Bottleneck analysis for the integrated management of acute malnutrition services in Somalia

By John Ntambi, Madina Ali Abdirahman, Dorothy Nabiwemba, Pramila Ghimire, Sayed Ezatullah Majeed, Kheyriya Mohamed, Samson Desie, Rufaro Musvaire and Marjorie Volege
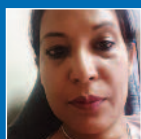
John Ntambi is the Nutrition Manager for UNICEF Somalia. He is a medical doctor with a Master's in Public Health and Nutrition and over 15 years' experience working in health and nutrition programmes in across Africa.

Madina Ali Abdirahman is a Nutrition Officer with UNICEF Somalia with over 15 years' experience in nutrition with UNICEF and Non-Governmental Organisations (NGOs) in Somalia.

Dorothy Nabiwemba is a Nutrition Officer with UNICEF Somalia with several years' experience in nutrition programming, including with the World Food Programme (WFP) in South Sudan.

Pramila Ghimire is the Head of Nutrition and School Meals for WFP Somalia. Pramila holds a Masters' degrees in Public Health Nutrition, Sociology and Business Administration and over 18 years' experience in food security and nutrition.

Sayed Ezatullah Majeed is Chief of Field Office with UNICEF Somalia. Majeed is a medical doctor with nine years' experience working with UNICEF in various countries and with the Ministry of Health in Afghanistan.

Kheyriya Mohamed Mohamud is Head of the Nutrition Unit in the Department of Public Health in Somalia. Kheyriya is Public Health professional with a Master's in Public Health and a Postgraduate Diploma in Human Nutrition and Dietetics.

Samson Desie is Nutrition Cluster Coordinator in Somalia with UNICEF. He has over 10 years' experience managing large-scale and complex programmes at grassroot, national and international level, including in South Sudan and Sudan.

Rufaro Musvaire is the Emergency Nutritionist for WFP Regional Office for Southern Africa. Rufaro was a Nutrition Officer with UNICEF Somalia 2015 – 2017 where she supported the rollout of the bottleneck analysis described here.

Marjorie Volege is the Nutrition Specialist – Emergency for UNICEF Eastern and Southern Africa Regional Office. She has over 12 years' experience working in nutrition in multiple countries with UNICEF and other organisations.

The findings, interpretations and conclusions in this article are those of the authors. They do not necessarily represent the views of UNICEF, its executive directors or the countries they represent and should not be attributed to them.

Location: *Somalia*

What we know: Actions to improve effective coverage of acute malnutrition services need to consider context specific barriers to programme performance and scale.

What this article adds: A participatory bottleneck analysis was performed to identify the root causes of sub-optimal performance in the Somalia integrated management of acute malnutrition (IMAM) programme. It was jointly led by UNICEF, WFP and the Somalia Nutrition Cluster in collaboration with health authorities of the Federal Government of Somalia (FGS), Puntland and Somaliland. Identified barriers to integrated SAM/MAM continuum of service included lack of a common definition and standards for integration; absence of a harmonised supply-chain system, difficulties to recruit and track deployment of human resources for nutrition; limited geographical coverage of IMAM services; and insufficient community involvement. The geopolitical context and a complex humanitarian landscape contributed to challenges. Acting on recommendations, progress since includes greater integration of nutrition services within health services, and development of a human resource capacity development strategy. Less progress has been made on integrating nutrition supplies into logistics information management systems. Ongoing strategy, policy and advocacy processes in Somalia should benefit from the report recommendations.
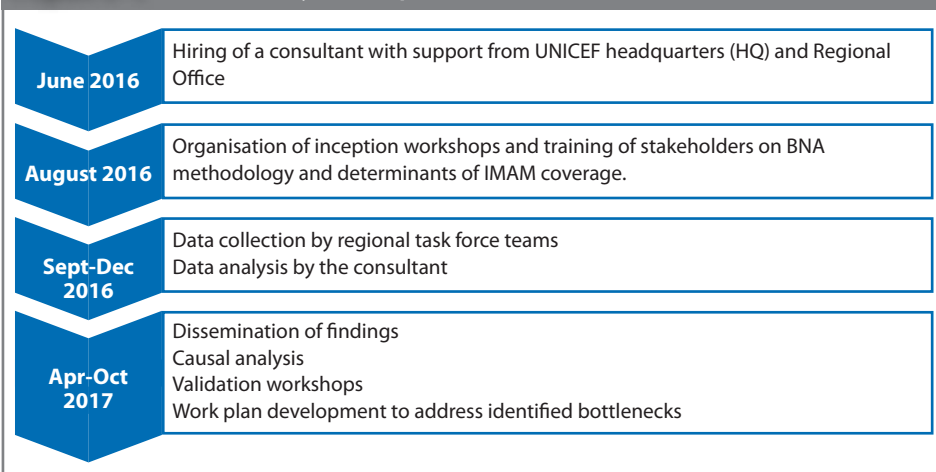
Background

