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<tr>
<td>ACSD</td>
<td>Accelerated Child Survival &amp; Development</td>
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<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<tr>
<td>ARI</td>
<td>Acute Respiratory tract Infection</td>
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<tr>
<td>CHAI</td>
<td>Clinton Health Access Initiative</td>
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<td>CHAM</td>
<td>Christian Health Association of Malawi</td>
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<tr>
<td>CIDA</td>
<td>Canadian International Development Agency</td>
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<tr>
<td>CMAM</td>
<td>Community Management of Acute Malnutrition</td>
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<tr>
<td>CAS</td>
<td>CMAM Advisory Service</td>
</tr>
<tr>
<td>DFATD</td>
<td>Canadian Department of Foreign Affairs, Trade and Development</td>
</tr>
<tr>
<td>DFID</td>
<td>UK Department For International Development</td>
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<tr>
<td>DHIS-2</td>
<td>District Health Information System - 2</td>
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<tr>
<td>DHO</td>
<td>District Health Office</td>
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<tr>
<td>DIP</td>
<td>District Implementation Plans</td>
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<tr>
<td>DSA</td>
<td>daily subsistence allowances</td>
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<tr>
<td>ECHO</td>
<td>Humanitarian Aid department of the European Commission</td>
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<tr>
<td>ENA</td>
<td>Essential Nutrition Actions</td>
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<tr>
<td>EPI</td>
<td>Expanded Programme of Immunization</td>
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<td>EU</td>
<td>European Union</td>
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<tr>
<td>F75</td>
<td>Therapeutic milk 75</td>
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<td>F100</td>
<td>Therapeutic milk 100</td>
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<td>FANTA</td>
<td>Food And Nutrition Technical Assistance</td>
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<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>Family Planning</td>
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<td>GAM</td>
<td>Global Acute Malnutrition</td>
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<td>GIZ</td>
<td>German Federal Enterprise for International Cooperation</td>
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<tr>
<td>GMP</td>
<td>growth monitoring and promotion</td>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HQ</td>
<td>Head Quarter</td>
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<tr>
<td>HW</td>
<td>Health Worker</td>
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<tr>
<td>IMCI</td>
<td>Integrated Management of Childhood Illness</td>
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<tr>
<td>IYCF</td>
<td>Infant and Young Child Feeding practices</td>
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<tr>
<td>MAM</td>
<td>Moderate Acute Malnutrition</td>
</tr>
<tr>
<td>MCH</td>
<td>mother and child health</td>
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<tr>
<td>MDG</td>
<td>Millennium Development Goals</td>
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<td>MoH</td>
<td>Ministry of Health</td>
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<tr>
<td>MUAC</td>
<td>Middle Upper Arm Circumference</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<tr>
<td>NNPSNP</td>
<td>National Nutrition Policy and Strategic Plan</td>
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<td>NRU</td>
<td>Nutrition Rehabilitation Unit</td>
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<tr>
<td>OJT</td>
<td>On-the-Job Training</td>
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<tr>
<td>OTP</td>
<td>Outpatient Therapeutic Programme</td>
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<tr>
<td>Acronym</td>
<td>Definition</td>
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<tr>
<td>PHC</td>
<td>Primary Health Care</td>
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<tr>
<td>ReSoMal</td>
<td>Rehydration Solution for Malnutrition</td>
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<tr>
<td>RUTF</td>
<td>Ready to Use Therapeutic Food</td>
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<td>SAM</td>
<td>Severe Acute Malnutrition</td>
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<td>SFP</td>
<td>Supplementary Feeding Programme</td>
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<td>SUN</td>
<td>Scaling Up Nutrition</td>
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<td>TOR</td>
<td>Term Of Reference</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNDAF</td>
<td>Development Assistance Framework</td>
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<tr>
<td>USD</td>
<td>US Dollar</td>
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<td>UNICEF</td>
<td>United Nations Children's Fund</td>
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<td>WFP</td>
<td>World Food Programme</td>
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Executive Summary
Malnutrition has been a leading cause of infant and child mortality for many years in Malawi, where about 53% of children deaths are attributable to malnutrition. The 2015 annual SAM burden was estimated at about 79,301 under-five children. Since 2003, equitable access to nutrition services has been a key component of the National Health Strategy, and the prevention and treatment of acute malnutrition is one of the six priorities in Malawi’s Growth and Development Strategy 2011-2016 and the National Nutrition Policy and Strategic Plan, which imbeds Community Management of Acute Malnutrition (CMAM). CMAM approach implemented in Malawi has four main components (1) Community Outreach; (2) Outpatient Therapeutic Programme (OTP); (3) Nutrition Rehabilitation Unit (NRU); and (4) Supplementary Feeding Programme (SFP). The Ministry of Health (MoH) implements CMAM in close partnership with donors, technical and development partners, Non-Governmental Organisations (NGOs), and the private sector. Main partners include the Canadian Department of Foreign Affairs, Trade and Development (DFATD), Irish Aid, the UK Department For International Development (DFID), the government of Japan, the government of Switzerland, the Food and Nutrition Technical Assistance (FANTA), UNICEF, WFP, the Clinton Health Access Initiative (CHAI), the Christian Health Association of Malawi (CHAM), World Vision, Valid Nutrition, Project Peanut Butter, SSDI, Bayor and Academics. Despite important achievements in terms of geographic coverage (the intervention being implemented in the 29 districts of the country), uptake and quality of CMAM services needs strengthening. This evaluation was commissioned in response to the need to examine the overall progress in implementing CMAM during the UNICEF country programme 2012-2017.

The standard UNEG/OECD-DAC criteria of relevance, effectiveness, efficiency, impact and sustainability were used to generate evidence for the evaluation, which was a process, output and outcome assessment of CMAM that took place from national to district and community levels. Data were obtained from secondary sources, individual interviews, focus group discussions and direct observations during visits to 18 sampled CMAM sites in 14 districts. Findings were assessed against the standards/targets outlined in the National Nutrition Strategic Plan and the national CMAM guidelines. A performance rating of 1 to 4 (1 low; 4 high) was applied to judge each evaluation criterion. The evaluation report underwent a rigorous review and written feedback from UNICEF and MoH focal points, as well as a validation meeting that took place in Lilongwe on July 11, 2016. The best practices, lessons learned and recommendations will be used for strengthening on-going CMAM and for designing the new UNICEF Malawi Country Programme.

Key findings and conclusions
Relevance
The context of Malawi is characterised by recurrent crisis (drought, floods) that impact the nutrition status of children. CMAM started as an emergency response intervention in Malawi in 2002. Since its institutionalisation in 2006 the intervention has been integrated into the health system. The purpose of CMAM programme for the 2012-2017 period was to contribute to system strengthening through good coordination, governance and management, gender and
equity, capacity development, advocacy and policy development, and information/data management. These target intervention areas were appropriate to the national context as they aimed to achieve full integration of CMAM into the health system. The intervention is currently addressing acute malnutrition among children under-five years of age as both an emergency response and regular programme, and it is implemented alongside with other child health programmes. However, linkages between these different interventions in terms of service provision in the community are weak and should be strengthened for optimal access of acutely malnourished children and anticipation of emergency.

Efficiency

CMAM guidelines were of important support for trained health workers and volunteers in properly addressing malnutrition in the NRUs, OTPs, SFPs and the community. However, frequent shortages of supplies, high turnover of skilled health care providers, irregular mentoring and delay in activity reporting were recurrent challenges experienced by health workers. Admission of children to the programme was achieved through case identification at both community and health facility levels. On-the-job training played an important role in improving the performance of the health facility staff in anthropometric and clinical assessment, treatment and counselling. Refresher training, mentorship and coaching were necessary for keeping Health Surveillance Assistants (HSAs) and volunteers active, improving access and the quality of services. RUTF and supplementary foods absorbed the majority of the SAM and MAM outpatient costs. Efficiency might be achieved through stronger integration into the health system and linkages of CMAM with other child health interventions.

Effectiveness

There has been great achievement in geographic coverage which has increased over time, with 100% NRU coverage, 94.8% OTP and 88.6% SFP. Deployment of nutrition officers at district levels and active involvement of DHOs in the process of scaling-up, along with training of clinicians, nurses, homecraft workers, HSAs and volunteers, and availability of funds for equipment, supply procurement and delivery to the last mile contributed to the high geographic coverage.

The admission trends increased over time, indicating that case identification and referral was performed at both community and in the health facilities. Village heads assisted with the identification of volunteers involved in community outreach activities. However, despite high geographic coverage, less than 50% of the target population (acutely malnourished children for this evaluation) have been reached over the 2012-2015 period, with a monthly bed occupancy of only 61% observed in most NRUs across the country. Many children screened and referred by volunteers did not get to the health facilities due to distance, religious beliefs and preference for traditional healers. Household follow ups were not performed on a regular basis due to lack of incentives and means of transport for HSAs and volunteers. Efforts have to be deployed for accessing more children in the community. Stronger linkages between interventions targeting children under-five years of age such as Integrated Management of Childhood Illness (IMCI), Essential Nutrition Actions (ENA), and Accelerated Child Survival &
Development, along with suppression of service fees, involvement of traditional healers and creation of mobile outpatient treatment, health posts or village clinics would offer opportunity for identifying and managing more acutely malnourished children.

The programme performance was within the recommended Sphere standards, except for default rates which were high consecutive to frequent shortage of supplies. Death rates were also high in some NRUs, and this was attributed to late presentation of children to the hospitals, insufficient staff rotations, low participation of clinicians and nurses to the treatment of hospitalised SAM children and insufficient monitoring and mentoring. CMAM indicators were included in the District Health Information System-2 (DHIS-2), but there were delays in monthly report submission. In addition, platforms for information sharing among partners were limited, along with irregular joint supervision and mentorship. The weak cash flow of Ready-to-Use Therapeutic Food (RUTF) local producers and improper forecasting did not facilitate the anticipation of orders and production of large quantities of RUTF, which were causes of delays in the delivery of supplies.

**Impact**

The GAM prevalence decreased from 4 to 3.3% between 2010 and 2015-16 at national level. Similarly, SAM prevalence decreased from 1.5% in 2010 to 0.6% in 2015-16, which achieved the national target of < 1%. However, MAM prevalence slightly increased from 2.5 to 2.7% in the same period. Thus, the implementation of CMAM successfully contributed to maintain the GAM prevalence under the emergency threshold. This success might be attributed to the implementation of CMAM in synergy with other maternal and child health interventions.

Mass screening leads to a dramatic increase in the number of admitted SAM and MAM cases. Findings demonstrated that putting more emphasis on community outreach (and particularly active case finding) would contribute to reducing the equity gaps by improving access to services in the country. Complementarity between different partners operating at community level should be initiated and strengthened. Linkages of CMAM with these interventions, along with childhood infectious diseases management and interventions, agricultural development, food security, water, sanitation and hygiene should be strengthened for optimal impact. In addition, suppression of service fees, more involvement of religious leaders and traditional healers would offer opportunity for identifying and managing more acutely malnourished children, along with expanding the roles of HSAs to manage RUTF outside health facilities, initiating mobile outpatient treatment or creating health posts or village clinics.

One unintended consequence was the fact that despite experiencing frequent shortages of supplies, some MAM children were recovering through appropriate application of counselling messages that were given to caretakers. Thus, the importance of deeply assessing the prevention of acute malnutrition through Infant and Young Child Feeding (IYCF) counselling and education on complementary feeding during food secure periods.
Sustainability

CMAM has been included into different national policies and strategies. Clinicians, HSAs, volunteers and community leaders were trained across the country between 2013 and 2014, although 50% of them are yet to be trained, and there is high turnover of skilled workers. CMAM activities are currently delivered as routine services in the health facilities across the country. At national level, a CMAM stakeholder committee regularly meets for information and experience sharing under the leadership of the Ministry of Health (MoH). However, the coordination mechanism at district level should be strengthened.

In Malawi, the biggest hurdle in sustaining CMAM is that the country depends on 90% CMAM budget support from donors. Although CMAM has been included in the district implementation plans, the intervention is still not yet funded by national budgets. In addition, CMAM was not perceived as a comprehensive strategy by donors, who targeted and funded specific components or subcomponents rather than funding the overall approach. Thus, reliance on external funding and lack of national funding commitments are jeopardising the sustainability of CMAM in Malawi. Efficient use of external funds through good coordination of different stakeholders’ CMAM budgets should be initiated for efficiency and sustainability, along with strong linkages between CMAM and other child survival and development interventions implemented at community level.

Some lessons learned from the implementation of CMAM in Malawi during the period 2012-2017 are the following:

- Community outreach is as important as the three other components of CMAM, especially in terms of service access and uptake. Due to insufficient support to community service providers, absence of community outreach indicators, forms and database, it is difficult to properly assess the linkages and effectiveness between the screening, referral, admission and follow-up processes.

- Deployment of nutrition officers at district levels, active involvement of District Health Officers in the process of scaling-up, training of clinicians, nurses, homecraft workers, Health Surveillance Assistants and volunteers, along with availability of funds for equipment, supply procurement and delivery to the last miles were contributing factors to high geographic coverage achieved from 2012 to 2015.

- High geographic coverage does not necessary induce high treatment coverage, and might even be the cause of resource wastage (as it was the case for the low bed occupancy in the NRUs), if community outreach activities are not properly supported for accessing the most vulnerable and thereby, increasing uptake and demand for CMAM.

- Integrating CMAM supply into the national supply chain does not preclude timely delivery of products to the last miles. Until full technical and financial capacity of the government is achieved, this important element of CMAM should function in parallel
to the Ministry of Health system for better efficiency and effectiveness.

- Despite experiencing shortages of supplies in many SFPs, some children recovered through appropriate application of counselling messages on infant and child feeding given to caretakers. Use of counselling might be an alternative for prevention of SAM in food secured areas of the country, although it is difficult to ascertain how long it took for counselling to be effective in restoring the child to a normal status.

- Maturity and long experience in CMAM implementation does not preclude government financial ownership. Taking over CMAM by the government of Malawi, although contributing to policy and strategy development, did not result in permanent funding from national government. After 14 years of CMAM implementation, there is still need to explore means for securing sustainable funding for CMAM by the government of Malawi.

- Despite long experience in funding CMAM, donors still do not have a comprehensive perception of the CMAM model. They have to be sensitised on the relevance of concomitantly funding all the four CMAM component on a long term, rather than focusing and funding for short term specific components or subcomponents of the intervention.

**Key Recommendations**

The following key recommendations were identified as priority areas to be addressed by the Government of Malawi, the MoH, UNICEF, and other partners and stakeholders. More details of these recommendations and the lead organization(s) can be found in the report.

1. Revise the Community Outreach component of the national CMAM guidelines so as to strengthen the linkages between screening, referral, admission and follow up processes.

2. Strengthen the capacity of health workers, District Health Officers, Health Surveillance Assistants, and volunteers for CMAM.

3. Develop a community health strategy that strongly links CMAM with other health interventions implemented at community level.

4. Conduct coverage surveys to appraise the distribution of health facilities that are providing CMAM services versus the actual needs/pockets of acute malnutrition in each district.

5. Strengthen the national health information system for real time monitoring and timely reporting.
6. Strengthen the government supply chain and logistics system for timely delivery and storage of supplies in the health facilities.

7. Conduct operational research on the effectiveness and cost-effectiveness of preventing SAM through counselling during food secure periods.

8. Strengthen linkages and referral of children discharged from CMAM programme to exiting social protection and livelihoods programmes in the community.

9. Continue the partnership with donors and development partners in order to ensure long term funding for CMAM, improve access and uptake of CMAM services and prevent acute malnutrition.
Introduction
Acute malnutrition affects around 52 million children annually and it is the direct and indirect cause of an estimated 2.5 million child deaths in low- and middle-income countries\textsuperscript{1-2}. In Malawi, malnutrition is a leading cause of infant and child mortality. Recent estimates showed that about 76,000 children die before their fifth birthday, and about 53% of these deaths are attributable to malnutrition\textsuperscript{3}. The prevalence of stunting in children reduced from 52.5\% in 2004 to 37.1\% in 2015-16. This represents a great achievement, although this prevalence remains an important public health concern. Global acute malnutrition (GAM) or wasting prevalence dropped from 6\% in 2004 to 3.3\% in 2015-16. With severe acute malnutrition (SAM) prevalence of 1.1\% in 2014, the annual SAM burden for 2015 was estimated at about 79,301 under-five children. Underweight prevalence continually decreased from 17.3\% to 14.2\% in 2004 and 2015-16 respectively, but slightly increased at 21\% in 2006 and 17\% in 2014 (figure 1). This situation is further compounded by widespread sub-optimal infant feeding practices. According to the Malawi MDG Endline survey of 2014, an estimated 30\% of children are not exclusively breastfed during the first six months of life, and only26.6\% of those aged 6-23 months receive foods from at least four food groups. Less than 15\% of breastfed children 6-23 months receive a minimum acceptable diet\textsuperscript{4}. Thus, much still needs to be done to improve the nutrition situation of children under-five years of age in the country.

Equitable access to nutrition services is a component of the National Health Strategy\textsuperscript{5} in Malawi since 2003. Management of malnutrition is also one of the six priorities in the Malawi Growth and Development Strategy 2011-2016\textsuperscript{6}. Within these strategies, Community Management of Acute malnutrition (CMAM) is the intervention designed to address acute malnutrition among children under-five years of age. CMAM is an approach that enables health surveillance assistants (HSAs) and community volunteers to identify and refer for treatment children with acute malnutrition before they become seriously ill. Caregivers provide treatment for the majority of SAM children in the home using Ready-to-Use-Therapeutic Foods (RUTF) and routine medicines. SAM children who have medical complications or lack an appetite are referred to in-patient facilities for more intensive treatment. CMAM approach implemented in Malawi has four main components\textsuperscript{7}:

1. Community Outreach, aimed at community sensitisation and mobilisation, active case-finding, referral and follow-up;
2. Outpatient Therapeutic Programme (OTP), which treats SAM children with appetite and without medical complications with RUTF and systematic medications administered at home. The child attends OTP weekly for check-ups and resupply.

