

Addressing acute malnutrition in Cameroon during an emergency: Results and benefits of an integrated prevention programme

By **Eveline Ngwenyi, Mica Jenkins, Nicolas Joannic and Cécile Patricia**



Eveline Ngwenyi is a Nutrition Officer with World Food Programme (WFP) Cameroon. She holds a Master's degree in Applied Nutrition and Public Health and has seven years of experience in community-based management of acute malnutrition programming.



Mica Jenkins is the Research and Evidence Officer for the Nutrition Division at WFP headquarters. She holds an MSc in Health and Human Development with a focus on nutrition and sustainable food systems. Prior to

joining WFP Mica implemented rural development and research projects in Mozambique and the Dominican Republic.



Nicolas Joannic has over 15 years of experience in the management of WFP nutrition response in humanitarian and fragile settings and is currently Chief of WFP's Nutrition in Emergency team in the Nutrition Division of WFP

headquarters. He holds a Master's degree in food and nutrition in developing countries.



Cécile Patricia is the Director of the Sub-Department of Food and Nutrition of the Ministry of Public Health in Cameroon and serves as the Scaling Up Nutrition (SUN) Focal Point for Cameroon. She is a nutritionist and holds a Master's degree in Applied Nutrition.

The authors would like to thank the Ministry of Public Health in Cameroon, the World Food Programme (WFP) Cameroon country office and Elvira Pruscini, Deputy Regional Director of the WFP Regional Bureau West and Central Africa.



Education session in Lagdo, Cameroon

Location: *Cameroon*

What we know: Cameroon is host to significant numbers of refugees and displaced populations; this situation heightens chronic food and nutrition insecurity and can overwhelm services.

What this article adds: Low coverage of targeted supplementary feeding programmes (TSFP) to treat moderate acute malnutrition (MAM), rising acute malnutrition rates and capacity limitations catalysed a strategic shift to a prevention-oriented programme in 2016, piloted by WFP and the Government of Cameroon in the Far North and East and Adamaoua regions. The new approach uses the blanket supplementary feeding programme as an operational platform to deliver multiple services, including household food assistance, specialised nutritious food, social and behaviour change communication, and health and water, sanitation and hygiene services. The programme targets all children aged 6 to 24 months to prevent malnutrition and treats uncomplicated MAM cases, complicated MAM cases (where referral services are not available) and recovering severe acute malnutrition cases to prevent relapse among children aged 6 to 59 months. In 2017 the programme was decentralised for better integration, access and coverage. The number of children reached has doubled since 2015; total cost per beneficiary is half that of TSFP; and prevalence of acute malnutrition in target regions has fallen. MAM admissions match estimated caseload and recovery rate is high. Programme success is attributable to well-informed decision-making, strong government leadership and coordination, community engagement, ongoing learning and implementation adjustments, cross-sectoral engagement and communication and adequate sustained external funding.

Country and programme context

Cameroon is prone to climatic shocks in the northern regions, compounded in recent years by conflict in neighbouring countries, including a sociopolitical crisis in Central African Republic (CAR) since 2013, resulting in a large number of refugees arriving in the eastern regions, and the Lake Chad basin crisis, a consequence of Boko Haram activity. The resulting influx of refugees, in addition to internal dis-

placements resulting from insecurity across Cameroon, led to significant deterioration of an already chronic food security and nutrition situation in Cameroon in 2014.

At the initial stage of the response to the CAR refugee crisis in early 2014, World Food Programme (WFP) support to the government focused mainly on the provision of moderate acute malnutrition (MAM) treatment services as targeted supplementary feeding programmes (TSFP) provided through the existing health facilities. How-

