Something for everyone: three perspectives from a recent coverage assessment in Pakistan

Summary of review[1]

Lady Health Worker and her husband (teacher) working as volunteers

S Guerrero/ACF, Pakistan, 2013

Interview by Saul Guerrero, ACF

Action Against Hunger, in collaboration with the Coverage Monitoring Network (CMN) Project, UNICEF Pakistan and the Nutrition Cluster and its partners, recently carried out a coverage assessment in one of its supported CMAM programmes in Sindh Province, Pakistan. The assessment, supported by Mark Myatt (independent consultant), served to provide on-the-job training on the SQUEAC method to a mixed group of non-governmental organisation (NGO) and UN staff. But what was the experience of doing a coverage assessment like for ACF staff at programme, country and HQ level? We asked them how their view of the programme has changed since the assessment and which parts of the process they would like to see integrated into their way of working.

	How has the SQUEAC changed the way you now look at the programme?	**Which part of the process are you most interested in seeing continue routinely?**
 **Shahid Fazal,** ACF Nutrition Coordinator, Pakistan	This new methodology has changed our way of thinking and has proven that evaluation of nutrition programmes can be done on a routine basis along with timely reforms. We get a clear insight into the barriers and can recognise the actual contribution of specific 'boosters'[1]. It is like turning the stone upside down and going deeper into programme planning and implementation modalities.	The tally sheets give a wonderful glance at the trends of quality indicators such as mid-upper arm circumference (MUAC) on admission, travel times, admissions and exits over time. Incorporating some of these indicators (along with the more common Length Of Stay and Average Weight Gain) will give us a qualitative image of the programme on a weekly/monthly basis.
 **Chris Golden,** ACF Deputy Country Director, Pakistan	The SQUEAC methodology, and Mark [Myatt] as a presenter, makes a persuasive case to reconsider our existing assessments and gives a new appraisal of what they teach us, but also what they don't reveal due to their structure and often limited focus. I would say this process has definitely opened the eyes of many of the people who participated in it.	The process provided the teams not only with training on the methodology of SQUEAC but also with good advice on implementing thorough assessments that will produce robust results.
 **Cecile Basquin,** ACF Nutrition Advisor, USA	Prior to the SQUEAC investigation in T.M. Khan district, it was difficult to evaluate how efficient our community mobilisation approach was. Now we know that the work of Community Volunteers is acting as an important booster to access. This SQUEAC exercise allowed us to identify what works and therefore gave us confidence we can replicate the approach. Very impor- tantly, we also learned about pro- gramme areas that need to be stren- gthened or improved, and resulted in programmatic recommendations and concrete actions points.	The SQUEAC analysis has led the team to have a more critical view on their work and now they have a different way of looking at routine CMAM data. The reflection that was done while building the hypothesis about coverage (Stage 1) is definitely something that should be done on a more regular basis and with all team members. Doing this 'brainstorming' continuously with the key determinants of coverage in mind and having this critical way of thinking regularly, is likely to contribute to increased quality and coverage, so we can only encourage it.

[1] See field article in this issue 'Boosters, Barriers, Questions: an approach to organising and analysing SQUEAC data'.

Why coverage is important: efficacy, effectiveness, coverage, and the impact of CMAM interventions

By Mark Myatt and Saul Guerrero

Mark Myatt is a consultant epidemiologist. His areas of expertise include surveillance of communicable diseases, epidemiology of communicable diseases, nutritional epidemiology, spatial epidemiology, and survey design. He is currently based in the UK.

Saul Guerrero is the Head of Technical Development at Action Against Hunger (ACF-UK). Prior to joining ACF, he worked for Valid International Ltd. in the research, development and roll-out of CTC/CMAM. He has worked in over 20 countries in Africa and Asia.