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3. Nutrition Rehabilitation Unit (NRU), which provides in-patient care to SAM children with complications until the patients are stabilised and suitable for transfer to OTP.
4. Supplementary Feeding Programme (SFP), providing dry take-home rations to moderate acutely malnourished (MAM) children, pregnant and lactating women, and patients discharged from OTP or NRU.

The intervention is currently implemented in 598 OTP sites and 102 NRUs in the 29 districts of the country. However, in spite of this high geographic coverage, CMAM services require strengthening in order to improve the quality of the intervention.

This evaluation was commissioned in response to the need to examine the overall progress in implementing CMAM during the UNICEF country programme 2012-2017. Targeted intervention areas included policy development and advocacy, governance/coordination and management, capacity development, information/data management, and gender and equity. The best practices, lessons learned and recommendations will be used for strengthening ongoing CMAM and for designing the new UNICEF Malawi Country Programme 2017-2021. These best practices will also be promoted in collaboration with UNICEF ESARO and Headquarters.

Figure 1: Trends of malnutrition prevalence in Malawi from 2004 to 2015-16.

2. Evaluation questions and objectives
The evaluation was a process, output and outcome assessment of CMAM that took place from national to district and community levels, within the context of UNICEF 2012-2017 country programme. It was guided by a CMAM logic model adapted from the CMAM multi-country evaluation conducted in 2011-20128.

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2.1. Evaluation Questions

The standard UNEG and the Organisation for Economic Cooperation and Development/Development Assistance Committee (OECD-DAC) evaluation criteria of relevance, effectiveness, efficiency, impact and sustainability\(^9\) were used to generate evidence for the evaluation. They are briefly described below.

2.1.1. Relevance

The assessment of this criteria was important for determining how well the overall CMAM programme strategy evolved and to what extent CMAM objectives responded to the local/national context, needs and priorities. The technical and organisational support provided by UNICEF was also judged on whether it was appropriate for national needs and provided as stipulated in the 2012-2017 Country Programme Action Plan.

2.1.2. Effectiveness

The strategies for service provision as per the CMAM national guidelines were examined. The added value of CMAM was measured by how far the intended beneficiaries really benefited from the services. Activities implemented for CMAM were evaluated against national standards, and the evaluation considered the degree of coordination between programmes.

2.1.3. Efficiency

The evaluation assessed to what extent the various activities transformed the available resources into the intended CMAM outputs, what has worked the best and how well the gaps have been identified and addressed. The activities implemented for CMAM were evaluated against national standards and the bottlenecks for meeting the standards identified. Quality of programme implementation was examined in terms of how well roles and responsibilities of various staff and stakeholders are understood and carried out, how effectively funds have been allocated and utilised and how well coordination mechanisms functioned to identify and address gaps and duplications nationally.

2.1.4. Impact

Assessing the impact consisted of addressing questions related to the improvements attributed to CMAM on its wider environment. The evaluation focused on outcomes or longitudinal data which signify changes or potential impact such as nutritional situation as well as child mortality and under-five mortality.

2.1.5. Sustainability

It was important to assess whether the flow of benefits for beneficiaries is likely to continue after programme completion, and whether its longer-term impact can be sustained at the levels of the district, region or country. The evaluation examined administrative, institutional,

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technical and financial sustainability, and considered the strategy of the government and donors for funding the intervention in the long term. Additional issues explored included integration of CMAM into national health services and policies, as well as CMAM implementation within a multi-sectoral strategy.

2.2. Objectives of the evaluation
The objectives of the evaluation were the following:
1) To assess CMAM *relevance and appropriateness, efficiency and quality of services*
2) To assess the *effectiveness, impact and sustainability* of the programme
3) To assess the extent to which implementation of CMAM has contributed to systems strengthening (i.e. how coordination, governance and management, gender and equity, capacity development, advocacy and policy development, and information/data management has been established)
4) To document best practices and generate evidence-based lessons and recommendations to strengthen efforts towards quality improvement and coverage of CMAM.

3. Evaluation Design and Methodology
3.1. The CMAM Theory of Change applied to the context of Malawi
The CMAM logic model links intervention investment (inputs) to process and outputs, and to anticipated changes (outcomes) in the target population (figure 2). The *inputs* include leadership and coordination, CMAM policy and guidelines, financing, human resources in the health facilities and communities, health and community infrastructures, equipment and supplies. The *activities/processes* include the assessments of the nutrition situation, the health system, and community capacity; capacity development (training of health workers; rehabilitating and equipping health facilities; procuring, storing and delivering the supplies); information and data management (monitoring, supervision and reporting). The diagram under activities and processes depicts the inter-relationship between the four components and the context of implementation among other sectors and interventions. The main *outputs* are sensitised communities, children with MAM and SAM identified, referred, admitted, treated and followed up, trained health workers, rehabilitated, well equipped and supplied health facilities. For community outreach, the indicators include the % of total children < 5 years being screened for malnutrition, % of screened children referred to services, % of referred children admitted in the services, % of caretakers receiving counselling, and level of community awareness about services for acute malnutrition. Additional outputs include well monitored and supervised activities. The programme should also achieve adequate geographic and treatment coverages. The *outcomes* include appropriate management of MAM and SAM children, translated into acceptable performance indicators (cure rate, mortality rate, and default rate). The equity gaps should also be reduced in the districts. The implementation of CMAM should *impact* the child nutritional status, particularly reduction of GAM, MAM, and SAM prevalence, as well as reduction of child morbidity and mortality rates. There are linkages between CMAM and other nutrition and health interventions targeting under-five children that may influence the expected CMAM outcomes. CMAM is also implemented within the national
socio-demographic, political, economic, geographical, and cultural context. Overall, the investment (inputs) produces changes at the level of children (improved nutritional and health status), the community (awareness and involvement), the health workers (improved management capacity), and the local authorities (ownership). Indicators were determined for each of these key elements of programme implementation, extracted from the 2012 national CMAM guidelines\textsuperscript{10} and the National Nutrition Policy and Strategic Plan (NNPSP)\textsuperscript{11} (see annexe 1).


\textsuperscript{11} National Nutrition Policy and Strategic Plan 2007 – 2012.
Figure 2: CMAM Theory of Change used for CMAM evaluation in Malawi.
3.2. Secondary Data Review
The evaluation team reviewed documents received from the UNICEF Country Office, and collected additional documentation and articles online and during field visits. These documents included national policies and strategies, national guidelines, operational plans, nutrition and health surveys, routine monitoring data, assessment and evaluation reports. The list of documents reviewed can be found at the end of the report.

3.3. Primary Data Collection
Primary data collection took place from 8th to 21 December 2015 in 14 sampled districts. It was carried out by a team composed of Dr Camille Eric Kouam, CMAM Expert and Team Leader, Chrisie Thakwalakwa, Nutrition Specialist, and four data collectors (Elizabeth Nyirenda, Innocent Lwanda, Stanley Nthumbu and Princess Kayira). After sampling the CMAM sites, three data collection techniques were used for primary data collection: 1) individual interviews, 2) focus group discussion and 3) direct observation.

3.3.1. Sampling of CMAM Sites
Given the important number of CMAM sites (more than 500) in Malawi, a number of criteria and indicators were considered for sampling to ensure fair representation. They included distance from the main referral health centre/hospital (DHO), performance of the centre against the national standards, and management modality (public versus private health centre) (see annex 3). An attempt was made to ensure, as much as possible, an adequate representation of NRUs and OTP/SFPs while considering the selection criteria. The CMAM database for the year 2015 was examined for this purpose. A total of 18 sites (6 NRUs and 12 OTP/SFPs) were sampled according to the selection criteria (see annex 3 and annex 4).

3.3.2. Individual Interviews
Semi-structured individual interviews were conducted at national, district and community levels. The selection procedure of interviewees was purposive\textsuperscript{12,13}, the evaluation team interacting with people involved in CMAM planning and implementation that were willing to participate in the study. Interview guides were developed for this purpose (annex 5 and annex 6). Interview participants included MoH nutrition focal points, donors, UN Agency nutrition officers, NGOs nutrition representatives, private sectors (local producers of RUTF), district health officers, district nutritionists and CMAM coordinators. The individual interviews were conducted in English or in Chichewa when necessary. A total of 38 persons were interviewed (see annex 7).

3.3.3. Focus Group Discussions
Focus group discussions (FDGs) were held with health workers (HW), community health workers (CHWs) and volunteers, beneficiaries (mothers and fathers of SAM and MAM children admitted in the programme as well as representatives of the community). An attempt was


\textsuperscript{13} Tongco, M., Purposive Sampling as a Tool for Informant Selection. Ethnobotany Research & Applications, 2007. 5: p. 147 - 158.
made to ensure an equal mix of men and women as much as possible for each FGD. A total of 43 FGDs were conducted (see annex 7), with a number of 5 to 10 participants for each. A guide was developed for this purpose (annex 8), and each sessions was arranged beforehand by the evaluation team and the health workers in charge of CMAM sites in order to save time during the process. FGD sessions were held in Chichewa, Tumbuka and Tonga by the evaluation team.

3.3.4. Direct Observations of CMAM sites
Sampled NRU and OTP/SFP sites were observed during field visits. The observations focused on infrastructure, available human resources, equipment and supplies, and activities (process) performed, as per the CMAM guidelines and operational plan. A check list guided the observations (annex 9).

3.4. Data Analysis
Both quantitative and qualitative analysis techniques were employed. Outputs and outcome indicators were computed from quantitative secondary data and assessed against the standards/targets outlined in the National Nutrition Strategic Plan and the national CMAM guidelines. The analysis of qualitative data was inductive\textsuperscript{14} and thematic\textsuperscript{15}. Relevant portions of documents and verbatim (obtained from interviews and FGDs) were grouped under each evaluation question in order to complement quantitative analysis, highlighting contributing factors to the observed achievements. Throughout the report, the ‘reference period’ encompasses January 2012 to December 2015.

A performance rating/score was applied to judge the five evaluation criteria of relevance, effectiveness, efficiency, impact, and sustainability on the basis of four scales as described below:

<table>
<thead>
<tr>
<th>Performance rating score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly satisfactory (fully according to plan or better)</td>
<td>4</td>
</tr>
<tr>
<td>Satisfactory (on balance according to plan, positive aspects outweighing negative aspects)</td>
<td>3</td>
</tr>
<tr>
<td>Less than satisfactory (not sufficiently according to plan, taking into account the evolving context; a few positive aspects, but outweighed by negative aspects)</td>
<td>2</td>
</tr>
<tr>
<td>Highly unsatisfactory (seriously deficient, very few or no positive aspects)</td>
<td>1</td>
</tr>
</tbody>
</table>

3.5. Quality assurance and limitations
3.5.1. Evaluation quality and validation of findings
In order to ensure the quality of the evaluation, the data collection process was strengthened


through exchanges and discussions among the evaluation team members, who were trained on qualitative data collection and compilation, as well as consideration of ethical issues during field visits. Triangulation was employed to mitigate bias, data confirmed by two sources or more. The evaluation report was written as per the UNICEF Evaluation Report Standards and underwent critical iterative processes between the evaluation team, UNICEF, and national nutrition stakeholders for comments and validation of findings. This process culminated with a validation meeting that took place in Lilongwe on July 11, 2016.

3.5.2. Limitations of the evaluation
The evaluation team experienced some challenges described below:

- Due to lack of community outreach database, it was not possible to determine the number of children screened, out of the total number of under-five children in each district. It was also not possible to estimate how many children screened were referred by HSAs and volunteers to the health facilities, and what proportion of those referred were admitted to CMAM. Thus, the team depended on collecting evidence from analysis of primary qualitative data and previous reviews.

- The total number of individual interviews and FGDs could not be carried out as planned. For example, in the districts of Nsanje, Mulanje, Kasungu, Lilongwe, Salima and Nkhotakota, the evaluation team did not hold FDGs with beneficiaries because the message that reached the health workers about the evaluation did not include beneficiaries. This was also the case for volunteers in Blantyre, Lilongwe and Mulanje. However, data collected from other districts was more than sufficient to conduct the analyses.

- CMAM is the only model used for addressing SAM in Malawi. For this reason, the evaluation did not perform comparisons of CMAM to other models. It was also not possible to compare CMAM sites versus non-CMAM sites, as the intervention is implemented across the 29 districts of the country. The possibility of comparison with similar countries not implementing CMAM was explored, but this was not documented. The evaluation therefore used cross-district comparison as much as possible to assess the performance of the intervention against the recommended standards.

- Except for admissions, CMAM data are not recorded according to gender. For example, outcome data such as cure rate, default rate and death rate are not distributed according to gender or socio-economic characteristics of beneficiaries, which limited Gender and Equity analysis.

- Data used to assess MAM outputs or performance were available for 2015 only. The 2010 MDHS, MICSS 2014, and MDHS 2015-16 were used to appraise the impact of the intervention. Given that the 2010 survey took place a bit longer (in 2010) prior and within (2014) the CMAM implementation period that was under consideration (2012-
2017), and given the fact that CMAM is implemented concomitantly with other child health interventions, the conclusion and assumptions elaborated on CMAM impact should be taken with caution.

- One evaluation focus was to assess the cost efficiency of CMAM. Unfortunately, data on cost were limited to make in-depth analysis. Most of the sites visited did not have information on cost of products and logistics, and accessing cost data from all implementing partners was not feasible in the dedicated time for the evaluation. Thus, most information used to discuss cost efficiency was qualitative in nature (i.e., comments provided during interviews with managers).

3.6. Ethical Considerations
The evaluation was conducted after formal approval of the MoH. Field data collectors were made aware of ethical considerations. Informed verbal consent was obtained from participants prior to interviews and FGDs, and they were not identified during data analysis to ensure confidentiality.

4. Evaluation findings
In this section of the report, findings are structured according to the five evaluation criteria of relevance, effectiveness, efficiency, impact and sustainability. It is known that there is frequent overlapping in these criteria and for this reason, effectiveness and efficiency were grouped together, as effectiveness presents the programme achievements while efficiency explains the contributing factors to these achievements. After a brief presentation the policy or strategy (if existing), the standards and targets are introduced. Then the achievements are presented, along with their contributing factors. In the absence of a CMAM operation plan for the targeted period 2012-2017, the achievements were assessed against the targets set in the 2012 national CMAM guidelines and the National Nutrition Policy and Strategy Plan (see annexe 2). The contributing factors to the achievements mainly originated from review of documents, individual interviews and FDGs.

4.1. CMAM Relevance
The TORs highlighted five questions for relevance: (1) To what extend is the CMAM strategy linked with others so that they form a synergistic set that is relevant to achieve the health and nutrition programme results, especially for the most vulnerable children? In other words, is the CMAM strategy used within the most relevant set of strategies? (2) To what extend did the original CMAM strategy evolve and transform itself into other strategy in the selected programme areas/districts? (3) To what extend is the CMAM strategy relevant for and aligned with the needs of the national stakeholders, especially the most relevant children and women? (4) To what extent has the CMAM programme been implemented in partnership with the relevant stakeholders? (5) Were the CMAM objectives appropriate in the overall problem context, needs and priorities?
During the 1990s, Malawi was considered as food secured and nutrition issues were not considered as important. However, the country was hit by a major drought in 2001 and following this natural disaster, the first CMAM pilot (called at that time Community Therapeutic Care) was initiated in 2002 in Dowa district to test the safety and efficacy of the approach. This was initiated by Valid International and Concern Worldwide in partnership with the Ministry of Health (MoH). The CMAM approach was able to address some of the difficulties of service access that the population were facing and was able to treat most of the malnourished children admitted. CMAM was adopted by the MoH as a national strategy for managing acute malnutrition in 2006 following the success in Dowa. A CMAM advisory service (CAS) was established, mainly staffed by members of Concern Worldwide, with the objective to provide technical support to the MoH for scaling-up CMAM activities across the country. Particular emphasis was put on the standardisation of activities, assistance with development of strategic plans, training and operational plans, mentoring, monitoring and evaluation (M&E) of MoH-led CMAM services. The 2009-2012 Operational Plan for CMAM integration into the health system throughout Malawi was developed. A number of processes took place, including the development of national guidelines to harmonise implementation modalities (the latest version made available in 2012 and is currently updated). Concomitantly, CMAM was included into national policies and strategies such as the Infant and Young Child Feeding Policy 2009, the National Nutrition Policy and Strategic Plan, the Malawi Health Sector Strategic Plan (2011-2016), the Malawi Growth and Development Strategy 2011-2016, and the current National Nutrition Policy 2016-2020. With the support of partners, the MoH has integrated CMAM into the national nutrition strategies for Integrated Management of Childhood Illnesses (IMCI), the Essential Nutrition Actions (ENA) and the Accelerated Child Survival and Development (ACSD). Moreover, counselling on optimal Infant and Young Child Feeding (IYCF) was included into CMAM guidelines to assist service providers to counsel the caregivers within the community and in the health facilities. CMAM is implemented concomitantly with programmes such as malaria prevention and treatment, Acute Respiratory Infections (ARI), or Expanded Programme of Immunisation (EPI). However, despite being promoted at national level through policies and guidelines and implemented concomitantly in the health facilities, linkages between these different interventions in terms of service provision in the community was judged weak by programme managers and health workers interviewed. Clinicians, nurses, HSAs and community volunteers are trained on of each of these interventions separately, rather than getting a training package that considers and links all of them. This insufficient comprehensive approach mainly derived from the fact that these interventions are supported by different donors and implementing partners, although delivered through the national health system and targeting the same population.

