



Technical Meeting on Nutrition, Oxford, October 2014

Day 3, Parallel Sessions on Acute Malnutrition: Presentation summaries

Session 1: MUAC/ WHZ for programming

S1.P1 Experience with MUAC-only (and oedema) programming, *Saskia van der Kam, MSF (on behalf of Kevin Phelan (MSF International))*

Recently, the World Health Organization released *Updates on the Management of Severe Acute Malnutrition in Infants and Children* recommending that “[T]he anthropometric indicator that is used to confirm severe acute malnutrition should also be used to assess whether a child has reached nutritional recovery.”¹ Middle Upper Arm Circumference (MUAC) has been shown to be a better predictor of mortality than WHZ <-3 or WHZ <-3 combined with MUAC, with an inherent age bias that targets younger children who are at higher risk of death.²

For the past several years, MSF has explored ways to simplify the diagnosis and management of uncomplicated acute malnutrition treatment according to context via use of MUAC as the sole anthropometric criteria for admission into and discharge from treatment programs. (Bi-lateral pitting oedema is an independent criterion for admission regardless of anthropometry.) In order to increase inclusion of children who benefit from therapeutic feeding before developing life-threatening complications and to avoid the potential exclusion of children with MUAC > 115 mm but WHZ <-3, MSF has broadened the MUAC admission threshold, in some cases to <125 mm.

This presentation will provide an overview of some lessons learned and questions raised by MSF’s experiences in implementing MUAC-based programming in northern Mali (2012), Yida (2012) and Kodock (2014), South Sudan, Bokoro, Chad (2014), Burkina Faso (2009-2011) and Bihar, India (2009-2011).

These experiences suggest it is feasible to use MUAC as both an admission and discharge criterion, and that such programming can facilitate better coverage and earlier detection of cases. It was easier implement and to train community health workers on using MUAC, relieving limited health structures and personnel of additional pressures particularly in situations with severe access

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http://www.who.int/nutrition/publications/guidelines/updates_management_SAM_infantandchildren/en/index.html

² Briend A, Maire B, Fontaine O, Garenne M. [Mid-upper arm circumference and weight-for-height to identify high-risk malnourished under-five children](#). *Matern Child Nutr.* 2012 Jan;8(1):130-3. doi: 10.1111/j.1740-8709.2011.00340.x. Epub 2011 Sep 28

constraints for aid workers and caretakers alike, high food insecurity, and limited qualified staff dealing with multiple health priorities.

Use of MUAC as the single anthropometric criteria for admission and discharge requires discussion about benefits, risks and costs, and the various implications for different stakeholders. Further research is needed, especially on the question of appropriate MUAC thresholds according to context and available resources.

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S1.P2 Is admission to Ambulatory Feeding Centres (ATFCs) using only Mid-Upper-Arm-Circumference (MUAC) measurements an alternative in Chad and/or South Sudan? *Saskia van der Kam (MSF)*

Authors: S. van der Kam (MSF Holland), A. Lenglet (MSF Holland), C. Mach (MSF Chad)

Background

In South Sudan MSF-OCA uses the standard admission criteria to the Therapeutic-Feeding-Programme (TFP) of Weight-for-Height < -3 Z-scores (WHZ-WHO), and/or Mid-Upper-Arm-Circumference (MUAC)<115mm and/or oedema. The appropriateness of using WHZ-WHO standard for South Sudanese is questioned, as this population group has a different body shape and also health workers report that WHZ includes a considerable number of visually healthy children.

In Chad, MSF-OCA uses <-3 Weight-for-Height-z-scores for West Africa (UNISEX). The UNISEX WHZ standard is adapted from WHZ-WHO which is gender neutral, and/or MUAC<115mm and/or oedema for diagnosis. The WHZ-WHO had different standards for each gender, which inspired the construction of a gender neutral WHZ standard. However, the programmatic results of this standard are unknown.

The alternative criterion, MUAC, is independent of gender, relatively independent of age and body shape, easy to implement and more likely to identify children at risk of death. We analysed whether a MUAC admission criterion could be used alone and what cut-off point would be most appropriate for TFP admission, using data from 2012 in an Ambulatory-Therapeutic-Feeding-Centres (ATFC's) in Chad and South Sudan

Methods

Patient admissions from the ATFC's in Abou Deia (Chad) and Bentiu (South Sudan) for this year were analysed. Deaths were recorded through outreach workers. We calculated WHO WHZ (gender specific) and UNISEX (Chad only) values for each patient. Demographic and anthropometric characteristics were calculated for each admission category upon admission/exit and compared. Proportions by outcome and by admission criteria were calculated and compared, excluding cases that did not meet one of the two admission criteria.

Results

Chad: We included 1,286 patient records; 7.8% were admitted on MUAC<115 only, 57.5% on UNISEX only and 34.6% on both. Admission on MUAC only would capture 42.5% of the total of UNISEX+MUAC<115 and 49.1% of the total of WHZ+MUAC<115 and capture 5 deaths (55.6%). A MUAC cut-off of <121mm captured all deaths and 80% of the total case load for UNISEX and 83.7% for WHZ. Admission on UNISEX criteria resulted in a 30% increase in the ATFC case load compared to admission on WHOWHZ criteria alone. The proportion of girls admitted increased from 37% for WHOWHZ to 55% for UNISEX and 55% for MUAC115. No significant differences in outcomes of children admitted for WHOWHZ and UNISEX were identified.