Reducing acute malnutrition (wasting) is integral to reducing child mortality and the achievement of sustainable development goals. However, despite substantial investment in scaling up the integrated management of acute malnutrition (IMAM), wasting remains persistently high in Somalia. Thus, achieving the global target of reducing wasting prevalence to 5% or below by 2030 will require a comprehensive strategy addressing the multi-dimensional causes of malnutrition. A bottleneck analysis (BNA) for IMAM in Somalia was undertaken, consistent with UNICEF's guidance for scale-up and based on the Tanahashi model of assessing effective coverage of public health services delivery (Tanahashi, 1978). The BNA assessed the determinants of effective coverage of IMAM services, including supplies, human resources, geographic coverage, initial and continuous utilisation, and quality, with the objective of identifying the root causes of sub-optimal performance in the IMAM programme.

Programme context

The Somali guidelines for IMAM draw from the community-based management of acute malnutrition (CMAM) model developed by Valid International and endorsed by the World Health Organization and UNICEF. The IMAM guidelines are designed to contribute to the overall strategy of reducing childhood morbidity and mortality in Somalia. The IMAM programme is led by the Ministry of Health (MoH) with support from partners including the Nutrition Cluster, United Nations agencies (UNICEF and the World Food Programme (WFP)), and local and international non-governmental organisations (NGOs). The programme is comprised of four pillars:

Figure 1 Bottleneck analysis (BNA) process

June 2016	Hiring of a consultant with support from UNICEF headquarters (HQ) and Regional Office
August 2016	Organisation of inception workshops and training of stakeholders on BNA methodology and determinants of IMAM coverage.
Sept-Dec 2016	Data collection by regional task force teams Data analysis by the consultant
Apr-Oct 2017	Dissemination of findings Causal analysis Validation workshops Work plan development to address identified bottlenecks

1. Active case-finding: through community volunteers who regularly screen and monitor all young children so that cases of malnutrition can be identified early and treated immediately.

2. Screening and triage: children with moderate acute malnutrition (MAM) and uncomplicated severe acute malnutrition (SAM) are treated at home, while those with existing serious medical conditions are referred to stabilisation centres (SCs) located in district hospitals. Children from SCs are discharged back to the community for follow-up in community-based facilities.

3. Community-based facilities: provide care and treatment to children and their caregivers close to their own communities through a network of outpatient therapeutic programme (OTP) and targeted supplementary feeding programme (TSFP) facilities based on established criteria.[1] The former provide care and treatment for uncomplicated SAM, while the later provide treatment for MAM. Children discharged from the OTP are sent to the TSFP for consolidation of their nutrition status to avoid relapse. When no TSFP is available, carers are advised to bring the child back to the OTP if their status deteriorates.

4. Building community capacity and resilience: The IMAM programme works with communities through trained community health workers (CHWs) to identify and prevent acute malnutrition. This helps to enhance participation in and ownership of the programme.

Methods

The BNA was a consultative and participatory process consistent with the objective of promoting and building the capacity of the government and partners in the scale-up of the treatment of acute malnutrition. The process was jointly led by UNICEF, WFP and the Somalia Nutrition Cluster in collaboration with health authorities of the Federal Government of Somalia (FGS), Puntland and Somaliland. The BNA process consisted of four distinct stages (Figure 1) carried out over 16 months (June 2016 to October 2017).

