

Technical Background Paper

The sustainability of Community-based Therapeutic Care (CTC) in non-acute emergency contexts

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Abstract

Concern Worldwide is an international humanitarian Non Governmental Organisation that piloted and is now implementing and researching community-based therapeutic care (CTC) approaches to managing acute malnutrition. Experience in several countries suggests that there are key issues that need to be addressed at the international, national, regional and community level for the community-based treatment of acute malnutrition to be sustainable. While in emergency contexts external support for treatment is often required, ultimately for treatment to be sustainable, services must be integrated into the existing health service provision and locally available ready-to-use-therapeutic food must be accessible.

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Introduction

Community-based Therapeutic Care (CTC) is a new approach for the management and treatment of severe acute malnutrition¹ (SAM). Until 2001, emergency response to high levels of acute malnutrition was predominantly through Therapeutic Feeding Centres (TFCs). TFCs are large, in-patient centres where patients are admitted for 21 days or longer. Centres are resource intense and are often very far from those affected with acute malnutrition. Carers of malnourished children must often travel long distances to access the services and coverage is low (1). Additionally, congregation of sick and malnourished children in centres can enhance the spread of infection and increase morbidity and mortality.

To address some of the challenges of traditional TFCs, Valid International developed the concept of CTC. CTC is an innovative concept that mobilizes communities and supports local health services to rapidly and effectively treat those with acute malnutrition in their homes. A typical emergency response CTC programme is comprised of 4 elements: community mobilization, out-patient therapeutic care (OTP) for cases of severe acute malnutrition without medical complications, in-patient care for those with medical complications and supplementary feeding for those with moderate malnutrition to prevent them from becoming severely malnourished.

Since 2001 evidence on the effectiveness of CTC in emergencies as an approach to the treatment of severe acute malnutrition has been building through non-governmental organisation (NGO) and government response in Ethiopia, Malawi, South Sudan, North Sudan, and Niger (2,3).

Concern Worldwide is an international, humanitarian NGO with experience developing and implementing CTC programmes. Concern is also currently engaged in working directly with national governments to build their capacity in the community treatment of acute malnutrition and to support the adaptation of health and nutrition policy to incorporate community-based therapeutic care in several countries. From Concern's experience, for the out-patient treatment of severe acute malnutrition to be sustainable, there are several issues to be addressed.

The purpose of this paper is to detail the evolution of the CTC approach from emergency situations to different contexts from an NGO perspective, and to discuss key components required for CTC to be sustainable, based on Concern Worldwide's experience to date in Malawi, Ethiopia, South Sudan, North Sudan, Bangladesh and Niger. The paper also highlights key challenges in moving forward sustainable and effective community-based therapeutic care.

¹ Defined as severe wasting (<70% weight-for-height of < -3 SD of the median NCHS/WHO reference) or oedema or a Mid Upper Arm Circumference (MUAC) of < 110mm

The emergency CTC approach and modifications to different contexts

Over the past 3 years, the CTC approach to nutritional emergencies has evolved to address the treatment of SAM in transition contexts (3). CTC programmes in Ethiopia and Malawi was initially an emergency response to increased levels of acute malnutrition. However, as the overall food security and nutritional situation improved the caseload decreased and the supplementary feeding component of the programme was dropped for longer term health interventions while Concern focused on the integration of the treatment of severe acute malnutrition at the basic health facilities. Therefore, in transition contexts, Concern's focus has included out-patient treatment of SAM in combination with referral services for complicated cases (stabilization services) built on a strong community mobilization, health education and wider support to strengthening the health system.

Additionally, high levels of severe acute malnutrition have been documented in sub-populations of non emergency contexts and the need for an effective out-patient approach to the treatment of SAM in such contexts is now being demanded.

As an example, in "high risk" areas of Bangladesh and Rwanda levels of SAM are concerning. In congested areas of Saidpur and Parbatipur, Bangladesh, Concern health teams have documented 5.6% SAM (<70% weight-for-height of the NCHS/WHO reference) among children 0-23 months (n=160) and 1.8% among children 24-59 months (n=274) for an average of 3.2% among all children under 59 months (n=444) (4). Additionally, in Rwanda, the 2005 Demographic and Health Survey found 0.9% SAM (<-3 Z-scores weight-for-height of the NCHS/WHO reference) nationally among children 0-59 months, though a SAM prevalence of 1.4% was documented in the South region and 2.5% in the Kigali Ville region (5).

