

# 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.<sup>1</sup> 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.

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<sup>1</sup> 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).

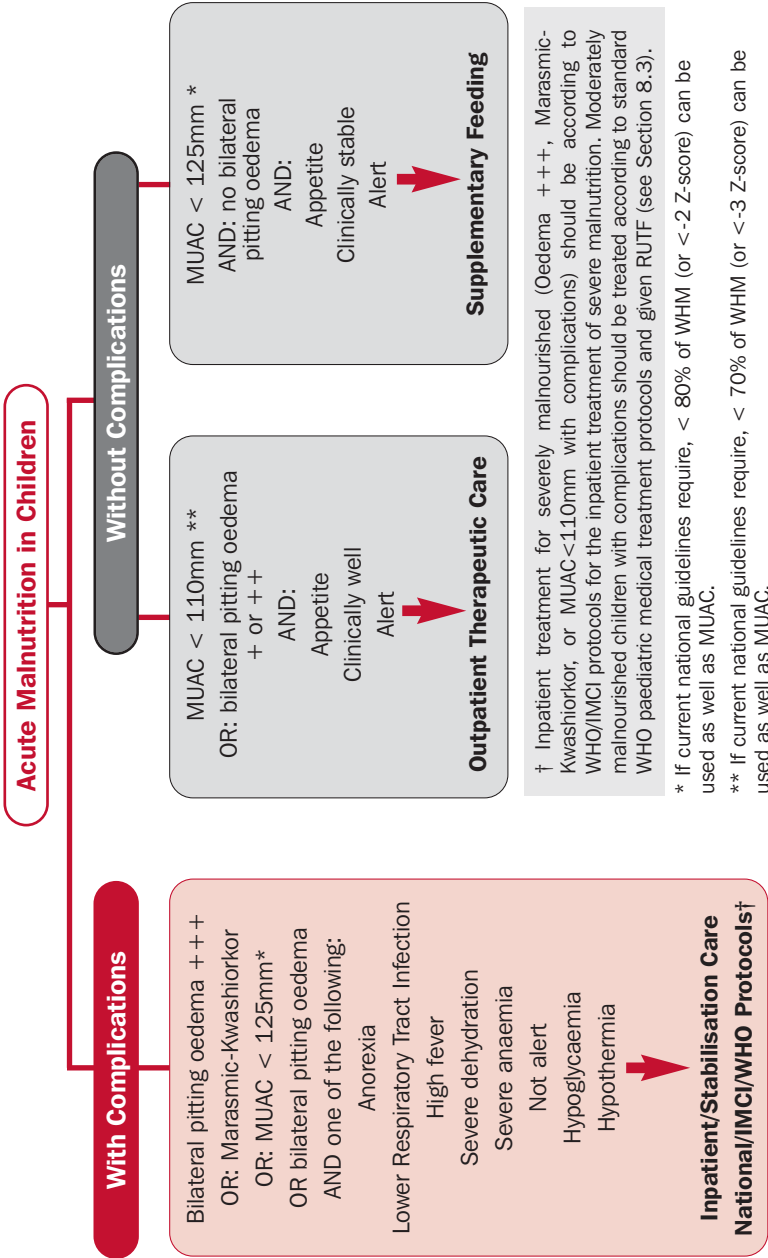
Non-oil based therapeutic foods such as BP100 (produced by COMPACT) are sometimes used in emergency situations. BP100 is a solid food based on the F100 formula with some iron added. It can be eaten as a biscuit or as a porridge mixed with water or breast milk (the porridge is recommended for children 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**



### 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.<sup>2</sup> 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.

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.



<sup>2</sup> 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<sup>3</sup> (and/or age >6 months<sup>4</sup>) 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.

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<sup>3</sup> Using a height cut-off means that outreach workers and volunteers can use a simply marked stick to assess eligibility.

