverage.<br>• Sustainability. | Data needed to show progress made towards the purpose. | The ability of the programme's purpose to contribute to the wider goals is likely to be full of assumptions. However, as these involve the performance of other (non-CTC) programmes, they are usually not crucial to the CTC programme. |

| Hierarchy of Objectives | Objectively Verifiable Indicators | Means of Verification | Assumptions and Risks |
|---|---|---|---|
| **OUTPUTS**<br>Likely to refer to the performance of the various components of the CTC programme (community mobilisation, OTP, SFP, SC). Typical output objectives include:<br>• OTP: Recovery rates for enrolled children.<br>• Community mobilisation, SFP and OTP together: most eligible children are covered by the programme. | Measurable targets are needed for each component and for anticipated interaction between them. They must ensure that coverage (the priority of CTC) is monitored as soon as possible so that activities can be properly phased. Some examples:<br>• OTP: indicators concerning OTP centre performance in terms of recovery rates, defaulters etc. It may be possible to specify target numbers for each centre according to the estimated caseload of the catchment area.<br>• Estimates and measures of coverage should be used as early as possible. Community mobilisation investigations should feed back into planning of other components. | Specific methods to measure indicators may need to take into account introduction of new activities during the programme. For example, coverage surveys will be needed; it may be useful to consider proxy indicators for early monitoring of coverage. | This cell makes explicit the factors that could prevent the project achieving its purpose. Some examples:<br>The performance of the SC can be stated as an assumption if it is run by another agency as the TC programme cannot refer children to a facility providing poor treatment. If the agency is unlikely to achieve the required standards, the plan may need to be altered to manage the risk (e.g. assisting the agency to meet the required standard, or finding an agency with the capacity and skills to run the SC).<br>The capacity and performance of the agency/ies responsible for delivering the general ration can be stated as an assumption as the CTC programme is unlikely to succeed in its absence. Plans may need to be developed to manage this risk.<br>Security problems can affect the ability to work in certain ways (or even at all) in an unstable ornsecure area. It may require measures to minimise the risk such as avoiding certain locations, working only with clearances and permits, or negotiations with combatants for safe access. |

| Hierarchy of Objectives | Objectively Verifiable Indicators | Means of Verification | Assumptions and Risks |
|---|---|---|---|
| **ACTIVITIES**<br><br>These are the actions needed to achieve each of the outputs. Much of the specific planning appears here. Typical input objectives might include:<br><br>• OTP: OTP sites are available and accessible to all on a weekly basis; centres function with adequate screening, treatment; staff trained etc.<br>• Community mobilisation: Key community members are identified and mobilised for case finding; resistance to service uptake is assessed and addressed; dialogue with key actors in communities is maintained; etc. | Measurable targets are needed for each component. These ensure that the inputs of the various components function properly within a specific timeframe. Some examples:<br><br>• OTP: Maximum distance between CTC programme site and target community is less than 3 hours walk within x weeks; screening, diagnosis and prescribing in CTC centres functioning correctly within x weeks; waiting time no more than x hours/minutes at centres within x weeks; etc.<br>• Community mobilisation: Relevant community institutions are identified within x weeks and are actively case finding within y weeks; potential obstacles to case finding are identified by x date and addressed by y date. | Most verification will come from reports on progress in the establishment of the programme components. | Many small practical assumptions and risks may be identified here. Confronting them explicitly and thinking about how likely they are and how damaging they could be to the programme might mean plans need to be revised. |

## Annex 6: Indicators for Assessing Quality and Appropriateness

| Indicator | Means of Verification |
|---|---|
| **CTC Programme as a Whole** | |
| Existing health service capacity is assessed and aspects of integration discussed and planned with the relevant authorities, organisations and NGOs, including plans for the gradual phase-out of NGO support. | • Meeting reports.<br>• Planning workshop output (capacity grid and action plan produced – see Annex 7). |
| Local authorities and other service providers understand the need for the programme, its objectives and the targeting criteria. | • Reports from key informant interviews. |
| Key community figures actively participate in planning, and are consulted periodically throughout the programme. | • Consultation/strategy plan. |
| Communities understand the need for the programme, its objectives and the targeting criteria. | • Focus group discussion reports.<br>• Key informant interviews. |
| The NGO/implementing organisation has knowledge of the key people in the community involved in decisions concerning health-seeking behaviour for children. | • Social development study reports.<br>• Focus group discussion reports.<br>• Community meeting minutes. |
| The NGO/implementing organisation has knowledge of attitudes existing in the community towards the programme. | • Social development study reports.<br>• Focus group discussion reports.<br>• Meeting minutes. |
| Coverage >70% for rural environments, >70% for urban environments, and >90% for camp environments. | • Coverage survey - CSAS method (see Section 9.4.1). |
| More than 90% of the target population is within one day's return walk of the SFP/OTP programme centre (including treatment time). | • Review of cards (distance travelled is on record cards).<br>• Focus group discussions with beneficiaries and non-beneficiaries.<br>• Discussions with key community figures. |

| Indicator | Means of Verification |
|---|---|
| Investigations are carried out to identify barriers to access for children not being covered. | • Coverage survey (questionnaires for severely acutely malnourished children identified who are not in the programme).<br>• Focus group discussion reports.<br>• Key informant interviews. |
| Appropriate mechanisms are in place to incorporate feedback from the community into CTC programming to maximise coverage and compliance. | • Regular team meeting minutes. |
| Nutritional and medical care is provided according to evidence-based CTC protocols and international medical guidelines. | • Review of cards.<br>• Supervision visits. |
| Admission of children to the programme is based on CTC criteria. | • Tally-sheets. |
| Equal attention is given to community mobilisation and clinical care (SPHERE, 2004). | • Staffing levels.<br>• Resource allocations. |
| Mechanisms are in place for the tracing of children between components of the programme (SPHERE, 2004). | • Numbering system.<br>• Review of cards. |
| Clear and manageable monitoring systems are in place (SPHERE, 2004). | • Tally-sheets.<br>• Food testing reports.<br>• Coverage survey reports.<br>• FGD reports.<br>• Community meeting minutes.<br>• Nutrition surveys.<br>• Meeting and visit reports.<br>• Review of cards. |

| Indicator | Means of Verification |
|---|---|
| Monitoring figures are reviewed regularly and feed into the planning cycle. | • Monitoring plan.<br>• Monitoring reports.<br>• Programme planning meetings. |
| **Particular to SFP** | |
| >75% of exits recovered (SPHERE, 2004). | • Tally sheet reports. |
| Cases of failure to recover are investigated. | • Review of cards. |
| <3% of exits died (SPHERE, 2004). | • Tally sheet reports. |
| <15% of exits defaulted (SPHERE, 2004). | • Tally sheet reports. |
| Causes of default are investigated. | • FGD reports.<br>• Outreach reports. |
| Programme is linked to existing health structure if available and appropriate, and protocols are followed to identify health problems and refer accordingly (SPHERE, 2004). | • Review of cards.<br>• Referral procedures. |
| Appropriate and timely referrals are made to OTP or inpatient SC care according to SFP referral and medical action protocol (see Annex 9).<br>>75% of exits recovered (SPHERE, 2004). | • Review of cards. |
| Appropriate and timely referrals are made to inpatient care according to the OTP action protocol. (The number of referrals may be higher at the beginning of the programme where more cases of complicated acute malnutrition are encountered). | • Tally sheet reports.<br>• Review of cards. |
| **Particular to OTP** | |
| Cases of failure to recover are investigated (through discussion at programme site with carers, home visits and referral for further medical investigations e.g. when HIV/AIDS or TB is suspected). | • Review of cards. |

| Indicator | Means of Verification |
|---|---|
| <10% of exits died (SPHERE, 2004). (The lowest possible death rate is aimed for. The death rate in SC would be expected to be higher than in OTP as it treats the most severe cases – mortality rates may also be higher where there is a high prevalence of HIV/AIDS). | • Tally sheet reports. |
| Causes of death are monitored continuously. (This can lead to improvements in care and can have a major impact on mortality in the SC and OTP by identifying problems early (e.g. water quality, cross infection, disease epidemic)). | • Compilation report on deaths. |
| <15% of exits defaulted (SPHERE, 2004). (Default rate is a measure of the acceptability of the programme. A high rate may reflect poor access to the programme, inappropriate care/treatment in the programme or events outside of the programme such as population movement, insecurity or harvest). | • Tally sheet reports. |
| Causes of default are investigated in order to enable appropriate modification of the programme. | • Review of cards (reasons are recorded on cards).<br>• Outreach reports (where reasons are compiled).<br>• Reports of focus group discussions with key community members and beneficiaries. |
| Discharge criteria include non-anthropometric indices such as good appetite and the absence of diarrhoea, fever, parasitic infestation and other untreated illness (SPHERE, 2004). | • Review of cards.<br>• Supervision visits. |

| Indicator | Means of Verification |
|---|---|
| The average length of stay in OTP is < 60 days and weight gains >4g/kg/day. (Lower rates of weight gain are more acceptable in outpatient programmes because the risk of exposure to infection and the opportunity costs for beneficiaries are much lower). | • Monthly reports. |
| Constraints on caring for malnourished children and affected family members should be identified and addressed (SPHERE, 2004). | • Review of cards (reasons for non-response are recorded on cards).<br>• Outreach reports (where reasons for non-response are compiled).<br>• Focus group discussion reports.<br>• Reports of discussion with key informants. |
| Causes of readmission are investigated. (Some reasons for high numbers of readmissions may be chronic health problems (HIV/AIDS, TB), poor health environment, disease outbreaks, poor overall food security and lack of general ration, poor care practices). | • Review of cards. |
| Capacity of existing systems is monitored. (As the programme is integrated to some extent into existing systems (services and community), it is important to monitor the capacity of these systems throughout the programme). | • Meeting minutes.<br>• Capacity grid (see Annex 7) and action plan updates. |
| **Particular to SC** | |
| The average length of stay in SC is 4-7 days. (Certain cases may take longer to stabilise e.g. children with HIV/AIDS. However if the average length of stay of all cases is prolonged, the SC should evaluate its medical and logistical practices to identify the cause). | • Monthly reports. |

| Indicator | Means of Verification |
|---|---|
| Referrals to hospital are <10% of exits. (If referrals to hospital form a greater percentage of exits from the SC, the causes need to be investigated. Further staff training may be required). | • Register book. |
| Clinical status of the child is regularly monitored. | • Review of cards. |
| Feeding of children is monitored. | • Observation during supervision visits. |
| Minimum of one feeding assistant for ten inpatients. | • Staffing plan. |
| Carers are involved in caring for their children and understanding treatment regimes. (This allows for better transition to OTP where carers retain responsibility for the treatment of their child). | • Carer interviews.<br>• Observation during supervision visits. |
| Discharge criteria are based on non-anthropometric indices: freedom from serious medical complications, reduction of oedema, and return of appetite. | • Review of cards.<br>• Supervision visit reports. |
| Feeds are calculated and prepared accurately. | • Food balance reports.<br>• Supervision visit reports.<br>• Review of cards. |
| Standard hygiene practices are used in general and when storing, preparing and handling food. (Hands washed with soap after defecation (staff and beneficiaries) and before food is handled. Foods should be thoroughly cooked and served promptly. No cooked food should be kept for more than two hours without refrigeration. Persons with infections on their hands should not handle food). | • Supervision visit reports. |

# Annex 7: Capacity Grid

## Capacity to Implement OTP

| Activity | Who Currently | How Currently | MOH Capacity To Do | Gaps | Solutions* |
|---|---|---|---|---|---|
| Supply of drugs to site | | | | | |
| Supply of RUTF to site | | | | | |
| Supply of cards, bands and reporting formats to site | | | | | |
| Screening and registration of severely malnourished at HC | | | | | |
| Medical assessment of the OTP child | | | | | |
| Giving medicines and RUTF (according to OTP protocol) to the OTP child | | | | | |
| Health and nutrition education | | | | | |
| Weekly beneficiary monitoring - | | | | | |
| ID non-response and defaulters | | | | | |
| Link to volunteer for follow-up | | | | | |
| Discharge of beneficiaries | | | | | |
| Referral to SC/hospital | | | | | |
| Fill in tally sheets | | | | | |
| Storage of drugs and RUTF | | | | | |
| Stock control for drugs and RUTF | | | | | |
| Ongoing training of clinic workers in OTP protocols and reporting | | | | | |

*Modification to programme/protocols, support needed, or ideas of how to resolve,extra discussions needed and with whom.