Definition of standards

Supply determinants were defined as the inputs required to deliver IMAM services, subdivided into: i) commodities (using tracer commodities of ready-to-use supplementary food (RUSF) and ready-to-use therapeutic food (RUTF)[2]); ii) human resources (facility-based health workers); and iii) geographic access and community outreach (trained community-based volunteers). On the demand side, determinants were subdivided into: a) utilisation; b) continued utilisation; and c) effective coverage (quality) (Tables 1, 2 and 3). While Sphere standards are calculated using the denominator of the actual numbers of children enrolled into the programme, BNA indicators are calculated based on the estimated burden. This is based on the principle of equity; i.e., that all children in need (the entire burden) should receive treatment.

Causality analysis

On completion of the initial analysis, three separate five-day validation workshops were conducted in Somaliland, Puntland and Mogadishu. During the validation workshops a review of bottlenecks was conducted through a systematic analysis of determinants of effective coverage.

The causality analysis phase was followed by the development of action plans to address the identified root causes of the bottlenecks. Thus, the major outcome of the causality analysis workshops was the development of zonal specific action plans with realistic targets and indicators to measure progress.

Key findings and actions

For geopolitical purposes, the analysis is based on the three administrative entities of Somaliland, Puntland and FGS. Figures 2, 3 and 4 report data as defined in Tables 1, 2 and 3. Percentage figures relate to indicators calculated as per Tables 1 and 2; colour coding relates to the thresholds described in Table 3.

Somaliland

On the demand side, effective coverage was identified as poor for MAM because, despite a good initial uptake (83.7%), coverage fell to 59.8% – 23.9 percentage points above the acceptable <3% point threshold (Figure 1). For SAM, effective coverage was fair, falling within a 3 to 8 percentage points drop from initial utilisation. Overall, on the demand side, the IMAM programme in Somaliland has a good reach and retention of children with MAM, with 83.7% of the total MAM burden admitted and 81.3% of them completed treatment. The SAM programme had a poor reach, with only 18.7% of the total burden enrolled for treatment. Continuous utilisation (programme retention) was a major bottleneck for SAM, evidenced by only 18.1% of the estimated burden completed treatment.

During the reference period, 62% of OTPs and 35% of TSFPs did not experience stock-outs of RUTF and RUSF respectively. However, as per BNA thresholds, the indicator for RUSF was poor compared to the desired >80% of facilities that should not have stock-outs. The same indicator for RUTF was fair at 62% of sites that did not experience stock-outs compared to the desired threshold of >80%.

The shortage of service providers trained on IMAM guidelines is another common bottleneck and was rated as poor, with only 15% and 36%

Table 1 Indicators and data sources for supply determinants

Determinant	Indicator	Data sources
Commodity	% of health facilities that did not have stock-outs of RUTF for 2 or more weeks in the last 12 months or RUSF for 4 or more weeks (1 July 2015 to 30 June 2016)	Implementing partner sock reports supply distribution reports monitoring and supervision reports
Human resources	% of health and nutrition workers who have been trained on IMAM in the last 12 months (1 July 2015 to 30 June 2016)	Information from health facilities and IMAM sites
Geographical access	% of health sites offering SAM management services (OTP) and MAM management services (TSFP) in the last 12 months (1 July 2015 to 30 June 2016)	Information from health facilities, IMAM sites and IMAM database
Community outreach	% of CHWs trained on screening for acute malnutrition in the last 12 months (1 July 2015 to 30 June 2016)	Information from health facilities and IMAM sites

Table 2   Performance indicator thresholds (set in consultation with MoH and partners)

Categories	Commodities (RUTF/RUSF)	Human resources (clinicians)	Geographical access (OPD)	Outreach (CHWs)	Initial utilisation	Continuous utilisation	Quality/effective coverage
Good	≥80%	≥60%	≥60%	≥80%	≥50%	<2% drop from initial utilisation	<3% drop from initial utilisation
Fair	50-79%	49-59%	49-59%	60-79%	40-49%	2-5% drop from initial utilisation	3-8% drop from initial utilisation
Poor	50%	<40%	<40%	<60%	<40%	>5% drop from initial utilisation	>8% drop from initial utilisation