South Sudan: We included 2,744 patient records; 3.1% were admitted on MUAC<115 only, 74.9% on WHZ-WHO only and 22.2% on both. Admission on MUAC<115 only included 25.8% of the current overall case load and capture 1 death (50%). A MUAC cut-off of <121mm captured 53.2% of the total case load and 1 death (50%). A MUAC cut-off of <125mm captured 81.1% of the total case load and 1 death (50%). The proportion of girls admitted increased from 37% for all WHZ to 52.8% for MUAC115.

The outcome indicators were slightly worse for MUAC, but improved by increasing the admission criteria.

Conclusion

Although gender neutral, the UNISEX criteria used in Chad increased the patient load by 30% compared to WHZ-WHO. The MUAC cut off of 115mm captures only between 25% and 50% of the WHZ and MUAC criteria combined. The MUAC cut-off of 121mm in the Chad ATFCs and MUAC <125 in South Sudan is the most appropriate MUAC criterion as it encompasses the majority of current admissions.

In Chad and South Sudan, admission on MUAC-only targets malnutrition in female patients better than WHOWHZ admission criteria.

MUAC seems an appropriate criterion if a flexible cut off point is applied. The outcomes of the "excluded" WHZ groups should be monitored and investigated.

S1.P3 Safety of MUAC discharge, Paul Binns (Valid International)

A critical limitation with the discharge of children from the outpatient treatment of Severe Acute Malnutrition (SAM) using a proportional weight gain criterion, is that children who are most severely malnourished receive shorter treatment compared to less severely malnourished children. Studies have shown that using a discharge criterion of MUAC \geq 125 mm eliminates this problem but concerns remain over the safety and the duration of treatment when using MUAC as a discharge criterion. This study assessed the safety and practicability of using MUAC \geq 125 mm as a discharge criterion for community based management of SAM in children aged between 6 and 59 months.

A standards-based trial was undertaken in health facilities for the outpatient treatment of SAM in Lilongwe District, Malawi. 257 children aged 6 to 59 months were enrolled with uncomplicated SAM (MUAC below 115 mm without nutritional oedema or serious medical complications). Children were

discharged from treatment as cured when they achieved a MUAC of ≥ 125 mm for two consecutive visits. After discharge, children were followed up at home every 2 weeks for 3 months. Results show a MUAC discharge criterion of ≥ 125 mm represents a safe discharge criterion and is associated with acceptably low levels of relapse to SAM (1.9%) and mortality (1.3%). The proportion of children experiencing a negative outcome was 3.2%; significantly below the 10% standard ($p = 0.0013$) established for the study. All children with negative outcomes had achieved weight-for-height z-score (WHZ) above -2 z scores at discharge. Children admitted with lower MUAC had higher proportional weight gains ($p < 0.001$) and longer lengths of stay ($p < 0.0001$).

These results are consistent with MUAC ≥ 125 mm being a safe discharge criterion and that use of a MUAC threshold for discharge eliminates the problem of the most severe cases receiving the least treatment, observed when using proportional weight gain for discharge. These findings inform the current WHO recommendations for this discharge from programmes treating SAM but should be repeated in other contexts.

S1.P4 Preventing malnutrition among children below 2 years in Chad – Non-randomized intervention study comparing seasonal versus perennial distribution of ready-to use supplementary food , *France Broillet (MSF OCG)*

Authors: France Broillet (MSF OCG), Jan Hattendorf (Swiss Tropical and Public Health Institute)

Ethical approval: obtained from the Ministry of Health jointly with the Nutrition & Agriculture Technologies National Committee on 1st February 2012 and from the ethical review board of Médecins Sans Frontières on 12 of February 2012 (No: 1127).

No Conflict of Interest and no funding source external to MSF.

Background and Objective

Preventive strategies including the administration of a ready-to-use supplementary food (RUSF) has shown to reduce mortality and wasting. However, optimal timing and duration of administration in areas with substantial food insecurity remains unclear. MSF investigated the impact of year-round distribution compared to distribution restricted to the hunger gap period on health status of children in Massakori district in Chad.

Methods

In March 2012, we established an open cohort in three health zones in rural Chad. Children received RUSF during a defined period of the year. In two health areas, the RUSF was distributed throughout the year and in one other area, for four months during the hunger gap period. The daily ration provides 247 kcal and all daily recommended micronutrients for young children. All children aged 6 to 24 months were followed. The primary outcome was severe malnutrition incidence defined as MUAC < 115 and/or oedema (MUAC-SAM). Similarly MUAC-GAM was defined as MUAC < 125 and/or oedema. All statistical analyses were adjusted for correlation within villages.

For ethical reasons, the study did not include a no-intervention control group. However, a cross sectional survey was carried out in September 2012 in villages surrounding the intervention zones to estimate the impact of RUSF vs no nutritional supplement. Villages outside the intervention area were identified via propensity score matching and children were pair matched on height, to limit confounding and to account for differences in the age structure.

