

Determinants of coverage in Community-based Therapeutic Care programmes: towards a joint quantitative and qualitative analysis

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One of the most important elements behind the success of Community-based Therapeutic Care (CTC) programmes for the treatment of severe acute malnutrition has been their ability to achieve high levels of coverage. In CTC, coverage is measured using the Centric System Area Sampling (CSAS) method, which provides accurate and reliable estimates of programme coverage as well as information on the primary reasons for non-attendance. Another important feature of CTC programmes is their use of socio-cultural assessments to determine potential barriers to access and to develop context-specific responses. By analysing data on non-attendance provided by CSAS surveys, in conjunction with data from socio-cultural assessments, it is possible to identify common factors responsible for failures in programme coverage. This paper focuses on an analysis of data from 12 CTC programmes across five African countries. It pinpoints three common factors (distance to sites, community awareness of the programme, and the way in which rejections are handled at the sites) that, together, account for approximately 75 per cent of non-attendance.

Keywords: barriers to access, Centric System Area Sampling, Community-based Therapeutic Care, coverage, socio-cultural assessments

Introduction

The Community-based Therapeutic Care (CTC) approach to the treatment of severe acute malnutrition (SAM) has been shown to be a high impact, cost-effective model of nutrition intervention (Tekeste, 2007; Collins et al., 2006a; Collins, 2007; ENN, 2003, 2005) and has been accepted as the basis of current United Nations (UN) recommendations for the management of SAM (United Nations, 2007). Important factors contributing to positive programme outcomes are the decentralisation of services, the use of simple protocols including Ready-to-Use Therapeutic Foods (RUTFs) (Briend et al., 1999; Briend, 1997; Henry et al., 2003; Ciliberto et al., 2005; Diop et al., 2003), working with mothers as primary caretakers of malnourished children, and the active participation of community figures (such as religious and socio-political leaders, community-based volunteers and civil society groups) to ensure early presentation of cases (Collins, 2007; ENN, 2005). These features

enable CTC programme to treat large numbers of children with relatively modest resources thereby facilitating high programme coverage.

This paper aims to identify the principle factors that negatively affect the coverage of CTC programmes. It draws lessons from 12 different CTC programmes across East, West, Central and Southern Africa. It collates quantitative data collected from questionnaires conducted as part of Centric System Area Sampling (CSAS) coverage surveys (Myatt, 2003) and qualitative data procured through socio-cultural assessments of these programmes. The analysis focuses on the different factors that influence coverage, as well as practical experiences of addressing common barriers to access. It concludes by arguing that one can improve programme coverage in emergencies by tackling three fundamental issues: distance, community sensitisation and programme rejection. Other factors influencing coverage are however specific to programmes and can only be identified and dealt with by developing an understanding of how the particular programme interfaces with its target community.

Background

CTC at a glance

CTC arose out of frustrations with the limited impact of the Therapeutic Feeding Centre (TFC) inpatient treatment model. TFCs have several limitations: they are difficult to establish, expensive to run, expose beneficiaries to the risk of nosocomial infection and generally achieve only limited coverage (Grellety, 2000; Van Damme and Boalaert, 2002). Caretakers are required to stay with their malnourished child for periods of three weeks or longer, with substantial opportunity costs and disruption to family life (Collins, 2004). The CTC model was designed to enhance access to care by decentralising therapeutic treatment. The model—firmly rooted in the public health principles of coverage, population-level impact and cost-effectiveness—emphasises the sociological, epidemiological and economic aspects of nutritional interventions (Collins, 2001; Collins and Sadler, 2002). Since its initial implementation in South Wollo, Ethiopia, in 2000 (Collins and Sadler, 2002), CTC programmes have been implemented (by non-governmental organisations (NGOs) and ministries of health (MoH)) in Chad, the Democratic Republic of Congo (DRC), Ethiopia, Kenya, Indonesia, Malawi, Niger, North and South Sudan, Uganda and Zambia (Chaiken, Deconinck and Degefie, 2006). These CTC programmes met SPHERE minimum standards for recovery, mortality and defaulting rates (Collins et al., 2006b) and demonstrated that well-run CTC programmes can achieve similar recovery rates to centre-based programmes in comparable areas (Sadler et al., 2007; Vautier, 1998).