<sup>4</sup> 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:

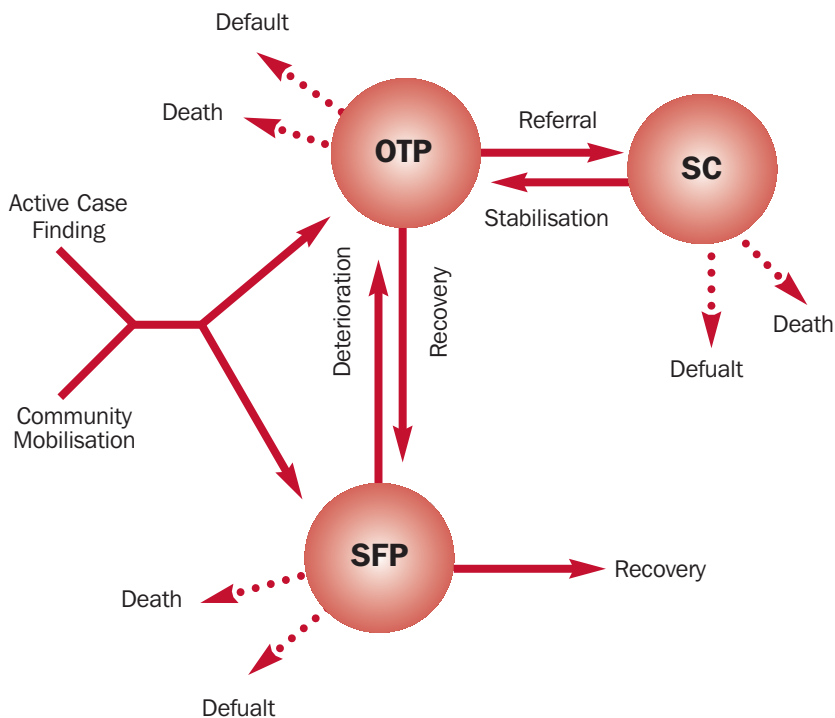
**Community mobilisation** stimulating the understanding, engagement and participation of the target population (see Chapter 5).

**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.

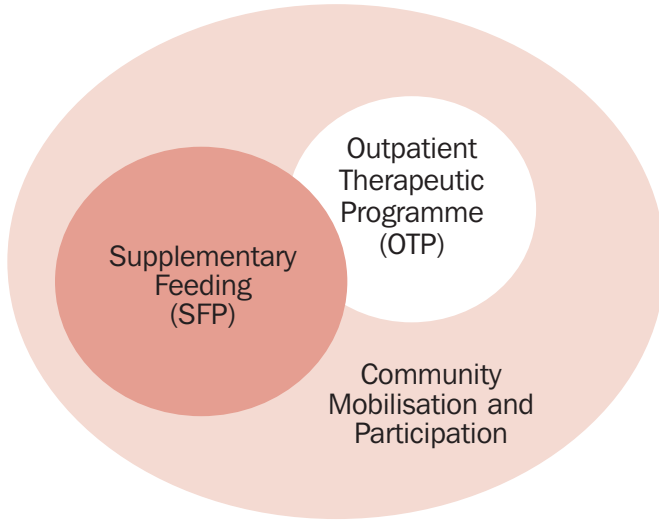
As the programme evolves, resources can be put into selecting and mobilising volunteers from the community, supported by outreach workers employed by the programme. These volunteers are responsible for finding new cases, tracing defaulters and encouraging them to return to the programme, and following 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.

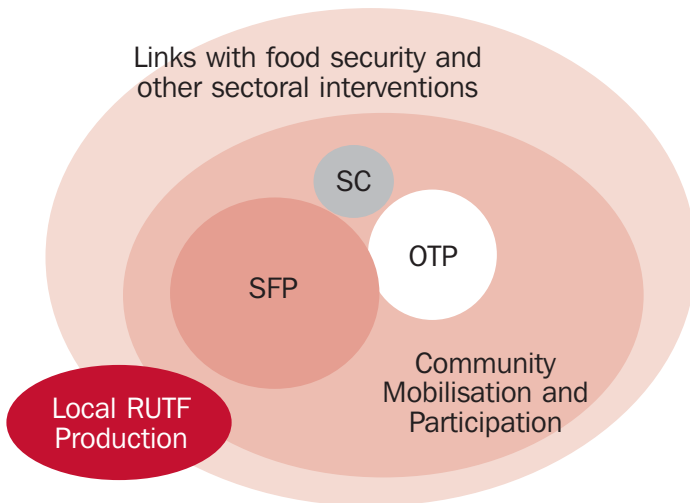
As the CTC programme evolves into the final stages, efforts are made to increase the links between the programme and work in other sectors, particularly public health and hygiene and food security interventions, as well as initiating the local production of RUTF.

**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.