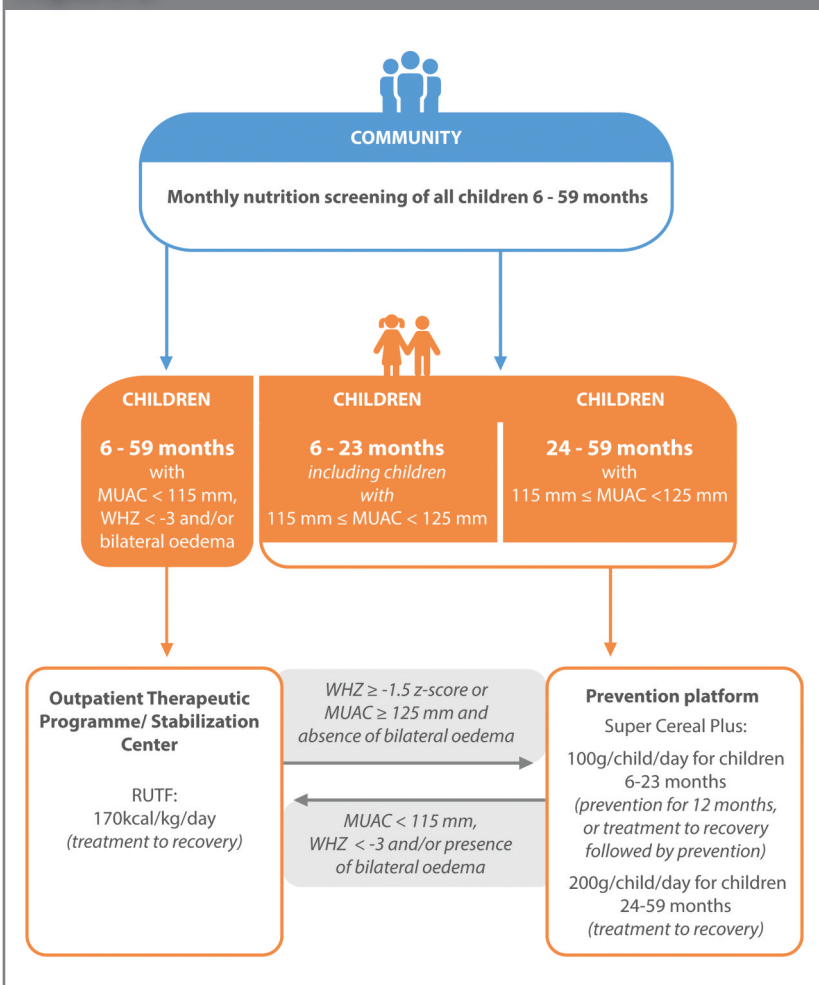
Figure 1 Expanded prevention programme in Cameroon



ever, a joint UNHCR/UNICEF/WFP mission in June 2014 concluded that the nutrition response in the eastern regions was not reaching expected outcomes, with coverage and effectiveness of treatment programmes below SPHERE standards and dramatic increases in global acute malnutrition (GAM) prevalence among refugees and host communities, compounded by a lack of resources, capacity and preparedness to manage the provision of treatment services for an unexpectedly high caseload. It was thus concluded that, rather than investing further resources to improve the performance and coverage of the MAM treatment programme, the nutrition response would be reoriented to have a stronger focus on prevention. WFP and partners therefore scaled up coverage of the malnutrition prevention programme, alongside general food assistance (GFA).

In 2015 Cameroon hosted approximately 80,000 refugees in the Far North region and over 234,000 in East and Adamaoua regions, in addition to a growing number of internally displaced people (IDPs) fleeing insecurity. Commercial trade and markets were greatly disrupted and essential services, including schools and hospitals, were made only partially functional, overwhelmed by the influx of refugees and movements of IDPs. Food security sharply deteriorated alongside intensifying violence, especially in the Far North region, where approximately 35% of households were food insecure (WFP, 2015). While a 2015 SMART survey confirmed the stabilisation of the nutrition situation in regions affected by the CAR refugee crisis, the prevalence of GAM and severe acute malnutrition (SAM) continued to deteriorate significantly in the northern regions affected by the conflict in northeast Nigeria, reaching 13.9% GAM and 2.2% SAM, compared to 9% and 2% respectively in the 2014 SMART survey.

Figure 2 Management of acute malnutrition in children aged 6-59 months



When the WFP emergency operation was launched in the Far North region in early 2015, WFP was supporting MAM treatment only. Despite the efforts and resources invested in this treatment, coverage remained too low (<10%) due to lack of capacity, poor coordination of partners in community-based management of acute malnutrition (CMAM), poor quality of service delivery, and difficulties related to access for scaling up the humanitarian nutrition response in the region. Considering the deteriorating nutrition situation in the Far North, the Ministry of Public Health (MoPH) agreed to strategically shift the emergency nutrition response in early 2016 towards a prevention approach, while gradually suspending the treatment-focused approach for MAM.