Introduction

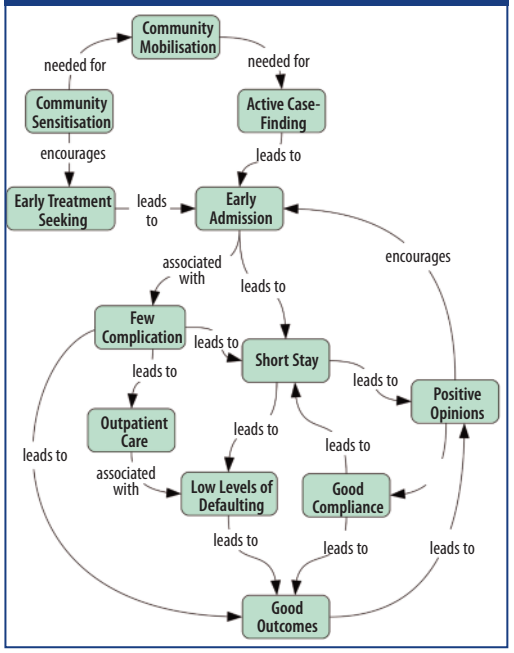
Community-based Management of Acute Malnutrition (CMAM) has reached a crucial point in its evolution. What began as a pilot study just over a decade ago, is now a cornerstone of nutrition policy in over sixty countries. In 2011, for example, CMAM interventions in these countries treated almost two million severely wasted children. As the scale-up of CMAM services continues, it must provide the level of quality that proved so decisive in CTC / CMAM displacing the previous centres-based inpatient treatment paradigm. How should the quality of CMAM services be defined? The importance of coverage has been highlighted but the rationale behind the importance attributed to coverage is seldom explained. This article describes the importance of coverage and the reasons why it should be used to assess the quality of CMAM services.

Efficacy

The *efficacy* of the CMAM treatment protocol can be defined as how well the CMAM treatment protocol works in ideal and controlled settings. Efficacy is measured by the *cure rate:*

$$Cure\ Rate\ (\%) = \frac{Number\ Cured}{Number\ Treated}\ x\ 100$$

Figure 1: Relations between factors influencing coverage and effectiveness



This is usually estimated in a clinical trial or by observing the cure rate in the set of least severe cases admitted to a CMAM programme and following the CMAM treatment protocol precisely.

The cure rate of the CMAM treatment protocol is close to 100% in *uncomplicated incident cases*.

Examples of uncomplicated incident cases are:

- Children with MUAC between 110 mm and 114 mm and without medical complications.
- Children with mild nutritional oedema and without medical complications.

The cure rate associated with the CMAM treatment protocol has changed little since it was first proposed. For example, the *per-protocol* cure rate observed for uncomplicated cases in an early CTC programme in Ethiopia was approximately 94%[1].

Effectiveness

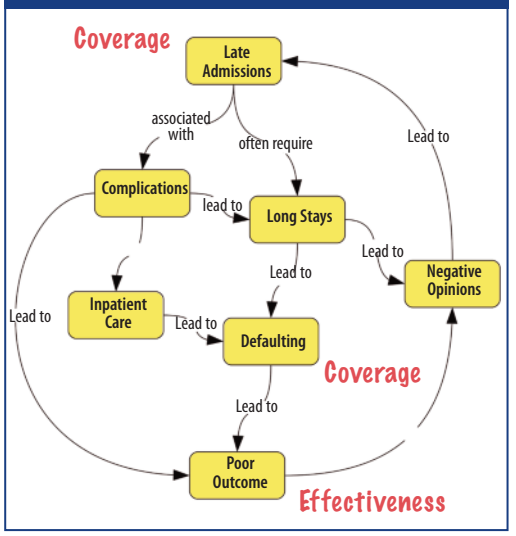
There is little room for large improvements in the efficacy of the CMAM treatment protocol. We cannot significantly change the efficacy of the CMAM treatment protocol but we can change the effectiveness of the CMAM treatment protocol. The *effectiveness* of the CMAM treatment protocol can be defined as the cure rate observed in an entire beneficiary cohort under programme conditions.

Effectiveness depends, to a large extent, on:

Severity of disease: Early treatment seeking and timely case-finding and recruitment of cases will result in a beneficiary cohort in which the majority of cases are uncomplicated incident cases. The cure rate of the CMAM treatment protocol in such a cohort is close to 100%. Late treatment seeking and weak case-finding and recruitment will result in a cohort of more severe and more complicated cases. The cure rate in such a cohort may be much lower than 100%.