Coverage and CTC

The impact of public health nutrition programmes is determined by a combination of recovery and coverage rates. A high coverage programme with a low cure rate may be better at meeting need than a low coverage programme with a high cure rate

(Sadler et al., 2007). The method used to determine coverage is crucial not only to ensure the accuracy of the results but also to provide data that is of use in the management of programme activities. Programme coverage has traditionally been assessed using two-stage cluster sampled nutritional anthropometry surveys. This approach has several fundamental limitations, including an assumed homogeneity of coverage, sample sizes that are too small to estimate overall coverage with reasonable precision, and reliance on population estimates that may be unreliable in the case of displacement or migration (Myatt et al., 2005a). The CSAS was developed to address these limitations and to supply an analysis of the spatial distribution of programme coverage (Myatt et al., 2005b; Myatt, 2003; Myatt et al., 2005a). The CSAS approach produces direct estimates of coverage that are reasonably precise with the 95 per cent confidence limits around the overall coverage estimation usually in the order of +/- five per cent (Myatt et al., 2005a).

The spatial coverage information provided by CSAS surveys has also proved useful in helping improve programme implementation whether it be identifying locations for new access points or remedial actions to improve the rate of presentation in areas of low coverage. In addition, a questionnaire, administered during the survey to carers of cases of malnutrition who were not enrolled in the programme, has been used to investigate the reasons for non-attendance and to pinpoint issues undermining programme coverage.

Methods

The most common barriers to access, and their relative impact on programme coverage, were determined using a retrospective analysis of quantitative and qualitative data. Existing data from CTC programmes were reviewed. All programmes with both qualitative and quantitative data available were chosen for analysis. Twelve CTC programmes implemented between 2003 and 2006 in five African countries (the DRC, Ethiopia, Malawi, Niger, and North and South Sudan) were selected.

Quantitative data collection and analysis

Quantitative data were collected from questionnaires implemented as part of CSAS coverage surveys. These questionnaires were completed by all caretakers of malnourished children found within the target area who were not enrolled in the relevant components of the local CTC programme (non-covered cases). The number of questionnaires therefore varied substantially depending on differences in the numbers of such non-covered cases found by the different surveys. In addition, when supplementary feeding programmes (SFPs) were included as a part of the CTC programme surveyed, questionnaires were also administered among caretakers of children with moderate acute malnutrition (MAM) not enrolled in the SFP. A total of 1,696 caretakers were surveyed using the questionnaire in the 12 programmes (see Table 1). The questionnaires sought to determine specifically whether the carers of children

Table 1 Sample size of questionnaire in CSAS coverage surveys (per programme)

Country	Region	Date of survey	Type of malnutrition surveyed	Number of caretakers surveyed
Ethiopia	West Hararghe	2004	SAM	24
	South Wollo	2005	SAM	16
	Awassa	2005	SAM	22
	Lanfaro	2005	SAM	86
	Konzo	2006	SAM	26
	Wag Hamra	2006	SAM	54
	Boricha	2006	SAM and MAM	250
North and South Sudan	West Darfur	2005	SAM	90
	Bahr-el-Ghazal	2005	SAM	93
DRC	Ituri	2006	SAM and MAM	208
Niger	Maradi	2005	SAM and MAM	257
Malawi	Mangochi	2006	SAM and MAM	570
Total				1,696

with malnutrition who were not enrolled in the CTC programme were aware of the child's condition, and if so, whether they were conscious of the existence of a programme that could treat the condition. Those who responded positively to these questions were asked subsequently why their child had not been enrolled in the programme. Free-listings were allowed, and these were coded later. As the questionnaire developed, unprompted free-listing of reasons for non-attendance was retained, but to simplify data collection, coding and analysis, a tick-list of the most frequently cited reasons was added (based on experience of previous survey questionnaires). In some cases, new reasons were added to the tick-list if their frequency increased, thus reducing the need to code responses after data collection. The tick-lists were not read out to respondents, but instead, were used exclusively for streamlining the data collection process, and reducing the coding work required. Therefore, their use did not change respondent's experiences of the data collection process nor the data yielded.