The potential long-term application of a modified CTC approach to treat SAM in transitional and non-emergency situations has brought to the forefront the sustainability of the CTC services (out-patient therapeutic care, stabilisation care (SC), and community mobilization and screening).

Sustainability in the context of this paper is defined as strengthening the capacity of the health systems to function effectively with minimal external input (6). This definition accepts that many Least Developed Countries (LDCs) will require substantial contribution from external sources for a significant period of time; but that this should not negate the goal of reducing dependence on external resources and enabling local capacity to control and be accountable for its own health services and system.

Several challenges exist in sustaining effective community-based therapeutic care services and in Concern's experience, there are several requirements to sustain such activities.

Key requirements for sustainable CTC service provision

Integration of CTC is defined in this paper as incorporating CTC components of out-patient therapeutic care, in-patient care and community mobilisation and outreach activities into national Primary Health Care (PHC) systems. Integration of activities while maintaining the quality and effectiveness of services with minimal external support is vital to sustainability.

Effective integration of CTC activities into the Primary Health Care system requires functioning systems and associated support at different levels:

1. *National policy level:* Demonstrated commitment to a clear health policy and strategy to address out-patient treatment of severe malnutrition
2. *Regional or district level:* Functional regional or district health system and appropriate capacity for service provision
3. *Community level:* Strong community participation and active screening

In many countries, external financial and programming support may still be required at one or all of the three levels above; *especially during an emergency*. However, excluding the cost of Ready to Use Therapeutic Foods (RUTF) and drugs, the CTC approach itself does not bear significant inputs beyond those targeted for the development and support of health systems. When analysing the cost of CTC programme it must be recognised that as an intervention to address severe malnutrition, cost per recovered child may be high but there are several indirect benefits to the PHC system including capacity building of staff and rehabilitation of health structures that are not accounted for in a specific CTC cost analysis.

National level

National commitment and policy change. Fundamental to sustainable CTC programming is the commitment by national Ministries of Health (MOH) as well as UN agencies to the methodology, components and principles of community-based therapeutic care for severe acute malnutrition as demonstrated by outlined steps to adopt relevant principles and protocols within national policy.

In countries where Concern is implementing or supporting CTC programmes, successful integration of CTC activities into MOH PHC systems has been variable. Although there has been national level support for implementation of CTC in a number of countries, the process of national policy change takes time; however CTC implementation is informing and shaping the national policy debate in a number of countries.

In Ethiopia, following effective (as determined by standard programme indicators of emergency nutrition programmes in SPHERE (7)) implementation of CTC by Concern and other NGOs over a number of

years, 34 *Worreda* level (district level) Health Departments have adopted CTC as best practice for the treatment of severe acute malnutrition, through the support of 9 NGOs in 2005.

Meanwhile, evidence from CTC programmes has fed into the development of The National Nutrition Strategy slated for approval in 2006. The strategy recommends the CTC approach to manage severe acute malnutrition: "Community Based therapeutic feeding shall also be promoted with robust referral, monitoring and follow-up systems to support it, including inpatient therapeutic care capacity within government institutions. In this regard the institutional capacities shall be strengthened".

Transitional governments, without such defined health policy or strategy, such as South Sudan, offer a different set of challenges though may allow for quicker adoption of CTC protocols at a national level. Like Ethiopia, in South Sudan, policy and strategy development is being informed by evidence from the implementation of CTC over the last few years. Several NGOs are working at the national level in South Sudan to establish assessment and treatment protocols for severe acute malnutrition following CTC principles and protocols, as well as advocating for their inclusion in Primary Health Care manuals.

A crucial issue in the roll out and sustainability of CTC is the inclusion of management of severe malnutrition as a core component within the minimum health services package, thus ensuring that staff training and supply of commodities will be addressed/planned for.

Another key requirement is the need to address health financing policy issues to facilitate access to free treatment for severe acute malnutrition. Where health care is not free then governments must put in place strong policies and functional mechanisms that will reliably provide free treatment (medical consultation, inpatient-care and drugs) for cases presenting with severe acute malnutrition.