## Capacity to Implement SC

| Activity | Who Currently | How Currently | MOH Capacity To Do | Gaps | Solutions* |
|---|---|---|---|---|---|
| Supply of drugs to site | | | | | |
| Supply of RUTF and milks to site | | | | | |
| Supply of cards, bands and reporting formats to site | | | | | |
| Screening and registration of severely malnourished | | | | | |
| Medical assessment | | | | | |
| Calculate milk feeds and supervise feeding | | | | | |
| Monitoring of beneficiary | | | | | |
| Health and nutrition education | | | | | |
| Referral to hospital | | | | | |
| Discharge of beneficiary to OTP | | | | | |
| Provision of food for carers | | | | | |
| Fill in tally sheets | | | | | |
| Storage of drugs and RUTF | | | | | |
| Stock control for drugs, milk and RUTF | | | | | |
| Ongoing training of SC workers in phase 1 protocols and reporting | | | | | |

***Modification to programme/protocols, support needed, or ideas of how to resolve,extra discussions needed and with whom.**

## Capacity for Community-Led Case-Finding and Follow-Up

| Activity | Who Currently | How Currently | MOH Capacity To Do | Gaps | Solutions* |
|---|---|---|---|---|---|
| Mobilisation | | | | | |
| Active case-finding | | | | | |
| Follow-up of non responders | | | | | |
| Follow-up of defaulters | | | | | |
| Health and nutrition education | | | | | |
| Supervision of volunteers | | | | | |
| Meetings for feedback and problem-solving with volunteers | | | | | |
| Feedback from community on the programme | | | | | |
| Ongoing training for volunteers | | | | | |
| Links with other sectors e.g. medical treatment, growth monitoring, nutrition education and agricultural and extension programmes | | | | | |

***Modification to programme/protocols, support needed, or ideas of how to resolve,extra discussions needed and with whom.**

## Capacity for Supervision and Monitoring the Programme

| Activity | Who Currently | How Currently | MOH Capacity To Do | Gaps | Solutions* |
|---|---|---|---|---|---|
| Supervision of OTP sites | | | | | |
| Supervision of SCs | | | | | |
| Checking and collection of tally sheets for OTP | | | | | |
| Checking and collection of tally sheets for SCs | | | | | |
| Compilation of monitoring reports | | | | | |
| Dissemination of monitoring reports | | | | | |
| Checking and collection of RUTF and meds stock control sheets | | | | | |
| Compilation of stock reports | | | | | |
| Checks on storage conditions | | | | | |
| Coordination/links with other programmes | | | | | |
| Problem solving and coordination meetings | | | | | |
| Review of progress towards integration objectives | | | | | |

***Modification to programme/protocols, support needed, or ideas of how to resolve,extra discussions needed and with whom.**

## Annex 8: Overview of Resources Needed for a CTC Programme

Here we offer an overview of the resources needed, in addition to the normal requirements of any programme.

### Staff

- Community mobilisation and outreach:
  - A community supervisor; and
  - A team of community volunteers.

Supplementary feeding programme:

- A team leader (ideally with experience in food distributions);
  - Two measurers;
  - One or two health workers or Ministry of Health nurses;
  - One or two general assistants; and
  - A food distributor.

- Outpatient therapeutic programme:
  - One team leader (a qualified health worker - nurse or medical assistant);
  - Two measurers; and
  - One assistant if numbers make it necessary.

- Stabilisation centre:[12]
  - Health staff (a minimum of one per shift for 24-hour care);
  - Nutrition/assistant health staff;
  - Support staff; and
  - NGO liaison/support staff.

[12] If the OTP is functioning well, the SC caseload should be low (normally between five and ten patients, depending on the catchment area). Staff roles may therefore be combined.

An overall CTC supervisor is also needed to manage the various components of the programme.

Training should be provided to all staff. A one-day orientation is given at the start of the programme followed by regular training and feedback days for staff and volunteers.

The budget for human resources will depend on where and how the programme is being implemented and by whom. Local salaries and per diems should be in line with the norm in the area. If per diems are given for training and allowances provided to Ministry of Health staff, these should be based on the Ministry's scale.

## Equipment and Supplies

The materials required by the various components of a CTC programme are described in the chapters below and detailed lists are given in the other annexes. The following provides an overview of resources needed, in addition to the normal requirements of any programme.

- **Community mobilisation:** MUAC tapes, soap (to compensate carers whose child is referred but not admitted to the programme).
- **Supplementary feeding programme:** Height boards, scales, MUAC tapes, registration cards/book, ration cards (see Annex 14), corn soya blend, mixing equipment (if giving a premix of CSB and oil), basic medicines (as per protocols), soap, stationary.
- **Outpatient therapeutic programme:** Height boards, scales, MUAC tapes, medicines (as per protocols), RUTF, CSB, OTP cards (see Annex 17), ration cards (see Annex 27), soap (distributed to all beneficiaries weekly), stationary.
- **Stabilisation centre:** Height board, scales, MUAC tapes, drugs (as per protocols), F75, RUTF, SC cards (see Annex 29), stationary, equipment for preparing F75, cooking equipment (if cooking for carers).

## Transport

- **Community mobilisation:** The CTC supervisor needs transport to sites. Volunteers are from the local community, so can normally travel on foot. A transport allowance is needed for training sessions held in a central location.

- **Supplementary feeding programme:** The mobile team needs daily transport. The CSB and equipment also needs to be transported to each site daily.
- **Outpatient therapeutic programme:** The OTP team needs transport to the site. RUTF and drugs also need to be transported to each site, initially weekly then later on a monthly basis if and when stocks can be left securely on site.
- **Stabilisation centre:** The SC may need transport for referrals in and out of the centre.

## Physical Structures

- **Community mobilisation:** No physical structures should be needed for accommodation as community structures are used.
- **Supplementary feeding programme:** Many places have adequate accommodation in existing structures or shaded areas under trees. If not, temporary shelter will have to be provided. Local materials should be used if possible. Poles and plastic sheeting may be needed.
- O**utpatient therapeutic programme:** The OTP can be carried out in a simple temporary structure or under a tree, providing an area where children can be weighed and measured out of public view. If the OTP is run from a local health facility, additional accommodation may not be necessary if an area of the health facility can be allocated for the OTP.
- **Stabilisation centre:** Ideally the SC is run from an existing inpatient facility in a hospital or health centre so there should be no need to build a new structure. However, rehabilitation work or extension of an existing facility may be necessary. If there is no suitable inpatient facility, a structure will need to be built to provide adequate shelter.

## Annex 9: Planning Community Mobilisation

| Tools | Methods | Considerations | Outcomes Sought |
|---|---|---|---|
| **Identify existing paths to treatment of severe malnutrition** | | | |
| Formal and informal interviews<br><br>Participant observation<br><br>Visual aids | Discussion with key informants – such as parents, clinic staff, traditional health practitioners - to assess local perceptions.<br><br>Examination of children brought to clinic for signs of alternative practices.<br><br>Depict swelling, wasting – to help link specific physical conditions with terminologies and ideas. | Moral element to ideas about the causes of severe malnutrition can make this a sensitive topic.<br><br>Informants may be reluctant to discuss "traditional" treatments, especially where these are actively discouraged by the modern system, so discussions are usually more productive if conducted where people live, rather that at the health centre. | A rough idea of the range of local ideas about causes of swelling and wasting and local terms used for these conditions; and the variety of people who may be involved in diagnosis and treatment of children.<br><br>This can be in the form of a list or table. Used later to inform the sensitisation messages and outreach plan. |
| **Identify and meet key community figures** | | | |
| Formal and informal interviews<br><br>Focus group discussions (FGDs) | Speaking with personnel involved in other public health interventions (e.g. immunisation, micronutrients) to identify local roles and individuals that have an influence on participation (e.g. religious leaders, political office holders, traditional elders, etc). | Seek gatekeepers who must initially be informed and involved out of courtesy, but also individuals with whom it will be important to establish a more regular working relationship. | Avoidance of harm – e.g. from proceeding without assent of community leaders.<br><br>Creation of a consultative network of community contacts for sounding ideas and problem solving. |

| Tools | Methods | Considerations | Outcomes Sought |
|---|---|---|---|
| **Identify and meet with community groups and organisations** | | | |
| Formal and informal discussions | As a starting point MoH staff are likely to have a mental list of important partners (e.g. CBOs), but also involving NGOs and the extension staff of other ministries (e.g. Agriculture, Social Welfare, Women's Affairs) for a more complete picture. | In addition to formal groups and organisations there is likely also to be a parallel network of formal and informal cultural institutions (savings groups, funeral societies, initiation groups, healing societies, elders). | A list of community groups and social institutions, subdivided according to their utility to key CTC mobilisation challenges (e.g. disseminating info, identifying malnourished children, providing security or volunteer labour, helping with follow-up in the homes). |
| **Identify and assess formal/ informal channels of communication** | | | |
| Formal and informal discussions<br><br>Focus group discussions (FGDs) | Ask people where and how they get news and information, and then gauge which of these channels (announcements by community leadership, talking with neighbours at water points, discussions in the marketplace, health education messages from CHWs, etc.) are suitable for which CTC messages. | The novel elements of CTC (MUAC, RUTF) are sometimes the subject of intense rumour and speculation. One objective at this stage is to identify the most effective ways to replace fear of the unknown with accurate information. Who can most convincingly pass this information to families? | Useful channels of communication are identified for specific communications challenges, such as:<br>• Explaining anthropometry and admission criteria.<br>• Securing compliance with RUTF regime.<br>• Distinguishing CTC from similar services and procedures.<br>• Reaching the most marginalised families with programme information. |

| Tools | Methods | Considerations | Outcomes Sought |
|---|---|---|---|
| **Identify sources of motivation** | | | |
| | On the basis of knowledge of community gained through other planning meetings (above) assess for each relevant actor how they might be motivated to play the roles envisaged for them and how this motivation can be built and mobilised.<br><br>Health workers (including traditional health workers) might be motivated by increased effectiveness and by being publicly seen to have our respect.<br><br>Mothers of treated children will be motivated to share their pleasure at their children's recovery.<br><br>School children (and their teachers) might be motivated as part of a school club or activity.<br><br>Shopkeepers might gain from being a source of information. | Note that where there are a lot of cases requiring treatment, the news will travel fast because there will be lots of examples to learn from and because the news about the programme will be relevant to a lot of people.<br><br>Note that the programme itself will affect motivation – if it provides a reliable service and if case finding is accurate (few false positives) it will be ea ier to spread news about it. `<br><br>Note that tools – e.g. MUAC tapes – can motivate some people as it makes them seem and feel more 'official'. | A plan for the mobilisation. |

## Annex 10: OTP Action Protocol

| Sign | Referral to SC / TFC / Hospital | Outreach Visit |
|---|---|---|
| OEDEMA | Grade +++ | |
| | Marasmic-Kwashiorkor. | Oedema persisting. |
| | Increase in, or development of oedema. | |
| APPETITE / ANOREXIA | No appetite or unable to eat. | Eats < 75% of the RUTF a week by third visit. |
| VOMITING | Intractable. | |
| TEMPERATURE | Fever: >39°C. | |
| | Hypothermia: < 35°C | |
| RESPIRATION RATE (rr) | ≥ 60 respirations/minute for under 2 months. | General medical deterioration. |
| | ≥ 50 respirations/minute from 2 to 12 months. | |
| | ≥ 40 respirations/minute from 1 to 5 year-olds. | |
| | ≥ 30 respirations/minute for over 5 year-olds. | |
| ANAEMIA | Very pale, (severe palmer pallor), difficulty breathing. | |
| SUPERFICIAL INFECTION | Extensive infection requiring IM treatment. | |
| ALERTNESS | Very weak, apathetic, unconscious. Fitting / convulsions. | |
| HYDRATION STATUS | Severe dehydration based primarily on recent historyof diarrhoea, vomiting, fever or sweating and on recent appearance of clinical signs of dehydration as reported by the carer. | |
| WEIGHT CHANGES | | Below admission weight on week 3. |
| | Weight loss for 3 consecutive weeks. | Weight loss for 2 consecutive weighings. |
| | Static weight for 5 consecutive weighings. | Static weight for 3 consecutive weeks. |
| GENERAL | Carer requests inpatient care. | Returned from inpatient care (first 2 weeks). |
| | | Refused transfer to SC. |
| NOT RECOVERING | If not recovered after 3 months, refer to hospital for investigation. | |

## Annex 11: Content of Sensitisation Messages

The following points are intended to stimulate discussion within the implementing agency, and between the agency and the community, and help formulate sensitisation messages that are both appropriate to the context and effective.

### General Considerations

- Identify key people in the community who can ultimately facilitate the dissemination of information. They may include traditional leaders, traditional health practitioners and members of women's groups.
- Aim to create a forum for dialogue. Sensitisation messages are most effective when they are discussed and debated with the community. Encourage participants to ask questions, voice their opinions and expand or modify any aspect of the community mobilisation strategy.
- When dealing with traditional health practitioners, highlight the importance of their participation in programme activities.
- When using visual aids such as drawings of malnourished children, draw attention to the physical characteristics of malnutrition, especially those that are noticed and remarked on in the particular community or culture (e.g. children with 'loose skin on their arms like old people').

### Malnutrition

- Definition of malnutrition: What are the different terms used to describe malnutrition? Is there a perceived difference between malnutrition and general sickness?
- Signs of malnutrition: What are the signs associated locally with malnutrition? These may include skinny legs/arms and loose skin.
- Causes of malnutrition: What are the perceived causes of malnutrition? Is it food-related?
- Acceptable treatment of malnutrition: How has the community traditionally dealt with malnutrition? Is knowledge of treatment available

to all? Are there specific people in charge of it? Does the formal health service play a role?

- Cases of malnutrition: Are there many cases of malnutrition in the community? How can these be identified?

## The CTC Programme

The following points should be explained:

**What the programme does**

- The programme cares for malnourished children and offers them medicine mixed with food that will allow them to recover. Broadly discuss target groups (malnourished children, pregnant and lactating mothers etc).
- The programme identifies and admits children by measuring them and by comparing them to a normal healthy child. This shows whether they need special food or not.