The reasons for non-attendance identified through the questionnaires were analysed to establish their frequency and their 'modality'. Frequency was defined as the number of times that each issue was mentioned by respondents within each survey. A percentage was calculated for each reason given:

$$\frac{\text{Number of times each reason was given}}{\text{Total number of non-covered cases}} \times 100$$

This was calculated separately for each survey. These were in turn summarised for all surveys for each reason using the median percentage for each reason given (see Table 3).

Modality was defined as the number of times that an issue was mentioned as a primary reason across all programmes. The top three issues mentioned in each programme were extracted and tabulated. An overall numerical value was summarised by counting the number of surveys in which each reason was cited as the first, second or third reason for non-attendance.

Qualitative data collection and analysis

Qualitative data from socio-cultural assessments conducted in the 12 programmes were analysed (see Table 2). These assessments were conducted prior to CSAS surveys, generally within the first four to eight weeks of programme implementation. They were carried out over periods varying from seven to 90 days, and aimed to identify local perceptions of malnutrition, barriers to access to the programme, and health-seeking behaviours. The data were collected using a combination of semi-structured interviews (SSIs) and focus-group discussions (FGDs) with key informants and groups in the targeted communities. The assessments did not usually ascertain the relative impact of each barrier to access, but instead, provided a detailed description of each barrier, their causes, and possible solutions identified jointly with principal community stakeholders.

The results from the socio-cultural assessments were tabulated. The number of times that a reason for non-attendance was identified by each of the assessments was noted, irrespective of its importance vis-à-vis other reasons. The total number of programmes in which each reason was mentioned was then calculated.

Table 2 Socio-cultural assessments analysed

Country	Region	Year	Implementer(s)	Days of assessment
Ethiopia	South Wollo	2003	NGO and MoH	90
	West Hararghe	2004	NGO	14
	Awassa	2005	NGO and MoH	14
	Lanfaro	2005	NGO	11
	Wag Hamra	2006	NGO and MoH	7
	Konzo	2006	NGO	15
	Boricha	2006	NGO	14
North and South Sudan	West Darfur	2005	NGO	30
	Bahr-el-Ghazal	2005	NGO	30
DRC	Ituri	2006	NGO	15
Niger	Maradi	2005	NGO and MoH	14
Malawi	Mangochi	2005	NGO and MoH	28

Quantitative versus qualitative data analysis

The results of the CSAS survey questionnaires and the socio-cultural assessments were compared to pinpoint concordance and discordance in their identification of barriers within the same programme. Concordance was defined as the identification of a barrier (for example, distance) by both methods within the same programme. Discordance was defined as the identification of a barrier by one method (for instance, CSAS survey questionnaires) but not the other method (such as socio-cultural assessments).

Table 3 CSAS reasons for non-attendance in 12 surveys—ranked by frequency

Reason for non-attendance	Median percentage (%)*
Previous rejection	38.6
Condition not recognised as malnutrition	18.8
No belief in the CTC programme	14
Relapsed	11.3
Distance to sites	10.8
Carer busy	9.8
Carer sick	8.2
Childcare obligations at home	6.9
Not aware of the existence of the CTC programme	6.7
Shame	5.5
Other reasons	19.9

* Median of percentages across all surveys presented in this report.