17 Infant & Young Child Nutrition Policy 2009.
19 Malawi Health Sector Strategic Plan 2011 - 2016
21 National Nutrition Policy 2016-2020 (in draft)
From the onset of the national scaling-up process, the MoH realised that partnership with donors, development partners, NGOs, and the private sector would be of paramount importance for CMAM implementation. At national level, the MoH, UNICEF and the Clinton Health Access Initiative (CHAI) were the main organisations supporting the treatment of SAM. Other organisations that developed SAM related programmes at district and/or facility level included Christian Health Association of Malawi (CHAM) and World Vision. UNICEF procured the RUTF, therapeutic milks F75 and F100, as well as Rehydration Solution for Malnutrition (ReSoMal). CHAI also procured RUTF. Apart from the MoH, the WFP has been the main organisation working on MAM, managing the supplementary food supply chain from procurement to delivery. In 2013, an evaluation of the 2009-2012 scaling-up strategy showed that it developed the capacity to implement CMAM services in 81% of the health facilities and it successfully achieved cure rates, death rates and default rates as per the recommended Sphere standards. Following this successful national scaling-up experience, it was felt that the Malawi government was mature enough to take on the intervention. In 2013, the overall coordination and management of CMAM was transferred from the CMAM advisory service to the national authorities. From that time on, the Department of Nutrition, HIV and AIDS under the National Nutrition Unit of the MoH has been providing policy direction, guidance and oversight to coordinate the implementation, monitoring and evaluation of CMAM. CMAM therefore evolved from an NGO led intervention to progressive government ownership through integration into the national health system that was enforced during the 2012-2017 period. The MoH implements CMAM in close partnership with donors, development partners, NGOs, and the private sector. From 2012 to 2016, the intervention was funded by the Canadian Department of Foreign Affairs, Trade and Development (DFATD).

As stipulated in the joint statement on CMAM, the role of UNICEF along with WHO and WFP is to mobilise resources, facilitate local production of RUTF, support nutrition protocols, work with the government, private sector and NGOs, conduct operations research to refine protocols and jointly implement CMAM in emergency and non-emergency situations. For UNICEF Malawi, CMAM has been a major part of the Nutrition Programme under the 2012-2017 Country Programme Action Plan. The intervention supports the national framework of Malawi Growth and Development Strategy as well as the 2012-2016 UN Development Assistance Framework (UNDAF). CMAM objectives were appropriate to the country context for addressing acute malnutrition, as it aims to system strengthening. From 2012 to 2017, UNICEF supported the development and dissemination of manuals and guidelines, trained clinicians, nurses, HSAs and volunteers, supported the development and utilisation of the CMAM information system, costed CMAM plan annually, advocated for increased resource allocation by government and donors, supported the integration of CMAM in sectoral policies, and included CMAM in the job-description of district nutritionists. UNICEF played a significant role in advocacy by engaging all parties through nutrition cluster meetings. The organisation advocated for and supported

22 Final Evaluation of the Community-Based Therapeutic Care Institutionalization in Malawi (CTCIM) project. USAID-CIDA, September 2013
the implementation of CMAM through the national health system. The nutrition information system was established and integrated into the district health information system (DHIS-2), which ensured availability and accessibility of data for programme planning to all partners. UNICEF procured SAM supplies and managed quality control, warehousing and delivery of supplies to the DHO.

In terms of gender and equity, CMAM intervention targets most vulnerable groups in Malawi, including children 0-12 years of age, HIV positive cases and pregnant and lactating women. The intervention also aims to cover sparsely populated regions where beneficiaries travel a long distance in accessing care. UNICEF supported the development of the national CMAM gender strategy in 2015, which is being finalised and will contribute to address gender issues related to CMAM.

4.2. CMAM Effectiveness and Efficiency

Five questions were highlighted in the TORs for addressing effectiveness criterion: (1) To what extent has the CMAM programme contributed to achieving (or not) the expected outcome and output level results in the programme areas? (2) To what extent was the CMAM strategy more (or less) effective due to the synergies with other strategies in the framework of the country programme (especially with the other Nutrition components as well as Health and WASH interventions)? (3) To what extent has the CMAM strategy contributed to reducing bottlenecks and barriers that determine equity gaps affecting vulnerable children in the programme? (4) What have been the main factors that promoted or hindered the effectiveness of the CMAM approach? (5) What difference did CMAM make, as measured by how far the intended beneficiaries really benefited from the products or services? Three main questions were directed towards efficiency: (1) How well has the CMAM programme implementation been managed in the programme districts/areas? (2) To what extent is the CMAM programme cost efficient? Could the same results have been achieved using different strategies and with less resources? (3) To what extent did the various activities transform the available resources into the intended CMAM outputs in terms of quantity, quality and timeliness?

Findings are presented in this section according to the four CMAM components of community outreach, OTP, SFP, and NRU. Monitoring, evaluation, as well as supply chain management are also discussed.

4.2.1. Community Outreach

According to the Malawi National Guidelines for the Management of Acute Malnutrition, the community outreach aims to increase programme coverage and to strengthen the capacity of the community to manage acute malnutrition through case identification and referral, household follow up, and prevention25. Key findings obtained from the implementation of the different community outreach activities are discussed below.

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4.2.1.1. Case identification and referral

Case identification consists of using a MUAC tape to screen for malnutrition, checking for bilateral oedema or checking weight for height, target groups being children aged 0 to 12 years. Those identified as malnourished are referred to the health facility for case confirmation where weight/height measurements are taken and they are admitted to the programme. HSAs and volunteers are in charge of performing these activities in the community, keeping and sharing screening records with local leaders and the health facility staff. No screening target was set up in the NNPSM and CMAM guidelines. The frequency of screening was not also specified. Admission trends to the OTPs showed that the number of SAM children admitted annually increased from 29,914 in 2012 to 34,521 in 2015 (figure 3). This shows that case detection was happening in both the community and the health facilities. However, it was not possible to determine the proportion of admitted children that were referred by HSAs and volunteers, as compared to those admitted from direct contact with the health facility. It was not also possible to estimate the proportion of referred children that preferred not to go to the health facilities. This created a gap in the linkages between the screening, referral and admission processes.

During field visits, SAM cases were said to be higher during the hunger season (October to March) when most households do not have much to eat, as they sell most of their farm products after harvesting. Figure 4 confirms that higher admissions were observed during the months of January, February and March. Community members reported that active screening was performed from time to time by HSAs and volunteers during community/village meetings, sensitisation campaigns and household visits. Children identified as malnourished were referred to the nearest CMAM site, but, according to interviewees, many of them did not make it to the health facility because of long distance and some due to religious beliefs. The majority of caregivers who belonged to religious organisations that do not seek treatment to health facilities did not take their referred children to the health centres, but instead prayed for them. Many caregivers also used traditional healers before they opted to use the health centres. However, traditional healers were not involved into community mobilisation activities. HSAs, volunteers and health workers also highlighted a poor coordination between the community based workers, community members and health workers, due to a lack of formal exchange platform.
4.2.1.2. Household Follow Up
According to the national CMAM guidelines, the household visits should be performed in order to ensure compliance and to assess response to treatment, especially when the caretaker has not been regularly coming with the child to the health centre. The NNPS set up annual case
monitoring and follow up targets of 35,000 children for OTP, 10,400 children for NRU, and 59,000 children for SFP. However, the absence of community outreach data did not help to determine whether these targets were met or not. National guidelines do not specify the number of recommended household visits. During field visits, the evaluation team noticed that each facility had its own follow up schedule. For example, Malomo Health centre volunteers in Ntchisi district visited households twice a month, while those of Maganga (Salima district) and Masenjere (in Nsanje district) made it once a week. Other health facilities reported irregular or lack of follow up activities. Main challenges mentioned by HSAs and volunteers for performing follow ups included the lack of transportation means to reach long-distance villages, scattered and hilly areas, especially during rainy seasons. Additional challenges included the absence of caregivers at home during household visits and the fact that some admitted SAM children originated from neighbouring countries such as Mozambique and Zambia, which could not be followed up because they lived outside the health centres catchment area.

4.2.1.3. Community Sensitisation and Mobilisation
Community sensitisation and mobilisation consists of getting information on community structure and its key stakeholders, understanding the local perception of malnutrition, and involving key community members from the outset of the intervention\textsuperscript{26}. The majority of community members in the visited districts were aware of the existence of CMAM programme because health workers communicated with the village heads, church leaders and other community leaders to inform people about the intervention. They also made use of community meetings, under-five clinic meetings, village banking meetings and meetings with NGOs. Village heads assisted with the identification of volunteers and made sure that they recommended people who were committed. It was also evidenced that active HSAs provided sensitisation activities such as counselling on feeding and health practices in the households and at the health facilities. The health talks included nutrition education, hygiene in the home, sanitation and immunisation. HSAs and volunteers complained about the low participation of men during sensitisation meetings despite having malnourished children in their houses, because of cultural beliefs stipulating that such duties are only meant for women. Lack of proper application of advice by caregivers as well as poverty (which made people to sell all their crops despite having a bumper harvest) were additional challenges experienced in the application of sensitisation messages, as reported by HSAs and volunteers that were still active.

Additional complaints included the absence of experience sharing workshops and review meetings with HSAs and volunteers, as it used to be before 2012 and which were important sources of motivation. Before 2012 the community volunteers were very much active because they gathered every three months for information and experience sharing under the financial support of CHAI. They also received bags, T-shirts and umbrellas as means of incentives. Since 2012, quarterly gatherings were not taking place anymore, and volunteers were no longer getting incentives. The decision to stop activities such as workshops for experience sharing and review meetings, without clear explanation of the reasons to HSAs and volunteers have

negatively affected their motivation. They felt neglected and as a result, many of them slowed down or stopped their activities. For example, in Masenjere health centre, out of 36 community volunteers initially trained, only 4 were still active. Similar observations were made in all other districts through interviews and FGDs, but data were not available to quantify all inactive agents, as compared to the initially trained. At UNICEF, the absence of workshops and review meetings was explained by budgetary constraints. These findings confirmed the observations made by the 2012 Global CMAM Synthesis Survey, which pointed out that CHWs performed more effectively when given strong supervision and support, often in the form of training, transport, lunches, and other means to help them reach children and caretakers in their homes and communities. It is important to find alternative sources of motivation for these agents, who are key pillars for improving access to services to malnourished children in the country.

4.2.2. OTP, SFP and NRU services

4.2.2.1. Geographic coverage of CMAM services

The geographical coverage represents the number of health centres providing treatment for acute malnutrition compared to the total number of existing health centres in the country. In the nutrition for Growth Commitment of June 2013, the government of Malawi committed to scale-up CMAM to 80% in all districts by 2016. As of May 2016, Malawi had 635 health facilities distributed across the country. The geographic coverage of CMAM has increased over time. The coverage of NRU, which was 98% in 2012, reached 100% in 2013. Currently there are 101 operational NRUs in Malawi. OTP coverage also increased gradually from 82% in 2012 to 94.8% in 2015, with a current number of 598 operational OTP sites. The OTP target was set at 381 sites in 2012. For SFP, an increase was also observed during the reference period. From 58% in 2012, it reached 88.6% in 2015, with a current number of 563 SFP operational sites (figure 5). As compared to the SFP target of 381 in 2012, there has been an additional 182 sites.

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28 UNICEF agreed definition: Geographical coverage = PHC facilities delivering CMAM services/total PHC facilities.
Figure 5: Evolution of CMAM health facility coverage from 2012 to 2015 in Malawi.

In terms of geographic coverage in the districts, the national target of 80% was achieved in almost all the sampled districts. Table 1 shows that 10 (71.4%) out of the 14 sampled districts achieved 100% OTP coverage or more. SFP geographic coverage was 100% or more in 7 (50%) out of the 14 sampled districts. Dowa, Neno and Nsanje districts achieved greater than 100% coverage, some of the SFP sites in these districts being located in the Health posts. The lowest SFP coverage was observed in Lilongwe district (38.8%).

These findings demonstrate that the nationwide scaling-up strategy of CMAM was successful over the reference period, almost all health facilities across the country currently delivering CMAM services. According to DHO interviewed, deployment of nutrition officers at district levels and active involvement of DHOs in the process of scaling-up were main contributing factors to these achievements, along with availability of funds for supply procurement and delivery from national to district levels.
Table 1: Geographic coverage of CMAM services across Malawi, 2015.

<table>
<thead>
<tr>
<th>Total health facilities in the district</th>
<th>OTP</th>
<th>SFP</th>
<th>OTP coverage</th>
<th>SFP coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blantyre</td>
<td>29</td>
<td>28</td>
<td>22</td>
<td>96.5%</td>
</tr>
<tr>
<td>Chitipa</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>Dowa</td>
<td>22</td>
<td>23</td>
<td>23</td>
<td>105%</td>
</tr>
<tr>
<td>Kasungu</td>
<td>29</td>
<td>29</td>
<td>23</td>
<td>100%</td>
</tr>
<tr>
<td>Lilongwe</td>
<td>54</td>
<td>46</td>
<td>21</td>
<td>85.1%</td>
</tr>
<tr>
<td>Mulanje</td>
<td>23</td>
<td>23</td>
<td>12</td>
<td>100%</td>
</tr>
<tr>
<td>Mwanza</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>Mzimba South</td>
<td>31</td>
<td>23</td>
<td>30</td>
<td>74%</td>
</tr>
<tr>
<td>Neno</td>
<td>10</td>
<td>13</td>
<td>13</td>
<td>130%</td>
</tr>
<tr>
<td>Nkhotaby</td>
<td>21</td>
<td>19</td>
<td>12</td>
<td>90%</td>
</tr>
<tr>
<td>Nkhotakota</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>100%</td>
</tr>
<tr>
<td>Nsanje</td>
<td>14</td>
<td>14</td>
<td>21</td>
<td>100%</td>
</tr>
<tr>
<td>Ntchisi</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>100%</td>
</tr>
<tr>
<td>Salima</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.2.2.2. Treatment coverage of SAM

Treatment coverage represents the number of SAM cases admitted to the programme as compared to the expected caseloads. The expected SAM caseloads were 60,567 in 2012, 62,493 in 2013, 76,845 in 2014 and 79,301 in 2015. Findings obtained from analysis of the data base showed that despite a 100% NRU and a 94.8% OTP geographic coverage (mentioned in the section above), SAM treatment coverage remained below 50% of the expected caseloads for the four years (Table 2). The lowest coverage (43.5%) was observed in 2015, which is paradoxically the year with the highest geographic coverage. This shows that uptake of CMAM services has been challenging in the country.

Table 2: CMAM treatment coverage as compared to expected caseloads.

<table>
<thead>
<tr>
<th>Expected caseload of 65% coverage</th>
<th>Expected caseload of 100% coverage</th>
<th>Total admissions achieved for CMAM</th>
<th>Treatment coverage considering 65% caseload</th>
<th>Treatment coverage considering 100% caseload</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>39368</td>
<td>60567</td>
<td>29914</td>
<td>76.0%</td>
</tr>
<tr>
<td>2013</td>
<td>40620</td>
<td>62493</td>
<td>31086</td>
<td>76.5%</td>
</tr>
<tr>
<td>2014</td>
<td>49949</td>
<td>76845</td>
<td>34068</td>
<td>68.2%</td>
</tr>
<tr>
<td>2015</td>
<td>51546</td>
<td>79301</td>
<td>34521</td>
<td>67.0%</td>
</tr>
</tbody>
</table>

30 UNICEF agreed definition: Treatment coverage = cases treated/need; Need = Population 6-59m * (Prevalence + (Prevalence x 1.6)).
31 Formulas used in 2012-2013 to estimate caseloads: (<5 Population * Prevalence * Incidence); Formulas used in 2014-2015: (population <5 years * (prevalence + (prevalence x incidence))/100
In terms of access according to gender, there was a general consensus among interviewees at district and health facility levels that there is no preference for gender in the provision of CMAM services. Data did not provide evidence of gender discrimination as there was no significant difference in the number of boys and girls admitted to the programme. Compared to boys, the proportion of girls admitted to CMAM services was 51.6%, 52.5% and 51.6% in 2012, 2013, and 2015 respectively. A CMAM gender analysis conducted in 2015 also showed that, although there are significant gender-based access barriers and power imbalances regarding health seeking behaviour and positive feeding practices at the level of the household and the community in general, there was little gender-based discrimination in CMAM-related health facilities where boys and girls, once they reached the facility, get treated equally.

### 4.2.2.3. Capacity of OTP and SFP services

A checklist was used to assess the capacity of the visited CMAM sites. Findings showed that all the OTP/SFP sites had adequate space, clean water points and latrines. Height boards, weight scales, MUAC tapes, and equipment for clinical examination of children were in good working condition. Registration forms, formats and guidelines were also present. All the visited OTP/SFP sites were generally well organised, with good crowd management. The weight, the height and the grade of oedema (if present) were measured properly, although inaccurate screening was reported in 4 out of the 12 OTP/SFP visited, which led to wrong admissions. All information and data per child were well recorded in the registers. Caretakers received medicines, RUTF and supplementary foods when available, along with information on how to administer them, and services were offered free of charge in public health facilities. One-week day was dedicated to nutrition activities when volunteers assisted in anthropometric measurements, nutrition counselling, and distribution of RUTF and supplementary foods. The health facilities also provided primary health care services such as the Expanded Programme of Immunization, Infant and Young Child Feeding, Family Planning, and the Integrated Management of Childhood Illnesses.