**How the programme does it**

- The mother, father or carer brings the child to the CTC distribution site, where appropriate anthropometric measurements are taken of the child.
- If the child is malnourished, he/she is given special food to take home. Broadly describe the characteristics of RUTF using local terms.
- The carer should feed the special food to the child according to the advice given. The carer is taught how to prepare the food and feed the child and keep him/her healthy.
- They return to the site every week or every two weeks, depending on how malnourished they are.
- When the child gets better and his/her weight is back to normal, they are discharged from the programme.

## Accessing/Using CTC Services

- Explain the location of CTC sites and discuss possible barriers that may be encountered (e.g. seasonal factors, socio-cultural issues, distance).
- Explain the ways a child may be referred – self-referral, through outreach workers, through volunteers.
- Explain that rejected children may decline and can be re-presented at a later date.
- Explain the procedures they will encounter at the CTC site (screening, medical checks, RUTF appetite test, health education etc).

## Annex 12: Equipment and Supplies for SFP (per site)

| | Item | Amount |
|---|---|---|
| 1 | SFP file for admission cards | 1 per clinic |
| 2 | Marker pens (permanent ink) | 2 |
| 3 | Clipboards | 2 |
| 4 | Stapler and box of staples | 1 |
| 5 | Pens | 3 |
| 6 | Scissors | 1 pair |
| 7 | Notebook | 1 |
| 8 | Calculator | 1 |
| 9 | Small clock with second hand | 1 |
| 10 | Bucket with lid | 2 |
| 11 | Water jug (with lid) | 2 |
| 12 | Plastic cups | 10 |
| 13 | Metal spoons | 2 |
| 14 | Teaspoons or medicine cups | 6 |
| 15 | Thermometer | 3 |
| 16 | Salter scale (25kg) plus pants | 1-2 depending on caseload at each clinic |
| 17 | Height board | 1-2 depending on caseload at each clinic |
| 18 | MUAC tape | 2 |
| 19 | Weight for Height % table | 1 |
| 20 | Scale/balance to measure food ration or calibrated container that holds known weight of food ration. | 1 |
| **Minimum Stock to Keep Topped Up** | | **Amount** |
| 1 | SFP cards for new admissions | 100 |
| 2 | SFP ration cards for new admissions | 100 |
| 3 | ID bracelets (optional) | 100 |
| 4 | Clear plastic envelopes (for filing cards) | 100 |
| 5 | Bags for carrying food (if required) | 100 |
| 6 | Drinking water | 1-4 jerry cans |
| 7 | Food: e.g. blended flour | |
| 8 | Medicines and dressings | (see medical protocol) |

## Annex 13: Routine Medicines for Moderate Malnutrition (SFP)

| Name of Product | When | Age | Prescription | Dose |
|---|---|---|---|---|
| Vitamin A* | At admission | < 6 months (if not breastfed) | 50 000 IU | Single dose on admission |
| | | 6 months to < 1 year | 100 000 IU | |
| | | > = 1 year | 200 000 IU | |
| Mebendazole** | At admission | < 1 year | DO NOT USE | NOTHING |
| | | 1 to < 2 years | 250 mg | Single dose on admission |
| | | > = 2 years | 500 mg | Single dose on admission |

*Do not repeat the dosage of Vitamin A if the child has already received a supplement of Vitamin A during the LAST 30 days (e.g. in OTP or during a national campaign).

** Or other Antihelminth according to national guidelines e.g. ALBENDAZOLE: <1 year nothing, 1 to <2 years 200mg, >= 2 years 400mg. Both can be given again after 3 months if signs of re-infection appear.

**MEASLES:** Children older than nine months who have not had a measles vaccination should be referred to the nearest health facility for vaccination.

**IRON AND FOLIC ACID:** Should not be given routinely unless otherwise stated in National SFP Guidelines. If a child is diagnosed with anaemia then treat according to the WHO or MoH/national protocol.

# Annex 14: SFP Ration Card

| | | | |
|---|---|---|---|
| Mother's Name | | Registration Number | / / SFP |
| Child's Name | | Sex (M/F) | |
| Dates of Admission | | Age (Months) | |
| Distribution Site | | Address | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Distribution/ Week | | | | | | | | | | | | | |
| Date | | | | | | | | | | | | | |
| Weight (kg) | | | | | | | | | | | | | |
| MUAC (mm) | | | | | | | | | | | | | |
| Ration (type and quantity) | | | | | | | | | | | | | |

## Annex 15: Training Day Plan

| Time | Subject |
|---|---|
| 09.00 – 09.15 | Introduction of participants and objectives of the workshop and programme. |
| 09.15 – 10.00 | Introduction to CTC and its components. |
| 10.00 – 10.45 | Overview of malnutrition (causes, types). |
| *10.45 – 11.00* | *Break* |
| 11.00 – 11.30 | Selection of beneficiaries: screening by MUAC / oedema.* |
| 11.30– 12.00 | Admission and discharge criteria (OTP, SFP, SC). |
| 12.00 – 12.30 | Measurement practical. |
| *12.30 – 13.30* | *Lunch* |
| 13.30 – 14.00 | Mobilisation and community outreach. |
| 14.00 – 14.30 | RUTF and key messages for carers. |
| 14.30 – 15.00 | OTP procedures: registration and numbering, history, medical checks. |
| *15.00 – 15.15* | *Break* |
| 15.15 – 15.45 | Detail on drugs used in OTP and action protocols. |
| 15.45 – 16.15 | Practical on completing cards. |
| 16.15 – 16.45 | Tally sheets. |
| 16.45 – 17.00 | Summary and planning. |

* If current national guidelines require, WHM can be used as well as MUAC.

This is an orientation and basic training on CTC only and must be followed by direct on-the-job training and supervision at each OTP clinic for the following month.

The timetable should be adjusted depending on the knowledge and experience of participants.

The sessions from 14.30 onwards are essential for health workers and supervisors but optional for other participants.

Additional time is needed for supervisors on reporting systems.

## Annex 16: Equipment and Supplies for OTP

### Equipment (per site)

| | Item | Amount |
|---|---|---|
| 1 | OTP file for admission cards | 1 per clinic |
| 2 | Marker pens (permanent ink) | 2 |
| 3 | Clipboards | 2 |
| 4 | Stapler and box of staples | 1 |
| 5 | Pens | 3 |
| 6 | Scissors | 1 pair |
| 7 | Notebook | 1 |
| 8 | Calculator | 1 |
| 9 | Small clock with second hand | 1 |
| 10 | Bucket with lid | 2 |
| 11 | Soap for hand washing | 1 bar |
| 12 | Small bowl | 1 |
| 13 | Small jug | 1 |
| 14 | Hand towels/paper towels | 2 |
| 15 | Water jug (with lid) | 2 |
| 16 | Plastic cups | 10 |
| 17 | Metal spoons | 2 |
| 18 | Teaspoons or medicine cups | 6 |
| 19 | Thermometer | 3 |
| 20 | Salter scale (25kg) plus pants | 1 |
| 21 | Height board | 1 |
| 22 | MUAC tape | 2 |
| 23 | Weight for Height % table | 1 |
| 24 | Nail clippers | 1 |
| **Minimum Stock to Keep Topped Up** | | |
| 1 | OTP cards for new admissions | 100 |
| 2 | OTP ration cards for new admissions | 100 |
| 3 | ID bracelets (optional) | 100 |
| 4 | Clear plastic envelopes (for filing OTP cards) | 100 |
| 5 | Bags for carrying RUTF (if required) | 100 |
| 6 | Drinking water | 1 jerry can |

| | Item | Amount |
|---|---|---|
| 7 | Sugar to make 10% sugar water solution | 500g |
| 8 | Soap. For OTP children plus extra for children referred from the community but not fulfilling admission criteria. | 500 bars |
| 9 | RUTF | (see separate list) |
| 10 | Medicines and dressings | (see separate list) |

## Medicines (per 500 children)

| Routine Medicines: per 500 children | | |
|---|---|---|
| 1 | Amoxicillin syrup 125mg/5ml | 500 bottles |
| 2 | Mebendazole 100mg | 4 tins |
| 3 | Paracheck (malaria rapid test) | 200 |
| 4 | Fansidar * | 1 tin |
| 5 | Artesunate tablets * | 600 tablets |
| 6 | Vitamin A capsules | 1 tin |
| 7 | Measles vaccine (where not possible to refer to an existing EPI programme) | 100 doses |

*if Artimisinin-based combination therapy blisters available, 200 kits.

| Additional Medicines: per 500 children | | |
|---|---|---|
| 1 | Chloramphenicol syrup or tablets | 100 bottles or 1 tin |
| 2 | Tetracycline eye ointment | 50 tubes |
| 3 | Nystatin suspension | 20 bottles |
| 4 | Paracetamol syrup or 100mg tablets | 2 bottles or 1 tin |
| 5 | Benzyl benzoate 200ml | 100 bottles |
| 6 | Whitfields ointment | 50 tubes |
| 7 | Gentian violet – powder | 1 tin |
| 8 | Betadine solution | 2 bottles |
| 9 | Quinine (or suitable 2nd line anti-malarial) | 1 tin |
| 10 | Ferrous Folate (or iron sulphate and folic acid) - for treatment of anaemia | 1 tin |
| 11 | Cotton wool | 5 rolls |
| 12 | Examination gloves – non-sterile | 1 box |
| 13 | Medicine bags | 100 bags |
| 14 | ReSoMal | 2 packets |

**Notes:**

- All medicines must be clearly labelled.
- Daily stocks carried should be reviewed after the first month as requirements will vary depending on number of admissions.
- Amounts carried should be kept as low as possible to facilitate storage.

## Other Supplies

| Dressing Materials (where needed) | | |
|---|---|---|
| 1 | Gauze 10x10 | 20 packets |
| 2 | Small bandage | 10 pieces |
| 3 | Tape | 2 rolls |
| 4 | Zinc ointment | 10 tubes |
| 5 | Normal saline for wounds 100ml or 200ml | 10 pieces |
| 6 | Dressing scissors | 2 pairs |

Each child in the OTP consumes about twenty packets of RUTF a week. Total consumption in the OTP is calculated as follows:

| RUTF | | |
|---|---|---|
| **A** | Number of OTP beneficiaries | A |
| **B** | Monthly consumption per child (@20 packets /child/week) | 80 |
| **C** | Monthly packet consumption for OTP | A x B |
| **D** | Monthly carton consumption for OTP | C/150 |
| **E** | Monthly net weight (MT) (@13.8kg/carton) | D x 13.8/1000 |
| **F** | Monthly gross weight (MT) (@14.9kg/carton) | D x 14.9/1000 |

# Annex 17: OTP Card

## OTP Admission Details

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Name** | | | | **Reg. N°** | | | |
| **District** | | | | **Village** | | | |
| **Age (months)** | | **Sex** | M | F | **Date of Admission** | | |
| **Admission** | Direct from Community | | From SFP | From SC | Readmission (Relapse) | | SC Refusal |
| **Total Number in Household** | | **Twin** | | Yes | No | **Distance to home** (hrs) | |
| **General Food Distribution** | | | | | | | |
| **General Ration: HH Registered?** | Yes | No | **If yes, when last received a ration?** | | | | |
| **Admission Anthropometry** | | | | | | | |
| **Weight (kg)** | | **Height** (cm) | | **WHM** (%) | | **MUAC** (mm) | |
| **Admission Criteria** | Oedema | MUAC <110mm | <70% WHM | | **Other: specify** | | |
| **History** | | | | | | | |
| **Diarrhoea** | Yes | No | **Stools / day** | | 1-3 | 4-5 | >5 |
| **Vomiting** | Yes | No | | | **Passing Urine** | Yes | No |
| **Cough** | Yes | No | | | **If oedema, how long swollen?** | | |
| **Appetite** | Good | Poor | None | | **Breastfeeding** | Yes | No |
| **Reported Problems** | | | | | | | |
| **Physical Examination** | | | | | | | |
| **Respiratory Rate** *(# min)* | <30 | 30 - 39 | 40 - 49 | 50+ | **Chest Retractions** | Yes | No |
| **Temperature °C** | | | | | **Conjunctiva** | Normal | Pale |
| **Eyes** | Normal | Sunken | Discharge | **Dehydration** | **None** | Moderate | Severe |
| **Ears** | Normal | Discharge | | **Mouth** | **Normal** | Sores | Candida |
| **Lymph Nodes** | None | Neck | Axilla | Groin | **Disability** | Yes | No |
| **Skin Changes** | None | Scabies | Peeling | Ulcers / Abscesses | **Extremities** | Normal | Cold |

Routine Admission **Medication**

| **Admission:** | | | | | **Date** | |
|---|---|---|---|---|---|---|
| ***Drug*** | ***Date*** | ***Dosage*** | ***Drug*** | | ***Date*** | *Dosage* |
| **Vitamin A** | | | **Anti Malarial** | | | |
| **Amoxycillin** | | | | | | |
| **2nd visit:** | | | | | **Date** | |
| **Mebendazole** | | | **Measles** | | | |