Table 4 CSAS reasons for non-attendance in 12 surveys—ranked by modality

Reason for non-attendance	Number of surveys			
	Number in top 3 rank	1 st most common reason	2 nd most common reason	3 rd most common reason
Previous rejection	9	7	2	0
Condition not recognised as malnutrition	6	2	3	1
Carer sick	4	0	3	1
Not aware of the existence of the CTC programme	3	1	0	2
Distance to sites	3	1	1	1
No belief in the CTC programme	3	1	1	1
Carer busy	3	0	1	2
Relapsed	3	1	1	1
Other reasons	2	0	1	1
Childcare obligations at home	2	0	0	2
Shame	1	0	1	0
Total*		13	14	12

* Each column should add up to the total number of programmes surveyed (12). The 1st and 2nd most common reason columns add up to 13 and 14 respectively, due to 'ties' where two reasons received equal mention.

Results

Quantitative data

In terms of frequency (see Table 3), the analysis of the CSAS questionnaire data pointed up the following reasons (ranked from high to low frequency): previous rejection; condition not recognised as malnutrition; no belief in the CTC programme; relapsed; distance to sites; carer busy; carer sick; childcare obligations at home; not aware of the existence of the CTC programme; shame; and other reasons.

In terms of modality (see Table 4), the analysis yielded the following data: previous rejection; condition not recognised as malnutrition; carer sick; not aware of the existence of the CTC programme; distance to sites; no belief in the CTC programme; carer busy; relapsed; other reasons; childcare obligations at home; and shame.

Table 5 Reasons for non-attendance in socio-cultural assessments

Reasons for non-attendance	CTC South Wollo (2003)	CTC Awassa (2005)	CTC West Hararghe (2004)	CTC Konzo (2006)	CTC Wag Hamra (2004)	CTC Lanfaro (2005)	CTC Boricha (2006)	CTC West Darfur (2005)	CTC Bahre-el-Ghazal (2005)	CTC Ituri (2006)	CTC Maradi (2005)	CTC Mangochi (2005)	Total count
Fear of rejection	●				●	●	●	●	●	●	●	●	9
Distance to sites	●	●	●				●		●				5
Lack of awareness of the programme		●		●				●		●	●		5
Insecurity on route	●							●		●			3
Negative client experience at sites	●					●	●						3
Condition not always recognised as malnutrition				●	●								2
Opportunity costs	●	●											2
Husband's refusal	●	●											2
Palatability of food	●												1
Shame			●										1
Elderly-headed household			●										1
No one to care for other children at home			●										1
Fear of cross-infection at the sites	●												1
Harvest obligations									●				1

● Number of socio-cultural assessments reporting particular reasons for non-attendance.

Qualitative results

The following reasons (see Table 5) were identified in the analysis of the socio-cultural assessments (ranked by number of assessments in which they were mentioned): fear of rejection; distance to sites; lack of awareness of the programme; insecurity on route; negative client experience at sites; condition not always recognised as malnutrition; opportunity costs; husband's refusal; palatability of food; shame; elderly-headed household; no one to care for other children at home; fear of cross-infection at the sites; and harvest obligations.

Qualitative and quantitative results

Table 6 shows the concordance and discordance between the two methods. The numbers in the cells of the table represent the number of programmes in which a barrier was identified.

Table 6 Quantitative versus qualitative concordance

Reasons for non-attendance	Socio-cultural assessments (alone)	CSAS (alone)	Both methods	Total
Fear of rejection	2	3	7	12
Distance to sites	2	8	3	13
Not aware of the existence of the CTC programme	2	3	2	7
Carer busy	1	8	2	11
No belief in the CTC programme	–	6	1	7
Insecurity on route	2	3	1	6
Condition not recognised as malnutrition	2	7	–	9
Carer sick	–	9	–	9
No one to care for other children at home	1	6	–	7
Shame	1	3	–	4
Relapsed (cured before)	–	4	–	4
Negative client experience at sites	3	–	–	3
Husband's refusal	1	2	–	3
Carer absent	–	3	–	3
Elderly headed household	1	–	–	1
Palatability of food	1	–	–	1
Fear of cross-infection at the sites	1	–	–	1
Harvest obligations	1	–	–	1

Discussion

The results show a concordance between both methods on a number of issues. In particular, the analysis points to rejection as the single most significant factor identified across all surveys and assessments, with other issues such as distance to sites and awareness of the programme following closely behind.