Children's caretakers received once a year a voucher booklet for monthly rations of RUSF distributed at focal distribution points. Compliance to the intervention was assessed by comparing the proportion of RUSF vouchers exchanged.

Any child found during the monthly assessment with a MUAC < 115 mm, oedema or a medical problem was referred to the nearest health facility.

Results

A total of 1,014 pair matched children in 90 villages were included in the cross sectional survey in September 2012, the last month of the hunger gap period. The prevalence of MUAC-SAM in was 1.2% among children who had received RUSF in the previous months compared to 3.7% in those who had not received RUSF. The adjusted analysis estimated the chance of exhibiting MUAC-SAM to be almost 3 times lower (OR: 2.9, 95% CI: 1.09-7.63). A somewhat smaller but still important impact was observed also for MUAC-GAM (OR: 1.5, 95% CI: 1.01-2.2)

A total of 4,427 children were enrolled in the cohorts during the year. Children characteristics at baseline were comparable except for baseline nutritional status and morbidity; the mean WHZ z-score was -0.81 ± 1.18 in the 12 m RUSF group and -0.69 ± 1.15 in the 4 m RUSF group.

The incidence of severe wasting according to MUAC was 59 per 1000 child years in the zone receiving supplement during the 4 month supplement arm compared to 71 per 1000 child years in the 12 month arm. Adjusted rate ratio of 12 months versus 4 months RUSF provision was 1.55 [95%CI; 1.10-2.18]. Sub-group analysis showed a different RUSF effect in Arab-speaking population (adjusted RR=1.1 [95%CI; 0.47-2.58]) than in Kanembu-speaking population (adjusted RR=1.99 [95%CI; 1.35-2.94]). Death rate in the overall cohort was 27.6 per 1000 child-year [95%CI; 22.3-34.0], there was no difference between the two intervention groups.

There was no observed difference in mortality between intervention groups. Mortality rate was 28.2 [21.6-36.8] in the 12 m RUSF and 26.7 [19.0-37.6] in the 4 m RUSF group.

Compliance remained above 75% until end of the hunger gap period, afterwards, voucher delivery decreased slightly. Children from compliant and non-compliant households did not differ noteworthy in their demographic, socio economic or anthropometric characteristics.

Conclusion

Our study shows that there is a high acceptability and compliance (including equity effectiveness) to RUSF distribution. Propensity scored matching supported by dose response analysis, showed that nutritional intervention which includes RUSF administration along with screening and early curative care of severe wasting has a beneficial effect. Results related to 4 vs 12 m RUSF administration were difficult to interpret since the zones differed in important baseline characteristics or by unobserved

confounders. Final recommendations cannot be made at this moment; however, the impact of RUSF is apparently higher during the hunger gap season.

Session 2: CMAM Reporting/ data management/ evidence generation

S2.P1 Lessons learnt from the review of CMAM practice and outcomes in 12 countries using standardised indicators and the design and implementation of an innovative online information system for the monitoring and reporting of CMAM programmes, *Susan Fuller (SC-UK)*

Background

A 2008 HPN Network Paper¹ outlined the lack of existing tools to support reporting needs for CMAM programmes. 'CMAM report' (previously the 'Minimum Reporting Package') was developed in response to this paper, to improve programme management decisions, accountability and assist learning on the effectiveness of SFP programmes. It has since developed into a comprehensive CMAM monitoring tool through an iterative process, and has been used by 7 NGOs in 15 countries.

Programme details

'CMAM Report' has been developed over a number of years through a consultative process amongst the global nutrition community. In 2009, standardised indicators and reporting categories for SFP were defined by a steering committee of 12 international agencies, and piloted in 4 countries alongside a Microsoft Access based software. In 2011/12, OTP and SC reporting categories were added. The main challenges identified through evaluations of early versions of the software included the focus on NGO implementation, un-user friendly software, lack of field access, lack of capacity for coordination, and the potential for parallel systems. Since April 2013 we have worked under a HIF funded grant in order to review and refine the software component towards a uniquely innovative web-based version of the tool, in order to increase usability and uptake of the reporting package among implementing partners. The new version of the tool will soon be launched. The new version has offline capability, includes new components such as stock trackers, BSFP and screening reporting, and is adapted for implementation at national level rather than being built around NGO programme structures. The project has also included a review component intended to compare CMAM outcomes and performance and assess the implementation of the standardised indicators.

Key findings/experiences

Software development takes time, skill, money and patience. As a sector there is still a great deal of wider learning needed as the use of ICT increases in our programmes. We do not believe there is one solution to improving reporting systems as contexts differ but have learnt that in developing systems flexibility is key.

Data quality remains a problem. Systems, reports and programmes are only as good as the data entered. The process of adopting standardised indicators requires commitment at national level and can be a long process. Looking at the data, CMAM programmes obtained good results but varied widely. Defaulting remains the main outcome of concern but is concentrated in specific programmes/sites. Reporting challenges remain which can translate into underestimation of mortality and readmissions, or overestimation of performance. Standardised indicators would support accurate presentation of CMAM data, allowing managers to respond more effectively to events affecting quality and outcomes, and sites in need of support.