Programme overview

WFP and the MoPH designed an innovative nutrition response with a stronger focus on preventive strategies, which included both nutrition-specific and nutrition-sensitive interventions focused on the prevention of malnutrition in children and pregnant and lactating women (PLW), as described in Figure 1.

The new approach, piloted since early 2016 in the Far North, East and Adamaoua regions, built on WFP's presence at the community level, using the existing blanket supplementary feeding programme (BSFP) as an operational platform to deliver multiple services to address both the immediate and underlying causes of malnutrition. The design of the programme ensures that the nutritional status of non-malnourished children is protected, while those who are already malnourished receive the same nutritional supplement provided in regular MAM treatment programmes (therapeutic supplementary feeding programmes (TSFPs)). How this sits within overall management of acute malnutrition is reflected in Figure 2.

The decision to pursue this model was based on the understanding that, in a highly food-insecure area with impaired access to basic health care services, the limited effectiveness and coverage of a treatment-only approach would not have a significant impact on the reduction of acute malnutrition and associated consequences in children and pregnant and lactating women (PLW). A multi-sector approach, with prevention of malnutrition as the central focus, was needed to increase programme coverage in high prevalence areas and achieve a sustainable reduction in malnutrition, without compromising immediate access to MAM treatment services and referrals for SAM treatment. Thus, the programme has a dual goal of reducing both the incidence and prevalence of MAM, through prevention and treatment, as well as providing timely referrals for SAM treatment.

The revised emergency nutrition response aims to deliver a package of nutrition-specific and nutrition-sensitive services focusing on prevention, targeting the most vulnerable and hard-to-reach populations, and improve coordination between nutrition actors and across sectors, ensuring convergence and synergy of activities, especially with SAM treatment programmes. These aims have been facilitated by the implementation of a robust monitoring and evaluation (M&E) plan.

The prevention package involves:

- Distribution of Super Cereal *Plus* to children aged 6-24 months for prevention of MAM and to children aged 6-59 months for treatment of MAM (Figure 2).
- Social and behaviour change communication (SBCC) focused on infant and young child feeding (IYCF) and water, sanitation and hygiene (WASH), including cooking demonstrations of locally available nutritious foods.
- GFA in the most food insecure areas, including Super Cereal mainly intended for PLW.¹
- Making complementary services at health facility and community level available through the BSFP platform, including childhood disease management, immunisation, deworming, malaria prevention through distributions of treated nets, micronutrient supplementation, IYCF counselling and promotion, and family planning.
- Systematic and exhaustive mid-upper arm circumference (MUAC) and oedema screening and referral.²
- Capacity-strengthening of health workers, including community health workers (CHWs), at the national, regional and community levels.

The new approach targets refugees and IDPs and the host resident population, both in and outside camps. Implementation in camp settings is facilitated by a higher concentration of humanitarian actors and regular camp management meetings to aid coordination, synergy and complementarity.

Programme implementation

In 2016 a guideline was drafted by the MoPH³ and WFP on the implementation of the BSFP, and in 2017 the national CMAM guideline was revised to include BSF. The MoPH and its representatives at the regional level⁴ took proactive steps to promote a decentralisation process for management through replication of the model.

Under government leadership, the new approach was supported by a strong situation analysis and robust monitoring system that included comprehensive monthly MUAC and oedema screening and post-distribution monitoring (PDM), allowing for adjustments and programme corrections. To maximise synergies, prevention activities were conducted in close collaboration with national health structures; all areas targeted by the integrated prevention programme have health facilities offering SAM treatment services. In addition, supplementary feeding was integrated with GFA to affected populations; 80% of children aged 6-23 months in households receiving GFA also received a specialised nutritious food (SNF).

Evidence collected during a joint programme review led by the MoPH in October 2016 indicated that the BSFP was an adequate platform to effectively integrate complementary services at scale. Although experimental and piloted in a specific context, this expanded prevention programme offers important lessons for conducting large-scale, multi-sector nutrition programmes with prevention as the central focus in food-insecure or conflict-affected settings.

Results

Gradual programme scale-up through decentralisation to health facility and community levels resulted in better integration of the prevention programme in regular health services and improved access and coverage for beneficiaries. Overall, the number of MAM children reached has more than doubled compared to the treatment programme in 2015. The total cost per beneficiary (Figure 3) was approximately half that of targeted supplementary feeding (TSF) due to the relatively high logistical costs of monthly distributions in multiple remote locations in TSFPs, as well as costs involved in hiring and training specialist staff and purchasing equipment. In addition, the new prevention platform used a cheaper food commodity (Super

Cereal *Plus* at USD800 USD per metric ton, rather than Plumpy-Sup at USD2,800 per metric ton, which greatly reduced cost per beneficiary.

