

The CORE Group Nutrition Working Group

Community-based Therapeutic Care: Managing Severe Acute Malnutrition in Emergencies and Development

Presenter: Caroline Grobler-Tanner, consultant, Valid International
Ronald Reagan Building, USAID Training Center
Friday, December 3, 2004.

Announcement: Vanessa Dickey and Judiann McNulty will present an overview of Hearth and the use of Title II food on Tuesday, December 7, 2004 from 1:30-2:30 on the Annex-14th PA, 4th floor.

Judiann McNulty opened the day's session with a calculation carried over from the previous few days' Hearth workshop, useful for calculating the number of Hearths required per population. To get the number of eligible children by age, multiply the total population in the area by 0.13. The result will be indirect beneficiaries of your program. In a population of 8000, this would be 1040. To get the number of malnourished children, multiply the number of eligible children by 0.3. In an eligible population of 1040, this would be 312. To find out the number of Hearths needed, divide the number of malnourished children by 8. With 312 malnourished children, this would be 45. Some children do not graduate in each Hearth, so you will need to integrate some children in to upcoming Hearths. Using the example of 312 malnourished children in the community, you will probably have multiple volunteers and multiple Hearth sessions. You may want to do 6 simultaneous Hearths, for example, and do them more than once.

Paige Harrigan (FANTA) informed participants that she would be sending additional information on calculations. These can be found in the Sampling Guide which can be accessed on the internet at <http://www.fantaproject.org/downloads/pdfs/sampling.pdf>. Please see p. 17 Figure 3-6, which provides guidance on the number of households that need to be visited in order to find a single measurement unit for the indicators for surveys. Figures for percent of the population similar to those shared by Judiann are also included in this guide.

Judiann continued by discussing upcoming Hearth training in the field. A training session in Portuguese is being planned for June 2005 in Angola. The training manual is already translated into Bahasa Indonesia, French, Spanish, Hindi, Nepali, and it is coming out in Arabic. The CORE Group Nutrition Working Group will be discussing how to further roll out Hearth training.

Judy Canahuati (USAID) reported that there is interest within Food for Peace to adapt Hearth work into Title II. Where PVOs have FFP officers in their USAID missions, or, for example, regional offices such as REDSO in Kenya, PVOs are encouraged to please go and talk to them about integration of Hearth and Title II. Judy Canahuati can also send email if requested. While CORE member PVOs are waiting to see what happens to the CORE Group funding request to USAID (which will include further support for Hearth), there are other resources available to support important Hearth work in the field.

Participants received a letter which came out on the PMTCT Forum listserve, regarding the kind of research needed to evaluate if Hearth is a valuable intervention. Participants were encouraged to read the letter critically, think about this, and get involved in this forum and others. The letter was sent out on behalf of Ted Greiner on December 2, 2004. To join the PMTCT forum, send an email to PMTCT-FORUM@LIST.S.S-3.com.

Hearth is basically a developmental approach, but we face similar challenges when we intervene during emergencies. As we go through the concept of Community Therapeutic Care (CTC), we will be going through the whole continuum of relief to development. We will look at what is CTC, how does it fit with our developmental approaches, and what kind of integration is possible or not possible with Hearth and our other approaches.

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What is CTC?

FANTA has been involved in community-based therapeutic care (CTC) the last couple of years. CTC is a new approach to managing acute malnutrition, predominately in emergencies. It has really taken off the past few years, answering many of our questions on adequately responding to acute malnutrition. Until about five years ago, most severe acute malnutrition (defined by WHO as less than 70% weight-for height (WFH) or bilateral pitting edema, e.g. severe wasting or edema, was managed in centers or hospitals. The results have not been particularly fantastic. The protocols have improved, but coverage is low and mortality high. CTC was devised by Dr. Steve Collins at Valid International in the UK to move with the times, with a focus on communities and local interventions, rather than taking people away from their communities. It focuses on communities in emergencies, and links relief and development by letting people help themselves.

The most fundamental difference between CTC and other approaches is that rehabilitation is based in communities. CTC treats at least 85% of severe-acute malnutrition at home, not in the hospital. It works through local people rather than through external experts, using what exists already.

CTC is a public health approach: it looks broadly to achieve the most impact with the most people, rather than looking to just a few individuals. It provides coverage first with appropriate case management, and it provides this on a timely basis, which is very critical. CTC address all aspects of acute malnutrition. Typically many if not all of these factors contribute toward acute malnutrition: poverty and high work loads, particularly of women, social exclusion, chronic vulnerability, and individual pathological changes. It often occurs in marginalized groups.