Table 3   Indicators and data sources for demand determinants

Determinant	Indicator	Data sources
Initial utilisation	% of children 6-59 months admitted to SAM/MAM management services (out of the estimated burden) in the last 12 months (1 July 2015 to 30 June 2016)	OTP/SC/TSFP databases
Continuous utilisation	% of children 6-59 months who did not default from SAM/MAM management services (out of the estimated burden) in the last 12 months (1 July 2015 to 30 June 2016)	
Quality/ effective coverage	% of children 6-59 months cured from SAM/MAM management services (out of the estimated burden) in the last 12 months (1 July 2015 to 30 June 2016)	

of service providers trained on MAM and SAM management respectively against the required national standard of >80%.

Geographic coverage was found to be good and above the national standard of >70% for both MAM and SAM services. This level of geographic coverage – 71% for MAM and 79% for SAM in Somaliland – could be attributed to the effective integration of the two programmes and the relatively better security situation enabling humanitarian access to the area. However, the initial utilisation (18.7%) reflects poor access of the population to SAM treatment services.

Regarding outreach activities, only 44% of volunteers are trained on IMAM. However, although outreach coverage is sub-optimal compared to the cut-off (70%), it is a good indication of integration of both programmes, since the same proportion of volunteers were trained to screen for both MAM and SAM.

Key actions
Overall, stakeholders agreed to develop work plans to increase the proportion of services providers and CHWs trained on IMAM. To achieve this, the root causes to be addressed include the weak supply-chain system for commodities, inadequate integration of MAM and SAM training, high turnover of health workers, inadequate supportive supervision of volunteers, and the disproportionate distribution of health workers between urban and rural hard-to-reach areas.

Puntland
Coverage for both MAM and SAM treatment was rated fair, since they fell within a 3 to 8 percentage points drop from initial utilisation (Figure 2). Initial utilisation and continuous utilisation for MAM were both rated good at 87.9% and 86.9% respectively. For SAM, initial utilisation was fair at 41.1%, while continuous utilisation (programme retention) was fair, rated 38.4%.

On the supply side, stock-out of commodities was found to be a common bottleneck in both programme components. Only 12% and 49% of TSFPs and OTPs respectively did not experience stock-outs of IMAM commodities. The availability of health workers trained on IMAM was rated poor for MAM (17.5%), but fair for SAM (57.7%). The outreach indicator for both MAM and SAM was rated good at 87.5%, which is reflective of a good level of training of CHWs. While geographic coverage for SAM was fair at 67%, the same indicator for MAM was poor at 46%. The low uptake relative to geographic coverage may reflect inadequate case-finding and follow-up by CHWs and inadequate communication between facility-based health workers and CHWs.Key actions: The task force for Puntland developed an action plan to address the root causes, which include the improvement of the capacity of service providers in supply-chain management cycle, planning, quantification, monitoring and reporting. Specifically, there is a need for harmonised supply-chain management tools for nutrition to be integrated in the logistics management information system (LMIS) under development with support from the Global Fund. A database to track and monitor the training of service providers and their equitable deployment to urban and rural settings was identified as a priority. To improve geographic coverage, the task force developed a plan to integrate both MAM and SAM in functional maternal child health facilities as an immediate priority.

Federal Government of Somalia
On the demand side, effective coverage for FGS was poor for MAM, with a more than 8 percentage point drop from initial utilisation (Figure 3). The same indicator for SAM was rated fair, with a 6.7 percentage point drop from initial utilisation. Initial and continuous utilisation for MAM were over and above the standard thresholds at 91.6% and 90.3% respectively. For SAM, initial utilisation (programme enrolment) was fair at 48.3%, while continuous utilisation (programme retention) was 46%.