Coverage of health districts also increased from 30% in 2015 to 46% in 2016 across the three regions. By 2016 almost all of the 377 prevention sites had integrated other health and hygiene-related complementary services. In the Far North region alone, the number of nutrition service delivery points increased from 109 in 2015 to 301 in 2016, and the number of beneficiaries of supplementary feeding increased from 24,000 in 2015 (TSF programme admissions) to nearly 100,000 (prevention programme admissions) in 2016 and 2017.

Results of PDM showed that, by the end of 2016, 70% of the eligible population in the targeted area (i.e. 165,000 children aged 6-59 months) had received SNF and 90% of beneficiaries enrolled in the programme participated in an adequate number (two thirds) of distributions. A total of 30,979 MAM cases aged 6-59 months were enrolled in 2016 of a total burden of 31,787 in the target areas and approximately 85% of PLW in targeted areas participated in health and nutrition education sessions. In 2017 the prevention programme delivered complementary services to an average of 155,000 monthly beneficiaries (20% boys and 80% women and girls).

Monthly MUAC screenings were conducted for all eligible children in the intervention areas. The prevalence of acute malnutrition in children (MUAC <125 mm and/or bilateral pitting oedema) was plotted against the number of beneficiaries assisted. A decrease in the proportion of children with MUAC <125 mm was seen across all regions. In the eastern regions, MUAC-based GAM rates decreased from 17% in May 2014 to less than 2% in December 2017 (Figure 4), with

¹ A decision was made to suspend provision of SNF to PLW based on the results of monthly MUAC screenings and SMART nutrition surveys, which were showing low to very low prevalence of MUAC in PLW.

² In the prevention programme only MUAC is used for MAM treatment.

³ Sous-Direction de l'Alimentation et de la Nutrition (SDAN) (Sub-directorate of Food and Nutrition)
Délégation Régionale pour la Santé Publique (DRSP)
(Regional Delegation for Public Health)

⁴ Délégation Régionale pour la Santé Publique (DRSP)
(Regional Delegation for Public Health)

Figure 3 Cost per beneficiary of WFP nutrition response in 2015 and 2016

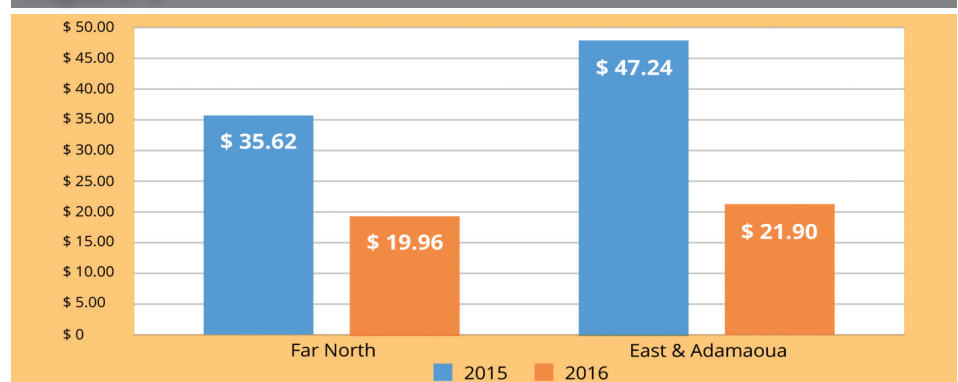
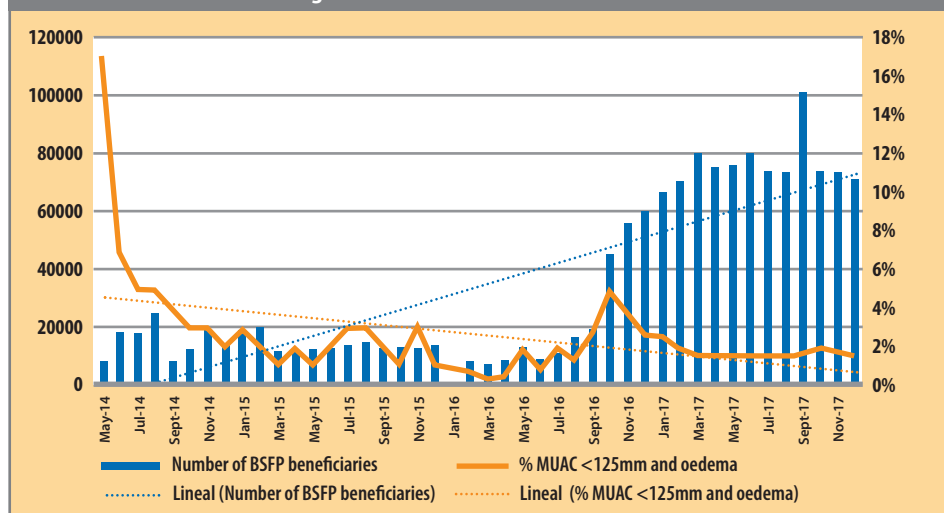