### 4.2.2.4. Performance of the OTP and SFP services

From 2012 to 2015, the programme performance rates have generally been within the recommended Sphere standards. Figure 6 shows that at national level, more than 90% of SAM children admitted to OTPs were cured (Sphere recommendation is > 75%), less than 2% died (Sphere recommendation is < 10%), and less than 7% defaulted (Sphere recommendation is < 15%). This confirms the general success of outpatient services, although the default rate was higher than the national target of < 5%.

---

The analysis also showed that all sampled districts were within Sphere standards in terms of cure, death and default rates, except Kasungu district which showed 18.5% default rate (table 3); 8 (57%) out of the 14 sampled districts did not achieve national targets in terms of default rate. These included the three Northern sampled districts (Chitipa, Mzimba South and Nkhatabay), three Central districts (Kasungu, Lilongwe and Ntchisi), and one Southern district (Blantyre). Only 7 (50%) out of the 14 districts achieved the national targets for the three main performance indicators. They included Dowa, Nkhotakota and Salima in the Central region, Mulanje, Mwanza, Neno and Nsanje in the Southern region. Nkhatabay district, located in the Northern region, achieved none of these three indicators during the reference period.
Table 3: Average Performance Indicators of OTPs by District from 2012 to 2015.

<table>
<thead>
<tr>
<th>District</th>
<th>Cure rate</th>
<th>Death rate</th>
<th>Default rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chitipa</td>
<td>92.3</td>
<td>1.9</td>
<td>5.0</td>
</tr>
<tr>
<td>Mzimba South</td>
<td>81.6</td>
<td>1.6</td>
<td>13.7</td>
</tr>
<tr>
<td>Nkhatabay</td>
<td>76.2</td>
<td>2.2</td>
<td>14.9</td>
</tr>
<tr>
<td>Dowa</td>
<td>97.1</td>
<td>1.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Kasungu</td>
<td>77.3</td>
<td>1.4</td>
<td>18.5</td>
</tr>
<tr>
<td>Lilongwe</td>
<td>90.6</td>
<td>0.6</td>
<td>8.4</td>
</tr>
<tr>
<td>Nkhotakota</td>
<td>96.0</td>
<td>0.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Ntchisi</td>
<td>87.9</td>
<td>0.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Salima</td>
<td>94.5</td>
<td>0.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Blantyre</td>
<td>84.5</td>
<td>1.8</td>
<td>10.8</td>
</tr>
<tr>
<td>Mulanje</td>
<td>93.8</td>
<td>1.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Mwanza</td>
<td>99.3</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Neno</td>
<td>95.8</td>
<td>0.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Nsanje</td>
<td>95.5</td>
<td>1.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Overall mean</td>
<td>90.2</td>
<td>1.2</td>
<td>7.0</td>
</tr>
</tbody>
</table>

| Sphere standards | > 75% | < 10% | < 15% |
| National targets  | > 85% | < 2%  | < 5%  |

For SFP, table 4 indicates that MAM management met the Sphere standards for cure rate and death rate in all the sampled districts. Default rates were very high in 5 (35%) districts. They included Chitipa, Mzimba South and Nkhatabay in the Northern region, Kasungu and Ntchisi in the Central region. According to health workers, high defaults in SFP sites were mainly due to recurrent shortages of supplies. Health talks were given to caretakers as alternatives in such cases, and this was somehow successful in terms of cure rate and death rate. However, due to lack of data, it was not possible to ascertain how long it takes for counselling to be effective in restoring the child to a normal status. Health workers reported that about 30 to 40% of children recovered through counselling, although the recovery period was longer. Thus, the importance of rigorous monitoring of the effectiveness of MAM management as a preventive measure for SAM. In other cases, this relative success in some CMAM sites was attributed to the fact that when they experienced shortages of supplementary foods, SAM and MAM children were congested in the NRUs and OTPs until recovery, although this practice was not recommended by CMAM guidelines.
Table 4: MAM management performance indicators in Malawi.

<table>
<thead>
<tr>
<th></th>
<th>Cure rate</th>
<th>Death rate</th>
<th>Default rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chitipa</td>
<td>83</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Mzimba South</td>
<td>76</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Nkhata Bay</td>
<td>77</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Dowa</td>
<td>97</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Kasungu</td>
<td>78</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Lilongwe</td>
<td>92</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Nkhotakota</td>
<td>96</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ntchisi</td>
<td>81</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Salima</td>
<td>96</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Blantyre</td>
<td>91</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Mulanje</td>
<td>92</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Mwanza</td>
<td>99</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Neno</td>
<td>94</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Nsanje</td>
<td>95</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Overall mean</strong></td>
<td><strong>89.1</strong></td>
<td><strong>0.1</strong></td>
<td><strong>7.9</strong></td>
</tr>
<tr>
<td><strong>Sphere standards</strong></td>
<td>&gt; 75%</td>
<td>&lt; 10%</td>
<td>&lt; 15%</td>
</tr>
<tr>
<td><strong>National targets</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

4.2.2.5. Capacity of the NRUs

There is no global standard for the number of inpatient treatment facilities. In Malawi, the plan was to establish at least one NRU in each hospital. All the six NRUs visited had buildings in good conditions, conducive environment, reliable electricity and well cleaned hygiene facilities. They were established in hospitals staffed by Medical Doctors, nutritionists, nurses and at least one home craft worker available day and night shifts. Most of the routine drugs (which originated from DHOs for public hospitals and from CHAM for private hospitals) were available. All NRUs had required functional anthropometric equipment such as weighing scales, height boards and MUAC tapes. CMAM guidelines and job aids were available. Issues observed during field visits of all NRUs included insufficient materials such as thermometers, kitchen milk preparation utensils, blankets, and mattresses, as well as absence of play areas and toys. From the discussions held with NRU staff, it was reported that hospitalised SAM children were supplied with F75 and F100 therapeutic milks and medicines until appropriate stabilisation and transfer to OTP. They mainly complained about the fact that most F75 and F100 delivered to NRUs for the 2014/15 period were close to expiry. They had to regularly destroy the expired stock after delivery to the hospital. Moreover, health workers did not have sufficient time to provide nutrition counseling to caregivers. Some clinicians and nurses, particularly in the Northern region, reported not fully participating into the management of hospitalised SAM children because they were not trained on the 2012 guidelines. This has affected the quality of services provided in the NRUs, which also lacked regular mentoring and coaching. Routine medication
was charged to SAM children in CHAM (private) health facilities. As per the health workers and beneficiaries interviewed, service fees were associated to late presentation of SAM cases, and constituted a barrier to service uptake in private hospitals.

At global and national levels, there is no standard for the number of beds in the NRUs. This depends on the caseload, which also depends on seasons. During rainy and lean seasons, there are more admissions of SAM with complications because of high incidence of diarrhoea and other infectious diseases, or insufficient foods in the households. Beds might therefore be empty in some periods, but insufficient in others\textsuperscript{33}. In some NRU visited, space was limited while in others there was more space and beds than needed. The 2015 (most recent) database on the number of NRUs, the number of beds and the number of admissions was scrutinised to determine the bed occupancy. Table 5 shows that at national level, there was an average of 642 monthly admissions for 1050 available beds in the NRUs, representing a 61\% bed occupancy. An average 408 beds were empty every month of 2015. In the sampled districts, Ntchisi, Mwanza and Neno NRUs needed additional beds to meet the average monthly admissions, while for all the other districts there were much more beds than required. Overall, the bed occupancy was low to very low in 11 out of the 14 sampled districts, with a total number of 187 empty beds every month. During field visits, the evaluation team noticed that 5 out of the 6 NRUs assessed were empty. One NRU was even used as a storage facility because of no admission during the whole year. Thus, the assumption that either many malnourished children in the community are not accessing the services, or many NRUs are not necessary. Their number might need to be reduced for better efficiency in terms of bed occupancy, staff and equipment availability, quality of services and maintenance.

Table 5: Monthly bed occupancy in the sampled districts for the year 2015.

<table>
<thead>
<tr>
<th></th>
<th>NRUs</th>
<th>Beds</th>
<th>Admissions 2015</th>
<th>Average monthly admissions</th>
<th>Monthly bed occupancy</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chitipa</td>
<td>2</td>
<td>16</td>
<td>45</td>
<td>3.8</td>
<td>4/16</td>
<td>12</td>
</tr>
<tr>
<td>Mzimba South</td>
<td>4</td>
<td>44</td>
<td>122</td>
<td>10.2</td>
<td>10/44</td>
<td>34</td>
</tr>
<tr>
<td>Nkhata Bay</td>
<td>2</td>
<td>20</td>
<td>71</td>
<td>5.9</td>
<td>6/20</td>
<td>14</td>
</tr>
<tr>
<td>Dowa</td>
<td>4</td>
<td>51</td>
<td>285</td>
<td>23.8</td>
<td>24/51</td>
<td>26</td>
</tr>
<tr>
<td>Kasungu</td>
<td>5</td>
<td>37</td>
<td>337</td>
<td>28.1</td>
<td>28/37</td>
<td>9</td>
</tr>
<tr>
<td>Lilongwe</td>
<td>9</td>
<td>131</td>
<td>852</td>
<td>71.0</td>
<td>71/131</td>
<td>60</td>
</tr>
<tr>
<td>Nkhotakota</td>
<td>5</td>
<td>41</td>
<td>276</td>
<td>23.0</td>
<td>23/41</td>
<td>18</td>
</tr>
<tr>
<td>Ntchisi</td>
<td>1</td>
<td>6</td>
<td>141</td>
<td>11.8</td>
<td>12/6</td>
<td>-6</td>
</tr>
<tr>
<td>Salima</td>
<td>5</td>
<td>31</td>
<td>202</td>
<td>16.8</td>
<td>17/31</td>
<td>14</td>
</tr>
<tr>
<td>Blantyre</td>
<td>2</td>
<td>57</td>
<td>622</td>
<td>51.8</td>
<td>52/57</td>
<td>5</td>
</tr>
<tr>
<td>Mulanje</td>
<td>2</td>
<td>23</td>
<td>212</td>
<td>17.7</td>
<td>18/23</td>
<td>5</td>
</tr>
<tr>
<td>Mwanza</td>
<td>1</td>
<td>8</td>
<td>158</td>
<td>13.2</td>
<td>13/8</td>
<td>-5</td>
</tr>
<tr>
<td>Neno</td>
<td>1</td>
<td>6</td>
<td>92</td>
<td>7.7</td>
<td>8/6</td>
<td>-2</td>
</tr>
<tr>
<td>Nsanje</td>
<td>3</td>
<td>35</td>
<td>413</td>
<td>34.4</td>
<td>35/35</td>
<td>0</td>
</tr>
<tr>
<td>Total 14 districts</td>
<td>46</td>
<td>506</td>
<td>3828</td>
<td>319</td>
<td>319/506 (61%)</td>
<td>187 (39%)</td>
</tr>
<tr>
<td>National total</td>
<td>100</td>
<td>1050</td>
<td>7703</td>
<td>642</td>
<td>642/1050 (61%)</td>
<td>408 (39%)</td>
</tr>
</tbody>
</table>

4.2.2.6. Performance of the NRUs

On average, 85% of children admitted in all NRUs in Malawi were stabilised and transferred to outpatient facilities during the reference period (2012 to 2015). Although relatively high, deaths rates were within the Sphere standards. Similarly, cure rate was > 75% and default rate was less than 10%, which are within the Sphere standards (figure 7). These indicators were almost within the national standards of > 85% for cure/stabilisation rate and < 10% for death rate. The default rate only did not achieve the national standard of <2%.

In the sampled districts, only 2 (14%) districts (Lilongwe and Mwanza) achieved national targets for the three indicators (table 6). Seven (50%) districts achieved death rates national target, and 6 (43%) districts achieved default rate national target. Nine districts (75%) did not achieve national target for cure/stabilisation rate.

These findings demonstrate that the quality of inpatient care of SAM, although within the sphere standards, experienced many challenges in the country during the reference period. According to health workers and nutritionists interviewed, the high death rates were mainly...
due to late presentation of children to the hospitals, insufficient staff rotations (which affected the quality of care during night time), mismanagement of SAM children with complications due to lack of dedicated clinicians, low participation of clinicians and nurses to treatment (who complained about not being trained), high turnover of trained clinicians, and insufficient monitoring and supervision of NRU personnel. These observations corroborated previous NRU assessment conducted in September 2015, which noticed that in most NRUs daily assessments were not done and the management was left in the hands of HSAs and homecraft workers, which is not in-line with the national guidelines for treatment of acute malnutrition. Majority of deaths were also associated with underlying HIV, malaria, anemia, diarrhea, and pneumonia. Most of the NRU deaths (56%) directly came from home, while a proportion of 42% came from other health services. Most of the deaths (72%) occurred within 24 hours of admission.84,85 Main causes of NRU defaults mentioned by health workers and beneficiaries were service fees in private hospitals and insufficient or lack of foods for caretakers.

Figure 7: Trends in NRU performance indicators over the 2012-2015 period in Malawi

85Nutrition Rehabilitation Units Assessment in Malawi. September 2015.
Table 6: NRU performance indicators in the sampled CMAM districts, Malawi.

<table>
<thead>
<tr>
<th></th>
<th>Cure rate</th>
<th>Death rate</th>
<th>Default rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chitipa</td>
<td>80.0</td>
<td>12.1</td>
<td>8.0</td>
</tr>
<tr>
<td>Mzimba South</td>
<td>88.2</td>
<td>10.3</td>
<td>0.9</td>
</tr>
<tr>
<td>Nkhata Bay</td>
<td>68.4</td>
<td>31.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Dowa</td>
<td>85.4</td>
<td>8.1</td>
<td>2.4</td>
</tr>
<tr>
<td>Kasungu</td>
<td>80.5</td>
<td>8.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Lilongwe</td>
<td>88.2</td>
<td>6.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Nkhotokota</td>
<td>78.2</td>
<td>2.7</td>
<td>4.5</td>
</tr>
<tr>
<td>Ntchisi</td>
<td>88.8</td>
<td>6.8</td>
<td>4.3</td>
</tr>
<tr>
<td>Salima</td>
<td>75.9</td>
<td>16.4</td>
<td>4.9</td>
</tr>
<tr>
<td>Blantyre</td>
<td>71.8</td>
<td>22.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Mulanje</td>
<td>81.5</td>
<td>10.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Mwanza</td>
<td>86.7</td>
<td>6.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Neno</td>
<td>85.3</td>
<td>7.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Nsanje</td>
<td>84.4</td>
<td>12.0</td>
<td>0.7</td>
</tr>
<tr>
<td>Overall mean</td>
<td>81.7</td>
<td>11.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Sphere standards</td>
<td>&gt; 75%</td>
<td>&lt; 10%</td>
<td>&lt; 15%</td>
</tr>
<tr>
<td>National targets</td>
<td>&gt; 85%</td>
<td>&lt; 10%</td>
<td>&lt; 2%</td>
</tr>
</tbody>
</table>

4.2.3. Monitoring, supervision and evaluation

4.2.3.1. Monitoring, reporting and information/data management

The nutrition information system was established and integrated into the DHIS-2 since 2011. Every month, 44 forms (including CMAM forms) are entered in the DHIS-2. This database was reported to be easy to manage. Health workers and nutritionists interviewed did not experience any issue using the information system. CMAM registers were found in all district health facilities visited. Health workers did not complain about the use of the NRU, OTP or SFP monthly reporting forms. However, as mentioned previously, information on community outreach activities were not reported. The reports are usually paper based at health facility level, and they are sent to the district level where data are entered in the DHIS-2 software by a dedicated data manager. The information is shared to all partners, as the software can be accessed from any computer with a proper user name and password. At district level, data managers complained about delayed submission of monthly report by the health facilities, due to distance and absence of formal means for transferring monthly reports. This had an impact at national level as well, where programme managers needed timely data in order to generate information for advocacy and resource mobilisation, especially during emergency response or anticipation of emergencies. Programme managers emphasised on strengthening the national health information system for real time monitoring and timely reporting. An option currently

36Assessment of parallel "Community-based Management of Acute Malnutrition" Supply Chain for harmonisation and Integration into the national supply system, Malawi. January 2015.
used by UNICEF is the Rapid SMS data reporting for surveillance. HSAs timely report GMP activities through SMS sent to a UNICEF web system. However, this system has not yet been mainstreamed in the DHIS-2 and, according to UNICEF data managers, there are challenges linked to the high number of indicators that should be sent by HSAs. UNICEF and the MoH are working on reducing these indicators. Despite availability and easy access to the DHIS-2, the customised reports are not available for CMAM at district level, and there are limited platforms for information sharing on CMAM among partners.

4.2.3.2. Supervision and evaluation
Supervision visits are organised twice a year by UNICEF. Checklists developed in the 2012 CMAM guidelines are used for monitoring and supervision of CMAM sites. The UNICEF supervision team, composed of two members, cannot visit all the 598 OTP sites in a year. The field visit is performed depending on districts and health facilities that mostly need support, after reviewing the monthly performance indicators. In parallel the MoH also perform field supervision from time to time depending on the availability of resources. There is no joint supervision as it used to be when the CMAM Advisory Services (CAS) was operational in 2009-2012. Nonetheless, there is some joint assessment organised quarterly by the MoH, in collaboration with other partners. However, the budget and logistics for this activity is provided by partners. According to managers interviewed, if UNICEF did not absorb the CAS team when the initiative phased out in 2012, the CMAM supervision activity would have collapsed.

At district level, most DHO were unable to carry out regular support supervision and mentorship because of insufficient financial and logistic resources. When districts had good collaboration with NGOs and other stakeholders, they were able to do supervision with their support. For example, in Mulanje, partners such as SSDI and CHAI supported quarterly supervision by providing transport, stationery, and allowances for supervisors. In Neno, Save the Children and other partners provided transports for supervision in the rural areas. SSDI, Concern Worldwide, WFP and Goal provided similar support to Nsanje district.