CTC contains four basic elements:

1. social mobilization/participation-- a critical aspect of CTC-- is a fundamental basis.
2. supplementary feeding program (SFP) for moderate level children.
3. outpatient therapeutic program (OTP), which is recuperation at home with regular contact.
4. stabilization centers (SC) for those 15% or less of malnourished children who do require specialist, intensive care in a facility. This is the equivalent to the WHO phase 1 therapeutic feeding center (TFC).

Typically in years past there would be one therapeutic feeding center (TFC) and only the children around that center would present for treatment, or children would be referred from Hearth or other community programs to a TFC. The further out children lived from the TFC, the less likely that they would come. In North Darfur (Sudan), for example, there were originally only 3 TFCs

in 2001, so you can image the poor coverage and access. By both WHO and Medicines Sans Frontières (MSF) guidelines there are to be only 50-100 children in a TFC, so the scale of the Darfur emergency could not be adequately handled by the 3 existing TFCs at hospitals. Plus, parents cannot easily stay at the TFC for 3 weeks. They do often initially arrive, but just as often drop out.

The idea of the CTC is to bring the center close to the population. In this way, the cases present earlier, the cases are less severe and therefore easier to manage, there are fewer complications, and children are easier to treat. With CTC, instead of one or a few TFCs, you have lots of disbursed centers which may be attached to ongoing supplementary feeding or clinic programs in the community. Save the Children in Darfur put in many CTC centers—wherever they had Other Child Feeding (OTF) distribution points—and they maintained 3 stabilization centers (SC) at the hospitals where the TFCs used to be. Coverage and access were greatly improved.

Stabilization centers (SC) are much smaller than the traditional TFC, since most of the malnourished children are being treated at home. What remains is a small number of children, who also stay for a short period of time. There are more like 5-10 children rather than hundreds massed together (with concurrent risk of cross-infection).

Caroline shared some inspiring photographs of children under CTC treatment. Where children have appetite, this is a good indicator of whether they can be treated at home. Some children with skin problems can be treated at home, but severe skin complications are very indicative of high mortality. With appetite present, even if there is edema (that is not widespread), the child can be effectively treated at home.

Caroline shared a photo from Blantyre, Malawi's Queen Elizabeth Hospital, which had a very overcrowded TFC and a high HIV prevalence. The TFC utilized a difficult to use milk-based treatment (F100 and F75) that required a lot of staff. F100 and F75 are special formulas, which are highly effective, but there are issues to resolve including contamination after a few hours, expense, contraindications of milk distribution, etc., so using these formulas requires careful control and all that goes with that.

Several years ago a ready-to-use (RTU) therapeutic food was developed called "Plumpynut", made to the same formula as the F100, yet made out of peanut butter. Children really like it. It is very energy dense since it has a lot of oil in it. It has very low water activity so there is very little microbial growth, and it can just sit around without spoiling. The development of Plumpynut revolutionized at-home treatment, with a very simple advance. Children in the second phase of treatment, once stabilized, were able to go home, and the mortality rate improved (noting that there is the HIV component).

In emergencies, there is little idea of community participation as there is with development, which has traditionally involved a very different way of thinking. However, it is very possible to involve communities in emergencies. There is a lot of compelling data showing that this is in fact important. Changing or manipulating small aspects of an emergency program can make a huge difference in results, for example, small changes on how to relate to people during registration, etc. can result in far better coverage. In Malawi there was research conducted on what motivates people to seek treatment for malnutrition in children. These early social studies were very important on examining what people think about malnutrition and why they come for treatment. In Malawi, a malnourished child is viewed as related to sexual infidelity. This aspect is not often thought about in emergency situations, yet it has a huge impact on who comes for treatment and

who is referred for treatment. It is essential to involve community leaders and community practitioners in this kind of discussion.

Caroline shared a slide which examined mass screening during emergencies, and highlighted how small changes resulting from enhancing community participation can make a substantial difference. At the time of screening, many people were turned away and told they were not eligible for program inputs. People who were turned away told others who had not yet been screened that they were turned away with nothing, and the message was passed not to bother to go. This typical approach was adapted with better information given to mothers. Admissions to nutritional rehabilitation were hugely increased, and coverage went from 30% to 70%.

In Ethiopia, another simple change made the difference in several hundred lives/deaths. Before, people would be screened during a general outreach session using MUAC (mid-upper arm circumference) and some were turned away right at this point. Families whose children were screened and found to be underweight using MUAC would be told to go to a particular place for follow-up, yet at this point only 50% of those referred would ultimately be accepted, leading to confusion and discontent. What was happening was that people were told initially what the MUAC colors (red or green) meant, yet those with red were sent to a center where the entry criteria was no longer a MUAC color or even weight-for-age (with which mothers had had some experience), but a new criteria: weight-for-height. When community participation was included from the start with appropriate community messages conveyed before doing mass screening with the MUAC, admissions were so much better.