Primary Health Care (PHC) system. A PHC system encompasses services provided by the Ministry, NGOs and community structures. For the CTC approach to be sustainable, a PHC system needs to be in place, with adequate, accessible structures and staffing capacity able to provide basic health services. It is through these facilities that CTC activities should be provided.

In the majority of emergency contexts ensuring functioning PHC facilities, in which to integrate CTC services is challenging and often relies heavily on external resources. Implementing CTC in nutrition emergencies can support and strengthen the PHC structure as opposed to previous emergency responses which have traditionally focused on establishing parallel structures of service delivery (1).

In Concern experience, the process of integration is facilitated if links to existing PHC nutrition activities such as Growth Monitoring and Promotion (GMP) Programmes are established in the initial setup phase. Concern is in the process of linking these services in Malawi and Bangladesh; however there are challenges, including the introduction of weight-for-height or Mid Upper Arm Circumference (MUAC) to assess severe acute malnutrition in addition to weight-for-age.

Additionally, in order to increase coverage of treatment of severe acute malnutrition it is necessary for other existing child health focussed interventions, such as out patient consultation services and Integrated Management of Childhood Illness (IMCI) activities to incorporate assessment and treatment of acute malnutrition. In theory such activities would become routine if incorporated into the Basic Package of Health Services (BPHS) at a policy level.

Nutrition reporting and monitoring system. Consistent and accurate reporting of severe acute malnutrition would allow for the early detection of a deteriorating nutrition situation and could foster timely scale-up of activities. However, in order for the primary health care services to be responsive to changing levels of malnutrition over time, cases of acute malnutrition should be incorporated into existing health management information system. In contexts where health management information systems are weak, the need to monitor levels of severe acute malnutrition could be used as a catalyst for improving reporting systems. In other contexts, reporting formats exist, yet are complicated and challenging for local health workers and thus a simplified national format could allow for more accurate and effective reporting. To support this, global reporting formats and protocols, like that of IMCI, need to include standardized assessment criteria and treatment of acute malnutrition.

Training and capacity building. Some NGOs involved in CTC programming are taking a long-term look at the capacity development of staff in the primary health care facilities to support CTC services. While this is a step forward, due to the high turnover of facility staff, the likelihood is that there will be a continual need for training at facility level unless training is more formally institutionalized.

Training of health staff to implement CTC services requires national planning and support. To increase the institutional knowledge at all levels of health service (facility based staff and extension/outreach workers), training on the CTC principles, out-patient care and management of complicated acute malnutrition needs to be incorporated into existing medical and nursing curricula of health training institutions.

In Ethiopia, Concern and UNICEF are advocating for and supporting the development of training on the principles and protocols of CTC as well as the management of complicated acute malnutrition in both the nursing and medical curriculum at national and regional levels. Additionally, in South Sudan Concern is working with UNICEF and another NGO involved in Primary Health Care to include training on CTC protocols in the 1 year nursing course. Other countries with experience in CTC and out-patient care for the management of severe acute malnutrition are not as advanced as Ethiopia and South Sudan in this regard. It is fundamental to the capacity building of health services to implement community-based therapeutic care, that these principals, protocols and management issues are incorporated into health curricula at all levels for integration and sustainability.

Ready-to-Use-Therapeutic-Foods (RUTFs). The development of RUTFs has allowed for the development of out-patient therapeutic care. In emergency programmes, imported, commercially

produced RUTFs are currently used; however, as the CTC approach is modified to address severe acute malnutrition in longer-term emergencies, post-emergency contexts, or even developmental contexts, RUTF needs to be more easily accessible and affordable for the approach to be sustainable.

Local RUTF Production. The CTC model promotes the local production of RUTF to increase economic activity in the area or country of production and to increase access and availability of RUTF through reducing cost. Among others, local production of spread RUTFs is currently being developed by NGOs² in Malawi, Ethiopia and Bangladesh. Experience in the local development of RUTF has identified several challenges to the production and distribution of RUTF locally, including sourcing quality ingredients, licensing, and quality control.

The original spread RUTF recipe contains 5 ingredients: peanut butter, vegetable oil, powdered sugar, dry skim milk and a mineral vitamin mix (8). RUTF production in Ethiopia has been challenged with difficulty importing ingredients not available locally, particularly dry skimmed milk and the mineral vitamin mix, highlighting the need to produce a RUTF from *locally available* ingredients (2).