Conclusions and recommendations

'CMAM Report' provides a comprehensive package for standardised monitoring of CMAM in emergency and development contexts, allowing implementers to monitor programmes in real time, compare performance of programmes over time and in different contexts and compare different CMAM approaches. It can act as a ready-made system in acute emergencies or in contexts where no other reporting system exists. The CMAM Report software and guidelines on standardised indicators could act as a means to address issues related to data quality. Where systems do exist or where plans for development are in place, CMAM Report and/or the guidelines on standardised indicators could act as a template reporting system to strengthen national reporting systems. We aim to ensure that CMAM Report is a flexible tool which may take different forms depending on the context whilst still generating comparable and unbiased reporting. The template would allow governments to take ownership of their national reporting system. The software has been adapted and un-branded to reflect this.

S2.P2 Mobile Phones to Improve Treatment, Reporting, Monitoring and Supply Management for Acute Malnutrition, *Melani OLeary (World Vision International)*

At least 52 million children are suffering with acute malnutrition worldwide, making high coverage of effective prevention and treatment programs essential. Community based Management of Acute Malnutrition (CMAM) is an effective approach in the treatment of acute malnutrition. However, the success of CMAM programs can be limited by failure of Health Workers (HWs) to follow standard CMAM protocol and inaccurate record keeping, due to a lack of training support and insufficient supervision of CMAM implementation by district/senior level health personnel. This is further compounded by the challenges faced when children are lost to follow-up during the referral process or in cases when their caregivers default on treatment which decreases the effectiveness of this approach and the resulting health outcomes. Data management presents another challenge as information is often of poor quality and not accessible to decision makers within a reasonable timeframe, making its use for humanitarian response, surveillance and logistics management limited. Lack of timely information has made programs unresponsive to stock-outs and undermines ability to respond effectively when there is an upsurge in acutely malnourished children cases.

World Vision (WV) has expanded its mHealth portfolio in line with the increased global focus on innovation and technology to improve health outcomes. WV has signed a Memorandum of Understanding with the Gates Foundation MOTECH Suite Team to partner in standardizing and scaling up a common mobile health software platform which will facilitate community health programming in developing countries. World Vision is currently sharing this open-source technology infrastructure across 11 implementation countries to support other health related project models. This allows WV's mHealth projects to use a common, yet customizable, field tested mHealth tool. The advantages of a shared solution include minimizing software development, operations, and support costs, as well as sharing source codes, best practices, learning, and other assets to avoid duplication; and ultimately, contributing to improved maternal and child health.

In response to the specific identified needs in CMAM programming, a consortium³ of NGOs has been formed to build on WV's mobile Health (mHealth) work to develop an innovative mHealth solution. As compared to traditional pen and paper processes, mHealth has supported up to a 48% improvement in knowledge retention among HWs and improved data timeliness by 86%. Data completeness has been proven to increase from 67% with paper-based systems to 84% with mHealth, while data latency (time for data collected to reach regional program coordinator in digital format) decreased from 45 days to 8 hours. WV's solution provides HWs with an easy to use case management information resource; provides simple and powerful decision making and patient tracking tools which will enable a full continuum of care. The mHealth application provides a dynamic link between front-line patient treatment data with program performance reporting and stock management to dramatically improve monitoring, evaluation and real time decision making.

The design of the mHealth solution in Niger in May 2014 involved stakeholder meetings with MOH and observation of HW workflow. From this assessment process the prototype system was built based on Niger-specific protocols. Specialized functions to support supplementary feeding and outpatient therapeutic programs were developed to support treatment protocol and track referral and enrolment. To support the integration of Infant and Young Child Feeding, multimedia was integrated for targeted counselling. Within the system, specific conditions are flagged within case management (i.e. weight loss or return from SC) to alert health workers to contact Community Health Workers (CHWs) for home visits. Similarly, for children who do not return to OTP for treatment the following week, an alert is generated for the health worker to follow-up with the CHW to track this child. When the discharge criteria are met for the program components the application will automatically prompt the HW to discharge the child. A list of 10 automatic criteria for referral to SC is built into the application to alert HWs when a child needs to be transferred for inpatient care.

Several field trials were conducted with a small group of HWs to make refinements based on the user experience. Ongoing refinement is still in progress with official launch of the Niger system planned for October. Initial findings indicate that the mHealth application helps HWs in detecting nutritional status and specifically following admission and discharge criteria. The involvement of front-line users in the contextualization process was essential to ensure user acceptability and alignment to the workflow they are familiar with. The use of nationally standardized health indicators will allow the mobile data to seamlessly synch with the National Health Management Information System.

The Niger application specifications and prototype application have been shared with consortium members to agree on the global design of the CMAM mHealth solution. A global prototype application will be built based on the agreed technical specifications and piloted in 4 new countries in 2014/2015.