From 2012 to 2013 a number of six Quality Assessments and two NRU mentoring assessments were conducted in different districts. Three major evaluations were conducted at national level: (1) the Final Evaluation of the Community-Based Therapeutic Care Institutionalization in Malawi (CTCIM) project, September 2013; (2) an Assessment of parallel “Community-based Management of Acute Malnutrition” Supply Chain for harmonisation and Integration into the national supply system, January 2015, and (3) the mid-term evaluation of the World Food Programme operation (from January 2011 to March 2014). The MoH and UNICEF conducted a Bottleneck Analysis in 2014 that identified challenges for CMAM implementation in the country. These different assessments and evaluations suggested some practical recommendations for improving CMAM intervention. One of their effects is that CMAM guidelines are currently being revised, along with the development of the 2016-2020 CMAM Operational plan.
4.2.4. Procurement, storage and delivery of supplies

At present in Malawi, there are two important local RUTF producers (Valid Nutrition in Lilongwe and Project Peanut Butter in Blantyre). The two companies are able to supply the national needs. Since 2013, due to emergency and relatively long local production time, additional quantities have been imported from DIVA (based in South Africa). According to UNICEF supply chain unit, over the last four years, almost 90% of the RUTF was procured locally, although procurement price for locally produced RUTF was higher than the imported (USD 60 per carton for locally produced versus USD 46 for the imported). F75, F100, and ReSoMal are procured internationally through the Copenhagen Supply Division of UNICEF.

According to the supply chain evaluation conducted in 2015, procurement of RUTF is based on the estimated needs. However, the Purchase Orders are not always placed on a regular basis because they are only issued when the necessary funds are available37. For local producers, which deliver 90% of their production to UNICEF, this purchase mechanism does not facilitate anticipation of orders and production. Since they are relatively small organisations, the cash flow does not allow them to stock large quantities of imported raw materials (milk powder, vegetable oil and mineral vitamin complex). They import these products only once they get RUTF order confirmation from UNICEF. This has created delays in production and delivery of supplies. For better efficiency, local producers suggested anticipation of orders by UNICEF, which should share its yearly RUTF needs with producers. The later also suggested getting an advance payment of about 25% from UNICEF to speed up the production process.

During field visits, the evaluation team noticed that only 9 (50%) out of the 18 health centres had adequate storage facilities. As per the supply delivery arrangement between UNICEF and the MoH, RUTF ordered by UNICEF are stored in UNICEF warehouses in Lilongwe and Blantyre. UNICEF pays for the transportation from the warehouses to the different DHOs. DHOs are in charge of delivering the products to the last miles (different health facilities). According to DHO staff interviewed, enough cartons of RUTF were stored in the DHO storage facilities, but insufficient funds and limited means of transport and fuel for delivering the products to the health facilities were main reasons of shortages. Other issues included poor road networks, especially during rainy seasons. During site visits in December 2015, seven (60%) out of 12 OTPs were not supplied with RUTF and essential medicines as per the needs. Eleven (95%) out of the 12 SFP sites were stocked out of supplementary foods. In Kasungu and Mulaje districts, three months (prior site visits) had elapsed without supplies (RUTF and CSB). Masenjere health centre in Nsanje district experienced five months of RUTF and CSB shortages. In such cases caregivers were counselled on appropriate use of local foods at home.

In addition, some health facilities that admitted children coming from neighbouring countries such as Zambia, Mozambique and Tanzania in the programme experienced premature stock outs, but it was not possible for the evaluation team to trace how the supplies were used. The health facility in-charge did not have the responsibility of managing CMAM supplies stored in

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37Assessment of parallel “Community-based Management of Acute Malnutrition” Supply Chain for harmonisation and Integration into the national supply system, Malawi. January 2015.
the health centre, the task being devoted to HSAs and district nutritionists. This might have given room to misuse of supplies. Issues reported included wrong admission of SAM cases, giving more than enough RUTF packets to admitted SAM children, treating MAM cases with RUTF when there was shortage of supplementary foods, selling RUTF to the local markets or paying labours with RUTF. Harmonisation of supply management at health facility and district levels was reported as necessary for addressing the issue of shortages, along with planning ahead and projecting how much supply the bordering districts would need. At national level, WFP reported funding gaps as main reasons for shortages of supplementary foods.

Despite efforts to integrate CMAM supplies into the national supply chain system, delivery of RUTF from districts to the health facilities remains challenging. It is necessary to strengthen the government supply chain and logistics capacity while at the same time ensuring availability of RUTF at facility level through parallel systems.

In order to anticipate supply shortages during emergency response, UNICEF received funding from DFID, the government of Japan and the government of Switzerland for procuring and delivering RUTF from warehouses to 598 health facilities. The activities started in December 2015. Fourteen field monitors have been recruited in the 29 districts of the country with the responsibility of ensuring timely delivery of appropriate quantity of RUTF to the health facilities every month, using a third party transportation means. Vehicles, boats and motorcycles are used for RUTF delivery to the sites. Quantities of RUTF are estimated on the basis of admissions registered during mass screenings conducted by HSAs, who are getting lunch allowances as means of incentives. The field monitors are also provided with laptops for data entry and reporting and they closely monitor the intervention to limit misuse of RUTF. Improving storage facilities of some health centres are also planned in order to deliver RUTF for 3 to 4 months rather than 1 month as it is done currently, and to pre-position important quantities of RUTF in the health facilities before the occurrence of rains. According to the UNICEF supply management team, although efficient in terms of timely delivery of supplies, this is an expensive project because transportation and delivery of RUTF cost USD 25,000 every two months. The activities are supposed to phase out in June 2016 without any guarantee from donors of funding extension.

4.3. CMAM impact
The TORs highlighted three questions for impact: (1) To what extent has the CMAM intervention contributed to achieving (or not) the expected impact level results in the relevant programme areas? (2) To what extent has the intervention contributed to reducing the equity gaps in the programme areas in favour of the most vulnerable children? (3) What are the unintended consequences (positive and negative) of the CMAM programme? As per the evaluation logic model, implementation of CMAM should result in: 1) improved nutritional status of children in the community (reduced MAM and SAM prevalence), 2) reduced child

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mortality, and 3) reduced equity gaps in the programme areas. This section discusses the achievements observed in these areas.

4.3.1. Progress achieved on acute malnutrition prevalence

Figure 8 shows that GAM prevalence decreased from 4 to 3.3% between 2010 and 2015-16 at national level. Similarly, SAM prevalence decreased from 1.5% in 2010 to 0.6% in 2015-16, which achieved the national target of < 1%. However, MAM prevalence slightly increased from 2.5 to 2.7% in the same period. GAM prevalence reduction is therefore mainly linked to SAM reduction. The increase observed in MAM prevalence might be attributed to frequent shortages of food supplements, inadequate child feeding practices, and recurrent food security issues experienced by the country.

![Figure 8: Evolution of GAM, SAM and MAM prevalence at national level for the period 2010 to 2014.](image)

In terms of regional distribution, the GAM, SAM and MAM prevalence increased in the northern region, while the GAM and SAM prevalence decreased in the Central and Southern region, but MAM prevalence increased in both regions for the same period 2010-2014 (figure 9). This might be attributed to the fact the capacity building activities (training of health workers, HSAs, volunteers and leaders on the 2012 CMAM guidelines) did not take place in the Northern region, along with high default rates linked to frequent shortages of supplies.
In the sampled districts, the GAM prevalence increased from 2010 to 2014 in 8 out of the 14 districts (figure 10). These districts were Chitipa (3.7% to 6.5%), Mzimba South (2.2% to 2.5%), Dowa (3% to 3.6%), Kasungu (1.2% to 4%), Nkhotakota (2.4% to 4%), Salima (3.3% to 5.7%), Neno (2.9% to 4.1%) and Nsanje (3.7% to 4.6%). This was probably associated with the increase of SAM prevalence in almost all these districts over the four years, the case fatality rate from SAM being high in these districts. A decrease in SAM prevalence in the other 6 districts was observed, the most important decrease happening in Lilongwe district (figure 11). The MAM prevalence decreased only in 5 out of the 14 districts (figure 12).
Overall, it can be concluded that the implementation of CMAM successfully contributed to maintain the GAM prevalence under the emergency threshold. The reduction of SAM has positively impacted the reduction of GAM prevalence. This represents an important
achievement, although CMAM impact was mitigated in terms of MAM reduction. Study participants generally perceived that the implementation of CMAM has improved the nutrition situation in their areas.

“The problem of malnutrition has reduced as compared to the situation before. At the moment, mothers are able to identify malnutrition and bring the children for assessment. Volunteers are helping the communities through counselling; most of households are able to properly feed their children with local foods”. FDG with health workers, Masenjere district.

“The programme is meeting the needs; malnourished children are identified in the community and referred to the hospital. The outcome is successful. The counselling offered is also helping to prevent malnutrition. The problem of malnutrition has now reduced, but some households are still struggling to get adequate food because of poor harvests”. FGD with volunteers, Thambani.

### 4.3.2. Impact on infant mortality and under-five mortality

From 2010 to 2015-16 the infant mortality rate decreased from 73 to 42/1000 live births, which was within the national target of 44.7/1000 live births. The under-five mortality rate decreased from 127/1000 live births in 2010 to 64/1000 live births in 2015-16, which was also within the national target of 78/1000 live births (figure 13). At regional level, both indicators also decreased from 2010 to 2014. However, they did not achieve the national targets, except for the Central region that was close to national target for infant mortality rate, and the Northern region almost achieving national target for under-five mortality rate (figure 14).

The infant mortality rates decreased in all the sampled districts over the 2010-2014 period, but only two districts (Dowa and Salima) achieved national target of 44.7/1000 live births (figure 15). Similar situation was observed for under-five mortality rates, which decreased in all districts during the period 2010-2014; however, only three districts (Chitipa, Nkhotakota and Ntchisi) achieved the national target of 78/1000 live births (figure 16).

Overall, there has been important decrease in infant mortality rates and under-five mortality rates in the course of CMAM implementation. This can be attributed to the implementation of CMAM concomitantly with other maternal and child health interventions (such as malaria, EPI, IYCF, post-natal care, ARI or IMCI), which also aim to reduce infant and under-five mortality across the country.
Figure 13: Trends of infant mortality and under-five mortality rates in Malawi 2004-2014.

Figure 14: Regional trends in infant mortality rates and under-five mortality rates for the 2010-2014 period in Malawi.
Figure 15: Trends in infant mortality rates in the sampled districts for the 2010-2014 period.

Figure 16: Trends in under-five mortality rates in the sampled districts for the 2010-2014 period.

4.3.3. Impact on reducing the equity gaps in the CMAM areas

UNICEF’s equity strategy seeks to address the needs of the poorest and marginalised populations following assessments identifying the most vulnerable and reaching high coverage, even in the hard-to-reach populations39. Since CMAM is implemented in the public and private

health facilities in Malawi, the fairness in accessing services depends on the overall distribution of health facilities across the country. Although important achievement was observed in geographic coverage, service uptake is still challenging. One explanation might be the fact that CMAM services were not scaled-up as to properly meet the demand, because the access points for service delivery were the health facilities rather than the malnutrition pockets in the community. Some reasons for low treatment coverage mentioned during interviews with District Health Officers and FGDs with health workers included irregular or insufficient active case identification, and children referred that failed to report to the CMAM sites (due to long distances, high cost of transportation for those living in rural areas, cost of treatment in the private hospitals, religious beliefs and preference for traditional healers). These issues have to be addressed in order to improve access and uptake of CMAM services.

Respondents to the 2012 Global CMAM Synthesis Survey reported stronger case identification (through screening with MUAC and referral) as the most important mechanism for increasing access and promoting equity. UNICEF Malawi initiated an intervention within the emergency response programme from January to June 2016 in order to address issues of access to services and to prevent occurrence of more SAM and MAM cases. Fourteen field monitors are supervising active mass screening conducted monthly by HSAs and volunteers in the communities. As a result, there has been a dramatic increase in admissions of acutely malnourished children. From 17,090 SAM cases admitted in January-April 2015, it reached 23,474 cases for the same period in 2016, which represents an overall 37% increase. Figure 17 shows an increase of 28%, 42%, 33%, and 48% observed from January to April 2016. From 28,446 cases in January to April 2015, the admission of MAM cases went up to 49,900 for the same period in 2016, representing an overall increase of 75%. Except for the month of January 2016 that showed a slight decrease of 5%, an increase of 121%, 113% and 68% were observed in February, March and April 2016 respectively (figure 18).

These findings demonstrate that putting more emphasis on community outreach (and particularly active case finding and referral) would contribute to improve service access and uptake, and thereby, reducing the equity gaps in the country. Complementarity between different partners operating at community level should be initiated and strengthened. Stronger linkages between interventions targeting children under-five years of age such as Integrated Management of Childhood Illness, Essential Nutrition Actions, Accelerated Child Survival & Development, and Infant and Young Child Feeding, along with suppression of service fees in private hospitals and involvement of traditional healers (who are the first in line for children’s health care in many districts) would offer opportunity for identifying and managing more acutely malnourished children. Further, opportunities for expanding the roles of HSAs to manage RUTF outside health facilities, initiating mobile outpatient treatment or creating health posts or village clinics with the aim of reducing the need for caretakers to travel long distances should be explored.

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UNICEF.


Figure 17: Trends in SAM admissions from January to April for the years 2015 and 2016.

Figure 18: Trends in MAM admissions from January to April for the years 2015 and 2016.

4.4. CMAM Sustainability
Two questions were developed in the TORs for addressing the sustainability criterion: (1) To what extent has the intervention contributed to promoting ownership, including capacity building of national/local/community stakeholders? (2) What are opportunities and challenges for sustainability of programme benefits in the short, medium and long term? These questions are addressed below.
4.4.1. Administrative and institutional sustainability

The 2012 Global CMAM Synthesis Survey ranked having a national nutrition policy or strategy that include CMAM included as one of the most important factors for increasing ownership at district level. According to the Joint Statement on CMAM (2007), “Existing health services and initiatives should be mapped and the programme planned with the relevant authorities and agencies to prevent duplication, build upon and strengthen existing structures and systems, and ensure that referral pathways, roles and responsibilities are clear”. The Joint Statement also promotes integration of CMAM with other health interventions for sustainability\(^\text{42}\). In Malawi, the vision of the MoH is to sustain CMAM, and this would be achieved if the following conditions are fulfilled: (1) RUTF and other CMAM supplies are ordered, stored and distributed through the essential supplies distribution system; (2) CMAM activities are funded through District Implementation Plans (DIP) as part of the district health budget, and (3) effective linkages with other child survival and HIV programmes are in place\(^\text{43}\).

The MoH standardised CMAM which was included in different national policies and strategies. CMAM services are routinely delivered by health facilities across the country, and the intervention is supervised by the MoH staff. At national level, a CMAM stakeholder committee composed of the MoH, UNICEF, WHO, WFP, Irish Aid, World Vision International, Valid Nutrition, FANTA, Project Peanut Butter, Christian Hospital Association of Malawi, Clinton Health Access, SSDI, Bayor and academics, regularly meets for information and experience sharing, under the leadership of the MoH. At district level, there is one nutritionist appointed in charge of coordinating the implementation of nutrition activities (including CMAM), in close collaboration with the DHO. However, according to managers interviewed at national and district levels, the CMAM coordination mechanism among different stakeholders is stronger at national level than in the districts, because district nutritionists are not powerful enough to initiate and hold coordination meetings. Despite some shortcomings, the national authorities have established an enabling environment for sustaining the intervention in the country.

4.4.2. Technical and financial sustainability

4.4.2.1. Capacity development

From 2013 to 2014, 1276 health workers (including EHOs, nurses, and clinicians), 6647 HSAs, 9386 volunteers were trained and 8030 local leaders were oriented on CMAM in 24 out of the 29 districts of the country. These activities were implemented by UNICEF and partners such as CHAI and Concern Worldwide. Five districts did not benefit from the trainings. Three of these districts boycotted the activity because of insufficient daily subsistence allowances (DSA) during training sessions. Due to budgetary constraints (Donors did not fund DSA in the training budgets), DSA were not provided by UNICEF as it used to be before 2012. Training did not yet take place in two districts as well. As per the nutrition officers interviewed, these five districts, combined with the non-trained health workers and community members in the 24 other districts, represented only 50% of the training targets. Many health workers, especially

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clinicians and nurses newly appointed in the NRUs were reportedly not being trained on the 2012 CMAM guidelines and as a consequence, they were not fully participating in the management of hospitalised malnourished children. According to trained health workers interviewed, on-the-job training played an important role in improving the performance of the health facility staff in anthropometric and clinical assessment, treatment and counselling, although they all complained about the short duration of training sessions as compared to the previous years. Refresher training were also requested by all health workers, especially HSAs and volunteers, as this was an important element for keeping them active. UNICEF and the MoH also supported pre-service training for medical doctors and health officers on CMAM through partnership with some training institutions.

In terms of technical support, one UNICEF CMAM Officer (in the nutrition unit) has been in charge at national level of managing the implementation of CMAM, supported by two team members (one dedicated to data management and the other to monitoring, supervision and quality assurance). This UNICEF team works in close collaboration with the MoH Nutrition Unit.