Alternative RUTF recipes, nutritionally equivalent to that of the original peanut-based formula, using only locally or regionally available ingredients are being trialled in Malawi and Ethiopia. Demand for RUTF in both countries is high so if the trials are successful, the scale-up of production could reduce costs; though analysis of the most cost effective location of production units within each country is still to be undertaken.

However, even if local RUTF becomes more accessible, there is still need for international donors to consider long-term support of the final RUTF product for programming.

Regarding transport, in most countries, the Ministry of Health transports drugs that are listed as essential on the national drugs list. However, like F-100 and F-75, milk-based diets (9) used in in-patient treatment of severe acute malnutrition, RUTF is a therapeutic product, and these are not on the essential drugs lists. Therefore, the MOH is not responsible for RUTF transportation.

Licensing and Quality Assurance. The issue of national licensing and approval of local production needs to be researched in each context of proposed production so that delays and constraints are avoided. The classification of RUTF as a drug, nutritional supplement or food has implications on production and transport so it is crucial to establish this as early as possible.

In Ethiopia RUTF is classified as a food and is being produced by a food producer. Currently this is working sufficiently; however in order to include RUTF on the essential drug list in the future, RUTF has to be registered as a drug, a process that is detailed and often time consuming. This process has yet to begin in Ethiopia.

²Concern Worldwide in partnership with Valid Nutrition in Ethiopia and Malawi, and the Peanut Butter Project in Malawi

To facilitate the local production of RUTF, as either a drug or a food, there needs to be a network of laboratories accredited to test and analyse RUTF as part of a wider quality assurance programme.

Regional level: Functional regional health system and appropriate capacity for service provision

The overall capacity required for a sustainable CTC programme depends on the scale and the magnitude of the prevalence of severe malnutrition as well as the existing local capacity in the country/programme area. To date, CTC has been implemented in emergency situations and currently these programmes are in the process of integrating CTC activities into the MOH. However the level of inputs and the type of relationships between the NGO's and the MOH partners for implementation is variable, depending on the context, MOH capacity and the pattern of malnutrition.

Integration as a process. Speed and ability to integrate a primarily International NGO-led CTC programme depends on the structure, capacity and level of the Ministry of Health from the outset.

Experience from Malawi, Ethiopia, Niger, Sudan and Bangladesh demonstrates the breadth of challenges when attempting to integrate CTC activities within different contexts. Key challenges to integration in different contexts where Concern has been working include:

- Lack of basic health services to integrate OTP/SC services into South Sudan.
- Due to outbreaks of disease such as malaria and poor coverage of basic health services, the CTC programmes in Niger were characterised by case-loads in OTP/SC that were much higher than seen in other countries with nutrition emergencies.
- In developmental contexts like Bangladesh with GMP programmes, standard indices for assessing malnutrition are weight-for-age, not MUAC or weight-for-height for the assessment of severe acute malnutrition. Height and MUAC are now also being collected in a pilot study in a small programme area to assess severe acute malnutrition.

A challenge to integration in some of Concern's CTC programmes has been the short-term funding mechanisms available from the donor community which constrain the ability of an NGO or government to build the capacity of the primary health care services to implement CTC services.

Additionally, Concern's experience in several countries has demonstrated that the inclusion and full participation of the Ministry of Health right from the outset is crucial to longer term integration, ownership of the service and national sustainability. In Wollo, Ethiopia, MOH *worreda* administrative staff were seconded to Concern for on-the-job training in OTP supervision for 4 weeks, additionally clinic staff were seconded to Concern's mobile teams to build their capacity and understanding of assessment and out-patient treatment activities. In Malawi, clinical nursing staff along with CTC nutrition staff at facility and regional level were trained in wider CTC concepts. Wider understanding, conceptually and practically, of CTC programming at all levels of national health services from the onset

of programming allows for easier integration. However gaining full participation of the range of actors is often challenging in over-stretched health systems.