S2.P3 Nutrition as part of ICCM : Evidence, Challenges and Future Directions of Research & Practice, *Emily Keane (SC-UK), Maureen Gallagher (ACF) and Saul Guerrero (ACF)*

Background

³ Expression of interest from 8 organizations, pilot of application with Save the Children UK and International Medical Corps

According to UNICEF's estimates, over 85% of all severely malnourished children in the world today are not receiving treatment. Many of these children reside in countries where current treatment models (such as CMAM) are not widely available. Yet, in countries where CMAM services are available, rates of access and coverage are often suboptimal, with many sub-national services reaching less than 50% of all cases. Whilst the nature of barriers to access vary according to contexts, many of the challenges faced by SAM treatment services today are inexorably linked to the use of health centres as the primary service delivery points by these services. These challenges are not unique to the treatment of SAM; they have affected the implementation of other public health interventions. But whilst these interventions have adapted their delivery approaches to overcome some of these barriers (implementing the rapidly growing integrated Community Case Management model of care), relatively few attempts to introduce significant changes to the delivery model of the treatment of SAM have been made.

Emerging Evidence/Learning

In order to further explore and discuss the potential linkages between iCCM, CHWs and Malnutrition ACF and Save the Children co-sponsored an informal round-table in May 2014. The meeting brought together a group of organisations⁴ with prior experience in iCCM, CMAM and the delivery of SAM treatment at community-level. The meeting was designed to showcase operational experiences and to outline areas for further collaboration and research. Amongst the lessons learned by programmes integrating nutrition and ICCM are:

- **Coverage of services:** ICCM of SAM can achieve extremely high coverage rates (89% in the Bangladesh example), some of the highest achieved in any integrated programme
- **Quality of Care:** CHWs can deliver a high quality of care for SAM (in the Bangladesh programme 89% of CHWs achieved >90% error-free case management of SAM cases) and adding SAM does not necessarily affect the quality of other services
- **Cost effectiveness:** CCM and SAM can be cost-effective, in the Bangladesh example was comparable to other child survival interventions and had low cost burden to households.
- **Supervision:** CHW supervision is essential
- **Protocols:** CMAM protocols/tools can be simplified in line with simplifications made to IMCI protocols for ICCM
- **Supply chain:** Supply chain is a fundamental aspect of present and future implementation
- **Demand and community participation:** Community satisfaction and participation were due to: CHWs were a familiar, trusted source of information and treatment
- **CHW workload:** CHWs reinforced program awareness, access, compliance
- Integrating SAM into CHWs CCM increased workload, however this increased workload does not necessarily result in poor performance
- **Types of interventions:** Different nutrition interventions will be appropriate in different contexts
- **Integration into the health system:** CHWs need to be supported and integrated into the health system at all levels for successful service delivery
- **Incentives:** Appropriate incentives for CHWs should be considered for this additional workload

⁴ They included Malaria Consortium, International Medical Corps (IMC), International Rescue Committee (IRC), Population Services International (PSI) and World Vision and CMAM Forum.

- **IYCF and feeding of the sick child:** while proper identification and treatment of sick children is increased through ICCM, nutritional counselling, especially optimal feeding during illness and recovery is not adequately emphasized during treatment and follow-up.

Based on experiences to date integrating nutrition into ICCM the group of agencies concluded that:

- Nutrition should be effectively integrated into ICCM
- We know that poor nutrition underlies morbidity and mortality in children under-five.
- We believe that prevention/ treatment of malnutrition as part of ICCM, maximises the outcomes for child health/survival and development.
- We believe that community-based delivery of nutrition and health services is the best way to improve access and coverage of these services
- We acknowledge that integration will require adaptation to the context specific opportunities and challenges.
- We will work towards building and sharing the evidence base for effective service delivery in different contexts and use this to influence policy and practices of stakeholders.

Way Forward

In order to take the agenda forward in terms of integrating nutrition into ICCM we believe that more and better evidence is needed for practitioners and policy makers. The group of agencies, in collaboration with UNICEF and with the support of the Children's Investment Fund Foundation (CIFF) will carry out a desk review between October and December 2014. The review will gather experience on integrating ICCM and nutrition to date in order to inform next steps and future analysis and research. We anticipate that future research will help address some of the following issues and questions:

1. **Literacy:** How do we adapt training/programmes according to literacy levels?
2. **Population Density:** how does it affect results? Design? Implementation? What is the optimal human resource deployment? How do we deliver different elements through different cadres?
3. **Motivation:** How long can we sustain motivation? What are the factors that affect motivation?
4. **Policy Environment:** What is the minimum in terms of policy involvement (or environment?)
5. **Supply management:** what are the options?
6. **Supervision:** What is the optimal level of supervision/ support?
7. **Community Engagement:** How do we foster adequate levels of community participation?
8. **Protocols:** Does CMAM protocols need to be simplified/ aligned with ICCM? What would it look like?
9. **Nutrition Packages:** What bundles of interventions should be delivered and in what order? Which aspects of nutrition (e.g. IYCF, MAM, SAM, micronutrients) are appropriate in each context? How can we promote continuity of care?
10. **Health Systems:** What are the lessons about Health System Strengthening that we can take into ICCM and nutrition?

Discussion Points

- How should we work effectively as ICCM and nutrition communities to generate this kind of evidence?
- How should we work as ICCM and nutrition communities to influence and advocate for work in this area?