**Other Medication**

| *Drug* | *Date* | *Dosage* | | *Drug* | *Date* | *Dosage* |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# OTP Follow up

| NAME | | | | | | | | | | | | | | | | | REG N° | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Week<br>Date | ADM. | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
| **Anthropometry** | | | | | | | | | | | | | | | | | | |
| **Weight** *(kg)* | | | | | | | | | | | | | | | | | | |
| **Weight Loss*** *(Y/N)* | | | * | | * | | | | | | | | | | | | | |
| **Height** *(cm)* | | | | | | | | | | | | | | | | | | |
| **WHM** *(%)* | | | | | | | | | | | | | | | | | | |
| **MUAC** *(mm)* | | | | | | | | | | | | | | | | | | |
| **Oedema** (+ ++ +++) | | | | | | | | | | | | | | | | | | |
| * **WEIGHT CHANGES: MARASMICS: if below admission weight on week 3 refer for home visit. If no weight gain by week 5 refer to SC.** | | | | | | | | | | | | | | | | | | |
| **History** | | | | | | | | | | | | | | | | | | |
| **Diarrhoea** *(# days)* | | | | | | | | | | | | | | | | | | |
| **Vomiting** *(# days)* | | | | | | | | | | | | | | | | | | |
| **Fever** *(# days)* | | | | | | | | | | | | | | | | | | |
| **Cough** *(# days)* | | | | | | | | | | | | | | | | | | |
| **Physical Examination** | | | | | | | | | | | | | | | | | | |
| **Temperature** *(°C)* | | | | | | | | | | | | | | | | | | |
| **Respiratory Rate** *(# / min)* | | | | | | | | | | | | | | | | | | |
| **Dehydrated** *(Y/N)* | | | | | | | | | | | | | | | | | | |
| **Anaemia** *(Y/N)* | | | | | | | | | | | | | | | | | | |
| **Skin Infection** *(Y/N)* | | | | | | | | | | | | | | | | | | |
| **RUTF Test** *Good/Poor/Refused* | | | | | | | | | | | | | | | | | | |
| **Action Needed** *(Y/N) (note below)* | | | | | | | | | | | | | | | | | | |
| **Other Medication** *(see front of card)* | | | | | | | | | | | | | | | | | | |
| **RUTF** *(# packets)* | | | | | | | | | | | | | | | | | | |
| **Name Examiner** | | | | | | | | | | | | | | | | | | |
| **OUTCOME *** ** | | | | | | | | | | | | | | | | | | |

*** **A**= absent **D**= defaulter (3 consecutive absences) **T**= transfer TFC/SC **X**=died **SFP**= discharged cured **RT**= refused transfer **HV**= home visit **NC**= discharged non-cured

** **Action Taken** ***(Include Date)***

**Named Outreach Worker**

## Annex 18: Sugared Water Protocol

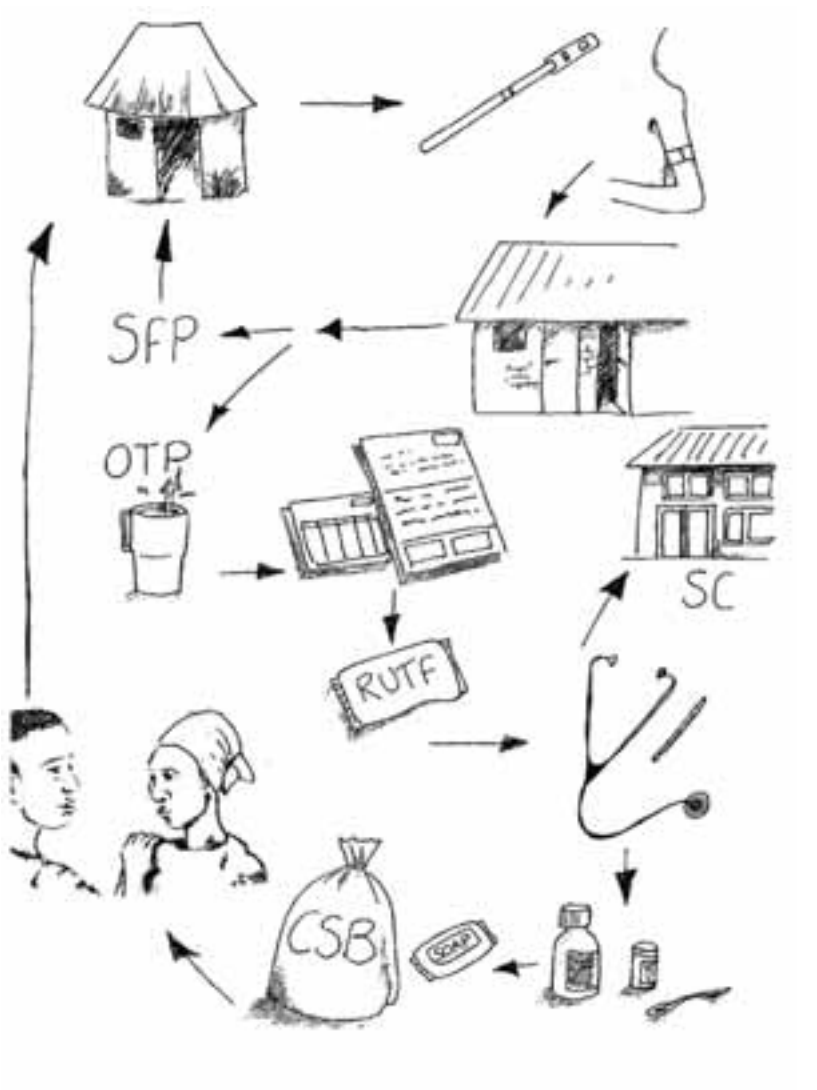
### SUGARED WATER 10% DILUTION

| Quantity of Water | Quantity of Sugar | |
|---|---|---|
| 100 ml | 10 g | 2 heaped teaspoons |
| 200 ml (average cup) | 20 g | 4 heaped teaspoons |
| 500 ml (small bottle) | 50 g | 10 heaped teaspoons |
| 1 litre | 100 g | 20 heaped teaspoons |

**Notes:**

- Take clean drinking water (slightly warm if possible to help dilution). Add required amount of sugar and shake or stir vigorously.
- Give immediately to ALL children refusing RUTF or being transferred to inpatient care.
- If possible, especially when very hot, give to all OTP children while awaiting OTP treatment.

## Annex 19: OTP Flow Diagram



## Annex 20: OTP RUTF Ration

**Plumpy'nut®** (92g packets containing 500 kcal)
(average 200kcal/kg/day)

| Weight of Child (kg) | Packets per Day | Packets per Week |
|---|---|---|
| 3.5 – 3.9 | 1.5 | 11 |
| 4.0 - 5.4 | 2 | 14 |
| 5.5 – 6.9 | 2.5 | 18 |
| 7.0 – 8.4 | 3 | 21 |
| 8.5 – 9.4 | 3.5 | 25 |
| 9.5 – 10.4 | 4 | 28 |
| 10.5 – 11.9 | 4.5 | 32 |
| ≥ 12 | 5 | 35 |

**Locally Produced RUTF** (100g packets containing 545 kcal/100g)
(average 200kcals/kg/day)

| Weight of Child (kg) | Packets per Day | Packets per Week |
|---|---|---|
| 3.5 – 3.9 | 1.3 | 9 |
| 4.0 – 5.4 | 1.5 | 11 |
| 5.5 – 6.9 | 2 | 15 |
| 7.0 – 8.4 | 2.5 | 18 |
| 8.5 – 9.4 | 3 | 22 |
| 9.5 – 10.4 | 3.5 | 25 |
| 10.5 – 11.9 | 4 | 28 |
| ≥ 12 | 4.5 | 32 |

**Locally Produced RUTF** (250g pots containing 545 kcal/100g)
(average 200kcals/kg/day)

| Weight of Child (kg) | Pots per Day | Pots per Week |
|---|---|---|
| 3.5 – 3.9 | 0.5 | 4 |
| 4.0 – 4.9 | 0.66 | 5 |
| 5.0 – 5.9 | 0.75 | 5 |
| 6.0 – 7.9 | 1 | 7 |
| 8.0 – 9.4 | 1.25 | 9 |
| 9.5 – 10.9 | 1.5 | 11 |
| 11.0 – 11.9 | 1.75 | 12 |
| ≥ 12 | 2 | 14 |

## Annex 21: Mixed Ration Protocol – Locally Produced RUTF (100g packets) and BP100

| Weight of Child (kg) | Ration per Day | | Ration per Week | |
|---|---|---|---|---|
| | RUTF (packets) | BP100 (tablets) | RUTF (packets) | BP100 (boxes) |
| 3.5 – 3.9 | 1.3 | none | 9 | none |
| 4.0 – 5.4 | 1.5 | none | 11 | none |
| 5.5 – 6.9 | 132 | 3 | 13 | 1 |
| 7.0 – 8.4 | 2.5 | 3 | 16 | 1 |
| 8.5 – 11.9 | 3 | 3 | 20 | 1 |
| >12.0 | 3 | 5 | 20 | 2 |

**Notes:**

- If child refuses locally produced RUTF, give three boxes of BP100 for weekly ration.
- One packet RUTF = 545kcal; 1 bar BP100 (2 tablets) = 300kcal.

## Annex 22: Key Messages for OTP

- RUTF is a food and medicine for very thin children only. It should not be shared.
- Sick children often do not like to eat. Give small regular meals of RUTF and encourage the child to eat often (if possible eight meals a day). Your child should have ___ packets a day.
- RUTF is the only food sick/thin children need to recover during their time in OTP.
- For young children, continue to put the child to the breast regularly.
- Always offer the child plenty of clean water to drink while he or she is eating RUTF.
- Use soap for children's hands and face before feeding if possible.
- Keep food clean and covered.
- Sick children get cold quickly. Always keep the child covered and warm.
- When a child has diarrhoea, never stop feeding. Give extra food and extra clean water.

**Notes:**

The carer should be asked to repeat back to check that the messages have been correctly understood.

These key messages can be supplemented with more detail and more messages if time allows.

Where a ration of supplementary food is given to carers to avoid sharing of the RUTF, the message should be made clear that it is for the other children in the family not the severely malnourished child.

As the child nears the end of their treatment in OTP, other foods (supplementary food, local food) can start to be given in addition to the RUTF.

## Annex 23: Routine Medicine Protocol for Severe Malnutrition (OTP)

| Name of Product | When | Age / Weight | Prescription | Dose |
|---|---|---|---|---|
| VITAMIN A* | At admission (EXCEPT children with oedema) | < 6 months | 50 000 IU | Single dose on admission (for children with oedema – single dose on discharge). |
| | | 6 months to 12 months | 100 000 IU | |
| | | > 12 months | 200 000 IU | |
| | | **DO NOT USE WITH OEDEMA** | | |
| AMOXYCILLIN | At admission | All beneficiaries | See protocol | 3 times a day for 7 days |
| ANTI MALARIAL (follow national protocol) | At admission in malarial areas | All beneficiaries | See protocol | Single dose on admission (when using ACT treat only Paracheck positive cases). |
| MEBENDAZOLE** | Second visit | < 12 months | **DO NOT GIVE** | None |
| | | 12-23 months | 250 mg | Single dose on second visit |
| | | 3 - ≥ 24 months | 500 mg | |
| MEASLES VACCINATION | On week 4 | From 6 months | Standard | Once on week 4 |

* VITAMIN A: Do not give, if the child has already received Vitamin A in the last one month. Do not give to children with oedema until discharge from OTP, unless there are signs of Vitamin A deficiency.

** MEBENDAZOLE: Or other antihelminth according to national guidelines e.g. ALBENDAZOLE: 12-23 months 200mg, ≥ 24 months 400mg: both can be given again after 3 months if signs of re-infection appear.

IRON and FOLIC ACID: Not to be given routinely. Where anaemia is identified according to IMCI Guidelines treatment should begin after 14 days in the programme and not before and given according to National/WHO Guidelines (INACG, 1998). For severe anaemia refer to inpatient care.

# Annex 24: Drug Dosages

## AMOXYCILLIN DOSAGES

Systematic treatment for all beneficiaries EXCEPT for those of less than 2 kg.

Give 3 times a day for 7 days (10 days if needed).

| Syrup - 125 mg / 5 ml | |
|---|---|
| **Weight of Child kg** | **Dose** |
| ≤ 9.9 | 125 mg (5 ml) three times per day |
| 10.0 - 30.0 | 250 mg (10 ml) three times per day |
| > 30.0 | Give Tablets |

| Syrup - 250 mg / 5 ml | |
|---|---|
| **Weight of Child kg** | **Dose** |
| ≤ 9.9 | 125 mg (2.5 ml) three times per day |
| 10.0 - 30.0 | 250 mg (5 ml) three times per day |
| > 30.0 | Give Tablets |

| Tablets - 250 mg | |
|---|---|
| **Weight of Child kg** | **Dose** |
| ≤ 9.9 | 125 mg (½ tablet) three times per day |
| 10.0 - 30.0 | 250 mg (1 tablet) three times per day |
| > 30.0 | 500 mg (2 tablets) three times per day |

**Note:**

- Always check label on bottles for dosages and dilution of syrups as this can change between different manufacturers.