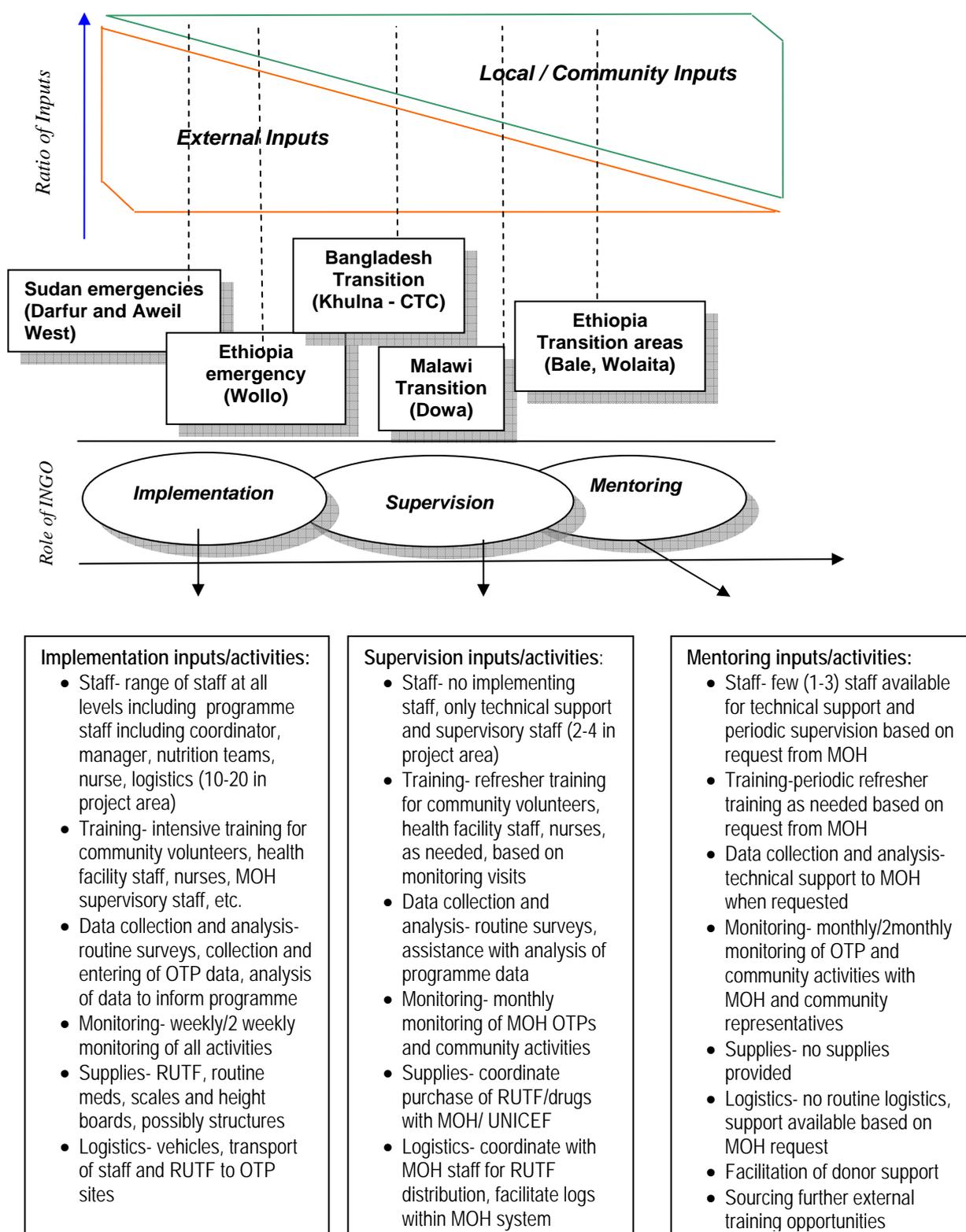
Spectrum of inputs and capacity for CTC integration into MOH. The composition of external inputs, both in scale and type, from an NGO partner aiding the implementation of a CTC programme, depends not only on levels of severe and moderate malnutrition, but also on local capacities to manage and respond to the situation. Hence two scenarios with comparable prevalence of acute malnutrition could see two different levels and types of *external* input.

In addition to the analysis of the context and prevalence of malnutrition, the required level of external input to implement community-based therapeutic care should be assessed through a comprehensive and participatory capacity assessment of the health facilities and system. Health capacity assessment is an essential component within the programme analysis stage in order to analyse the type and scale of external support required.