On the supply side, stock-out of commodities was fair for both SAM and MAM, with nearly 67% of TSFPs and 56% of OTPs that did not experience stock-outs of RUSF and RUTF respectively. The availability of health workers trained on IMAM and geographic coverage of services constituted a major bottleneck for MAM at 19.9% and 43.3% respectively. For SAM, the availability of trained health workers and geographic coverage were rated good at 84.7% and 74.9% respectively.

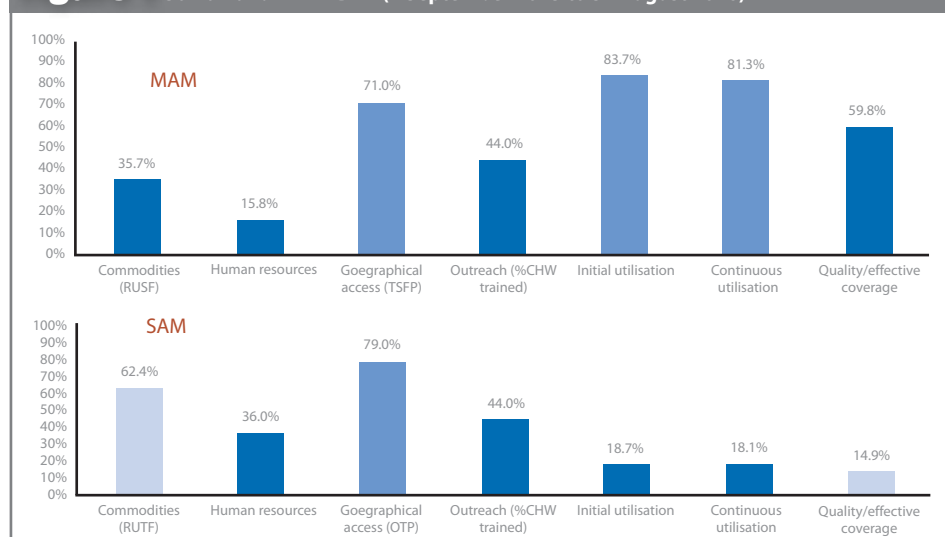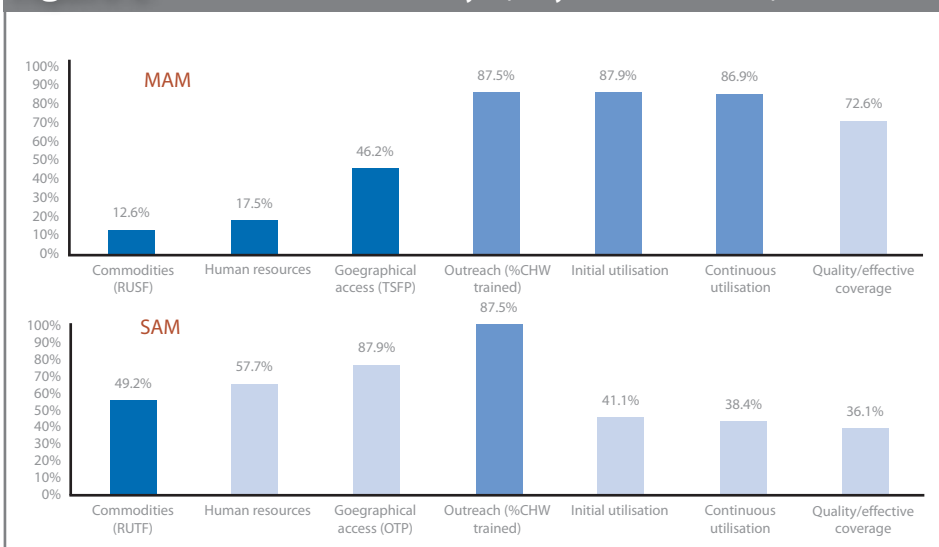### Figure 1   Somaliland IMAM BNA (1 September 2015 to 31 August 2016)

Figure 2 Puntland IMAM bottleneck analysis (1 July 2015 to 30 June 2016)