4.4.2.2. Dedicated financial support for CMAM

Long term funding is an important challenge for CMAM. In Malawi, the biggest hurdle in sustaining CMAM is that the country depends on 90% CMAM budget support from donors. The 2012-2016 CMAM project has been supported by the Canadian Department of Foreign Affairs, Trade and Development (DFATD) to the tune of USD 4.7 million. DFATD funds, managed by UNICEF, are mainly dedicated to capacity building and RUTF and medicine supplies. UNICEF also procured F75, F100 and ReSoMal using emergency funds. It was expected from the government of Malawi to fund the delivery of supplies from DHO to the last miles, as well as CMAM monitoring and supervision. At district level, CMAM activities have been included into the District Implementation Plans, which have budgeted for at least 25% of CMAM costs. This initiative was supposed to foster CMAM financial sustainability at district level. However, the allocation of funds was reported as major challenge for the 29 districts. For example, in Nkhotakota district, the DHO budget was approximately 30 million Kwacha per month, but this was trimmed to 11 million, and the DHO was not able to purchase CMAM commodities. In Blantyre, the allocated budget was 20 million Kwacha but it had been reduced, making it difficult to implement the planned activities. Similarly, in Mulanje, Nkhotakota, Neno and Ntchisi districts, CMAM activities were included in the DIP, but they were not implemented because of insufficient funds. Until 2012 at global level, Malawi was considered as a good example of nationally dedicated funds for CMAM among all the countries implementing the intervention, especially for the procurement and delivery of RUTF and medicines. However, due to economic crisis, the government of Malawi did not allocate any budget to CMAM in the past four fiscal years. Government financial sustainability for CMAM cannot be achieved at this point in time.

International funding is also becoming a challenge, as GAM prevalence in Malawi is within the 2012 Global Health Assembly targets to reduce and maintain childhood wasting to less than 5% by 2025\textsuperscript{46}. With a national GAM prevalence of < 5%, donors are considering that the government of Malawi can financially take on the intervention, as it substantially allocated funds to fight against HIV\textsuperscript{47}. More work is needed to promote government commitment for CMAM long term funding. A pooled managed fund for CMAM might also be developed to promote efficient use of external funds, given that the coordination of different stakeholders’ budgets to fit into the operational plan is still challenging. In addition, stronger integration of interventions may promote cost sharing, efficiency and sustainability of CMAM\textsuperscript{48}.

According to managers interviewed, donors do not yet have a comprehensive understanding of the CMAM model. Most of their funds focus only on CMAM outpatient components (uncomplicated SAM and MAM), especially capacity building and procurement of RUTF, supplementary foods and medicines. RUTF procurement and transportation accounted for 70% of donor grants, followed by capacity building. Important elements such as community outreach, inpatient management, monitoring, mentoring, supervision and delivery of RUTF to the health facilities were not funded by donors, who considered that it is the responsibility of the government to fund these activities. These non-funded components experienced major challenges.

4.4.3. Implementation of CMAM within a multi-sectoral strategy

The scaling up nutrition initiative (SUN) promotes the development of multi-sectoral strategies for nutrition, translated into nutrition specific and nutrition sensitive interventions. CMAM is part of the nutrition specific interventions. Such an initiative has the potential of ensuring cost sharing between different interventions and securing long term funding\textsuperscript{49,50,51,52}. Malawi has been recognised as an Early Riser in SUN, and the government is currently implementing several nutrition specific and nutrition sensitive interventions across the country. A number of committees were established under the Department of Nutrition, HIV and AIDS, to ensure that nutrition issues are at the centre of decision making at the highest level. These committees included (i) the Parliamentary Committee, Cabinet Committee and Principal Secretary’s Committee on Nutrition, HIV and AIDS at oversight level, (ii) the Multi Sectoral Technical Nutrition Committee, Government Development Partners Nutrition Committee and Sectoral Departments at policy and technical coordination level, and (iii) the Local Assemblies, Area Development Committees/Area Executive Committee), Village Development Committees, Civil Society Organizations and Community Based Organizations at operational/district level.

\textsuperscript{49}The UK’s position paper on undernutrition, September 2011.
\textsuperscript{50}Addressing Undernutrition in Emergencies. Accompanying the document: Enhancing maternal and child nutrition in external assistance: an EU policy framework, 2013.
\textsuperscript{52}Nutrition at the World Food Programme. Programming for Nutrition-Specific Interventions, December 2012.
However, it was noticed that nutrition committees have not been duly formed because of absence of strong nutrition officers who can coordinate nutrition implementation at the district level. This was further compounded by insufficient resources earmarked for nutrition in the Local Assembly budget.

Malawian also developed a care group initiative in which a cluster leader is responsible for providing health and nutrition preventive activities to 8-12 households. Household activities include education and counseling on appropriate nutrition during pregnancy, lactation, and IYCF (including feeding for People living with HIV and AIDS), monitoring of health and nutrition outcomes, mobilising caregivers during Child Health Days campaigns, conducting community cooking demonstrations, conducting health talks, songs, dances during campaigns, identifying sick and malnourished children in the households, following up of children discharged from hospital or those recovering from home, and monitoring the adoption of behaviours and practices that promote improved nutrition. This initiative was funded for five years by the World Bank, DFID, GIZ, and UNICEF, and it is currently implemented in 15 districts of the country. It is expected to cover all districts by end 2016. Strongly linking CMAM outreach activities with the care group initiative is an important potential for accessing and treating more SAM and MAM children, and preventing acute malnutrition.

Conclusions
This section draws the key evaluation conclusions by responding to each evaluation question highlighted in the TORs. A rating/score is also applied for judging each evaluation criterion. As previously mentioned, there might be some overlaps between the criteria.

Relevance

1. To what extent is the CMAM strategy linked with others so that they form a synergistic set that is relevant to achieve the health and nutrition programme results, especially for the most vulnerable children? In other words, is the CMAM strategy used within the most relevant set of strategies?

CMAM is included in the different national health and nutrition policies and strategic plans. However, despite being promoted at national level through policies and guidelines, its linkages with others interventions in terms of service provision in the community is weak and should be strengthened (Recommendation #3, #8, #9).

2. To what extent did the original CMAM strategy evolve and transform itself into other strategy in the selected programme areas/districts?

CMAM started as an emergency response intervention in 2002, mainly led by NGOs. Since its institutionalisation in 2006 the intervention was integrated into the health system and is being implemented as both an emergency response and regular programme, mainly managed by the MoH. However, the capacity of the health system to anticipate and respond to emergency while

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delivering regular services still needs improvements, particularly in terms of active case identification and referral, procurement and timely delivery of supplies, adequate monitoring and timely reporting (Recommendation #1, #2, #4, #5, #6).

3. To what extend is the CMAM strategy relevant for and aligned with the needs of the national stakeholders, especially the most relevant children and women?
CMAM intervention in Malawi targets most vulnerable groups such as children 0-12 years of age, HIV positive patients and pregnant and lactating women. The intervention also aims to cover sparsely populated regions where beneficiaries travel a long distance for accessing care. This is in line with the different national health policies. However, at present, only 50% of the target population (acutely malnourished children for this evaluation) have been reached over the 2012-2015 period. Efforts have to be deployed for accessing more children in the community (Recommendation #1, #3, #4).

4. To what extend has the CMAM programme been implemented in partnership with the relevant stakeholders?
Partnership between the MoH, donors, development partners, NGOs, and the private sector was established from the onset of CMAM. During the period 2012-2016, the Department of Nutrition, HIV and AIDS has been providing policy direction, guidance and oversight to coordinate the implementation, monitoring and evaluation of CMAM with the support of UNICEF and other partners. However, such a coordination mechanism does not exist at district and community levels. A well functional coordination mechanism from national to community level should be established (Recommendation #3, #8).

5. Where the CMAM objectives appropriate in the overall problem context, needs and priorities?
The context of Malawi is characterised by recurrent crisis (drought, floods) that impact the nutrition situation of children. The purpose of CMAM for the 2012-2017 period was to contribute to system strengthening through coordination, governance and management, gender and equity, capacity development, advocacy and policy development, and information/data management. These target intervention areas were appropriate as they aimed to achieve full integration of CMAM into the health system. Important achievements were observed in each of these intervention areas, but many challenges still need to be overcome (Recommendation #1, #2, #3, #4, #5, #6, #8).

Based on the achievements and challenges observed on the relevance of CMAM in Malawi for the period 2016-2017, a performance rating of 3 was attributed to the relevance criterion. The intervention was satisfactory, positive aspects outweighing negative aspects.

Efficiency
6. How well has the CMAM programme implementation been managed in the programme districts/areas?
CMAM guidelines were of important support for trained health workers and volunteers in
addressing acute malnutrition properly in the NRUs, OTPs, SFPs and in the community. However, frequent shortages of supplies, irregular mentoring and delay in activity reporting were recurrent challenges experienced by health workers. These issues have to be addressed in order to improve the management of acute malnutrition in the districts (Recommendation #5, #6).

7. To what extent is the CMAM programme cost efficient? Could the same results have been achieved using different strategies and with less resources?
RUTF absorbed the majority of the SAM outpatient cost. Efficiency might be achieved through stronger integration into the health system and linkages between CMAM and the other child health interventions (Recommendation #3, #8).

8. To what extend did the various activities transform the available resources into the intended CMAM outputs in terms of quantity, quality and timeliness?
Admission of children to the programme was achieved through case identification at both communities and health facilities. On-the-job training played an important role in improving the performance of the health facility staff in anthropometric and clinical assessment, treatment and counselling. However, refresher training, mentorship and coaching are necessary for keeping HSAs and volunteers active, improving access and the quality of services (Recommendation #2, #3).

An overall performance rating of 2 was attributed to the efficiency criterion, that is less than satisfactory. There were few positive aspects, but outweighed by negative aspects.

Effectiveness

9. To what extent has the CMAM programme contributed to achieving (or not) the expected outcome and output level results in the programme areas?
CMAM admission trends increased over time. Village heads assisted with the identification of volunteers involved in community outreach activities. However, the lack of data did not help to properly assess the performance of the community outreach. Rigorous monitoring of the community outreach component is necessary (Recommendation #1, #5).

From 2012 to 2015, there has been dramatic increase in geographic coverage. However, this was followed by less than 50% treatment coverage. SAM and MAM management met the Sphere standards in terms of cure rates and death rates. Improvement is necessary for reducing the high default rates (Recommendation #3, #8).

CMAM indicators were included in the DHIS-2, but platforms for information sharing among partners are lacking, along with joint supervision and mentorship. The current purchase mechanism for RUTF does not facilitate anticipation of orders and timely production of RUTF by local producers. This was source of delays in supply delivery. Information sharing between UNICEF and local RUTF suppliers should be strengthened (Recommendation #5, #6).
10. To what extent was the CMAM strategy more (or less) effective due to the synergies with other strategies in the framework of the country programme (especially with the other Nutrition components as well as Health and WASH interventions)?

CMAM services are delivered concomitantly with other primary health care services. All health facilities visited had conducive environment and well cleaned hygiene facilities (water points and latrines), which demonstrate that WASH infrastructures were of great importance for adequate implementation of CMAM services. It is necessary to strengthen the linkages between these interventions (Recommendation #3, #8).

11. To what extent has the CMAM strategy contributed to reducing bottlenecks and barriers that determine equity gaps affecting vulnerable children in the programme areas?

Also see Question 15 of impact.

There was no significant difference in the number of boys and girls admitted to the programme. Uptake of CMAM services was challenging, only almost 50% of the targeted children being admitted to the programme. Many children screened and referred did not get to the health facilities due to distance, religious beliefs and preference for traditional healers. Household follow ups were not performed on a regular basis due to lack of incentives and means of transport for HSAs and volunteers. These equity issues should be addressed to improve access and uptake of services by acutely malnourished children (Recommendation #1, #3, #4, #8).

12. What have been the main factors that promoted or hindered the effectiveness of the CMAM approach?

Deployment of nutrition officers at district levels and active involvement of DHOs in the process of scaling-up, along with availability of funds for equipment, supply procurement and delivery to the last mile, along with trained clinicians, nurses, homecraft workers, HSAs and volunteers contributed to the high geographic coverage. Different opportunities were used for screening such as community/village meetings, sensitisation campaigns and household visits. Mass screenings led to the identification of more children, the contributing factors being the incentives provided to HSAs and volunteers, close monitoring and supervision. Incentives are very important for keeping community base workers active (Recommendation #3).

The lack of transportation means for community based workers was harmful for household follow up and sensitisation. Frequent shortages of supplies have created mistrust of the programme among the beneficiaries, which in turn have impacted the performance of the programme (especially the high default rates). High death rates in NRUs were attributed to late presentation of children to the hospitals, insufficient staff rotations, low participation of clinicians and nurses to the treatment of hospitalised SAM children and insufficient monitoring and mentoring. Delays in monthly report submission were attributed to the lack of formal reporting mechanism. These issues need to be addressed in order to improve the effectiveness of CMAM services (Recommendation #1 to #6).
13. What difference did CMAM make, as measure by how far the intended beneficiaries really benefited from the products or services?

See Question 8 and question 9.

An overall performance rating of 3 was attributed to the *effectiveness* criterion. The intervention was *satisfactory*, positive aspects outweighing negative aspects.

**Impact**

14. To what extend has the CMAM intervention contributed to achieving (or not) the expected impact level results in the relevant programme areas? Impact should be assessed, to the extent possible by using standard indicators, such as wasting and/or global acute malnutrition?

The implementation of CMAM successfully contributed to maintain the GAM prevalence under the emergency threshold. There was important decrease in infant mortality rates and under-five mortality rates. These were attributed to the implementation of CMAM in synergy with other maternal and child health interventions. Linkages of CMAM with these interventions along with agricultural development, food security, water, sanitation and hygiene should be strengthened for optimum impact (Recommendation #3, #8).

15. To what extent has the intervention contributed to reducing the equity gaps in the programme areas in favour of the most vulnerable children?

Mass screening resulted in a dramatic increase in SAM and MAM admissions. Stronger linkages of CMAM to existing social protection and livelihoods programmes, along with suppression of service fees, more involvement of religious leaders and traditional healers (who are the first in line for children’s health care in many districts) would offer opportunity for admission of more acutely malnourished children. Expansion of the roles of HSAs to manage RUTF outside health facilities, initiating mobile outpatient treatment or creating health posts or village clinics to reduce caretakers’ travel distances should be explored (Recommendation #3, #4, #8).

16. What are the unintended consequences (positive and negative) of the CMAM programme?

The existence of CMAM services has attracted beneficiaries originating from the neighbouring countries and the magnitude of this issue should be deeply explored. Some MAM children were recovering through appropriate application of counselling messages that were given to caretakers during period of shortages. This shows that prevention of SAM through counselling during food secure periods should be deeply analysed to inform policy. SAM prevalence decreased while MAM prevalence increased from 2010 to 2014. Thus, the importance of putting more emphasis on prevention in the next CMAM programming (Recommendation #7).

An overall performance rating of 3 was attributed to the *impact* criterion. The intervention was *satisfactory*, positive aspects outweighing negative aspects.
**Sustainability**

17. To what extent has the intervention contributed to promoting ownership, including capacity building of national/local/community stakeholders?

CMAM is included into different policies and strategies. Clinicians, HSAs, volunteers and community leaders were trained across the country between 2013 and 2014, although 50% of them are yet to be trained. Pre-service training for medical doctors and health officers also took place. CMAM inpatient and outpatient activities are currently delivered as routine services in the health facilities across the country. At national level, a CMAM stakeholder committee regularly meets under the leadership of the MoH. However, the coordination mechanism at district level should be strengthened (Recommendation #3, #8).

18. What are opportunities and challenges to the sustainability of the programme in the short, medium and long term?

In Malawi, the biggest hurdle in sustaining CMAM is the 90% CMAM budget dependency from donors. Although included in the district implementation plans, the intervention is still not yet funded by national budgets. CMAM model is not yet perceived as a comprehensive strategy by donors, who targeted and funded specific components or subcomponents rather than funding the overall approach. Efficient use of external funds through good coordination of different stakeholders’ CMAM budgets should be initiated, along with stronger linkages between CMAM and other child survival and development interventions implemented at community level (Recommendation #3, #8, #9).

An overall performance rating of 2 was attributed to the sustainability criterion, which was less than satisfactory. There were few positive aspects, but outweighed by negative aspects.

**Lessons learned**

The evaluation has drawn some lessons from the implementation of CMAM in Malawi during the reference period of 2012-2017. These lessons are described below.

1. Community outreach is as important as the three other components of CMAM, especially in terms of service access and uptake. Due to the absence of community outreach indicators, forms and database, it was difficult to properly assess the linkages and effectiveness between the screening, referral, admission and follow-up processes.

2. Deployment of nutrition officers at district levels, active involvement of District Health Officers in the process of scaling-up, training of clinicians, nurses, homecraft workers, Health Surveillance Assistants and volunteers, along with availability of funds for equipment, supply procurement and delivery to the last miles were contributing factors to high geographic coverage achieved from 2012 to 2015.

3. High geographic coverage does not necessary induce high treatment coverage, and might even be the cause of resource wastage (as it was the case for the low bed occupancy in the NRUs), if community outreach activities are not properly supported.
for accessing the most vulnerable and thereby, increasing uptake and demand for CMAM.

4. Integrating CMAM supply into the national supply chain does not preclude timely delivery of products to the last miles. Until full technical and financial capacity of the government is achieved, this important element of CMAM should function in parallel to the MoH system for better efficiency and effectiveness.

5. Despite experiencing shortages of supplies in many SFPs, some children recovered through appropriate application of counselling messages on infant and child feeding given to caretakers. Use of counselling might be an alternative for prevention of SAM in food secured areas of the country, although it is difficult to ascertain how long it took for counselling to be effective in restoring the child to a normal status.

6. Maturity and long experience in CMAM implementation does not preclude government financial ownership. Taking over of CMAM by the government of Malawi, although contributing to policy and strategy development, did not lead to permanent funding from national government. After 14 years of CMAM implementation, there is still need to explore means for securing sustainable funding for CMAM by the government of Malawi.