## ARTESUNATE AND FANSIDAR DOSAGES

Give Artesunate 3 days + Fansidar single dose day 1

Artesunate tablets – 50 mg

Fansidar tablets – 500 mg + 25 mg

| Dose | | |
|---|---|---|
| **Weight of Child kg** | **Artesunate Day 1, Day 2, Day 3** | **Fansidar Day 1 Tablets** |
| < 5 | 1/4 | 1/4 |
| 5 – 7 | 1/2 | 1/2 |
| 7.1 – 12 | 1 | 1/2 |
| 12.1 – 20 | 2 | 3/4 |
| 20.1 – 30 | 2 | 1 |
| 30.1 – 40 | 3 | 1 1/2 |
| 40.1 – 50 | 4 | 2 |
| 50.1 – 60 | 4 | 2 1/2 |
| > 60 | 5 | 3 |

**Note**

Always check label on bottles for dosages and dilution of syrups as this can change between different manufacturers.

## CHLORAMPHENICOL DOSAGES

Use for second line antibiotic treatment for children who have not responded to Amoxycillin, e.g. continued fever that is not due to malaria.

Give 3 times a day for 7 days.

| Syrup - 125 mg / 5 ml | |
|---|---|
| **Weight of Child kg** | **Dose** |
| 2.0 - 5.9 | 62.5 mg (2.5 ml) three times per day |
| 6.0 - 9.9 | 125 mg (5 ml) three times per day |
| 10.0 - 30.0 | 250 mg (10 ml) three times per day |

| Capsules - 250 mg | |
|---|---|
| **Weight of Child kg** | **Dose** |
| 2.0 - 5.9 | Give syrup |
| 6.0 - 9.9 | 125 mg ($^1/_2$ capsule) three times per day |
| 10.0 - 30.0 | 250 mg (1 capsule) three times per day |

**NOTE:**

Always check label on bottles for dosages and dilution of syrups as this can change between different manufacturers.

## FANSIDAR DOSAGES

Sulfadoxine-pyrimethamine

(contains 500 mg sulfadoxine + 25 mg pyrimethamine)

For systematic treatment in malarial areas. Can be repeated after four weeks if symptoms reoccur.

A single dose immediately (stat dose) (25mg/kg/day) on admission.

| Tablets 525mg | | |
|---|---|---|
| **Weight of Child kg** | **Dose** | |
| < 2.0 (< 2 months old) | Do Not Give | |
| < 5.0 | 125 mg | (1/4 tablet) |
| 5.0 - 15.9 | 250 mg | (1/2 tablet) |
| 16.0 - 24.9 | 500 mg | (1 tablet) |
| 25.0 - 34.9 | 750 mg | (1 1/2 tablets) |
| 35.0 - 44.9 | 1000 mg | (2 tablets) |
| >= 45 | 1500 mg | (3 tablets) |

**NOTE:**
Always check label on bottles for dosages and dilution of syrups as this can change between different manufacturers.

## PARACETAMOL DOSAGES

For severely malnourished children use with extreme caution. Give **one time treatment only** and start antibiotic or anti-malarial immediately. Monitor child - if the fever is greater than **38.5°C**, where possible, refer to inpatient care. If inpatient care is not possible, give a single dose of Paracetamol and tepid sponge the child until fever subsides. Return to clinic if high fever continues at home.

Give a single dose immediately (stat dose) for symptomatic treatment of fever.

| Syrup - 125 mg / 5 ml | |
|---|---|
| **Weight of Child kg** | **Dose** |
| < 4.0 | 25 mg (1 ml) single dose |
| 4.0 - 7.9 | 60 mg (2.5 ml) single dose |
| 8.0 - 14.9 | 120 mg (5 ml) single dose |
| > 15.0 | 240 mg (10 ml) single dose |

| Tablets - 100 mg | |
|---|---|
| **Weight of Child kg** | **Dose** |
| < 4.0 | 25 mg (1/4 tablet) single dose |
| 4.0 - 7.9 | 50 mg (1/2 tablet) single dose |
| 8.0 - 14.9 | 100 mg (1 tablet) single dose |
| > 15.0 | 200mg (2 tablets) single dose |

**Note:**

Always check label on bottles for dosages and dilution of syrups as this can change between different manufacturers.

Give ONE DOSE only and start antibiotic or anti-malarial.

## PIPERAZINE DOSAGES

Piperazine - 750 mg / 5 ml

Systematic antihelminth treatment of children between one and two years of age. Give 0.8ml/kg/day in one SINGLE dose

| Weight of Child kg | Dose ml |
|---|---|
| 4.0 - 4.4 | 3.0 |
| 4.5 - 4.9 | 3.5 |
| 5.0 - 5.5 | 4.0 |
| 5.6 - 6.1 | 4.5 |
| 6.2 - 6.7 | 5.0 |
| 6.8 - 7.4 | 5.5 |
| 7.5 - 8.0 | 6.0 |
| 8.1 - 8.6 | 6.5 |
| 8.7 - 9.3 | 7.0 |
| 9.4 - 9.9 | 7.5 |

**Note:**

Always check label on bottles for dosages and dilution of syrups as this can change between different manufacturers.

## QUININE DOSAGES

Quinine – 300 mg salt

If malaria still suspected after Fansidar, refer to Health Centre for testing, if referral not possible give Quinine.

Give 3 times a day for 7 days

| Weight of Child kg | Dose |
|---|---|
| 3.0 - 9.9 | (1/4 tablet) three times per day |
| 10.0 - 19.9 | (1/2 tablet) three times per day |
| 20.0 - 24.9 | (3/4 tablet) three times per day |
| 25.0 - 35.0 | (1 tablet) three times per day |

### ReSoMaL Protocol

Rehydration solution for severely malnourished children in inpatient facilities.

To be used ONLY after careful diagnosis of dehydration (history and clinical signs).

Monitor regularly. If respiratory rate increases or there is increasing oedema (e.g. of eyelids) or neck veins become distended, stop ReSoMaL. Reassess after the first hour.

| Weight of Child kg | First 30 Minutes ml | Second 30 Minutes ml | 2nd Hour ml |
|---|---|---|---|
| 2.0 - 2.9 | 10 | 10 | 20 |
| 3.0 - 3.9 | 15 | 15 | 30 |
| 4.0 - 4.9 | 20 | 20 | 40 |
| 5.0 - 5.9 | 25 | 25 | 50 |
| 6.0 - 6.9 | 30 | 30 | 60 |
| 7.0 - 7.9 | 35 | 35 | 70 |
| 8.0 - 8.9 | 40 | 40 | 80 |
| 9.0 - 9.9 | 45 | 45 | 90 |
| 10.0 - 10.9 | 50 | 50 | 100 |
| 11.0 - 11.9 | 55 | 55 | 110 |
| 12.0 - 12.9 | 60 | 60 | 120 |
| 13.0 - 13.9 | 65 | 65 | 130 |
| 14.0 - 14.9 | 70 | 70 | 140 |
| 15.0 - 15.9 | 75 | 75 | 150 |

# Annex 25: Supplemental Medicines (OTP)

| Name of Product | When to Give | Prescription | Special Instructions |
|---|---|---|---|
| **Chloramphenicol** | To be given as second line antibiotic for children not responding to Amoxycillin ie: continued fever that is not due to malaria. | See separate protocol. | Continue for 7 days. |
| **Tetracycline eye ointment** | For treatment of eye infection. | Apply 3 times a day, morning afternoon and at night before sleep. | Wash hands before and after use. Wash eyes before application. Continue for 2 days after infection has gone. |
| **Nystatin** | For treatment of candida. | 100,000 units (1 ml) 4 times a day after food (use dropper and show the carer how to use it). | Continue for 7 days. |
| **Paracetamol** | For children with fever over 38.5°C. | See separate protocol. | Single dose only - DO NOT give to take home. |
| **Benzyl Benzoate** | For treatment of scabies. | Apply over whole body. Repeat without bathing on following day. Wash off 24 hours later. | Avoid eye contact. Do not use on broken or secondary infected skin. |
| **Whitfields** | For treatment of ringworm or other fungal infections of the skin. | Apply twice a day. | Continue treatment until condition has completely resolved. |

| Name of Product | When to Give | Prescription | Special Instructions |
|---|---|---|---|
| **Gentian Violet** | For treatment of minor abrasions or fungal infections of the skin. | Apply on lesion. | Can be repeated at next visit and continued until condition resolved. |
| **Quinine** | 2nd line anti-malarial treatment for children who have not responded to fansidar. | See separate protocol. | |
| **Ferrous Sulphate** | Treatment for anaemia identified according to IMCI guidelines. | According to WHO protocols (INACG 1998 and Donnen et al, 1998). | ONLY to be given after 14 days in the programme. |

# Annex 26: Medicine Protocol Rationale (OTP)

## Vitamin A

Vitamin A should only be given if it has not been received in the last 30 days (WHO, 2000/a). Vitamin A should not be given to children with oedema related to malnutrition (research has concluded that children with Kwashiorkor who receive high dose Vitamin A therapy suffer five times greater mortality than the control group) (Donnen et al., 1998) and (Donnen et al., 2003). RUTF contains enough Vitamin A (0.91mg/100g) to satisfy a daily low dose requirement. Oedematous children should therefore only be given Vitamin A if they show any signs of Vitamin A deficiency (night blindness, Bitot's spots, corneal xerosis), if there is currently a measles outbreak or if there is a high prevalence of Vitamin A deficiency in the area.

Dosages should follow WHO or national guidelines (WHO, 1999/b).

## Amoxycillin

Amoxycillin is given routinely on admission to treat underlying infections as the presence of such infections may be masked due to immunosuppression which limits response such as fever. Amoxycillin is also effective in reducing the overgrowth of bacteria in the GI tract, (Meyers et al., 2001) commonly associated with severe malnutrition. It is able to cross the wall of the GI tract into the blood stream passively, and does not rely on active transport mechanisms that may be inefficient in severely malnourished individuals. If signs and symptoms of infection continue beyond the initial treatment, a second line antibiotic should be started.

## Chloramphenicol

While the simultaneous use of several antibiotics may be justified in an inpatient setting, a simpler regime is required in an outpatient setting. Chloramphenicol is a sufficiently broad spectrum antibiotic to fulfil this need and is therefore given as a second line treatment if Amoxycillin fails to cure the infection. Dosage and timing are dependent on the specifically identified infection (WHO, 1999/a and WHO, 1999/b). The use of Chloramphenicol is associated with a very small risk of aplastic anaemia leading to lethal bone marrow failure. The medicine is used in the UK and is believed to be a valuable treatment for dangerous conditions. Its use is therefore appropriate for the treatment of potentially life-threatening infection in malnourished children.

## Additional Antibiotics

Antibiotics other than those mentioned above should be given only when specifically indicated by the presence of an infection and should be given according to the drug protocol and in consideration of national drug protocols. In the case of severe infections requiring referral to an inpatient unit, second line antibiotics may be added to Amoxycillin according to standard WHO inpatient protocols (WHO, 1999/a). The choice of additional antibiotics is indicated by national protocols or according to local antibiotic resistance information.

## Measles Vaccination

Evidence shows that an early two-dose strategy from the age of six months is very effective. All children entering inpatient care (except those in shock or those with evidence of previous vaccination) should be given the vaccination on entry to the programme and this should be repeated on exit from the OTP. This should be coordinated with the EPI programme where applicable. The first vaccination in the inpatient setting is to ameliorate the severity of incubating measles and reduce the severity of the episode if the child is exposed to measles in the SC. It does not however, give adequate immunity in many children requiring inpatient care due to insufficient antibody response and therefore the second injection is needed to give future protection.

In the OTP, children are at less risk of exposure to active measles cases and are also less severely affected by malnutrition. It is therefore recommended that they receive one measles vaccination only after they have sufficiently recovered from their malnutrition to ensure a sufficient antibody response to the vaccine to produce immunity i.e. on week 4.

Referral of other siblings for measles vaccination increases herd immunity in overcrowded conditions in the home setting and can reduce the mortality of even those who are unvaccinated.

## Anti-Malarial Therapy

National protocols should guide the anti-malarial therapy used. However Valid recommends that paracheck is carried out then Fansidar given as a combination therapy with Artesunate for positive cases. Paracheck should be carried out on all children in a malaria endemic area. In other areas, testing should be carried out only on those with a strong index of suspicion.

The therapy can also be given without Paracheck if there is a strong index of suspicion of malaria and signs and symptoms cannot be attributed to any other cause. This protocol is designed to prevent overuse of the anti-malarial therapy and the malarial parasite becoming resistant to the new drug regimen. Do not give Fansidar within seven days of folic acid (see below).

## Folic Acid

The quantity of folic acid present in RUTF and F75 is sufficient for the needs of the malnourished child. Folic acid can therefore be only given to children showing signs of anaemia. Giving folic acid within seven days of Fansidar can make the Fansidar ineffective as the malarial parasite can use folic acid to overcome the effect of Fansidar (Wang et al., 1999). Folic acid for children showing signs of anaemia should therefore be given on the second visit to the OTP, if Fansidar is part of the malaria therapy on admission. As folic acid is present in RUTF, priority is given to treating the life-threatening malaria.