Humanitarian situation

Overall, IMAM service delivery in Somalia is challenged by several factors, including the complex humanitarian landscape; conflict dynamics; geopolitical sensitivities; capacity; access to communities in hard-to-reach areas; demographic shifts; and displacement and the trend towards urbanisation. The conflict and insecurity is more accentuated in Central South region, which compromises humanitarian access and consequently impacts negatively on the quality and coverage of service delivery, as observed in this BNA. Because of the relatively better humanitarian access in Somaliland and Puntland, the BNA results showed a relatively better integration and geographic access in the two regions compared to the Central South Region.
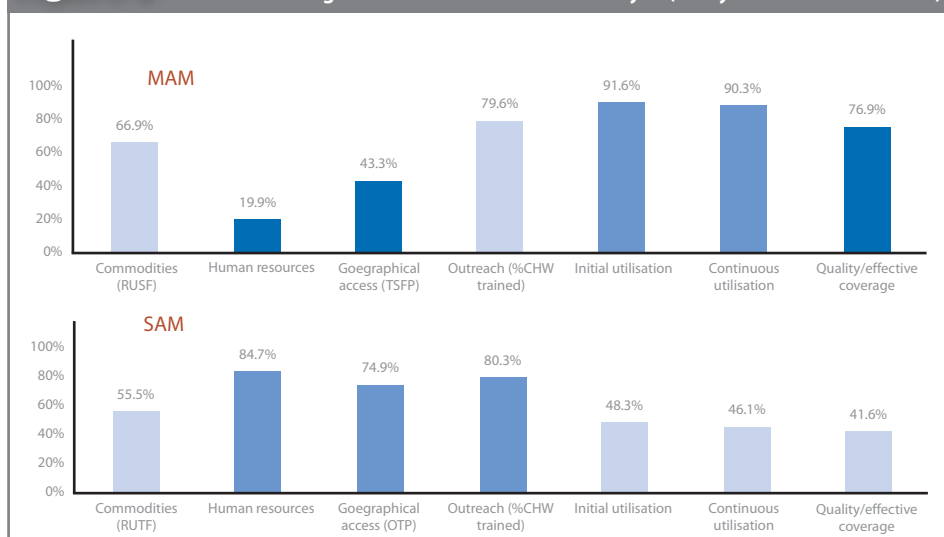
National nutrition cluster IMAM database

The availability of an integrated SAM and MAM cluster database saved time and money in collecting the necessary data for the analysis. The strong coordination mechanism established by the Nutrition Cluster enabled collaboration of partners to collect and submit missing data on demand, which was not available in the cluster database. The creation of regional task-force teams to vet and validate data before submission to the consultant for analysis enhanced local ownership of the process and results.

Multi-disciplinary involvement

The determinants of effective coverage for IMAM cut across a wide range of disciplines and key players, including the health management information system (HMIS), infant and young child feeding (IYCF), donors, LMIS, C4D, community volunteers and representatives of programme beneficiaries. This BNA did not fully benefit from that wide range of expertise across the relevant disciplines because some of them could not commit to attending the different zonal workshops. Future BNA should endeavour to involve the

Although outreach coverage for SAM was above the national threshold at 80.3%, the enrolment of children with SAM into the programme (initial utilisation) remained fair at 48.3% compared to the recommended ≥50% of the total SAM burden. By comparison, while MAM outreach was rated fair at 79.6%, the enrolment (initial utilisation) of MAM children into the programme was good (91.6%).

Key actions: Priority actions to address identified bottlenecks included strengthening the supply-chain management system to prevent commodity pipeline breaks in hard-to-reach areas. This includes increasing the capacity of service providers on planning, quantification, storage capacity and buffer-stocking. Other actions include reviewing the current coverage of SAM and MAM treatment in terms of geographic access, developing service plans for all the accessible areas, integration of SAM and MAM treatment in health services, and strengthening integration of training on both SAM and MAM.

Lessons learnt
Strategic lessons learnt

Despite the challenging geopolitical landscape, Somalia succeeded in working collaboratively to complete this BNA. All parties involved agreed to integrate specific activities into their respective work plans to address the identified root causes.