The diagram below (Figure 1) demonstrates the spectrum of external inputs required to implement community-based therapeutic care based on 1) the capacity and structure of the local/regional MOH PHC system to respond and 2) the magnitude of the situation.

In emergency situations, levels of external inputs are most likely to be high. However, as emergency levels of malnutrition decline and numbers receiving out-patient care decrease, external support shifts from logistically heavy hands-on implementation, towards a supervisory role. Supervision is regarded as stepping back from direct implementation in support of MOH implementation, shifting support to supervision, monitoring, and periodic training.

Figure 1. Spectrum of inputs for CTC activities in different contexts



For example, in Wollo, Ethiopia, Concern has been implementing a CTC programme with MOH since 2003. When levels of severe malnutrition declined, Concern began the transition period of withdrawing from the implementation of OTP services, handing over full implementation to the MOH. Additionally, MOH seconded facility staff to Concern to mentor on supervision of OTP activities and training community volunteers on community health promotion.

Theoretically, with MOH facilities independently implementing CTC services (OTP, SC and community mobilization), supervision evolves towards mentoring, whereby training or specific support is identified and requested by the MOH to the NGO. In this mentoring role, the NGO partner can facilitate 'roll out' throughout the region/country. Additionally, initial integrated sites can be used as demonstration that existing primary health care systems can successfully providing OTP in conjunction with other services. Ultimately, the NGO partners will clearly vacillate between different roles depending on the change in both the prevalence of malnutrition and the local capacity.

Threshold levels for scale-up. An improved monitoring system, as described above could be enhanced through the addition of regionally agreed upon benchmarks to trigger expansion, scale-up and scale-down of CTC activities and inputs.

A small case load of children in OTP, in non-emergency situations, can be handled by MOH with mentoring support from an NGO, as witnessed in Concern's programme in Bale Ethiopia. However, as case load increases beyond manageable in future nutrition emergencies, external support (human resources, training and food resources) would increase proportionally.

However, to ensure timely response to reported levels of acute malnutrition there needs to be a national/regional plan for a response, detailing the practical commitment of stakeholders (MOH, NGOs and external donors) to specific programme activities within outlined scenarios. MOH, NGO, WFP and UNICEF support of this system would further demonstrate commitment to sustainability.

Community level: community participation and active screening

Community participation is recognised as a key component of CTC (1). As operational experience with CTC has grown, so has the understanding of the importance of broader community participation from the early stages of programme design.

Concern defines community participation in CTC as encompassing: involvement in mobilisation and awareness raising activities, planning, decision making and management of interventions; and active involvement in community outreach work, which includes active screening, follow up of defaulters and health promotion activities.

Application of this broader definition of community participation fosters sustainability of CTC by empowering communities, promoting community ownership and facilitating dialogue and interaction between the community and health facility staff.

Additionally, to enhance community participation and ownership, capacity building at community level with a medium to long-term perspective should be built into CTC programme design as a core component. This involves training and mentoring of community health committees/structures by appropriately experienced and skilled individuals. It also requires training and supervision of community outreach volunteers and health extension workers.

Programme uptake is greatly affected by attitudes towards and relationships between the community and health facility providers. A positive outlook by the community on government health services is crucial. If government facilities have ceased to exist, or faith in the government health services is lacking, CTC programme staff need to address this issue by supporting improvement in quality of care and then working towards re-establishing community confidence in these services.

Many communities support traditional healers or alternatives to government health services and in these areas Concern has found it is essential that CTC programme officials (MOH and/or NGO) work with these practitioners, to provide education on the signs of malnutrition and to support and encourage these alternative healers to refer malnourished children to the CTC programme.

Active screening, defined as the identification of acutely malnourished children and referral to the nearest health centre implementing CTC, is an essential activity in achieving high CTC programme coverage. In the initial phase of emergency CTC set up, active screening and mobilisation is primarily conducted through NGO and qualified MOH staff. However, as the programme develops and the capacity of community volunteers and health extension workers is developed, the role of NGO and MOH health staff can shift to a supervisory one.

In order to support continued active screening, it is crucial that the wider community is educated on the signs of malnutrition; and that the community as a whole takes on greater responsibility to bring potentially malnourished children to the community volunteers/outreach workers for screening and referral to services.