Community communication needs to convey what you are trying to achieve. In this case, more effective outreach with more explanation of what the staff and families needed to look for in terms of severe acute malnutrition made a huge difference.

Caroline related a coverage survey she conducted which found that people were being referred by MUAC to a program site, where they received a weight-for-height measurement which resulted in some being turned away. The program subsequently decided that if people were referred due to their MUAC result, they should be admitted. This single decision made a huge difference (and it will be discussed further on in this presentation). The purpose the program wanted to achieve was to avoid deaths, and to avoid negative feedback, and taking this decision accomplished this. If community participation and coverage are your aim, you may have to give a bit on your criteria for admission.

CTC Results to Date

CTC has been implemented for about three years. The results are very compelling, with coverage rates 3 times greater than previous approaches achieved.

- In comparison with the SPHERE minimum standards for managing severe malnutrition, CTC is doing very well.
- The default rate for therapeutic feeding centers (TFC) is usually higher. Relapse in TFC is also generally high. With CTC, coverage is getting up into the 70-80% mark, which is extremely high, compared with the very best coverage rates, which have been documented in Malawi, which reached only 30% (rates in other countries are 20% and less). Coverage is one of the key indicators of the success of decentralized programming.

In the early stage (2-3 days) you can add CTC to manage moderate acutely malnourished children through emergency supplementary feeding programs (SFP) or outpatient therapeutic programs (OTP), which generally go together. Then (and only then), you can look at the inpatient/curative side of things for those children who need it. This approach completely reverses the way we used

to do things, which traditionally looked at the most severe cases needing inpatient treatment first. CTC aims for access and universal coverage first. You are saving far more lives doing things this way than the traditional way.

Evolution of CTC

WHO guidelines say that acute malnutrition is either the severe form (less than 70% weight-for-height and/or edema) or moderate (70-80% weight-for-height). Children under these categories should automatically be admitted to an inpatient setting.

The CTC classification looks at whether there are complications. If the case is complicated, the child will go for inpatient care using WHO/IMCI protocols. Complications are, for example, if the child cannot eat, has no appetite, has severe dehydration, etc. Once discharged from the inpatient program, they go to an outpatient program. If you catch children early, they usually do not have complications. They can use CTC protocols, whether they are severe (in which case they use the outpatient therapeutic program (OTP) protocol, or whether they are moderate, in which case they use the supplementary feeding program (SFP) protocol.

For the traditional TFC, the guidelines recommend a staffing pattern, and it is huge, something like 73 staff. For CTC it is 13 staff. A bigger CTC program is not necessarily a case of adding more staff. Staff must be mobile. They can be local nurses or health service agents who ordinarily go around and supervise decentralized sites. The staff may be from other existing programs or be volunteers, and you add to them some outreach workers who will supervise their work. You leave behind mother-to-mother support and a recognition in the community of how to manage these kinds of issues, to which you cannot put a price.

If you start to get too many children (or if you do not have enough admitted but you know there are a lot of malnourished children in the area) you may not be physically close enough to the population, e.g. within a 3 hour walk, and you may need to open another site. If you know you have around 2000 severe acute malnourished children you will have some idea how to set up your site, and if people still have to walk too far or there are too many children congregated in one site, you will need to open another site and adjust your plan.

With CTC, you are not activities with the children every day as you would with a TFC. CTC is a once-a-week activity. Children come for a short time (2 hours) during which the mother/caregiver receives treatment for the child, enough food for the next week (maybe 20 Plumpynut packets), weighing, ongoing dialogue, encouragement, etc. Because it is fairly small numbers and only once a week, there is more time to spend on each person. One team could be in a different site each day of the week.

Interestingly, there have not been reported instances of selling Plumpynut or the equivalent, although sharing is an issue. You have to account for sharing, so you give a little more, but it is not as serious as it is with other programs. Effective communication is helping. People think of Plumpynut as a special food.

The child may not gain as much weight as quickly as they would with therapeutic feeding inpatient care, but there is less chance of cross-infection, and it is effective. SPHERE's minimum standard weight gain objective is 8 gm/kg/day. Hearth does not get near this type of weight gain, but that is OK (400 gm in 12 weeks), but of course, Hearth is not working with severe malnutrition necessarily. With CTC the weight gain is between 4-8 gm/kg/day, which is pretty good considering sharing issues. Children gain weight rapidly if they are given the right kind of food.