Compliance: Programmes in which the beneficiary and the provider adhere strictly to the CMAM treatment protocol have a better cure rate than programmes in which adherence to the CMAM treatment protocol treatment is compromised. Poor compliance can be a problem with the beneficiary (e.g. selling RUTF or sharing RUTF within the household) or a problem with the provider (e.g. RUTF and drug stock-outs) and both have a negative impact on effectiveness.

Figure 2: A vicious coverage-effectiveness cycle



Defaulting: A defaulter is a beneficiary who was admitted to a programme but who left the programme without being formally discharged. Defaulting early in the treatment episode is the ultimate in poor compliance.

An effective programme must, therefore, have:

Thorough case-finding and early treatment seeking: This ensures that the beneficiary cohort consists mainly of uncomplicated incident cases that can be cured quickly and cheaply using the CMAM treatment protocol.

A high level of compliance by both the beneficiary and the provider: This ensures that the beneficiary receives a treatment of proven efficacy.

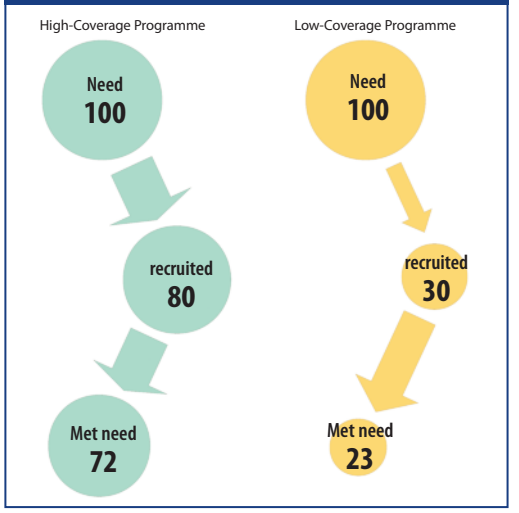
Good retention from admission to cure (i.e. little or no defaulting): This also ensures that the beneficiary receives a treatment of proven efficacy.

Impact and coverage

Meeting need (also known as impact) requires both high effectiveness and high coverage:

Impact = Effectiveness x Coverage

Figure 3: Effect of coverage on met need (impact) in two programmes



Coverage can be expressed as:

$$\text{Programme Coverage (\%)} = \frac{\text{Number in the programme}}{\text{Number who should be in the programme}} \times 100$$

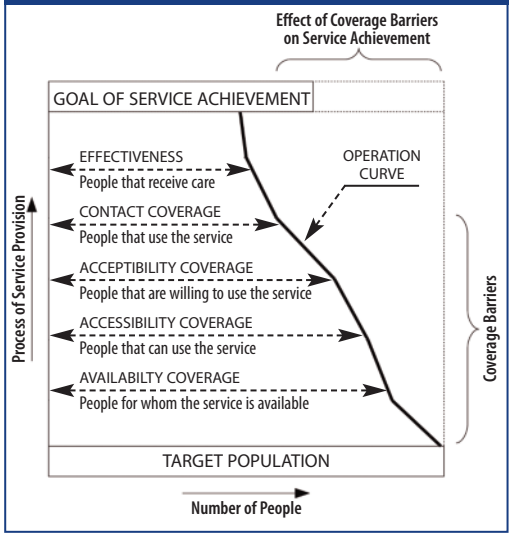
Coverage depends directly on:

Thorough case-finding and early treatment seeking: A case that is not admitted into the programme is a non-covered case. Late admissions are coverage failures because they will have been non-covered cases for a considerable period of time before admission.