Figure 4 Prevalence of MUAC <125 mm and/or bilateral oedema in eligible beneficiaries and number of BSFP beneficiaries, May 2014 to December 2017, East and Adamaoua regions



similar trends being observed in the Far North. These findings were corroborated by results of the SMART survey conducted in October 2016 and September 2017 by the Government of Cameroon and UNICEF. Although the decrease cannot be attributed solely to the prevention programme, it is likely that the programme was a major contributing factor.

Continuum of care

The prevention platform was designed to ensure that children aged 6-59 months with MAM could also receive treatment. MAM children aged 6-23 months receive a monthly ration of 3kg of Super Cereal Plus (the same ration provided to non-malnourished children in this age group) and MAM children aged 24-59 months receive a monthly ration of 6kg of Super Cereal Plus. MAM children also receive systematic medical treatment provided by UNICEF through health facilities. In this way, the programme both protects the nutritional status of healthy children and promotes recovery of children with MAM.

A key recommendation emanating from a 2017 programme review was better monitoring of MAM admissions. This was acted on from 2018 and the resulting data show that, among a total of 35,522 MAM children enrolled in the programme during 2018, 25,253 had recovered by the end of December 2018, with a recovery rate among those discharged of 96.7%. The number of MAM admissions exceeded the estimated number of eligible cases ($n=33,440$), likely reflecting high demand and good uptake. Sick children with MAM affected by illness were treated using the guidelines on integrated management of childhood diseases at either the prevention site, where complementary health services were being provided, or at the health facilities.

In areas where the platform exists, demand for SAM services has increased, due mainly to the active screening and referral system associated with the platform. On the other hand, admission in stabilisation centres (SCs) for SAM with complications has progressively decreased. In the health district of Lagdo, for instance, monthly

caseload SCs have progressively decreased with implementation of BSFP from 15 cases in 2017 to an average of two cases at the end of December 2018. Access to SCs is very limited, due to an inadequate number of centres, long distances between them and frequent shortfalls in stock. A 2018 SAM programme coverage study revealed moderate coverage (20-50%) in 72% of the targeted districts and low coverage (<20%) in 18% of targeted districts (PCIMAS, 2018). In 2018 a total of 3,907 children aged 6-59 months with MUAC < 115 mm or bilateral pitting oedema were referred from the prevention platform to SAM treatment (data on the proportion that were complicated cases is not available). These include cases identified during quarterly screening in communities. Referrals were only possible where treatment was available, and approximately 75% of referrals made were successful (cases diagnosed as SAM in the community who were then referred and admitted to a health facility), with 100% success rate recorded in some health districts. Monitoring of referrals is carried out by CHWs, who are paid based on performance (funded by WFP and MoPH through the performance-based financing programme), including number of successful referrals. This provides a strong incentive to follow children across the continuum of care from the prevention programme to SAM treatment and back again after full recovery. A total of 1,624 children aged 24-59 months were referred to the prevention programme after full recovery from SAM (i.e. WHZ ≥ -1.5 or MUAC ≥ 125 mm and absence of bilateral pitting oedema). Data on referrals of children aged 6-23 months is not available.

Discussion

Thoughtful and informed decision-making

The reorientation of the nutrition response in Cameroon was based on a strong situation analysis and well-articulated rationale. Decisions made were the result of a thoughtful process that involved the main nutrition actors in the country. The aim was to improve the coverage of the programme while also improving cost-effectiveness.