S2.P4 Discussion on inter-agency guidance note on expanded admission criteria to AM treatment in emergencies, *Jeanette Bailey (IRC)*

Acute malnutrition is a continuum condition, but severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) are treated separately, with different protocols and therapeutic products supported by different United Nations agencies. Although children with MAM are three times more likely to die than well-nourished children, and MAM is associated with more nutrition-related deaths than SAM, the majority of Community-based Management of Acute Malnutrition (CMAM) programs offer treatment only of SAM due to resource and logistical constraints, especially during emergencies.

Scaling-up both the treatment of SAM and MAM during emergencies is often a challenge due to limited resources and capacities. As a result, implementing partners have frequently adopted alternative and temporary measures to expand their reach to affected populations. In July 2014, a group of agencies working in acute malnutrition, including the International Rescue Committee (IRC), UNICEF, Action Against Hunger (ACF), USAID/Office of Foreign Disaster Assistance (OFDA), Center for Disease Control (CDC), International Medical Corps and Save the Children met in Washington D.C.⁵ to discuss these issues and agreed to draft a guidance note that would summarize agency experiences expanding admissions criteria in the Outpatient Therapeutic Feeding Programs (OTPs) and extending treatment to MAM when Supplementary Feeding Programs (SFPs) were not available. The guidance note was then expanded to multiple scenarios, including when SFP's are available but OTP's are not, as well as providing a temporary option for treating acute malnutrition when there is neither an OTP or SFP yet established (as a gap-filler while CMAM programs are being set-up). The guidance note gives a brief overview of the operational evidence backing the recommendations, and looks at examples from Niger, Pakistan, and South Sudan.

The objective of the guidance note is not to replace national or international protocols, nor does it propose a shift in UN agency mandates. The guidance note provides **temporary** options for treating acute malnutrition in the absence of an SFP and/or OTP, and is meant for **acute crises** only (rapid onset or protracted crisis with a significant unexpected spike in caseload). It is **intentionally flexible** in order to allow for context modifications, and is **resource-dependent**, to be used only when the RUTF pipeline or buffer stock is sufficient. Ultimately, the guidance note provides options for agencies operating in emergencies when 'do something' is better than 'do nothing.'

The options proposed in the guidance note include:

- Admission criteria into the OTP is expanded to <125mm.
- Discharge criteria from the OTP is ≥125mm on two consecutive visits, with a 3 week minimum stay.

⁵ Other agencies, including Medecins Sans Frontieres and World Vision were also consulted, although they could not attend the meeting in person.

- Children <115mm are treated with 2 RUTF sachets/day, and children 115-<125mm are treated with 1 RUTF sachet/day.
- Admissions can also be based on Weight-for-height (< -3 z-scores for SAM, <2 z-scores for MAM) wherever this is already being done. The use of MUAC alone is for simplification when the use of WFH is not feasible.

The goal of this session is to present the options in the guidance note, discuss various agency experiences, and collect feedback to inform the next version of the guidance note. The authors are actively seeking your feedback during the presentation.

Session 3: Integration of nutrition into other systems

S3.P1 The importance of engaging in Health systems strengthening to ensure Nutrition interventions are truly delivered within the health system, *Anne-Dominique Israel (ACF)*

Background

Within the conceptual framework, health is positioned as a key determinant of undernutrition. While ensuring a better access to SAM management, prompt diagnosis and treatment of pathologies very often associated with acute malnutrition is important. Moreover adolescent girls' and women's health are strongly related to their future children's health and nutritional status. Therefore, health and nutrition interventions as part of the basic package of health services such as FP, ANC and PNC are critical actions to be implemented in order to break the intergenerational vicious cycle of under nutrition.

The international community has started to recognize the counter-productive effects of disease based (Vertical) approaches. In order to achieve equitable health services, health systems need to be further strengthened.

In its revised nutrition and health strategy ACF has maintained a specific focus on nutrition while ensuring that basic health essential interventions are made available and delivered at health centres (diagonal approach). Usual challenges faced to deliver the basic package of health services deserve prioritization, long term context specific district level strategies, and alignment between partners to create synergy. *It is a complex issue that requires new skills, new ways of working, tools and research and longer timeframes.*

Recent Learning

In 2013 ACF developed a *step by step approach* to health system assessment and programming undertaken at district level. A review of existing tools and practices in health system strengthening was performed prior to developing the method. The resulting approach is based on very simple and straight forward methods.

The aim of the assessment is to get a snapshot of the health system and the community structure and to understand their strengths and weaknesses (diagnosis), in order to determine the priority actions required for the development of a health system and community strengthening strategy (programming phase). The diagnosis phase is not expected to highlight bottlenecks that are not already known by the health actors; the aim of the diagnosis phase is to create a common vision amongst partners at district level, create a consensus on priority actions to be taken and gather information to create a baseline that will allow monitoring and evaluation of the programmes

developed to strengthen the health system. The programming step does not promote the creation of a parallel mechanism for health planning. Its aim is to introduce the Health system strengthening thinking within the district health planning agenda.

In early 2014 ACF has proposed and carried out with the local health authorities and partners diagnosis and programming exercises in several districts of Afghanistan, Burkina Faso, Bangladesh and Sierra Leone. These experiences have revealed the emergence of a strong enthusiasm and motivation of both MoH NGO, and UN partners to work collaboratively on Health System Strengthening strategies.