Rejection: managing expectations and minimising 'negative feedback'

Previous rejection from the programme was identified as a reason for non-attendance by CSAS survey questionnaires in 10 of the 12 programmes surveyed. Socio-cultural assessments also identified rejection as a reason for non-attendance in seven of the 12 programmes. In terms of frequency, rejection was found to be responsible for anything between 13.8 per cent (Ituri, DRC) and 57 per cent of cases of non-attendance (Wag Hamra, Ethiopia). On average, previous rejection accounted for 38.5 per cent of cases of non-attendance—slightly more than one in every three children not enrolled in the programmes. While these were the result of direct prior experience of the programme, rejection was found also to have indirect consequences for attendance. Rejection of a 'known child' (in the family or community, for example) was found to contribute to non-attendance in four of the 12 programmes surveyed. Its significance was less pronounced than direct rejection, but, on average, 'rejection of a known child decreased' was found to be responsible for 4.8 per cent of cases of non-attendance.

The impact of rejection on programme coverage suggests that the initial experience of caretakers during screening (on site or at community level) is crucial. CTC programmes usually identify cases through the use of volunteer case-finders who screen and refer children in their home communities. Staff members at programme sites then normally confirm the volunteers' measurements before admission. The discrepancies that sometime result frequently create misunderstandings. The use of different anthropometric standards for screening and admission was a major cause of these discrepancies. Children who are rejected at programme sites following referral from the community often do not return for subsequent screening or admission—even when their condition has deteriorated or they have been referred again.

The data collected through socio-cultural investigations suggest that this confusion is caused in two ways. First, if mishandled by volunteers, the initial referral may be understood as an entitlement, leading to resentment if the child later fails to meet admission criteria. Second, programme staff, who often work in crowded, difficult conditions, sometimes fail to explain the significance of the measurements or the meaning of rejection, and may neglect to inform caretakers that they are entitled to bring the child for future screening. This has the potential to affect participation in the CTC programme on a wide front, with caretakers refusing to revisit the sites even when prompted by outreach workers, and new households losing interest due to screenings that have ended in disappointment for their neighbours. Although a degree of 'negative feedback' may be unavoidable, standardising referral and admission criteria, and engaging in continuing and open dialogue with the community, can minimise the harmful effects of rejection.

The standardisation of referral and admission criteria through the use of a single uniform method that ensures that all of those referred are admitted to the programme is an essential step towards reducing the negative feedback associated with rejected referrals. Based on a growing body of evidence (see Briend et al., 1989; Brambilla et al., 2000; Myatt, Khara and Collins, 2006) supporting Middle-Upper Arm Circumference (MUAC) as a reliable indicator for the assessment of acute malnutrition, recent CTC programmes have used MUAC assessment for both referral and admission. Although the impact of MUAC-only admissions is yet to be assessed formally, there is a strong perception among programme workers that the employment of MUAC has reduced the rates of rejection.

With any anthropological assessment, measurement errors cannot be wholly eliminated, however, and self-referrals will continue at CTC service sites. With 'negative feedback' likely to persist, as a low-level problem, service providers need to remain committed to transparency and clarity in communicating admission criteria to attendees. Those responsible for explaining the reasons behind the rejection of a child, often work in over-crowded conditions, which may negatively affect the quality of the information given. Supervision on-site to maintain quality is essential in this process.

Awareness: 'creating' the demand for CTC services

The results of the study also identify awareness of the programme, and the conditions that it treats, as a main determinant of coverage. The data show that effective sensitisation leads to increased programme uptake; conversely, where programmes have failed to communicate adequately the conditions to be treated and the services available, coverage has faltered. On average, lack of awareness of the existence of the CTC programme is responsible for 6.7 per cent of non-enrolled cases. Misinformation and confusion also play a part; in areas with a high concentration of NGOs and humanitarian programmes (such as West Darfur), for example, confusion about the different operating programmes can influence programme coverage negatively. Although the CTC programme in West Darfur achieved high overall coverage (75 per cent), almost one-half of those not covered by the programme (43 per cent) were unaware of its existence or purpose.