As well documented by international community health practitioners, sustaining active, voluntary community screening and outreach work is a key challenge in community health. CTC programme planners and community committees need to pro-actively work to maintain volunteer motivation (10).

In order to facilitate sustained active screening by volunteers, it is crucial that the ratio of community volunteers to the target population is appropriate, realistic and not overburdening. Numbers of

volunteers should be determined by the operational context where the number of households covered is manageable and not more demanding than volunteers are willing to address without payment.

In South Wollo, Ethiopia, Concern trained two community-elected volunteers (one male one female) per *gott* (village) for outreach activities and the time demanded for this work was no more than 1 day a month in total. However the large number of volunteers in the programme area (3000 in total) created a large demand for supervisory support and refresher training. Supervision of these volunteers is currently provided by 28 Outreach Supervisors employed by Concern and to date the MOH has been unable to take over responsibility for this work.

In light of lessons learnt in South Wollo, Concern adopted a different approach when responding to the nutritional emergency in Bale. From the outset the community-based therapeutic programme was established within MOH structures and was managed by the district health authority. The health authority had full responsibility for the regular supervision of 750 volunteers, while Concern employed only four outreach supervisors to support this work for the initial six month phase.

Additionally, as the context of the situation may move on from the critical emergency phase characterized by a more stable nutrition situation, community screening and follow up workload reduces and the role of the community volunteer may be adapted. In areas in both Ethiopia and Sudan Concern has trained and supported community volunteers to address care and feeding practices and other health promotion activities after the initial emergency response. While facilitating volunteers to expand their knowledge and take on different activities can act as an important motivating factor, care must be taken not to overload the volunteer.

Challenges to moving forward

Based on Concern's experience in implementing CTC and working with federal governments to integrate and adopt community-based therapeutic care into existing health services, several challenges have been identified for moving forward the sustainable treatment of acute malnutrition.

- Increase local production of ready-to-use-therapeutic-food where community-based therapeutic care is being implemented to increase the availability of the product
- Develop an international system of standards and mechanisms for quality control of RUTF production
- Integrate assessment and treatment of acute malnutrition in relevant international health and nutrition guidelines (ie: WHO guidelines on treatment of severe malnutrition and IMCI guidelines).
- Investigate and learn from previous experiences in the roll-out and scale-up of other community health activities, ie: IMCI.
- At the project level, plan the development of future community-based therapeutic care interventions in response to nutrition emergencies with an integrated outlook *through* the Ministries of Health and with a longer term vision to develop the capacity of Primary Health Care systems.
- Further research and develop community-based treatment of severe acute malnutrition integrated into PHC systems in non-emergency contexts.
- Develop a mechanism to ensure quality of NGO supported community-based therapeutic care programmes.

References

1. Grobler-Tanner C, Collins S. Community Therapeutic Care: A new approach to managing acute malnutrition in emergencies and beyond. FANTA Technical Note #8, June 2004. www.fantaproject.org.
2. Khara.T. and Collins, S., Community-Therapeutic Care (CTC). 2004;(2)Oxford, Emergency Nutrition Network. Special supplement. ENN.
3. Collins, S., Community-Based Therapeutic Care - A New Paradigm for Selective Feeding in Nutritional Crises. 2004;48:London, Overseas Development Institute. HPN Network Papers.
4. Khan, MSH, Rahman S, Nasrin T. Survey Report on Household Energy Practices, Indoor Air Pollution and Health. January 2006. 2006; Dhaka, Associates for Community and Population Research, Report.
5. Demography and Health Surveys. 2005. Enquête démographique et de santé, Rwanda. Rapport préliminaire.
6. LaFond A. 1995. Sustaining primary health care. London: Earthscan.
7. Sphere Project Team, The Sphere Project: Humanitarian Charter and Minimum Standards in Disaster Response. 2004;2:Geneva, The Sphere Project.
8. Manary M. Local production and provision of ready-to-use therapeutic food for the treatment of severe childhood malnutrition. Food Nutrition Bulletin. This issue.
9. WHO. 1999. Management of severe malnutrition: a manual for physicians and other health workers. WHO: Geneva.
10. Frankel S e. 1992. The Community Health Worker: Effective Programs for Developing Countries. Oxford: Oxford University.