Many lessons have already been learned on how to develop and lead the process. For example, on the top of actions programmed at district level, a significant part of the priorities identified through the exercise also require intervention at central level: influencing policies, capacity building, etc. ACF has therefore started to include a training module on advocacy to the HSS package. The presentation will focus on Bangladesh and Burkina Faso experience and lessons learned.

Way forward and challenges

The approach is currently being piloted, it is a long process that will require long term engagement of health and nutrition actors at district level and thorough monitoring. The process and tools will be reviewed by the end of 2014 based on lessons learned. The challenge of the next months to come will be to monitor how this work translates into improved access and quality of the health service including nutrition specific interventions such as SAM management. ACF is developing a project that will monitor the effectiveness of this approach and its impact on the availability of nutrition essential intervention and how it translates into reduction of under nutrition.

S3.P2 Nutrition at the Centre: maximizing outcomes through integrated nutrition programming in high burden contexts, *Bethann Cottrell (CARE)*

Authors: Alyssa Lowe, Imee Cambroner, Noor Tirmizi

Despite global gains, malnutrition in the developing world remains high and has increased in southern Asia and sub-Saharan Africa (35% and 27% of the population, respectively). Malnutrition affects every stage of the lifecycle and has severe generational consequences. Stunted children face lifelong consequences in reduced mental capacity, lower retention in school and reduced lifetime earnings. Evidence based reviews, emerging data, and donor analyses emphasize the importance of integrated programs to optimally improve nutrition outcomes for women and children. Thus, CARE's Nutrition at the Centre program (2013-2017) is an integrated approach to develop, document and disseminate highly effective and efficient approaches that substantially improve nutritional outcomes for mothers and children in Bangladesh, Benin, Ethiopia and Zambia. Programmatic goals are to 1) decrease stunting in young children and 2) decrease maternal and child anaemia by:

- improving nutrition-related behaviours
- improving use of maternal and child health and nutrition services
- increasing household adaption of appropriate water and sanitation practices
- increasing availability and equitable access to quality food.

This innovative integrated approach includes:

- maternal health;
- infant and young child feeding (IYCF) and maternal nutrition practices;
- food security;
- water, sanitation and hygiene (WASH);
- and gender and women's empowerment.

Data collected in all four countries across these domains during situation analyses, formative research, baseline surveys and ongoing monitoring is being triangulated. Analysis of these data, allows the project to identify factors influencing outcomes of interest in order to design the most appropriate interventions for positive change.

Results will be disseminated to ministers and key policy makers in order to influence future nutrition programming. Preliminary results from Ethiopia reveal that while there is a relationship between childhood stunting and maternal BMI and mother's age at marriage. No association was found with poverty, head of household, safety net enrolment, household hunger, access to unshared improved water, environmental enteropathy risk, or mother's or child's minimum dietary diversity. Lack of familial support, food insecurity and poverty are the primary barriers to optimal practices. Households lack agricultural inputs, planning techniques and skills. Families lack adequate access to vegetables throughout the year. Poor environmental hygiene is pervasive and hand-washing rates are low in all contexts.

This Nutrition at the Centre's design leverages and complements existing food security, and gender and women's empowerment activities, in partnership with the Government of Ethiopia, by strengthening nutrition-specific knowledge and skills within the health sector, and building nutrition competency in other sectors (agriculture, education) through training, and expansion of demonstration gardens, cooking demonstration in routine activities. In addition, the program addresses the challenges of access to water and challenges with poor sanitation by working with community members and groups to identify community-led solutions, and provide inputs where needed. Finally, the program addresses the high tolerance for gender based violence (GBV) and high prevalence of early marriage through dialogues within and among economic groups and by engaging with husbands, mother-in-laws and community members.

As in Ethiopia, in all Nutrition at the Centre programmes we use evidence to contextualize the following interventions:

- Scaling up cooking demonstration, providing inputs to promote demonstration plots
- Focus on dispelling food taboos and fasting customs through SBC strategies
- Incorporation of image based IEC materials for audiences with low literacy
- Inclusion of husbands and mother-in-laws are vital to the program's success
- Separate children from animal faeces to reduce environmental enteropathy (EE) risk in WASH programming
- Partnership with Ministry of Health is essential to improve health service utilization particularly among PLWs
- Empowerment activities must address high tolerance for GBV and high prevalence of early marriage

S3.P3 Community resilience to acute malnutrition, Kate Culver (Concern)

Across the difficult, emergency prone contexts where we work, Concern Worldwide has found resilience to in fact be a very useful unifying concept. By applying a simple nutrition outcome lens valuable lessons can be learnt from the experiences across sectors and applied to design stronger more successful programmes to build community resilience.

Concern understands resilience as *the ability of a country, community or household to anticipate, respond to, cope with, and recover from the effects of shocks, and to adapt to stresses in a timely and efficient manner, without compromising their long-term prospects of moving out of poverty.*

Using experiences from Niger, Ethiopia and Kenya and the quantitative and qualitative research collected during and following a number of food crises, Concern has developed a model for Community Resilience to Acute Malnutrition (CRAM).