WFP leveraged data collected through M&E activities to inform decision-making. PDM was conducted, including a qualitative component measuring ration-sharing and time management of beneficiaries and service providers. Participation and coverage were measured through PDM and a cross-sectional survey. These data were key in gaining consensus among major nutrition actors. On-site joint supervision was conducted on a monthly/quarterly basis by the MoPH (Sub-directorate of Food and Nutrition and the Regional Delegation for Public Health), UNICEF, UNHCR, WFP and cooperating partners, and a joint mid-term review was led by the MoPH. The supervision missions resulted in identification of areas for collaboration between the different agencies for implementation of complementary services. The missions also facilitated the identification of gaps (e.g. in monitoring capacity, adherence to enrolment/discharge criteria and correct distribution of rations), which led to joint problem-solving and follow-up.

Government ownership and coordination

The Government of Cameroon, through the MoPH, was a major actor from design to scale-up of the prevention approach. This programme fits well with the government's commitment to achieving the objectives of the National Nutrition Policy 2018-2030, the National Multisectoral Operational Plan to fight all forms of malnutrition, and the ongoing development of institutional capacity within the health system. This programme also contributes to positioning nutrition higher on the national policy and development agenda in Cameroon by placing key prevention activities into the United Nations Development Assistance Framework (UNDAF 2018-2020).

WFP was able to work strategically to bring partners together under the leadership of national authorities. A joint action plan on the prevention programme was developed by the MoPH and WFP during the start-up phase in 2016 to inform and support nutrition stakeholders on specific activities, timelines, roles and responsibilities.

A communication plan was developed to ensure all stakeholders were informed of the programmatic shift. Nutrition working groups were established at national and regional levels and monthly meetings were held to identify challenges and agree solutions. Continuous technical support was provided by the MoPH and the WFP nutrition team to healthcare workers, CHWs and cooperating partners.

A significant effort was made by WFP and UNICEF to coordinate activities in this context. A joint action plan was developed between the two UN agencies to better integrate interventions and ensure complementarity of activities, and a joint communication strategy was elaborated to improve buy-in from government, donors and other stakeholders. In some geographic areas the same cooperating partners were used to minimise cost and ensure a robust referral system from SAM treatment to the prevention programme and vice versa. Nearly half had the

same partner for prevention and SAM treatment; in most of the other areas, SAM services were directly provided by MoPH staff without support of NGO partners. Consultations were held to determine geographic targeting for the prevention programme (supported by WFP) and micronutrient powder (MNP) programme (supported by UNICEF) to avoid duplication and maximise use of available resources. UNICEF also provided systematic medical treatment to children with MAM. Joint training was conducted by WFP, UNICEF and MoPH for service providers (i.e. health workers, CHWs and NGO partners) on BSFP, MNP, CMAM and IYCF.

Working under the leadership of the government facilitated strong national ownership and encouraged programme accountability among all stakeholders. A regional workshop was held in 2017, during which various government ministries (e.g. health, WASH, agriculture) and relevant partners developed an action plan on the coordination of multi-sector activities. Coordination was strengthened and government capacity reinforced to manage nutrition at central and decentralised levels, which was critical to the success of the programme. The commitment shown by the WFP country office senior management was also pivotal in bringing partners together and ensuring constant engagement between key actors throughout the process.

Community engagement

Services have been brought closer to remote, vulnerable communities typically out of reach of the healthcare system through this programme, using WFP's presence in fragile and humanitarian settings. Most prevention sites were organised at community level across the three regions and CHWs were given responsibility for most of the routine tasks involved. The prevention platform facilitated the work of CHWs by enabling them to provide a variety of services at once, rather than at multiple times during the month and year. The prevention sites gather children from multiple villages, allowing CHWs to come together at the sites and divide labour, making their work faster and more efficient. The work of CHWs was supervised by the head of the national health facility to ensure programme sustainability, with a view to WFP and partners handing over direct programme implementation in future.

Referral systems at the community level between the prevention platform and SAM services were established, ensuring that the same CHWs at a particular health zone were assigned to both prevention and SAM treatment activities (i.e. identification of acutely malnourished individuals through screening, follow-up and home visits). Building on the monthly MUAC monitoring system put in place by WFP, a monthly community-based nutritional surveillance system is now in place which permits timely detection of malnutrition and serves as an early warning system. Community-based BSFP sites contribute to increasing coverage, reaching the children previously not reached under the treatment programme.