## Iron

High dose iron tablets may increase the risk of severe infections in the severely malnourished. The giving of iron tablets in severe malnutrition is therefore contraindicated. The presence of free iron in the blood is often a limiting substrate to infective organisms. In a normal functioning liver, the enzyme transferrin is able to 'mop-up' this free iron. In the severely malnourished, poor liver function and the reduced levels of transferrin allow iron to remain free for use by these organisms. Although there is some iron content in RUTF, the levels are lower than in high dose tablets, and therefore insufficient to allow the formation of free iron in the same way.

There is currently no research to document the bioavailability of iron in RUTF. RUTF is given only to those with an appetite. However, good appetite correlates with good liver function and consequently transferrin activity.

Where moderate anaemia is identified according to IMCI guidelines, treatment should be provided according to WHO guidelines (INACG 1998) after day 14 in the programme, ideally through referral to a health clinic. Where anaemia is severe the child should be referred to an inpatient facility according to the action protocol (see Annex 10).

## Mebendazole/Albendazole

Mebendazole/Albendazole is best absorbed after reconditioning of the GI tract with Amoxycillin. Mebendazole/Albendazole is actively absorbed from the intestine and is more effective when the GI tract is free of other infections, and is therefore given on the second visit. Worm infection is less common in infants due to reduced exposure to potential contaminants (e.g. soil). Indications are that Mebendazole/Albendazole is metabolised efficiently by children over twelve months (Montresor et al., 2003). Routine treatment should therefore be given only to children over twelve months of age.

## Paracetamol

Paracetamol should be used with caution in severely malnourished children because it is metabolised by the liver and there is a high possibility of reduced liver function in severe malnutrition. Irreversible liver damage and death can occur with relatively small overdoses in susceptible people, and Paracetamol should therefore not be given unless there is a documented fever of over 38.5 degrees centigrade. It should never be dispensed to take home. A low-grade fever less than 38.5 degrees centigrade is usually beneficial in helping the body to fight infection and is a normal immune response; Paracetamol should therefore not be given in these cases.

## ORS / ReSoMal

Oral Re-hydration Salts (ORS) are not part of the CTC protocols. The patho-physiology of severe malnutrition causes an inability to regulate and excrete sodium normally that can lead to fluid retention, oedema, heart failure and death. This deterioration can happen very quickly. ORS is therefore contraindicated in OTP and SC children.

Re-hydration solution for marasmic children (ReSoMaL) has been specially formulated with a low sodium and high potassium content to fulfil the requirement of severely malnourished individuals. ReSoMal is only used strictly in accordance with WHO protocols as overuse can cause over hydration and its associated risks of heart failure and death. It is given in strictly controlled amounts while the child is in the SC under medical supervision only.

# Annex 27: OTP Ration Card

| OTP | | Registration Number | |
|---|---|---|---|
| Distribution Site | | Village | |
| Name | | Age | |

| Date | Weight *(kg)* | Height *(cm)* | WHM *(%)* | MUAC *(mm)* | Oedema | RUTF | CSB |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## Annex 28: Transfer Slips

### Transfer From OTP to SC

Name: Age: Sex:

Date of Admission:

Admission Data Weight: MUAC: Site:

Height: WHM:

Oedema: + ++ +++ Bracelet No:
(circle)

Date of Transfer:

Criteria for Transfer: (circle) Anorexia Acutely Ill Oedema No Weight Gain Other:

Treatment given: Comments:

## Transfer From SC to OTP

| | | | | | |
|---|---|---|---|---|---|
| Name: | | Age: | | Sex: | |
| Date of Admission: | | Type of Admission: (circle) | | Direct | From OTP |
| Admission Data | Weight: | | MUAC: | | Site: |
| | Height: | | WHM: | | |
| | Oedema: (circle) | + | ++ | +++ | Bracelet No: |
| Date of Discharge: | | | | | |
| Discharge Data | Weight: | | MUAC: | | |
| | Height: | | WHM: | | |
| | Oedema: (circle) | + | ++ | | |
| Treatment given: | | | | | Comments: |

# Annex 29: SC Card

## SC Admission Details

STABILISATION CENTRE CARD

| | | | | | |
|---|---|---|---|---|---|
| Stabilisation Centre | | Registration Number | | Referred From | |
| Name | | Age | Sex | Admission Criteria | |

| | DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANTHROPOMETRIC CHART | Height (cm) | | | | | | | | | | | | |
| | Weight (kg) | | | | | | | | | | | | |
| | WHM (%) | | | | | | | | | | | | |
| | MUAC (mm) | | | | | | | | | | | | |
| | Oedema (+ ++ +++) | | | | | | | | | | | | |

| | DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROUTINE MEDICINES | Amoxycillin | | | | | | | | | | | 7-10 days | |
| | Fansidar | | | | | | | | | | | | |
| | Artesunate | | | | | | | | | | | | |
| | Vitamin A | | | | | | | | | | | | |
| | Folic Acid | | | | | | | | | | | | |
| | Mebendazole | | | | | | | | | | | | |

TESTS

TYPE

on discharge RESULTS

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPECIAL MEDICINES | Measles Vaccine | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | Milk/RUTF | | | | | | | | | | | | |
| | Amount per meal (6 meals per day) | | | | | | | | | | | | |
| | Total per day | | | | | | | | | | | | |
| MEAL TIMES | 7:00 AM | | | | | | | | | | | | |
| | 10:00 AM | | | | | | | | | | | | |
| | 1:00 PM | | | | | | | | | | | | |
| | 4:00 PM | | | | | | | | | | | | |
| | 7:00 PM | | | | | | | | | | | | |
| | 10:00 PM | | | | | | | | | | | | |
| Comments /NG tube /Records | | | | | | | | | | | | | |
| | Temperature | | | | | | | | | | | | |
| | Respirations | | | | | | | | | | | | |
| | Stools | | | | | | | | | | | | |
| | Vomit | | | | | | | | | | | | |

Date of Discharge OTP of Discharge

## SC Follow Up

| | MEDICAL FOLLOW UP FORM SC | | | NAME: | NUMBER: | |
|---|---|---|---|---|---|---|
| DATE | | SIGNATURE | DATE | | | SIGNATURE |
| | | | | | | |

## Annex 30: Planning and Analysing Focus Group Discussions

Focus group discussions (FGDs) are a valuable tool for assessing community perceptions and different aspects of the CTC programme. There is a growing body of data and publications on how to conduct FGDs. Some of the key issues are covered here.

### Planning a Focus Group Discussion

The effectiveness of FGDs, as well as the quality of their results, depends partly on the preparation beforehand.

**Prepare a script:** Have a mix of general and specific questions. Make sure that each question has a number of 'probe' questions to follow-up with, as they may help clarify responses. Consider asking participants for definitions (e.g. what is malnutrition?), impressions (e.g. are the children in the programme improving?) and their idea of other people's perceptions (e.g. what does the rest of the community think about the CTC programme?). Ask a broad range of questions so that related issues can be explored if they arise.

**Develop a 'questioning route':** When drafting a questioning route, consider the type of information you want, and who can provide the information.

**Know your setting:** Who are the participants? How will you recruit them? What questions will you ask? How will you moderate the groups and collect the data?

### Conducting a Focus Group Discussion

**Keep in mind how the findings will be used:** Avoid asking questions that you will not be able to act on or incorporate into your report. Similarly, be cautious of raising participants' expectations with the questions (e.g. what does the community need?).

**Ask questions that draw people out:** Follow-up questions can be used such as: Can you give an example? Where do you think this impression comes from? Encourage participants to voice their opinions, while using questions to prevent individual members from dominating the discussions (e.g. Do the rest of you agree with x's opinion? Does anyone have a different experience or opinion?)

**Put a time limit on the FGD session:** Setting a time limit helps the moderator to cover the planned topic areas. Remember that it will take about three times longer to transcribe the session.

**Notice non-verbal interactions:** Body language, reluctance or eagerness to speak, dynamics between group members and their effect on opening or shutting down conversations.

**Keep the conversation flowing:** Encourage all participants to say whatever is on their minds. If they stray off the subject for too long, or get ahead of the issues being discussed, the moderator must re-focus the discussion.

**Try to be neutral:** Some of the participants may not like the topic being discussed. They should be actively encouraged to voice their opinions. In such instances, ask what it is that participants like and do not like about the subject and where solutions may lie.

### Analysing the Results

- Interpret how participants talk about certain issues, as well as the information they give. Interpret non-verbal communication and reactions as well as the verbal interaction.
- Bear in mind that information from FGDs is group information and is not necessarily the same as information obtained in individual interviews. It reflects collective ideas shared and negotiated by the group. Caution is needed when making general claims extrapolated from FGD data.

# Annex 31: Tally Sheets

## Tally Sheet for Stabilisation Centre

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AGENCY** | | | | | | | **LOCATION** | | | | | | | |
| **SITE** | | | | | | | **YEAR** | | | | | | | |
| **WEEK** | | | | | | | | | | | | | | |
| **Dates** | | | | | | | | | | | | | | |
| **(A) Total in Programme at Start of Week** | | | | | | | | | | | | | | |
| **ADMISSION** | Oedema | | | | | | | | | | | | | |
| | MUAC <110mm | | | | | | | | | | | | | |
| | WHM <70% | | | | | | | | | | | | | |
| | Other | | | | | | | | | | | | | |
| | From OTP | | | | | | | | | | | | | |
| | **(B) Total Admissions** | | | | | | | | | | | | | |
| **EXIT** | Discharged to OTP | | | | | | | | | | | | | |
| | Death | | | | | | | | | | | | | |
| | Defaulter | | | | | | | | | | | | | |
| | Medical referral out of programme | | | | | | | | | | | | | |
| | **(C) Total Exits** | | | | | | | | | | | | | |
| **Total in Programme at End of Week (A+B-C)** | | | | | | | | | | | | | | |
| **ADDITIONAL INFORMATION** | | | | | | | | | | | | | | |
| | Relapse (readmission after discharge to OTP) | | | | | | | | | | | | | |
| | Transferred to SC | | | | | | | | | | | | | |
| **GENDER DISTRIBUTION FOR ADMISSIONS** | | | | | | | | | | | | | | |
| | Male | | | | | | | | | | | | | |
| | Female | | | | | | | | | | | | | |

**NOTE: See CD for sample weekly, monthly and yearly compilation report formats.**

# Tally Sheet for Outpatient Therapeutic Programme (one site)

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AGENCY** | | | | | | | | | **LOCATION** | | | | | |
| **SITE** | | | | | | | | | **YEAR** | | | | | |
| **WEEK** | | | | | | | | | | | | | | |
| **Dates** | | | | | | | | | | | | | | |
| **(A) Total in Programme at Start of Week** | | | | | | | | | | | | | | |
| **ADMISSION** | Oedema | | | | | | | | | | | | | |
| | MUAC <110mm | | | | | | | | | | | | | |
| | WHM <70% | | | | | | | | | | | | | |
| | Other | | | | | | | | | | | | | |
| | From SC | | | | | | | | | | | | | |
| | Returned after defualt | | | | | | | | | | | | | |
| | Moved from other site | | | | | | | | | | | | | |
| | **(B) Total Admissions** | | | | | | | | | | | | | |
| **EXIT** | Discharged cured to SFP | | | | | | | | | | | | | |
| | Death | | | | | | | | | | | | | |
| | Defaulter | | | | | | | | | | | | | |
| | Non-cured | | | | | | | | | | | | | |
| | Transfer to SC | | | | | | | | | | | | | |
| | Moved to other site | | | | | | | | | | | | | |
| | **(C) Total Exits** | | | | | | | | | | | | | |
| **Total in Programme at End of Week (A+B-C)** | | | | | | | | | | | | | | |

**ADDITIONAL INFORMATION**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Relapse (readmission after discharged cured) | | | | | | | | | | | | | |

**GENDER DISTRIBUTION FOR ADMISSIONS**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Male | | | | | | | | | | | | | |
| Female | | | | | | | | | | | | | |

**NOTE: See CD for sample weekly, monthly and yearly compilation report formats.**

## Tally Sheet for Supplementary Feeding Programme - Children – Site

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AGENCY** | | | | | | | | | **LOCATION** | | | | | |
| **SITE** | | | | | | | | | **YEAR** | | | | | |
| **WEEK** | | | | | | | | | | | | | | |
| **Dates** | | | | | | | | | | | | | | |
| **(A) Total in Programme at Start of Week** | | | | | | | | | | | | | | |
| **ADMISSION** | Oedema | | | | | | | | | | | | | |
| | WHM <70% -79% (or MUAC <125mm) | | | | | | | | | | | | | |
| | Other | | | | | | | | | | | | | |
| | Returned after defualt | | | | | | | | | | | | | |
| | Discharged from OTP | | | | | | | | | | | | | |
| | Moved from other site | | | | | | | | | | | | | |
| | **(B) Total Admissions** | | | | | | | | | | | | | |
| **EXIT** | Discharged to SFP (cured) | | | | | | | | | | | | | |
| | Death | | | | | | | | | | | | | |
| | Defaulter | | | | | | | | | | | | | |
| | Transferred to OTP or SC | | | | | | | | | | | | | |
| | Non-cured | | | | | | | | | | | | | |
| | Moved to other site | | | | | | | | | | | | | |
| | **(C) Total Exits** | | | | | | | | | | | | | |
| **Total in Programme at End of Week (A+B-C)** | | | | | | | | | | | | | | |

**ADDITIONAL INFORMATION**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Relapse (readmission after discharged cured) | | | | | | | | | | | | | |

**GENDER DISTRIBUTION FOR ADMISSIONS**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Male | | | | | | | | | | | | | |
| Female | | | | | | | | | | | | | |

**NOTE: See CD for sample weekly, monthly and yearly compilation report formats.**

# Tally Sheet for Supplementary Feeding Programme - Pregnant and Lactating Women – Site

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **AGENCY** | | | | | | | **LOCATION** | | | |
| **SITE** | | | | | | | **YEAR** | | | |
| **WEEK** | | | | | | | | | | |
| **Dates** | | | | | | | | | | |
| **(A) Total in Programme at Start of Week** | | | | | | | | | | |
| **ADMISSION** | **(B) Total Admission** | | | | | | | | | |
| **EXIT** | Discharged (cured) | | | | | | | | | |
| | Death | | | | | | | | | |
| | Defaulter | | | | | | | | | |
| | Non-cured | | | | | | | | | |
| | **(C) Total Exits** | | | | | | | | | |
| **Total in Programme at End of Week (A+B-C)** | | | | | | | | | | |

**NOTE: See CD for sample weekly, monthly and yearly compilation report formats.**

## Annex 32: CTC Programme Monitoring Using an Electronic Database in Excel

The electronic database allows routine programme monitoring data to be compiled and viewed by distribution cycle either for the programme as a whole or for individual distribution sites or months.