Good retention from admission to cure: This is the absence of defaulting. Defaulters are children that have been admitted to the programme but leave the programme without being formally discharged, without being transferred

[1] The data for this result are taken from Table 3 (page 14) of: Collins S, Community-based therapeutic care. A new paradigm for selective feeding in nutritional crises, HPN, London, Volume 48, November 2004 which shows 440 cases discharged as cured with five deaths in cases admitted without complications or prior hospitalisation. Half of the 49 cases reported as non-recovered after four months in OTP were assumed to be uncomplicated cases. Transfers to hospital or stabilisation centre (93 cases) were classified as complicated cases. This is a per-protocol analysis and excludes defaulters (57 cases). It should be noted that this programme admitted children with MUAC < 110 mm.

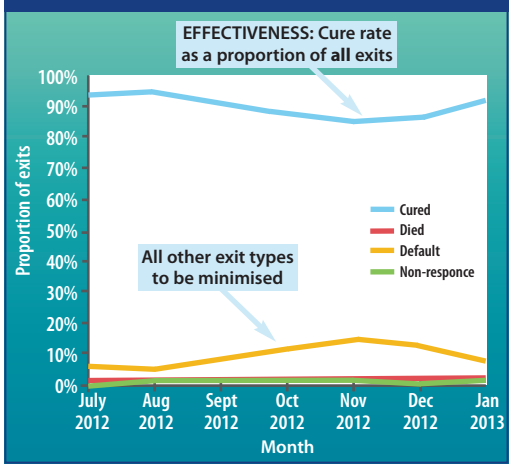
Figure 4: Tanahashi coverage diagram illustrating the effect of different types coverage barrier on service achievement/met need/impact



In the Tanahashi model of coverage, impact (SERVICE ACHIEVEMENT) is:

SERVICEACHIEVMENT = CONTACTCOVERAGE X EFFECTIVEENESS

Figure 5: Estimating effectiveness from programme exit data



Effectiveness at end of January 2013 was estimated to be 92%.
Coverage at end of January was estimated (using SQUEAC) to be 63%.
Impact can be estimated as:

Impact = Effectiveness x Coverage = 92% x 63% = 58%

Data courtesy of ACF (Pakistan)

to another service, or without having died. Defaulters are, therefore, children that should be in the programme but are not in the programme. This means that high defaulting rates are associated with low programme coverage.

Coverage also depends indirectly on:

Thorough case-finding and early treatment seeking: This ensures that the majority of admissions are uncomplicated incident cases, which leads to good outcomes *(Figure 1)*. Late admission is associated with the need for inpatient care, longer treatment, defaulting, and poor treatment outcomes (e.g. non-response after long stays in programme or death). These can lead to poor opinions of the programme circulating in the host population, which may lead to more late presentations and admissions and a cycle of negative feedback may develop *(Figure 2)*.

A high level of compliance by both the beneficiary and the provider: This ensures that the beneficiary receives a treatment of proven efficacy leading to good outcomes and good opinions of the programme *(Figure 1)*.

Good retention from admission to cure (i.e., little or no defaulting): This also ensures that the beneficiary receives a treatment of proven efficacy leading to good outcomes and good opinions of the programme *(Figure 1)*.

Coverage and effectiveness depend on the same things and are linked to each other:

Good coverage supports good effectiveness. Good effectiveness supports good coverage. Maximizing coverage maximises effectiveness and met need.

The implications of:

Impact = Effectiveness x Coverage

are illustrated in *Figure 3* and *Figure 4*. Programmes with low coverage fail to meet need (i.e. have limited impact). Programmes that seek to deliver a high impact can only do so by achieving high levels of coverage.

The key measure of programme quality is impact:

Impact = Effectiveness x Coverage

This means that monitoring and evaluation (M&E) activities in CMAM programmes should concentrate on measuring both effectiveness and coverage. Effectiveness can be measured using a simple *intention to treat* analysis of programme exits *(Figure 5)*. Over the past decade a number of low-resource methods capable of evaluating programme coverage, identifying barriers to service access and uptake, and identifying appropriate actions for improving access and programme coverage have been developed and tested. The Coverage Monitoring Network (CMN) has been established to assist non-governmental organisations (NGOs), United Nations (UN) agencies, and governments use these methods to help maximise the impact of CMAM programmes.