Ongoing learning and adjusting of implementation arrangements

A programme start-up phase was conducted from April to June 2016 to assess the available options for delivering the prevention package and the level of integration of nutrition services into existing health structures in Far North, East and Adamaoua regions. This enabled WFP and partners to recommend the best option for each of the identified programme sites and led to the revision and adoption of updated programme reporting and monitoring tools with indicators.

A joint M&E plan between the MoPH, WFP and its cooperating partners was developed at national and regional levels highlighting the roles of each party with clear timelines. The information collected through the M&E activities was fundamental to the measuring of programme performance and improving efficiency and effectiveness.

A typical challenge in food assistance is the timely availability of sufficient funds to initiate procurement and avoid pipeline breaks. At the launch of the pilot phase adequate funds were allocated (Humanitarian Response Plan and WFP country programme funds) and sustained since to cover all components of the planned prevention programme, enabling timely procurement of SNFs as well as capacity-strengthening of government health workers, CHWs and partners. Decentralisation to community level and scale-up of prevention activities on time was also facilitated by proper funding allocation.

The WFP supply chain was regularly adjusted to meet programme requirements and three-month distribution plans were updated regularly, facilitating adequate allocation of resources to meet needs and achieve distribution targets. In addition, warehouse management was included as a topic in the training package for cooperating partners, health workers and CHWs to ensure efficiency at health facility and community levels. Prepositioning of SNFs at health district level was essential to prevent delays in programme activities, especially during the rainy season.

Engaging across sectors

At the launch of the programme a communication plan was developed and a strategy for the preventive approach disseminated to stakeholders at all levels. The communication package included information on the objectives of the programme and how the proposed changes would improve programme coverage and quality. Annual and monthly activity plans, aligned with outreach activities in the health areas, such as immunisation, were shared with all stakeholders in target regions to facilitate planning. WFP and its cooperating partners worked to strengthen coordination mechanisms at local level; for example, by supporting MoPH to advocate for the prevention platform to other government ministries and humanitarian actors during coordination meetings. During the meetings brief presentations were given to show the impact of the new service delivery model with a focus on coverage of complementary services.

The adapted programme required scale-up from other agencies to deliver on complementary services, which was complex due to variation in funding sources and fiscal calendars. However, WFP minimised the effect of this complexity by using the availability and presence of other actors in geographic sites as a criterion for targeting (in addition to vulnerability criteria) to guarantee a minimum set of services to be delivered to targeted communities. Variation in the complementary services provided is highly dependent on the number of humanitarian actors present at each site. A minimum package is based on services provided by the MoPH, including immunisation, routine vitamin A supplementation, deworming, prevention and treatment of malaria and other common childhood illnesses, family planning, promotion of appropriate IYCF practices, and other essential family practices.

Conclusions

WFP successfully assisted the Government of Cameroon to reorient the nutrition programme in response to the increased influx of refugees from CAR and the Lake Chad crisis. The programme was not intended to replace treatment, but rather to respond to an immediate and growing emergency, taking into account the limited financial and human resources and preparedness capacity in-country for a treatment-centred approach. The shift towards a multi-sector preventive approach was supported by a robust situation analysis.

The programme is scheduled to continue until 2020, aligned with the timeframe of WFP's Country Strategic Plan for Cameroon. The future transition strategy will require a continued focus on geographic areas with high GAM, based on MUAC screening, and will involve expanding the programme to focus on stunting prevention, with the possibility of using locally produced fortified nutritious foods, distributed in kind or made available and accessible through cash and vouchers.

This example of a programmatic shift towards prevention in Cameroon demonstrates the importance of exploring innovative nutrition solutions, especially when the programmes in place are not achieving expected outcomes. This experience offers important lessons for conducting large-scale multi-sector programmes to prevent and treat malnutrition in humanitarian and fragile settings and areas prone to high food insecurity. The integration of this programmatic approach into national social protection or social safety nets remains critical for medium and long-term sustainability.

For more information, please contact Eveline Ngwenyi at Eveline.ngwenyi@wfp.org

References

- Enquete de Couverture du Programme PCIMAS, Régions de l'Extrême-Nord, du Nord, de l'Adamaoua et de l'Est, Novembre/Décembre 2018.
- WFP, Emergency Food Security Assessment (EFSA). June and September 2015.