High programme uptake depends on the degree of awareness of malnutrition as a condition that can be treated successfully, and the availability of treatment at low cost to the beneficiary household. The study found that, on average, 18.8 per cent of malnourished children not in the programme had not been identified as malnourished by their primary caretakers. CTC programmes have traditionally addressed this 'recognition gap' through community sensitisation. Community sensitisation in CTC programmes uses data from socio-cultural assessments to develop clear messages for the target population. These messages use local disease nomenclature and draw attention to the visible characteristics of eligible children (such as swollen legs and feet, 'baggy-trousers skin' and visible wasting of the limbs). Community sensitisation also uses local channels of communication to disseminate these messages and inform communities about the nature of CTC services, the location of sites and admission

procedures. Increasing both awareness and programme coverage requires that CTC implementers devote appropriate time and resources to the planning and implementation of sensitisation activities.

Distance: tactical versus pragmatic selection of programme sites

Distance to sites was found to be the primary barrier to access for 10.8 per cent of severely malnourished cases not enrolled in CTC programmes. Addressing this issue requires careful selection of programme sites. Optimal site selection involves ordering the geographical spread of sites in such a manner that it maximises access for the largest number of people, while remaining logistically viable for programme implementers. The site selection process should make use of socio-cultural assessments for the identification of local variables that define accessibility in its broadest sense (Penchansky and Thomas, 1981). Such variables can include the appropriateness of the existing health infrastructure, the 'hidden costs' of travelling, security and perceptions of acceptable distance.

Integrated CTC interventions often aim to support existing primary health care systems. Yet, such structures may not always be accessible to all groups in the community. For the nomadic populations of the Somali region of Ethiopia, for instance, fixed health structures were found to be unsuitable even in times of food insecurity. Socio-cultural assessments helped to pinpoint locations without any physical infrastructure but with a strong socio-economic significance (including sites traditionally used for food distribution during periods of food insecurity). The appropriateness of fixed (formal health) structures can be equally relevant for sedentary populations. For example, CTC programmes serving local populations and internally displaced persons (IDPs) in Darfur encountered significant problems when local health structures were selected as distribution points, as these were not equally accessible to both groups. Socio-cultural analysis determined that the creation of parallel services would be needed to ensure attendance by both sections of the population.

Security also plays a role in local perceptions of distance, as a factor that can facilitate or hinder access to the programme. Therefore, prior to selecting programme sites, discussions about free movement need to take place. In the South Wollo CTC programme, for instance, caretakers and community leaders highlighted during a socio-cultural assessment the issue of security when travelling to and from the sites. Further dialogue with these groups allowed the CTC programme to ascertain local solutions to the problem, such as travelling in groups or whenever possible, being in the company of husbands or other men from home communities.

Identification of the 'hidden costs' of travelling is another important element of ensuring the optimal selection of sites. Transport costs, for example, are notable variables that influence people's perceptions of distance not only in urban settings but also in more rural contexts. Socio-cultural assessments conducted in the CTC programme in Bahr-El-Ghazal, South Sudan (where distance was the single most important reason for non-attendance), identified the costs of river crossing as a barrier to access, and as a contributing factor to the perception of sites being distant. Dialogue with

community leaders and arrangements with local boat owners to provide services free of charge on distribution days ensured that beneficiaries did not have to bear an economic burden resulting from the initial selection of site locations.

There is no universal definition of acceptable distance, and perceptions of acceptable distance vary from community to community. In South Wollo (Ethiopia), caretakers often travelled for upwards of 12 hours on return trips to the distributions sites. By comparison, caretakers in CTC programmes in Aceh Province (Indonesia) considered much shorter treks of around 30 minutes to be too demanding. Locally acceptable variations can only be identified through dialogue with the beneficiary community—making joint planning an essential step in determining the optimal location of programme sites.