7. Despite long experience in funding CMAM, donors still do not yet perceive the comprehensiveness of CMAM model. They have to be sensitised on the relevance of comprehensively funding CMAM on a long term, rather than focusing and funding for short term specific components or subcomponents of the intervention.

**Recommendations**

The evaluation has determined that CMAM is a relevant and effective approach for addressing acute malnutrition in Malawi. The following recommendations were identified as priority areas to be addressed by the Government of Malawi, UNICEF, and other partners in order to improve CMAM intervention in the country.

<table>
<thead>
<tr>
<th>DETAILED RECOMMENDATIONS</th>
<th>MANAGEMENT RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Revise the Community Outreach component of the national CMAM guidelines so as to strengthen the linkages between screening, referral, admission and follow up processes.</td>
<td>The Government of Malawi should take the lead, with technical support from UNICEF and implementing partners</td>
</tr>
<tr>
<td>- Suggest a frequency of screenings</td>
<td></td>
</tr>
<tr>
<td>- Set up screening targets in each district, and indicators for follow up (targets, frequency, number of households to be visited by each HSAs and volunteers)</td>
<td></td>
</tr>
</tbody>
</table>
- Develop a tool that reports all community outreach activities: cases screened, referred, follow-up, sensitised (at home versus health facility), admitted as referred versus direct contact with the health facility.

2. Strengthen the capacity of health workers, DHO, HSAs, and volunteers for CMAM.
   - Conduct a training need assessment in each health facility to identify gaps and increase the number of trained staff, HSAs and volunteers.
   - Train health and community service providers (clinicians, nurses, HSAs, volunteers, care group members) who are not yet trained on the updated CMAM guidelines.
   - Conduct refresher training to nurses, clinicians, medical assistants, HSAs and volunteers.
   - Include CMAM training in the curriculum of nurses and clinicians to ensure they get the skills and knowledge before leaving the colleges.
   - Institutionalise joint monitoring and supervision, and dedicate specific fund to it.

The Government of Malawi should take the lead, with support from donors, UNICEF, WHP, WHO, implementing partners.

3. Develop a community health strategy that strongly links CMAM with other health interventions implemented at community level.
   - The community strategy should properly address issues such as distance to the health facilities, service fees, religious beliefs, involvement of traditional healers, provision of foods to caregivers in the hospitals, involvement of males as decision makers at household level, incentivising and motivation of HSAs and volunteers, review meetings and exchange platform between HSAs, volunteers, health workers and community members.
   - Integrate CMAM outreach activities within a broader multi-sectoral approach for prevention of undernutrition such as the care group.
   - Strengthen community based IYCF and prevention programmes to ensure mothers have community level appropriate IYCF counseling and support for prevention of acute malnutrition.
   - Establish a HSAs/CHW and volunteer status linked to the MoH, and in charge of delivering community.

UNICEF should initiate this strategy, in collaboration with the MoH and other partners.
<table>
<thead>
<tr>
<th>Health activity package defined in the community health strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Initiate stronger engagement of local and religious leaders to ensure children do not default from treatment once enrolled in the CMAM programme</td>
</tr>
</tbody>
</table>

4. Conduct coverage surveys to appraise the distribution of health facilities that are providing CMAM services versus the actual needs/pockets of acute malnutrition in each district. **UNICEF should take the lead in collaboration with the MoH, donors and implementing partners**

5. Strengthen the national health information system for real-time monitoring and timely reporting.  
  - Establish a system for real-time monitoring and reporting of CMAM data  
  - Integrate the Rapid SMS surveillance system into the DHIS-2  
  - Design and institutionalise platforms for information sharing on CMAM among partners  
  - Revise data entry forms to capture the bed occupancy rate (to avoid resources wastages and inappropriate allocation) and gender dimensions of community outreach and NRU/OTP/SFP performance indicators  
  **The Government of Malawi, through the MoH should take the lead with technical support from donors and partners**

6. Strengthen the government supply chain and logistics system for timely delivery and storage of supplies in the health facilities.  
  - Plan ahead and project how much supply all districts would need annually, including the extra needs for bordering districts  
  - Share the annual quantification of supplies with local RUTF producers  
  - Pay an advance of 25% to local RUTF producers  
  - Rehabilitate or build adequate storage spaces at district hospitals and in the peripheral health facilities  
  - Support the MoH for transport and delivery of supplies to the district hospitals and from DHO to the health facilities  
  - Harmonise the CMAM supply management at district and health facility levels (nutritionist and HAS versus DHO officers and health workers in charge)  
  **UNICEF should take the lead in collaboration with the MoH, donors and technical partners**

7. Conduct operational research on the effectiveness and cost-effectiveness of preventing SAM through counselling during food secure periods. **Academics should take the lead in collaboration with the MoH and technical support**
### 8. Strengthen linkages and referral of children discharged from CMAM programme to exiting social protection and livelihoods programmes in the community.

- Strengthen the coordination mechanism from national to district levels that will enhance joint planning and implementation between partners
- Establish an adequate coordination mechanism between volunteers, HSAs, health workers and community members
- Strengthen multi-sectoral collaboration at national, district and community levels

UNICEF should take the lead in collaboration with the MoH, other donors and partners

### 9. Continue the partnership with donors and development partners in order to ensure long term funding for CMAM, improve access and uptake of CMAM services and prevent acute malnutrition.

- Advocate for long-term funding for CMAM by the government of Malawi
- Given that CMAM is part of SUN, advocate on the relevance of a comprehensive and long term funding support from donors
- Promote efficient use of external funds through good coordination of different stakeholders’ CMAM budgets
- Reinforce the linkages between CMAM and other child survival and development interventions for promoting cost sharing

UNICEF should lead the process in collaboration with the Government of Malawi.
Documents consulted

5. Final Evaluation of the Community-Based Therapeutic Care Institutionalization in Malawi (CTCIM) project. USAID-CIDA, September 2013.
25. Scaling up of community based management of acute malnutrition. Implementing the CAS programme in Malawi. Concern worldwide.
35. The UK’s position paper on undernutrition, September 2011.
**Persons consulted**

**Persons consulted at national level**
- Sylvester Kathumba  
  Ministry of Health
- Janet Guta  
  Ministry of Health
- Frank Msiska  
  Ministry of Health
- Sangita Jacobs  
  UNICEF
- Benson Kazembe  
  UNICEF
- Mekonnen Woldegorgis  
  UNICEF
- Sarah Ahmad  
  UNICEF
- Elsie Mawala  
  UNICEF
- Esnart Phiri  
  UNICEF
- Taonga Msiska  
  UNICEF
- Lucy Chirwa Ogugu  
  UNICEF
- Vitowe Harazi  
  UNICEF
- Asfaw Addisu  
  UNICEF
- Willis Ouma Agutu  
  UNICEF
- Nelson Kisekka  
  UNICEF
- Estere Tsoka  
  UNICEF
- Grace Maclean  
  UNICEF
- Allison McNamara  
  UNICEF
- Emma Chimzukira  
  WFP
- Alice Nkoroi  
  FANTA
- Andrew Chinguwo  
  Valid Nutrition
- Alima Jimu  
  Project Peanut Butter

**Individual interviews and FGDs at district level**

**Chitipa district**
- **DHO:** district nutritionist
- **NRU Chitipa:** HSAs and home craft workers, volunteers, beneficiaries
- **OTP/SFP Kassaye:** HSAs and home craft workers

**Mzimba South district**
- **DHO:** district nutritionist; Medical Officer
- **NRU Embengweni:** Hospital Director, HSAs and home craft workers, volunteers, beneficiaries

**Nkhotakota district**
- **DHO:** district nutritionist; District Health Officer
- **Nzenga health centre:** Health workers, volunteers, beneficiaries

**Dowa district**
- **DHO:** district nutritionist
- **Mtengowanthenge health centre:** Health workers, volunteers, beneficiaries
Kasungu district
*DHO*: district nutritionist
*NRU Nkhamenya*: Health workers, volunteers
*Chambwabvi health centre*: Health workers, volunteers

Lilongwe district
*DHO*: district nutritionist; District Health Officer
*Mulale health centre*: Health workers

Nkhotakota district
*DHO*: district nutritionist
*Mwansambo health centre*: Health workers, volunteers

Ntchisi district
DHO: district nutritionist
*NRU Ntchisi district hospital*: HSAs and home craft workers, volunteers, beneficiaries
*Malomo health centre*: Health workers, volunteers, beneficiaries

Salima district
*DHO*: district nutritionist
*Maganaga health centre*: Health workers, volunteers

Blantyre district
*DHO*: district nutritionist; District Health Officer
*NRU Moyo (Queens)*: Health workers, beneficiaries

Mulanje district
*DHO*: district nutritionist

Mwanza district
*DHO*: district nutritionist; Medical Officer; District Health Officer
*Thambani health centre*: Health workers, volunteers, beneficiaries

Neno district
*DHO*: district nutritionist
*NRU Neno*: Health workers, volunteers, beneficiaries

Nsanje district
*DHO*: district nutritionist; District Health Officer
*Masenjere health centre*: Health workers, volunteers
### Annex 1: CMAM evaluation programme log frame, extracted from the national nutrition strategic plan and CMAM guidelines.

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Indicators and targets</th>
<th>Sources of information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership and Coordination (Governance)</td>
<td></td>
<td>MOH, UNDAF Interview</td>
</tr>
<tr>
<td>Create enabling environment</td>
<td>-Nutrition policies, guidelines and training manuals developed and used (yes/no)</td>
<td>MOH, UNDAF, programme documents, Interviews</td>
</tr>
<tr>
<td>CMAM Policy and Guidelines (Advocacy and policy development) Information/data management</td>
<td>-Nutrition information system established and timely reports on at least 70 of nutrition indicators (yes/no)</td>
<td>MOH, UNDAF, programme documents, Interviews</td>
</tr>
<tr>
<td></td>
<td>-% increase of Government and stakeholder real budgetary allocation (10%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Nutrition plan prepared, costed and implemented (yes/no)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-CMAM coordination structure available at national and district levels (yes/no)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Functioning research framework in place and utilised (yes/no)</td>
<td></td>
</tr>
<tr>
<td>Financing</td>
<td></td>
<td>MOH, UNDAF, programme documents, Interviews</td>
</tr>
<tr>
<td>Human resources (health facilities and communities) (capacity development)</td>
<td>-% of appointed staff</td>
<td>MOH, UNDAF, programme documents, Interviews</td>
</tr>
<tr>
<td></td>
<td>-Vacancy rate</td>
<td></td>
</tr>
<tr>
<td>Infrastructures, Equipment and supplies</td>
<td>Health facilities rehabilitated, equipped and supplied</td>
<td>MOH, UNDAF, programme documents, Interviews, direct observations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process</th>
<th>Indicators and targets</th>
<th>Sources of information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity development: Training (pre-service, in-service, On-The-Job); rehabilitating infrastructure and equipping, storing and delivering supplies</td>
<td>-Service providers trained as trainers = 300</td>
<td>MOH, UNDAF, programme documents, Interviews</td>
</tr>
<tr>
<td>Sensitizing the community, identifying children through active screening, referring, counselling, and following-up through home visits</td>
<td>-Number of CHWs trained and equipped for screening, referral, follow up and sensitisation</td>
<td>MOH, UNDAF, programme documents, Interviews, FGDs</td>
</tr>
<tr>
<td>Treating children with SAM with and without complications, and management of MAM</td>
<td>Number of admissions</td>
<td>Programme data base</td>
</tr>
<tr>
<td></td>
<td>Number of exits</td>
<td></td>
</tr>
<tr>
<td>Monitoring, supervising, reporting</td>
<td>Assessment reports</td>
<td>Programme documents, Interviews</td>
</tr>
<tr>
<td></td>
<td>Case monitoring and follow up OTP = 35 000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NRU = 10 400</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SFP = 59 000</td>
<td></td>
</tr>
<tr>
<td>Outputs</td>
<td>Indicators and targets</td>
<td>Sources of information</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Sensitised community about the programme</td>
<td>Levels of community awareness of the existence of treatment services</td>
<td>FGDs</td>
</tr>
<tr>
<td>SAM and MAM identified early and referred for treatment, including</td>
<td>%- of total children screened for malnutrition</td>
<td>Programme data base</td>
</tr>
<tr>
<td>the most vulnerable (Equity and Gender)</td>
<td>%- of screened children referred to OTP/SFP sites</td>
<td></td>
</tr>
<tr>
<td>Admitted SAM and MAM followed-up through home visits</td>
<td>%- of referred children that are admitted to OTP/SFP</td>
<td>Programme data base</td>
</tr>
<tr>
<td></td>
<td>%- of admitted children that are followed up through home visits</td>
<td></td>
</tr>
<tr>
<td>Health and nutrition behaviour change promoted, as well as</td>
<td>%- of caretakers of admitted children receiving counselling</td>
<td>Programme data base</td>
</tr>
<tr>
<td>SAM and MAM children managed</td>
<td>-Cure rate (OTP; NRU &gt; 85%)</td>
<td>Programme data base</td>
</tr>
<tr>
<td></td>
<td>-Death rate (&lt; 2% OTP; &lt; 10% NRU; combined &lt; 2%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Default rate (OTP &lt; 5%; NRU &lt; 2%; combined &lt; 5%)</td>
<td></td>
</tr>
<tr>
<td>High geographic and treatment coverage achieved (scaling up CMAM</td>
<td>Geographic coverage</td>
<td>Programme data base</td>
</tr>
<tr>
<td>services)</td>
<td>(100 for NRU; 27 districts for 2011)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(OTP = 381, SFP = 381; 2011)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treatment coverage (number of children reached = 50,000 for 2011 OTP)</td>
<td></td>
</tr>
<tr>
<td>Health workers and CHW regularly monitored and supervised</td>
<td></td>
<td>Programme documents interviews; FGDs</td>
</tr>
<tr>
<td>Low expenses achieved</td>
<td>-Total direct and indirect cost</td>
<td>Programme data base</td>
</tr>
<tr>
<td></td>
<td>-Capital cost (direct and indirect)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Recurrent cost (direct and indirect)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Cost per treated child</td>
<td>Interviews with health workers; FGD with beneficiaries</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Indicators and targets</td>
<td>Sources of information</td>
</tr>
<tr>
<td>Improved SAM and MAM prevalence and incidence</td>
<td>-GAM prevalence &lt; 5%</td>
<td>Surveys: MDHS 2004; MDHS 2010; MICS 2014</td>
</tr>
<tr>
<td></td>
<td>-SAM prevalence &lt; 1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%- Reduced prevalence of wasting: &lt; 2%</td>
<td></td>
</tr>
<tr>
<td>Reduced Mortality</td>
<td>-Infant mortality rate (47.7 per 1000 live births)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Under-five mortality rate (78 per 1000 live births)</td>
<td></td>
</tr>
<tr>
<td>Impact</td>
<td>Indicators and targets</td>
<td>Sources of information</td>
</tr>
<tr>
<td>National ownership of the intervention</td>
<td>-% of sectors with nutrition/CMAM integrated sectoral policy (100%)</td>
<td>Programme documents interviews</td>
</tr>
<tr>
<td></td>
<td>-Government funding participation (also see enabling environment)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%- increase of Government and stakeholder real budgetary allocation (10%)</td>
<td></td>
</tr>
</tbody>
</table>
Annex 2: Selection Criteria of CMAM sites.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance (geographic accessibility) from the main referral health centre/hospital (DHO)</td>
<td>Very close versus very far</td>
</tr>
<tr>
<td>Performance of the centre regarding CMAM indicators</td>
<td><strong>NRU</strong></td>
</tr>
<tr>
<td></td>
<td>NRU performing poorly: death rate &gt; 10% (11-22%)</td>
</tr>
<tr>
<td></td>
<td>NRU performing well: death rate &lt; 10%</td>
</tr>
<tr>
<td></td>
<td>NRU performing very well: death rate &lt; 5% or cure rate &gt; 97%</td>
</tr>
<tr>
<td></td>
<td><strong>OTP/SFP</strong></td>
</tr>
<tr>
<td></td>
<td>OTP/SFP performing very badly: default rate &gt; 14%</td>
</tr>
<tr>
<td></td>
<td>OTP/SFP performing well: cure rate between 75-90% and default rate &lt; 10%</td>
</tr>
<tr>
<td></td>
<td>OTP/SFP performing very well: cure rate &gt; 96% and default rate &lt; 10%</td>
</tr>
<tr>
<td>Management of the centre</td>
<td>Public versus Private</td>
</tr>
</tbody>
</table>

Annex 3: List of the sampled districts and CMAM sites based on the sampling frame.