While the treatment of acute malnutrition is premised on integration along the continuum of care of MAM and SAM, the BNA findings showed sub-optimal coverage and integration of the two programme components. This is exemplified by the differing uptake of SAM and MAM services; if the two programs were well integrated, they would achieve similar outcomes. Key root causes include but are not limited to: i) lack of a common definition and standards for integration; ii) absence of a harmonised supply-chain system for IMAM commodities; iii) lack of a centralised system to recruit and track the deployment of human resources for nutrition; iv) limited geographical coverage of

IMAM services; and v) insufficient community involvement in IMAM. The BNA therefore recommends the development of a comprehensive nutrition strategy[3] to address the identified root causes.

Geopolitical context

To overcome the challenges related to the geopolitical sensitivities, the BNA was conducted and presented in three separate zones: Somaliland, Puntland and FGS. While this approach worked in the short term, it created many logistical and resource challenges. First, organising separate workshops for the inception and training, dissemination and causality analysis increased time and costs. Second, the BNA failed to reach a common consensus on the data collection reference period. While Puntland and FGS agreed on the reference period 1 July 2015 to 30 June 2016, Somaliland opted for 1 September 2015 to 31 August 2016. Third, data collection and analysis for the regions disputed between Puntland and Somaliland (Sool and Sanaag regions) was a major bottleneck, because data from districts falling within these areas was reported by both Somaliland and Puntland.

---

3 As of writing, the strategy is in early stages of development, the process having slowed due to prioritisation of the pre-famine response in Somalia.

Figure 3 Central South Regions FGS IMAM bottleneck analysis (1 July 2015 to 30 June 2016)

corresponding multi-disciplinary team, encompassing a diversity technical skills along the spectrum of the determinants of effective coverage; enabling environment, supply and demand.

Identification of the root causes of bottlenecks

The BNA recommends the use of the 'fish bone' method of analysis and the corresponding minimum five '5xWHY' to drill down on root causes of bottlenecks.[4] However, for Somalia, this method did not prove very effective in guiding participants to think 'out of the box'. Similar challenges related to the 5xWHY technique were reported in Malawi BNA (2014). Because of the critical nature of this step, to get the most out of the participants the 'brainstorming' method was used instead. Using 'sticky' cards, participants were grouped per bottleneck and, based on their work experience, requested individually to note one root cause per card for up to five different causes pertaining to a specific bottleneck. Participants were able to clarify their thoughts and ideas and provide better inputs when encouraged to write and express themselves in Somali. During the plenary sessions the cards were pinned on the wall and thereafter clustered into common themes translated in English with the help of a skilled facilitator.

Recommendations

IMAM scale-up strategy and costed operational plan of action

This BNA is part of the broader Somalia strategy to scale up IMAM, which includes the ONA[5] online information management system dashboard, rationalisation plan III, human resource capacity development (HRCD) strategy and geotagging. The IMAM scale-up strategy and a corresponding costed roll-out plan should define the specific actions required to address the bottlenecks related to frequent stock-out of commodities (a supply-chain analysis and plan was initiated), inadequate supply of skilled service providers, low geographic access to services, and sub-optimal demand and utilisation of services.

Short-term targets

While the scale-up strategy and the costed operational plan are under development, MoH and partners can take actions on the identified bottlenecks to achieve quick results; notably,

strengthening and integrating the required data into existing institutional systems, including the HMIS and LMIS database. In addition, the development of the human resources dashboard to enable the deployment and tracking of an equitable distribution of skilled staff is critical. The ongoing roll-out of DHIS2 across Somalia provides an opportunity to achieve this objective.

The human resource situation in nutrition

The current nutrition workforce is largely employed by the humanitarian actors, whose ability to attract and hire qualified staff largely depends on availability of donor funding. While this problem can be solved in the short-term through regular refresher training, the high turnover of NGO staff due to fluctuating funding will frustrate those efforts. A long-term human resource capacity-development strategy is therefore required, including the integration of IMAM in pre-service training curricular and a system to recruit, retain and track the equitable deployment of skilled staff in rural and urban settings. To ensure sustainable, in-service training and capacity-building, the BNA recommends the creation of IMAM centres of excellence, in collaboration with academic institutions.