Concordance and discordance in barrier identification

Concordance between CSAS survey questionnaires and socio-cultural assessments is a reflection of the importance of rejection, awareness and distance as generally significant barriers to access to CTC programmes. Yet, the results of the socio-cultural assessments and the CSAS surveys also highlighted different barriers to access within the same programmes. One can attribute this, in part, to differences in the data sources for each method. CSAS survey questionnaires rely exclusively on carers of non-covered cases as informants while socio-cultural assessments use a much wider range of informants, and work less to achieve the specific inclusion of carers of non-covered cases.

CSAS survey questionnaires and socio-cultural assessments have different roles, at different stages of CTC programme implementation. Socio-cultural assessments serve to distinguish potential barriers that can be addressed before they affect programme coverage. CSAS survey questionnaires, meanwhile, discern barriers that have developed since operationalisation of the programme. The difference in each method means not only that they can determine barriers at different levels, but also that the timing of their use is essential to maximise the practical value of their results. Socio-cultural assessments are thus an important tool to be employed in the implementation phase of CTC programmes, and CSAS surveys (and their questionnaires) are a crucial instrument to be used later in the programme cycle. Inappropriate timing or failure to use the results provided by each method can have lasting negative consequences for CTC programmes. In this study, some of the barriers identified early through socio-cultural assessments (such as distance) were also flagged as established barriers by subsequent CSAS survey questionnaires. This suggests that programmes may have initially undervalued and/or underutilised information provided by socio-cultural assessments on potential barriers to access.

The effectiveness of the CSAS survey (questionnaire) and socio-cultural assessment techniques in improving CTC programme coverage requires a commitment on the part of practitioners to use the information provided. Yet, it also requires that the data be clearly presented, and that surveyors supply guidance on the practical application of the findings. To increase awareness of the programme, for example,

socio-cultural assessments have traditionally focused on developing methods for community sensitisation based on local nomenclature for malnutrition. Understanding local aetiologies also has been a fundamental part of this process. In developing context-specific case definitions for the programmes, however, socio-cultural assessments have focused on malnutrition (that is, wasting and oedema) itself over other illnesses that are locally associated with malnutrition. There is evidence to suggest that broadening case definitions to encompass illnesses locally linked to malnutrition will result in an increase in programme uptake. In the Niger CTC programme, for instance, CSAS survey questionnaires discovered more cases by using the term '*tamoa*' (chronic dehydrating diarrhoea with anorexia and fever) than by using the term '*kwamasu*' (wasting). Socio-cultural assessments, therefore, may need to pay more attention to documenting locally understood aetiologies of malnutrition, and offer concrete steps for the integration of this information into sensitisation messages and strategies. Only then can this result in a positive increase in programme coverage.

Conclusion

Ensuring optimal programme coverage in CTC programmes depends on the ability of programme implementers to increase access to their programmes. Identifying potential barriers to access, and addressing them in a timely manner, is an essential part of this process. The results of this study show how previous rejection, distance to sites and awareness of the programme are commonly associated with failure to achieve high coverage. The study found that these three issues combined are responsible for almost 75 per cent of cases of non-attendance. All CTC programmes must address these issues proactively and rigorously.

The study also demonstrates that socio-cultural assessments and CSAS survey questionnaires are useful, complementary tools for distinguishing barriers to access. Each method, given its data sources and the scope of its results, offers insights for CTC programme implementers. Their relative strengths depend largely on the timing of their use. Socio-cultural assessments are capable of spotting early, potential barriers to access, and hence should be conducted in the early phases of programme implementation. The strength of CSAS survey questionnaires, meanwhile, lies in their ability to identify barriers that have developed since the start of the programme, and that negatively affect programme coverage. Consequently, CSAS surveys need to occur later in the programme cycle, but with enough time to transform the results of the survey (and the questionnaire) into concrete steps to overcome these barriers.

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