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Reaction to the article on the double burden of obesity and malnutrition in Western Sahara refugees

Dear editors

One of the key challenges that the nutrition community faces in this century is the double burden of nutrition. In many countries, it is found that acute malnutrition continues to pose a public health problem while overnutrition is becoming more and more of a problem as well. The article in the last issue of Field Exchange (No. 44, December 2012) on the study by Grijalva-Eternot et al[1] shows that the problem of co-existence of obesity and malnutrition even appears to be present in a refugee camp setting.

The Sahrawi camps in the desert area in the far south-west of Algeria are one of the most protracted refugee situations worldwide that has existed for over 35 years. International support has always been provided on a 'care and maintenance' basis, with most of the funding going to the food and nutrition sector. As part of a recent consultancy assignment in the Sahrawi refugee camps, I looked into the findings of some key food and nutrition studies in the Sahrawi camps[2].

These studies show that most Sahrawi refugees still depend on food aid, but that there actually is an unusually varied basket of food commodities. There is a full general ration distribution (2100 kcal p.p.p.d), complementary year-round distribution of rations of green tea and dried yeast, and a separate distribution system for fresh vegetables. An additional programme exists for provision of fresh foods during Ramadan. This is complemented by programmes for treatment of severe acute malnutrition (SAM), treatment of moderate acute malnutrition (MAM), supplementary feeding for pregnant/lactating women, targeted supplementary feeding for selected elderly and handicapped, distribution of NutriButter/micronutrient powder (MNP) in relation to the 1,000 days approach, and a school feeding prog-ramme.

It was shown in the studies mentioned above that the core of the diet is coming from food aid and the complementary nutrition programmes. The package is well-balanced in terms of nutrients. It is noteworthy that dietary diversity was rated to be sufficient. To some extent, this is because most refugees have access to additional food on top of what is provided through the aid agencies. This is through engagement in livestock keeping, bartering of food aid for other items, buying food in shops and on the market (using income from remittances and through daily labour), produce from small family gardens, and through sharing and other forms of social solidarity among relatives and neighbours.

In this situation, the ultimate solution to the problem of the double burden of malnutrition boils down to behavioural changes. The solution for addressing malnutrition among children lies in concerted intensive education campaigns on appropriate infant and young child feeding practices. Similarly, the problem of obesity and anaemia among women will have to be addressed through spreading information about what constitutes a healthy diet. Evidently, at some point in time, the Sahrawi will need to abandon their long-held tradition of fattening of women during periods of ritual overfeeding, reduce their excessive consumption of sugar, and find ways to build in low-intensity exercise in their daily life, even in a camp setting. However, as experience from elsewhere in the world shows, changing dietary and health practices is a difficult and long-term process that usually does not show quick results. In the meantime it will be necessary to continue the distribution of fortified food with various forms of micronutrient supplementation in the Sahrawi camps. Also, community based management of acute malnutrition (CMAM) is a service still required for treatment. I am not sure that we have an appropriate 'quick fix' in our nutrition toolkit for reducing obesity in non-Western settings?

Regards
Annemarie Hoogendoorn

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[1] Grijalva-Eternod CS, JCK Wells, M Cortina-Borja et al (2012). The Double Burden of Obesity and Malnutrition in a Protracted Emergency Setting: A Cross-Sectional Study of Western Sahara Refugees, PLoS Med 9(10): e1001320. doi:10.1371/journal.pmed.1001320.

[2] DARA (2009). Evaluation of the DG ECHO assistance to the Sahrawi camps 2006-2008, http://ec.europa.eu/echo/files/evaluation/2009/Algeria_Final%20report_ESRC.pdf
WFP/UNHCR/ENN (2011). Nutrition Survey Western Sahara Refugee Camps, Tindouf, Algeria, Survey conducted October-November 2010, report finalized April 2011.
UNHCR/WFP (2012). JAM Algeria, Joint needs assessment of Sahrawi refugees in Algeria, 4-11 October 2011 http://documents.wfp.org/stellent/groups/public/documents/ena/wfp249728.pdf