The following description of the database refers to the database template on the CTC Manual CD. The four figures show screenshots of the worksheets which make up the database. Parts of the database are locked; the password is becareful.

### Using the CTC Monitoring Databases

The sample databases given on the CTC Manual CD are in the format that is recommended for reporting in CTC programmes. It is simple to:

- Add distribution site names in the second column for distribution cycle 1 (for subsequent distribution cycles, names will appear automatically).
- Enter data from weekly compilation sheets into appropriate fields on the input sheet.
- Refresh the pivot table on the report sheet (right click on it and select 'refresh').

Data in the pivot table report can be viewed by distribution site or by month. This is done by clicking on the tabs at the top of the sheet.

To view graphs, first 'hide' columns for future distribution cycles.

To view graphs for specific distribution sites, select a distribution site on the pivot table report, then click on the graphs sheet to view graph.

### Constructing a Monitoring Database in Excel

The following instructions can be used to construct a database for the OTP or SC together. Similar stages can be followed to set up the other databases. In each case, weekly compilation sheets and the categories they contain should be used as the basis for the database categories.

## Creating the Data Input Sheet (see Figure 1)

### Create Columns

- Create a spreadsheet in Excel with three columns titled: 'Distribution Week', 'Distribution Site' and 'Month' .
- Create columns corresponding to the admission and exit criteria on your weekly compilation sheet (see Figure 4).
- Ensure each column title is written in its own cell.
- Create additional columns titled:

  Total end last distribution

  Total Admissions

  Total Exits

  Total in OTP

- Add columns for additional information and gender distribution according to the weekly compilation sheet. (This is not shown in Figure 1 due to lack of space but would continue on the right of the table).

### Create Rows

- Write site names in rows moving down the spreadsheet for cycle 1. (Leave some space to add extra sites as the programme progresses).
- Write 1 in each cycle number box.
- For the first row corresponding to cycle 2, write in a formula of the first box +1.
- Do not write site names for cycle 2. Write a formula of the appropriate cell in cycle 1.
- Make a bold line under the first cycle as in Figure 4.

### Enter Formulas

- Add in formulas for:
  - Total end of last distribution. (For distribution cycle 1, there is no formula. Put 0 in the cells. For subsequent cycles, use total in OTP from the previous cycle;

  - Total Admissions (this is New Admissions, not including movements) = Oedema + MUAC <110mm + <70% + Other;
  - Total Exits (this does not include movements) = Discharged/Cured + Deaths + Defaulters + Non Cured; and
  - Total in OTP = Total End Last Distribution + (Total Admissions + Moved In) – (Total Exits + Moved Out).
- For all formulas, click and copy formulas down the sheet to fill as many distribution cycles as required. (We recommend no more than one year' s data in one database).
- Data can now be entered by distribution cycle from the weekly compilation sheets.
- See Figure 4 and Input to check formulas.

### Creating the Data Report (see Figure 2)

- From the input sheet under 'Data' on the top menu, select 'Pivot Table Report' .
- Click 'Microsoft Excel List or database' .
- Highlight all of the spreadsheet but exclude top line with Admissions, Exits, Other in, Other Out, Totals and Additional Information.
- Click 'Next' to get to the Pivot Table construction.
- Into 'Page', drag Site and Month.
- Into 'Column', drag Distribution Week.
- Into 'Data', drag the following variables in the following order: Oedema, < MUAC 110mm, <70%, Other, Total Admissions, Discharged Cured, Deaths, Defaulters, Non Cured, Total Exits, from SC, Returned defaulters, From other site, To SC, To other site, Total in OTP, Relapse, Male, Female.
- Double click on all variables in data sheet in the Pivot Table construction. Perform the following on each one:
  - Change title by removing Count of. Do not shift the title too much to the left or Pivot Table alarm will be set off;
  - Change from Count to Sum;

  - Click Number – click Number again – tick Use 1000 separator. Change decimal place to 0; and
  - Click Next – click new work sheet – rename it 'Report' .
- Blank out number in grand total column for 'Total in OTP' (the number is meaningless for CTC data).
- Once data is added to the input sheet, the report can be updated. Place the cursor inside the report, right click and select 'refresh data' .
- Data can be viewed by distribution cycle for the whole programme or, if required, for individual sites or months.
- See Figure 2 for an example of how the report should look and see Report.

For additional guidance on the construction and use of pivot tables see:

**http://office.microsoft.com/en-us/assistance/HA010346321033.aspx**

## Creating the Graphs (see Figure 3)

### Create Chart of Admission and Exit Trends

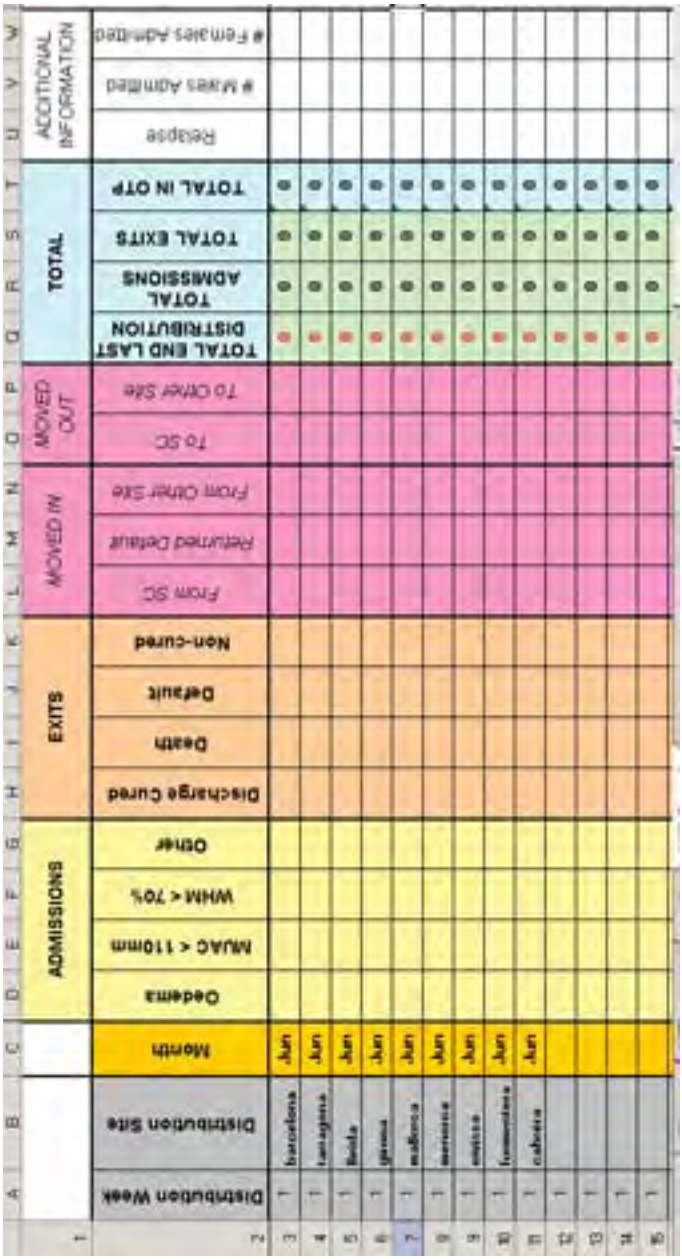
- To make the bar chart, first click on the chart icon.
- In Custom Type, select 'Line – Column' .
- In Series, click 'Add' .
- Click 'Name' bar and write in 'Total Admissions' .
- Click 'Values' and highlight 'Total Admissions' row in report (leave out grand total).
- Click 'category x labels' and highlight distribution cycles row.
- Click 'Add' again.
- Click 'Name' bar and write in 'Total Exits' .
- Click 'Values' and highlight 'Total Exits' row in report (leave out grand total).
- Click 'Add' again.
- Click 'Name' bar and highlight 'Total OTP' row in report.
- Click 'Next', click 'Chart Title' and add in overall title and titles for axes.
- Put in new sheet – rename 'Graphs' .

**Create Pie Chart Showing Breakdown of Exit Categories**

- Click on the chart icon.
- Click on pie chart.
- In 'Series', click 'Add' .
- Click 'Values' and highlight the data in 'Grand Total' for exits variables (i.e. discharged cured, default, death, non-cured). Do not include movements or data for Total Exits.
- Click 'Category labels' and highlight the exit titles (i.e. discharged cured, default, death, non-cured). Exclude titles for movements or for Total Exits.
- Click 'Next', click 'Chart Title' and write in title.
- Click 'Data' label and tick percent.
- See Figure 3 and 'Graphs' on CD.

## Note:

When you start to input data into the database, columns corresponding to cycles where no data has yet been entered can be hidden. This makes it easier to view the report and graphs.



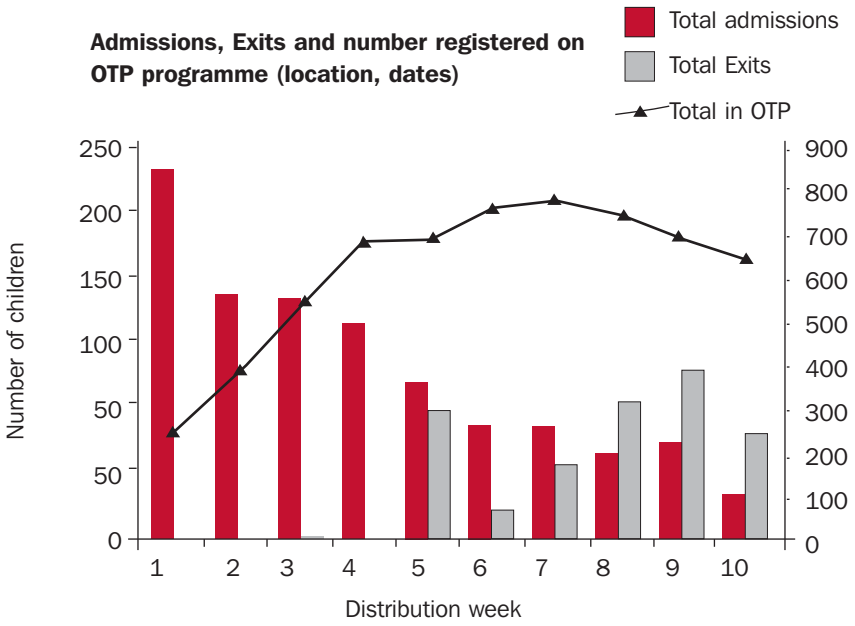
| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | ADMISSIONS | | | | EXITS | | | | MOVED IN | | | MOVED OUT | | TOTAL | | | | ADDITIONAL INFORMATION | | |
| 2 | distribution Week | distribution Site | Month | Oedema | MUAC < 110mm | WHM < 70% | Other | Discharge Cured | Death | Default | Non-cured | From SC | Returned Default | From Other Site | To SC | To Other Site | TOTAL END LAST DISTRIBUTION | TOTAL ADMISSIONS | TOTAL EXITS | TOTAL IN OTP | Relapse | # Males Admitted | # Females Admitted |
| 3 | 1 | barcelona | Jun | | | | | | | | | | | | | | | | | | | | |
| 4 | 1 | tarragona | Jun | | | | | | | | | | | | | | | | | | | | |
| 5 | 1 | Reus | Jun | | | | | | | | | | | | | | | | | | | | |
| 6 | 1 | girona | Jun | | | | | | | | | | | | | | | | | | | | |
| 7 | 1 | mallorca | Jun | | | | | | | | | | | | | | | | | | | | |
| 8 | 1 | menorca | Jun | | | | | | | | | | | | | | | | | | | | |
| 9 | 1 | eivissa | Jun | | | | | | | | | | | | | | | | | | | | |
| 10 | 1 | formentera | Jun | | | | | | | | | | | | | | | | | | | | |
| 11 | 1 | cabrera | Jun | | | | | | | | | | | | | | | | | | | | |
| 12 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 1 | | | | | | | | | | | | | | | | | | | | | | |