This model has been put into practice in Dar Sila, Eastern Chad, which is susceptible to many and frequent shocks. The regular and continuous challenges include floods, droughts, epidemics, poor infrastructure, insecurity and displacement which result in food insecurity and high rates of malnutrition. Partnering with the Feinstein International Centre at Tufts University, the model is being rigorously tested using a two-stage randomised cluster methodology to generate evidence to contribute to international discussions on the concept of resilience.

CRAM is a medium term intervention that brings together an integrated package of activities which aims to improve the overall health, nutrition and livelihood security while simultaneously improving community resilience to shocks. This integrated package of activities focuses on five specific areas of intervention: improving agricultural production and diversifying livelihoods and assets, improving access to health services, increasing access to safe water and promoting improved sanitation and sanitary practices, working with communities at all levels to enhance capacities and ensure women participate fully in this, and underlying all of these activities the promotion of social and behavioural change amongst those we work with.

The second part of the programme incorporates the development of a comprehensive Early Warning System (EWS) to identify thresholds on key indicators that signal the early onset of potential shocks and need for an emergency response.

Although only in the second year of the programme, with midline and endline data yet to follow, there is some learning already emerging from the programme. Analysis of baseline data shows that no one key variable is responsible for child malnutrition and it really requires looking at several variables together – further confirming the appropriateness of the CRAM approach.

Using historical data a model EWS has been developed which will be tested over the coming years. This has already predicted an emergency year in 2014 and an emergency response triggered including scale up of cash interventions and emergency supplies.

Challenges have been encountered in the programme around achieving true integration between traditional sectoral areas. Concern has tried to draw learning on successful integration from its other programmes and in particular the Realigning Agriculture to improve Nutrition (RAIN)

programme that is underway in Zambia. Although under a non-emergency context, key strategies have been identified and put into practice to ensure integration and it is thought that these can form the basis of a solution for our programme in Chad.

S3.P4 WASH in nutrition, *Caroline Abia (IMC)*

Context

Armed groups occupied the regions of Timbuktu, Kidal and Gao between March 2012 and January 2013. As a result of this hundreds of people moved to safer towns, while others fled to neighbouring countries.

Even though the northern regions were subsequently liberated and a new government elected, the northern regions including Timbuktu are not yet stabilized. In addition, the Malian health system is still very fragile and the health status of the population is threatened by many factors such as food insecurity, drought, high rate of acute malnutrition (16% of GAM in Timbuktu), low utilization rate of health services, as well as lack of safe water, cultural practice of drinking river water, nomadic life of the population with associated lack of household items including containers for drinking water.

Since April 2013, International Medical Corps (IMC) has been implementing integrated nutrition services in Gourma Rarhous district, Timbuktu region in Mali.

Description

According to WHO a high proportion of malnutrition among children under five is related to poor WASH practices. In an attempt to curb the vicious cycle of diarrhoea and malnutrition, IMC introduced WASH activities within its CMAM program as follows: distribution of WASH-Nut kits, hand washing demonstrations, ensuring availability of potable water at supported health facilities and health education.

The *main aim* was to reduce the prevalence of acute malnutrition by implementing a multi-sectorial intervention addressing the underlying causes of malnutrition.

Nutrition activities focused on the treatment of acute malnutrition and improving the infant and young child feeding practices (IYCF) of caretakers of children under 2. These nutrition activities were integrated with WASH and health care, reproductive health and GBV where possible.

The integration with nutrition and WASH was a major priority of the intervention and WASH kits were distributed to caretaker of OTP beneficiaries. In addition to the distribution of WASH kits demonstrations about hand washing and water purification were given to ensure the kits were used adequately.

At the health facility potable water was made available to ensure children enrolled in the CMAM programme would be treated with clean water.

Key learning points

The main challenges were cultural practice of drinking river water, associated with beliefs regarding its "spiritual value" and medicinal benefits which is being addressed with community BCC on WASH. Another challenge is the vastness of the area and unpredictable security situation which

hindered access to health facilities. IMC is currently piloting mobile outreach activities intended to alleviate access barriers.

Findings

The GAM prevalence prior to the intervention was 16%⁶ and the incidence of diarrheal cases was 5.2 %⁷. During the intervention GAM prevalence decreased to 13.3%⁸ whereas the national average increased from 12.7 %⁹ to 13.3%¹⁰. Program data shows a decline in defaulter rate from 10.4% to 0% in OTP and SC between July and December 2013 which coincides with the peak implementation of WASH kit distributions.

Lessons Learned

Integrated WASH activities in CMAM helps to prevent acute malnutrition and decreases defaulter rate and could easily be replicated in other contexts.

ⁱ Measuring the Effectiveness of Supplementary Feeding Programmes in Emergencies, Navarro-Colorado, C. Mason, F. and Shoham, J. Humanitarian Practice Network Paper 63, September 2008.

⁶ SMART survey, 2011

⁷ PLAN DE DEVELOPPEMENT SANITAIRE DU DISTRICT DE GOURMA-RHAROUS 2014-2018

⁸ SMART survey 2014

⁹ SMART survey 2013

¹⁰ SMART survey 2014