Weight gain does not need to be rapid, because you are not trying to get them out of a program. The length of stay varies a lot, but is generally about 2 months. CTC has the same exit criteria as TFC: 85% of normal based on weight-for-height on 2 consecutive weekly weighing. If there is a supplementary feeding program (SFP) in place, the discharge criteria is set at 80% of normal, and graduates go into the SFP until they reach 85%. If there is no SFP, then the higher discharge criteria of 85% of normal is used.

In an emergency situation you would have a hierarchy of interventions:

- General ration: everyone gets this; it could be the whole population.
- Supplementary feeding program (SFP): for children less than 80% weight-for-age, usually dry rations.
- TFC: less than 80% weight-for-height or MUAC >110 mm, or edema.

Note that weight-for-height looks at wasting and acute malnutrition. It is a short-term indicator, in contrast to chronic, over-time malnutrition.

Ready to Use Therapeutic Food

Ready to use therapeutic food (RUTF), also known as Plumpynut, is imported from France. It costs about \$3,500/MT. Identified children are given the “Plumpynut test”: if they eat Plumpynut readily, they will go into the outpatient therapeutic (OTP) program; if not, they may need more specialized care.

Nutriset in France has a monopoly on Plumpynut production, but local production is moving ahead. In an emergency setting the chance of finding local food is not good, but later, in transition, you may find local ways of preparing this. All you need for local production is dry milk, oil, sugar, peanut butter, and a micronutrient mix specific for malnutrition. You need a bakery mixer, buckets, and a clean environment. There is a locally produced version in Malawi which has been in use for the past 2 years, which costs about \$1,700/MT. There is a central production facility in Blantyre, and local facilities in hospitals.

When doing local production, there are issues about distribution and sustaining the supply. Valid International is looking to make RUTF more commercially viable, with profit going back into production. Another idea under discussion is to have the MoH purchase RUTF as an essential drug (PEPFAR, for example, allows purchase of commercial food). Its future is huge, since it is effective in managing the nutritional aspect of HIV/AIDS as well as malnutrition in children. Production can also be linked with economic and agricultural programs.

Caroline responded to some questions posed by the participants at this point:

- To date, different countries have different regulations about aflatoxin (a toxic substance which grows on peanuts). A lab in England has been testing this, since it could be a problem. Concern Worldwide is looking at new formulas that do not contain peanuts. Currently a formula is being tested in the field (it has already been tested in the lab) which uses chickpeas and sesame seeds and avoids peanuts altogether.
- There are possible uses for RUTF for people living with HIV/AIDS by adding pre-and pro-biotics to the formula. Probiotics are “friendly bacteria” like what you would find in live yoghurt; pre-biotics are carbohydrates which provides the right environment for pro-biotics to live. Early evidence shows this to be extremely successful.

- Although children could eat local foods during recuperation, they might fill up on something that is not sufficiently dense, so children on RUTF should only eat RUTF as their solid food. Breastfeeding continues. Caroline mentioned that some mothers smear the RUTF on their breasts since children like the taste so much. The kids really want to eat the RUTF; it is getting them off it that is more difficult, since it is so energy dense and very tasty. There is a lot of sugar in it. There are nearly 500 kcal in one packet. Children need to be weaned off it and back onto local food.
- Children do need to drink when eating RUTF, and this has not been a problem.
- Mothers receive home visits (outreach) and there are regular discussions at the weekly meetings.
- RUTF is not used in the WHO phase 1 (therapeutic feeding center) setting for complicated cases because some feel the iron is not in a correct proportion. Caroline points out that in practice this has not proved to be a problem.

Issues in Transition and Non-emergency Programming

Nutrition recuperation consists of concepts. Recuperation is not religion. Nevertheless, people can become rigid about their models.

There are similar principles in CTC and Hearth, although the two programs will not be played out the same way. For example, success breeds success. One of the ways FANTA and Valid International are looking at scaling up is through the demand approach. Mothers are motivated when their children are recovering and undergoing so much change in a couple of weeks. It is a powerful force that activates communities, institutions, etc.

Caroline reports that organizations are moving away from linking CTC to Hearth. Sometimes the two approaches may naturally fit together, but not always. In a non-emergency situation, it can work to go from CTC to Hearth. It should be noted that the micronutrients aspect of recuperation are not included in the Hearth menu and this aspect is important for recuperation of severely malnourished children.