The concept of TSFP and OTP integration

Ideally, MAM and SAM treatment should occur along a continuum of care, thus enabling the seamless transition of patients across the different components of the programme. However, there is no standard guidance on what the scope of integration entails. Because of this observed lack of integration, minimum standards for integrated service delivery were developed and recommended (see Figure 4).

Conclusions

In the time since this analysis was carried out, progress on recommendations has been slightly slower than originally anticipated due to the pre-famine response of 2017-2018, which took precedence over some other planned activities. Nevertheless, even during this phase, substantial progress has been made on the integration of MAM and SAM treatment, with a majority of nutrition sites delivering both MAM and SAM treatment using one partner by 2019 (although,

in some cases, this was done in adjacent facilities). Integration of nutrition services with health services has also progressed substantially, allowing for greater efficiencies. For example, in the joint WFP/UNICEF project in the south, supported by KfW (German Development Fund), all TSFP and OTPs are integrated and delivered by the implementing partner. In the north, about 75% of IMAM facilities are integrated.

Additionally, a long-term human resource development strategy has been finalised (although dependence on NGO actors remains as high as ever, due to limited budgets apportioned to the Federal MoH to support a strategy roll-out). The concept of a centre of excellence (CoE) for training remains of great interest to FGS, under the championship of the Scaling up Nutrition (SUN) Focal Point based in the Office of the Prime Minister. A costed business plan for the CoE is in final draft stages; although again reliable sustainable resources will be a challenge to implementation. Training remains largely in the hands of UN agencies for both funding and execution, albeit under the strong leadership of the FMoH.

Progress on integrating the nutrition data into the HMIS2 has picked up pace recently, under the leadership of the FGS. Nutrition stakeholders have held detailed review workshops of the current nutrition data for eventual inclusion into DHIS2 system, aligning its work with the work of the health sector, which is undertaking a similar revision exercise. Full integration of ONA into DHIS2 is expected by the fourth quarter of 2019 at the latest.

Less progress has been made on integrating nutrition supply into LMIS although, here again, nutrition can benefit from the work of the health sector in terms of aligning with its budgets and timelines.

Overall, this exercise has proved that it is feasible to conduct BNA for both MAM and SAM in humanitarian situations. Partners are encouraged to integrate key recommendations of this report into their respective workplans. The following ongoing strategy, policy and advocacy processes should also benefit from the recommendations of this report: i) a multi-sector recovery and resilience framework (RRF) that includes funding streams; ii) a national development plan (NDP); iii) a common results framework (CRF) for scaling up nutrition (SUN); iv) a joint health and nutrition supply-chain strategy; v) IMAM guidelines; and vi) Somali nutrition strategy development.

For more information, please contact john Ntambi at **jntambi@unicef.org**

4   This is a BNA tool used in the analysis of the root causes on public health problems: www.cms.gov/medicare/provider-enrollment-and-certification/qapi/downloads/fishbonerevised.pdf
5   ONA is a brand name for the online cluster reporting system

References

Tanahashi, T. (1978) Health service coverage and its evaluation. Bull World Health Organ. 1978;56(2):295-303.

Enabling environment	Supply	Demand	Quality
National IMAM guidelines aligned to WHO (2013) recommendations are in use	Same IP for TSFP & OTP operating under the same roof **OR** Different IPs but OTP and TSFP located ≤3km apart (GPS required)	Community workers screening for both MAM and SAM (Mothers' MUAC)	IP submitting program reports to the national online ONA platform
National IYCF counseling tools adapted to Somalia are in use	IP staff trained on both MAM and SAM in the last 1 year	Standardised community referral forms are in use	IP represented at quarterly subcluster review meetings to conduct joint situation analysis
	Community workers trained on both MAM &SAM screening and referral in the last 1 year	Minutes of quarterly gatherings of IPs with community workers are available	
	Zero stock out of RUTF & RUSF		

Figure 4 Minimum requirements for MAM and SAM integration