**Figure 1: An Input Sheet (see 'OTP and SC Input' Worksheet on CD)**

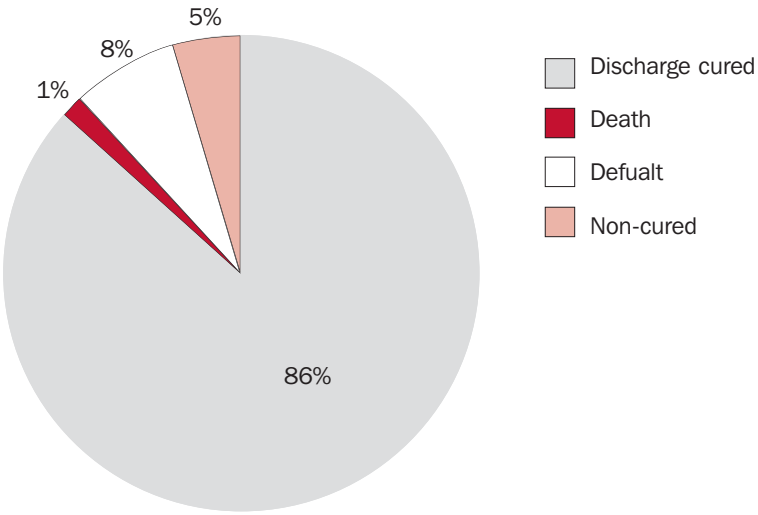
## Figure 2: A Report Pivot Table (see 'OTP and SC Report' Worksheet on CD)

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | AA | AB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Distribution Site | (All) | Outpatient Therapeutic Programme Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Month | (All) | Agency, Location, Year | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | Distribution Week | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Données | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | Grand Total |
| 7 | Oedema | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | MUAC < 110mm | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | WHM < 70% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Other | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | **TOTAL ADMISSIONS** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | Discharge cured | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Death | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Default | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Non-cured | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | **TOTAL EXITS** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | **TOTAL IN OTP** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 18 | From SC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Returned Default | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | From Other Site | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | To SC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | To Other Site | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | Relapse | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | # Male Admitted | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | # Female Admitted | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## Figure 3: Graphs (see 'Graphs' Worksheet on CD)




**TOTAL EXITS. location, dayes**



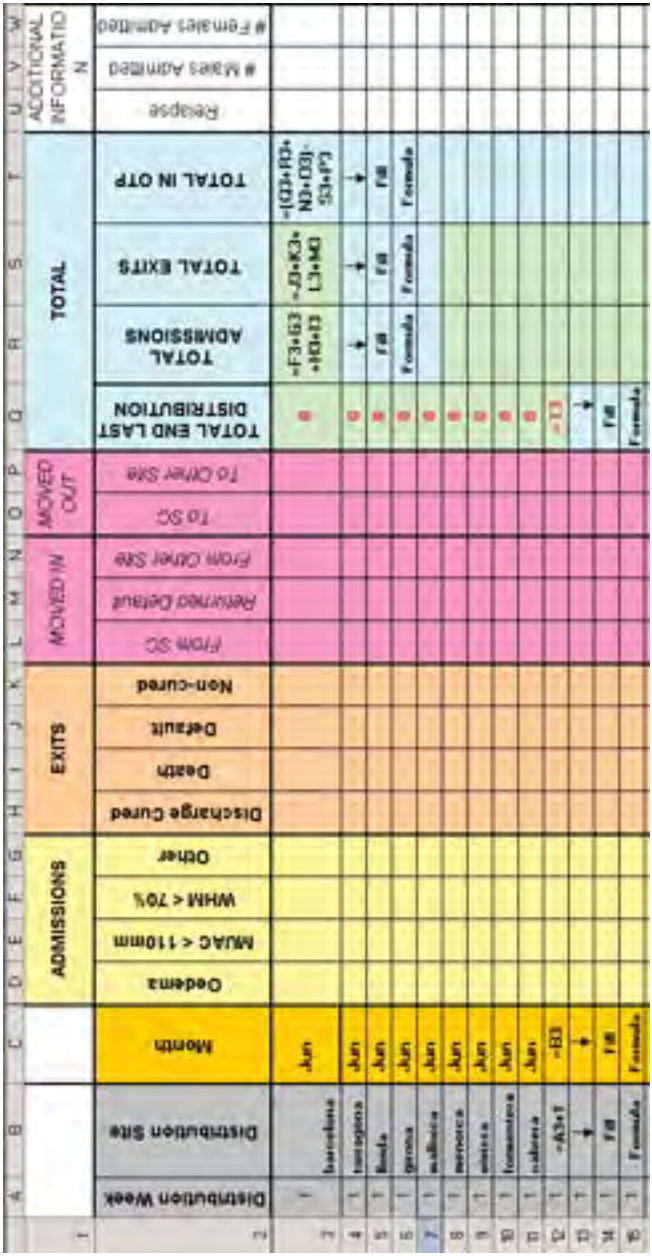


Figure 4: Creating the Input Sheet

## Annex 33: Calculation and Reporting of Overall Programme Outcomes for SC and OTP Together

| EXITS | OTP No. | % | SC No. | % | Total No. | % |
|---|---|---|---|---|---|---|
| Discharged to OTP* | - | - | G | G/X x 100 | - | - |
| Discharged cured to SFP | A | A/V x 100 | - | | A | A/Z x 100 |
| Death | B | B/V x 10 | H | H/X x 100 | B+H | B+H/Z x 100 |
| Default | C | C/V x 100 | I | I/X x100 | C+I | C+I/Z x 100 |
| Non-cured | D | D/V x 100 | - | | D | D/Z x 100 |
| To SC | E** | E/(V+E) x 100*** | - | | - | - |
| From SC to hospital | - | J | J/X x 100 | | J | J/Z x 100 |
| Total Exits | **V = (A+B+C+D)<br>A+B+C+D** | | **G+H+I+J<br>X = G+H+I+J** | | **A+B+C+D+H+I+J<br>Z = (A+B+C+D+H+I+J)** | |
| Still registered in programme | W | | Y | | W+Y | |

* As these are movements within the therapeutic programme, not exits, they are therefore not counted when calculating outcomes for the therapeutic programme as a whole. They are included when calculating outcomes for the SC alone to allow monitoring of the percentage of children successfully stabilised in the SC.

** Transfers from OTP to SC are not included when calculating overall outcomes for the OTP or for the therapeutic programme as a whole, as they are considered as movements within the therapeutic programme.

*** This is only included in order to monitor the percentage of children requiring inpatient care.

The calculation table can be used to complete the following report.

## Report

YEARLY COMPILATION FORM FOR THERAPEUTIC PROGRAMME (OTP + SC)

AGENCY

YEAR

LOCATION

| Month | TOTAL IN TP START OF MONTH | ADMISSIONS | | | | | EXITS | | | | | | TOTAL IN TP END OF MONTH | ADDITIONAL INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Oedema | <70% | MUAC <110mm | Other | TOTAL ADMISSIONS | Discharged Cured | Death | Default | Non-cured | Medical Referral | TOTAL EXITS | | Re-lapse | Male | Female |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | |
| TOTAL | | | | | | | | | | | | | | | | |

# Annex 34: Calculating and Reporting Average Weight Gain and Average Length of Stay for the OTP Programme

## Calculating Average Weight Gain and Average Length of Stay for the OTP Programme

Weight gain and length of stay for children in the OTP programme is to be calculated MONTHLY as an AVERAGE for children 6 - 59 months discharged as cured from OTP (do not include children in the 'returned defaulter' or 'other' categories).

Separate these OTP cards into two groups: Oedema (Kwashiorkor) and WHM + MUAC (Marasmus).

If there are thirty or less cards in each group, take all of them. If the groups are bigger, choose a random sample of thirty cards.

**Weight Gain (g/kg/d):** Weight gain = {discharge weight in g - minimum weight in g} / {minimum weight in kg x number of days between date of minimum weight and discharge day}

Average weight gain = sum of weight gains (g/kg/d) / number of cards in the group.

**Length of Stay (days):** Average length of stay = sum of length of stay (in days) / number of cards in the group.

## Reporting Average Weight Gain and Average Length of Stay for the OTP Programme

| | Marasmus | Kwashiorkor |
|---|---|---|
| **Average Weight Gain** | **g/kg/day cards:** | **g/kg/day cards:** |
| **Average Length of Stay** | **days cards:** | **days cards:** |

## Annex 35: Testing Case-Finding Procedures for Coverage Surveys

The CSAS Coverage Survey Method requires the case-finding procedure used in the coverage survey to find all, or nearly all, cases in the sampled communities. It is possible to find out how well a case-finding procedure works by performing a capture-recapture study. Capture-recapture studies are a way of estimating how many cases there are in a population. Once an estimate of the number of cases in a population is reached, it is possible to work out how good at finding cases a case-finding method is likely to be.

In a capture-recapture study, two different case-finding procedures are applied to the same communities. One of these case-finding procedures will be the active case-finding method that is intended for use in the coverage survey. The other case-finding procedure could be house-to-house screening or screening at a central location. It is a good idea to use different teams on different days for each procedure. Remember to avoid case-finding on distribution days, market days, national holidays, and holy days. For each case that is found by either procedure, identifying data should be recorded (name, age and sex are usually sufficient). Applying the two case-finding procedures gives the following data:

$N_{CF}$ The number of cases found by the case-finding method that is intended for use in the coverage survey.

$N_{Screen}$ The number of cases found by an alternative case-finding method.

$N_{Both}$ The number of cases common to **both** methods.

The number of cases (N) in the study population can be estimated using the following formula:

$$N = [((N_{CF} + 1) \times (N_{Screen} + 1)) / (N_{Both} + 1)] - 1$$

The sensitivity of the intended case-finding method (SCF) (i.e. how good it is at finding cases) can be estimated using the following formula:

$$S_{CF} = (NCF / N) \times 100$$

For example, in a capture-recapture study the case-finding method intended for use in the coverage survey found nine cases, screening at a central location found five cases, and five cases were common to both methods.

The number of cases in the study population can be estimated like this:

$$
\begin{aligned}
N &= [((9 + 1) \times (5 + 1)) / (5 + 1)] - 1 \\
&= [(10 \times 6) / 6] - 1 \\
&= [60 / 6] - 1 \\
&= 10 - 1 \\
&= 9
\end{aligned}
$$

It is also possible to estimate the sensitivity of the case-finding method intended for use in the coverage survey:

$$
\begin{aligned}
S_{CF} &= (9 / 9) \times 100 \\
&= 1 \times 100 \\
&= 100\%
\end{aligned}
$$

In this example, the case-finding method intended for use in the coverage survey would find all, or nearly all, cases in sampled communities.

If the sensitivity of the case-finding method which is intended to be used in the coverage survey is less than 75%, your case-finding procedure should be modified and tested again using a separate capture-recapture study. Suggestions for suitable modifications include selecting a different key informant (traditional birth attendants and traditional healers may be better than key informants nominated by village leaders) and to change the wording of the case-finding question to include references to such things as poverty, disadvantage, exclusion from general rations, poor access to land, divorce, migrants and orphans.

## Annex 36: Calculating a Weighted Coverage Estimate

Calculating a weighted coverage estimate requires estimates of the populations of communities sampled for the coverage survey. These do not have to be very accurate estimates. If good population data is not available, a proxy measure can be used, such as roof counts or ordered and numbered categories that reflect community size (e.g. 1 = small, 2 = medium, 3 = large). A weighted coverage estimate is arrived at by calculating the coverage found in each square, multiplying it by the fraction of the total population sampled that has been sampled from each square, and adding this product across all squares. For example:

| Square | Cases | Covered | Coverage | | Weight | Weight x Point Coverage |
|---|---|---|---|---|---|---|
| 1 | 7 | 4 | 0.57 | 433 | 433 / 1560 = 0.28 | 0.28 x 0.57 = 0.16 |
| 2 | 4 | 3 | 0.75 | 362 | 362 / 1560 = 0.23 | 0.23 x 0.75 = 0.17 |
| 3 | 3 | 1 | 0.33 | 233 | 233 / 1560 = 0.15 | 0.15 x 0.33 = 0.05 |
| 4 | 7 | 6 | 0.86 | 346 | 346 / 1560 = 0.22 | 0.22 x 0.86 = 0.19 |
| 5 | 4 | 3 | 0.75 | 186 | 186 / 1560 = 0.12 | 0.12 x 0.75 = 0.09 |
| SUMS | 25 | 17 | NA | 1560 | NA | 0.66 |

In this example, the weighted point coverage estimate is 66% (i.e. 0.66 x 100). The point coverage estimate calculated without population weighting is 68% (i.e. (17 / 25) x 100 = 68%). A weighted coverage is only needed if the communities being sampled differ greatly in size from square to square and the observed coverage also differs greatly from square to square.

A spreadsheet that performs all the calculations required for CSAS coverage surveys and plots mesh-maps and coverage histograms is available from **http://www.brixtonhealth.com**

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This manual is a practical guide to help health and nutrition workers to design, implement, monitor and evaluate CTC programmes. It can be used by programme managers and by government institutions and donors interested in supporting or implementing CTC programmes. It will also help technical specialists and field practitioners in NGOs, UN agencies, government and donor agencies seeking to obtain an understanding of CTC in practice.

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