CTC has been put in places with ongoing growth monitoring (GM), and this can be a challenge. Caroline described the mass confusion CARE HQ found in East Timor (2003) where Community Feeding Centers had blended aspects of CTC and Hearth using concepts developed for non-malnourished children which would be suitable for busy mothers to use. Despite serious drawbacks to the program design, it was about to be scaled up with support from USAID. Entrance criteria and programming objectives were confused, and the type of food was confused since the program used milk powder, food aid inputs, and local foods. Staff (mostly doctors) were further confused by the admissions criteria. There were children entering through the GM program who were more moderately malnourished yet who were being treated as if they were severely malnourished: this wasted food. There were some dangerous practices observed such as take-home diluted milk in a bottle. There were positive points as well. As a model it is quite promising, building off the GM regime in Indonesia. Overall, the principle of a Hearth-type approach with referral to CTC for serious cases is good. Ultimately Caroline and CARE recommended to eliminate the milk, keep the food aid inputs, use local foods in the Hearth approach, and use high density kcal local foods. Instead of using weight-for-height which was confusing staff (who were used to using weight-for-age) they recommended using MUAC to screen out the severe cases.

In practice, the old ways of doing things just have not worked that well. That is why CTC was developed. There was a need to find ways to work effectively to reduce the high mortality while providing high coverage.

HIV/AIDS has a tremendous impact on severe malnutrition case loads in some areas. When conducting Hearth in southern Africa, for instance, you will face this, with babies severely malnourished, who will die or who will need to go on ARV treatment. We need to adapt indicators and to adapt programs to admit severely malnourished children. We can use MUAC to assess severe acute malnutrition among children in Hearth. Maybe the time has come to figure out how to use a locally produced RUTF in your Hearth context, particularly where HIV/AIDS is high, since you have at-home outreach and other important aspects in place. Referring these children sends them off to death: they either do not show up at the TFC or they obtain cross-infections at the TFC. (Even in Hearth, you have danger of cross-infection—but of course, the children do not need to come everyday).

Mercy Corps in Sudan is using CTC with severely malnourished children, and when they recover, they go into Hearth. Programs can use the same staff as those conducting Hearth to detect cases, and use same principles as that of Hearth in CTC.

Traditionally, MUAC has been used as a screening tool, but not generally for admissions criteria to programs. We are coming around to understanding that changing the criteria for admission between doing screening and entry to TFC or CTC excludes people. Doing weight-for-height is very difficult. MUAC is so much easier for training, and for utilization, and there is less fear factor for children, less expense, etc. In terms of the number of children under 12.5 cm MUAC, and the number of children under 80% weight-for-height, you will end up with the same number of children, but with different children. With the different tools you will be excluding some, and adding others. The overlap between MUAC and WFH is between complicated and very complicated cases. If we can find an effective way to use the same criteria (e.g. MUAC) for screening and admission, then move to using weight for measuring success once children are in the program, we will be better off.

Note that MUAC is usually not used for children under age one.

Caroline shared an interesting yet inadvertent “study”. Save the Children was admitting short children with low MUACs to its OTP program until UNICEF recommended sending smaller (shorter) children to SFP, resulting in some data for comparison. Save the Children found that small children with low MUACs did better in OTP than in SFP. This meant that weight-for-height was not a good (sensitive) indicator for stunted, little children with low MUACs. The use of MUACs turned out to be very compelling for determining who is at risk.

CTC is equally good for dealing with chronic malnutrition. The SARA Project has a study in Malawi using CTC protocols for treating children with HIV who are severely malnourished, and showing how the CTC approach can be used for targeting households. Since there is no stigma attached to being part of an ongoing program, CTC is a good way to treat children whose HIV status is known or unknown. Severe malnutrition is the most common clinical manifestation of HIV/AIDS in children. HIV/AIDS is increasing the prevalence of severe malnutrition in southern African countries.

What Next

- CTC as an approach links well to home-based care for HIV-infected adults (as would Hearth).
- There is a CTC operations manual under formulation which will be out in about another 6 months. It will be more of a “what if your situation is like this” kind of manual. Save the Children/US, FANTA and Concern Worldwide will have a workshop in February 2005, to launch discussion of this manual (invitation only).
- USAID guidelines are apparently being revised to incorporate new approaches.
- There needs to be further testing and documenting of CTC and Hearth, and linking CTC with HIV/AIDS programming, and there will be funding for this.
- The next updating of the Hearth manual needs to include dealing with HIV/AIDS.

The session concluded with a video entitled “CTC” created by Concern Worldwide and Valid International. The video setting is in Wollo in northern Ethiopia where there is a severe food shortage due to drought currently affecting 11 million people. The CTC program is in a population of 450,000, where there are 21 sites established. The video follows some of the program mothers and shares their stories about how CTC has positively affected them and their children.