<table>
<thead>
<tr>
<th>Region</th>
<th>District</th>
<th>NRU</th>
<th>OTP/SFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern (3 districts)</td>
<td>Nkhatabay</td>
<td>NKhatabay DH</td>
<td>Mzenga</td>
</tr>
<tr>
<td></td>
<td>Chitipa</td>
<td>Chitipa NRU</td>
<td>Kaseye</td>
</tr>
<tr>
<td></td>
<td>Mzimba South</td>
<td></td>
<td>Embangweni</td>
</tr>
<tr>
<td>Centre (6 districts)</td>
<td>Ntchisi</td>
<td>Ntchisi DH</td>
<td>Malomo</td>
</tr>
<tr>
<td></td>
<td>Kasungu</td>
<td>Nkhamenya</td>
<td>Chambwabvi</td>
</tr>
<tr>
<td></td>
<td>Lilongwe</td>
<td></td>
<td>Lurwe/Mulale</td>
</tr>
<tr>
<td></td>
<td>Dowa</td>
<td></td>
<td>Mtengowanthenga</td>
</tr>
<tr>
<td></td>
<td>Nkhotakota</td>
<td></td>
<td>Mwansambo</td>
</tr>
<tr>
<td></td>
<td>Salima</td>
<td></td>
<td>Maganga</td>
</tr>
<tr>
<td>Southern (5 districts)</td>
<td>Blantyre</td>
<td>Moyo (Queens)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neno</td>
<td>Neno</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mwanza</td>
<td></td>
<td>Thambani</td>
</tr>
<tr>
<td></td>
<td>Nsanje</td>
<td></td>
<td>Masenjere</td>
</tr>
<tr>
<td></td>
<td>Mulanje</td>
<td></td>
<td>Milonde</td>
</tr>
<tr>
<td>Total</td>
<td>14 districts</td>
<td>6 NRUs</td>
<td>12 OTP/SFPs</td>
</tr>
</tbody>
</table>
Annex 4: Geographic distribution of districts and sites visited.

**Brief:** We are an independent team evaluating the CMAM programme in Malawi. The MOH and UNICEF wishes to know about the overall progress in implementing the national CMAM programme within the context of UNICEF 2012-2016 operational plan in order to extract good practices and lessons for the future of the intervention. We would like to learn your opinions on the programme, and we assure you of our confidentiality.

Name of interviewee __________________________
Organisation__________________________
Position in the organisation ___________________________________
How long have you participated in the programme?  ________________

*(For the evaluator – Please read relevant documents before the interview and customize the questions)* What was their role supposed to be? Were they involved in planning and how? Were they involved in the implementation and monitoring? Then include the questions on the list below as possible.

What are the major accomplishments of the programme?

What factors played a role?

What are the good practices?

What lessons would you like to share?
How the permanence of funding dedicated to CMAM in the country is ensured?

To what extend do you think the government can own the intervention without donor contribution?

Do you think local production of RUTF and supplementary foods can reduce the costs of CMAM intervention? Please explain

What is the potential for prevention programmes to reduce the CMAM cost?

What are your recommendations for improvement of the programme?

Brief: We are an independent team evaluating the CMAM programme in Malawi. The MOH and UNICEF wishes to know about the overall progress in implementing the national CMAM programme within the context of UNICEF 2012-2016 operational plan in order to extract good practices and lessons for the future of the intervention. We would like to learn your opinions on the programme, and we assure you of our confidentiality.

Name of interviewee __________________________
Organization__________________________
Position in the organisation ___________________________________
How long have you participated in CMAM programme? ___________________

What are the major accomplishments of the programme?

What factors played a role?

What are the good practices?

What are the major problems in terms of
   Quality of care
   Sustainability
   Government resource allocation
   Community involvement and ownership

GOVERNANCE, COORDINATION AND MANAGEMENT
What can you say about the commitment of the government in leading and managing the CMAM in terms of
   Adopting policies and strategies
   Linking CMAM with other interventions
   Allocating resources (human resources, equipment, supply, budget)
   Taking leadership and coordination of partners
   Leading inter-sectoral coordination (health, agriculture, WASH, and others)

CAPACITY DEVELOPMENT
What can you say about the technical/organizational assistance received in terms of
Training of human resources at national, district and the community?

Procurement of equipment and supply?

Incorporation of CMAM into the District Implementation Plans?

Supportive supervision?

What else need to be done?

**FINANCING**

What is the biggest hurdle for sustainable financing of CMAM in the country?

How the permanence of CMAM funding can be ensured in the country?

To what extend do you think the government can own the intervention without donor contribution?

What is the contribution of the DHO to CMAM intervention (estimate the annual cost) in terms of

Medicines?

Staffing?

Equipment?

Storage and delivery of therapeutic foods (F75; F100; RUTF)?

Storage and delivery of CSB?

What key lessons would you like to share with us?

What are your recommendations for improving CMAM intervention in the country?

How can we efficiently apply these recommendations?

Do you have documents that can be useful for this evaluation?
Annex 7: Overview of activities undertaken by the evaluation team from national to district levels.

<table>
<thead>
<tr>
<th></th>
<th>Northern region (3 districts)</th>
<th>Central region (6 districts)</th>
<th>Southern region (5 districts)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>Capital</td>
<td>Capital</td>
<td>Capital</td>
<td>Capital</td>
</tr>
<tr>
<td>Chitipa</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>Nkhotaby</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Nchisi</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Kasungu</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Lilongwe</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Dowa</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Nkhathaka</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Salima</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Blantyre</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Neno</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Mwanza</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Nsanje</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mulanje</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total individual interviews</strong></td>
<td><strong>20</strong></td>
<td><strong>1</strong></td>
<td><strong>2</strong></td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>

1. **Individual interviews**

- MoH/DHO staff: 21
- RUTF producers: 2
- United Nations Agencies: 14
- Donors: 1

2. **FDGs**

- Health workers: 17
- Volunteers: 14
- Beneficiaries: 12

3. **Direct observations**

- NRU: 6
- OTP/SFP: 12

DHO staff: District health officer, Medical officer, District Hospital director, District nutritionist

Health workers: Medical assistant, Nurse, Midwife, CMA, HSA, SHSA, Home Craft Worker, DCSA, PA.
Annex 8: Focus Group Discussion Guide for Health Workers and beneficiaries (mothers and fathers).

Brief: We are an independent team evaluating the CMAM programme in Malawi. We would like to learn your opinions on the programme, and we assure you of our confidentiality.

Number of participants: Men_____________ Women_______________________

Occupation of participants__________________________

To the beneficiaries/Health Workers

Please tell us about the situation of malnutrition in your community? Mungatiuzeko za vuto lakunyentchera mdera lanu lino? (lilipo? Ndilalikulu motani?)

Who does the screening of children? Ndi ndani amene amafufuza za vutoli?

How often are these screening done? Kodi kufufuzaku kumachitika pakapita nthawi yaitali bwanji?

What are the actions you are advised to do when a child in this village is identified as malnourished? Mumalangizidwa zotani mwana wanu akapezeka ndi vuto la kunyentchera?

What is the major difference that the establishment of NRU, OTP and SFP made in your community? Ndi kusiyana kotani kumene kwachitika mogwirizana ndi kukhazikitsidwa kwa mapologalamu a kadyedwe (NRU, OTP, SFP) mdera lanu lino?

- Behavioural change mogwirizana ndi kusintha kwa chikalidwe
- Access mogwirizana ndi kapedewa
- Quality

What are the people that are not reached by the programme? What are the reasons? Ndi anthu ati amene sakufikiridwa ndi pologalamu imeneyi? Perekani zifukwa zake.
Are mothers and grandmother also involved in the programme? What about fathers? Kodi amayi komanso agogo akazi amatengapo gawo mu pologalamu imeneyi? Nanga abambo?

What can you say about the role of traditional healers in treating malnourished children in your village? Ndi udindo wotani umene asing'anga ali nawo pankhani yothandiza ana amene ali ndi vuto lakunyencthera mmudzi mwanu muno?

What services do you get from health workers when the child is admitted in the CMAM programme? Ndi chithandizo chotani chimene mumalandira kuchokera kwa azachipatala mwana wanu akalowa mu pologalamu ya madyedwe?

Please tell us about your satisfaction of the programme? Kodi mukkhutitsidwa bwanji ndi pologalamuyi?

What do you think are the strength of the programme? Ndi zinthu ziti zamu pologalamuyi zimene mukuona kuti zikuyenda bwino?

What are the weaknesses? Nanga ndi ziti zimene sizikuyenda bwino?

What could be improved? Ndi ziti zimene ziyenera kukonzedwa?

To Community Health Workers/volunteers

Number of participants: Men______________ Women________________________

Does the CMAM programme meet the needs in the village? Kodi pologalamu yakadyedwe ikukwaniritsa zosowa za mmudzi mwanu?
Are there areas and population groups that have not accessed this service? If yes, what are the barriers (socio-cultural, financial, geographic or otherwise)? *Pali madera kapena magulu a anthu amene sanafikiridwe ndi thandizo limeneli? Zolepheretsa zake ndizotani? (zachikhalidwe, zachuma, malo omwe dera lirili ndi zina)*

What are your challenges of working as CHW/volunteer in this programme? *Ndi mavuto otani amene mwakumana nawo pogwira ntchito mu pologalamuyi?*


How do you do home follow up of malnourished children at home? What are the challenges? *Mumpanga bwanji kalondolondo wa ana onyentherawa mmakomo mwawo? Ndi mavuto otani amene mumakumana nawo?*

What do you think affects the results for the CMAM programme in your village? *Ndi zotani zimene zikubwezeretsa mbuyo kapena kupititsa patsogolo pologalamu ya kadyedwe mmudzi mwanu?*

What do you think should be changed to make you more effective? *Ndi zotani zimene mukuganiza kuti zisinthidwe kuti muzigwira ntchito moyenera?*
Annex 9: Health facility checklist.

– write non applicable (N/A) if the question does not apply to the health facility.

Region_______________ District_____________ Sub-district/village____________
Name of the facility_____________________
NRU___________________ OTP_________________ SFP ___________________
Respondent Profession__________________
Responsibility in CMAM__________________
Number of available health workers ________________
Number of expected health workers_______________
Number of Health workers trained on CMAM ________________

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average % relapses</td>
<td>Number %</td>
<td>Number %</td>
</tr>
<tr>
<td>Average age (months) at start of the episode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average age (months) at death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average duration (days) of SAM episode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average duration (days) of MAM episode</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Availability of CMAM materials/job Aids

<table>
<thead>
<tr>
<th>Material</th>
<th>Availability</th>
<th>Remark (e.g., adequately maintained)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAM Protocol</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>OTP quick reference</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>SAM classification Algorithm</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>MUAC classification table</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>MUAC tape</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Functioning Weighing Salter with basin or pants</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Functioning electronic scale</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Length board</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Item</td>
<td>Availability</td>
<td>Remark (e.g., type, dosage, insufficient quantity, expiry date, adequately stored/kept or maintained)</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>--------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Stadiometer</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>W for H Reference card</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>F-75 reference card</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>F-100 reference card</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>RUTF ration reference card</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>OTP card</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>NRU/OTP/SFP Registration book</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>NRU/OTP/SFP Monthly Statistics report form</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Referral form</td>
<td>Y</td>
<td></td>
</tr>
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</table>

**Availability of CMAM supplies**

<table>
<thead>
<tr>
<th>Item</th>
<th>Availability</th>
<th>Remark (e.g., type, dosage, insufficient quantity, expiry date, adequately stored/kept or maintained)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUTF</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>RUTF stored appropriately</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>F-75 (for in-patient)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>F-100 (for in-patient)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>F-75 or F-100 stored appropriately</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Vitamin A capsule</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Amoxicillin tablets</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Amoxicillin syrup (125 mg/5 ml)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Folic Acid tablets</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Mebendazole or Albendazole</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Iron-sulfate tablets (for in-patient)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Gentamicin ampoule (for in-patient)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>--------------------------------</td>
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</tr>
<tr>
<td>ReSoMal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard ORS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soap for hand-washing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe drinking water (at least one Jerry can)</td>
<td></td>
<td></td>
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</table>

### Process/activities

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
</tr>
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<tbody>
<tr>
<td>All under 5 children assessed for their nutritional status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bilateral pitting oedema measured accurately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid-upper arm circumference (MUAC) measured accurately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight measured accurately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height measured accurately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child classified correctly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admission according to correct criteria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical complication checked accurately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History and Physical examination recorded accurately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child’s appetite tested correctly upon admission and during OTP follow-on sessions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routine medication given according to protocol and recorded accurately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of RUTF needed is correctly calculated and recorded accurately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RUTF dispensed by the pharmacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RUTF dispensed by the health workers working at health facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of F-75 or F-100 is correctly calculated and recorded</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate education given to mothers/caregivers</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Priorities for follow-up home visits discussed with CHWs</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Correct number of absentees/defaults identified for follow-up home visits</td>
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<td>N</td>
</tr>
<tr>
<td>Beneficiaries discharged according to protocol</td>
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<tr>
<td>NRU/OTP/SFP registration book completed correctly</td>
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<td>N</td>
</tr>
<tr>
<td>NRU/OTP/SFP monthly statistic report prepared correctly</td>
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<tr>
<td>NRU/OTP/SFP monthly reported to the next level</td>
<td>Y</td>
<td>N</td>
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Annex 10: Evaluation Terms of References.

CONSULTANCY POSITION

TERMS OF REFERENCE

Project title: Evaluation of the Community Management of Acute Malnutrition (CMAM)

BACKGROUND AND JUSTIFICATION

Malnutrition remains a major determinant to child health in Malawi and it is a leading cause of infant and child mortality. Recent estimates from the 2014 MDGS End-line Survey has shown that about 76,000 children die before their fifth birthday given an under five mortality rate estimate of 85 per 1000 live births. About 53 percent of these deaths are attributable to malnutrition. A child with Severe Acute malnutrition (SAM) is nine times more likely to die. With SAM prevalence of 1.1% (in Malawi, the annual SAM burden is estimated at about 79,301 under-five children (2015 CMAM forecasting tool).

The Government of Malawi recognizes the critical importance of treating malnutrition, particularly in children under-five years. The management of malnutrition is one of the six priorities in Malawi’s current poverty reduction strategy, the Malawi Growth and Development Strategy 2011-2016. Equitable access to nutrition services is also a component of the National Health Strategy since 2003. In addition, the National Nutrition Policy and Strategic Plan (NPPSP) (being revised) includes Community Management of Acute malnutrition (CMAM) as a core component.

CMAM is built on the principle of community involvement and aims to increase the ability of people to prevent, recognize and manage malnutrition within their communities. CMAM complements existing health services and potentially create new opportunities and points of contact for follow-on nutrition and health services - HIV testing, family planning and nutrition counseling. CMAM has four main components

Community Outreach, aimed at community sensitization, mobilization, active case-finding, referral and follow-up;
Outpatient Therapeutic Programme (OTP), which treats severely acutely malnourished (SAM) children with appetite and without medical complications with ready-to-use therapeutic food (RUTF) and systematic medications. These are taken at home and the child attends OTP weekly for check-ups and resupply.
Nutrition Rehabilitation Unit (NRU), which provides in-patient care to SAM children with complications until the patients are stabilized and suitable for OTP
Supplementary Feeding Programme (SFP), which provides dry take-home rations to moderate acutely malnourished (MAM) children, pregnant/lactating women, and patients discharged from the OTP or NRU.

By treating malnutrition in community health centres and providing therapeutic food for acutely malnourished children to be given at home, it is expected that children will have better health and well-being.
In Malawi, CMAM was first implemented in 2002 as a pilot project in Dowa and Nkhota-kota districts. In 2006, Ministry of Health standardized CMAM implementation for scale-up to all the 29 districts and the CMAM Advisory Service (CAS) was formed to coordinate and support the scale-up and integration of CMAM. The primary aim of the scale-up of CMAM was to allow the program to become sustainable by incorporating it as a routine health activity within the Primary Health Care (PHC) services. In this way, children with acute malnutrition, who are at increased risk of morbidity and mortality, would receive the care they need through the same pathways that they access treatment of other illnesses.

The United Nations (UNICEF, WFP, WHO) is committed to supporting CMAM in Malawi. For UNICEF, CMAM is a major part of the Nutrition Programme under the 2012-2016 Country Programme Action Plan and supports national efforts to achieve the Millennium Development Goals (MDG 4) within the framework of the Malawi Growth and Development Strategy (MDGS) and the 2012-2016 UN Development Assistance Framework (UNDAF), outcome 2 which is ‘national institutions effectively deliver equitable and quality basic social and protection services’. This intervention addresses Outcome 2.2: Children under five years of age, pregnant women and lactating women in selected districts have access to and use quality nutrition services by 2016; Output 2.2.2 Management of acute malnutrition scaled-up in 15 districts for quality services.

The implementation of CMAM since 2012 has been supported by DFATD to the tune of USD 4.7 million. DFATD has had a long involvement in the prevention and management of acute malnutrition in Malawi.

**PURPOSE**

This evaluation of CMAM is commissioned in response to the need to examine the overall progress in implementing CMAM during implementation of UNICEF country programme 2012-2016, the effectiveness and efficiency of its strategies and issue related to sustainability, equity gender and national ownership. The CMAM evaluation aims to strengthen on-going and future CMAM programmes by generating and disseminating evidence on CMAM experiences.

Most importantly the findings of the evaluation will be used in designing the new UNICEF Malawi Country Programme 2017-2021. Best practices based on the findings will also be documented and promoted in collaboration with UNICEF ESARO and Headquarters.

**GOAL**

To assess the overall progress in implementing CMAM within the context of UNICEF 2012-2016 country program, to assess the achievement of CMAM objectives and expected results.

**SPECIFIC OBJECTIVES**

Assess CMAM relevance and appropriateness, efficiency and quality of services (2012 -2016)  
Assess the effectiveness, impact and sustainability of the programme (2012-2016)
Assess extent to implementation of CMAM has contributed to systems strengthening i.e how coordination, governance, and management, gender and equity, capacity development, advocacy and policy development, and information/data management has been established (2012-2016)

Document best practices and generate evidence based lessons and recommendations to strengthen efforts towards quality improvement and coverage of CMAM.

EVALUATION CRITERIA AND QUESTIONS

The purpose of the evaluation is to assess the performance of CMAM in Malawi in terms of its relevance and appropriateness, effectiveness and coverage, efficiency and quality, and sustainability. The UNEG criteria of relevance, efficiency, effectiveness, impact and sustainability will be applied to programme objectives and strategic results areas (i.e capacity development, gender, equity, policy, coordination and governance). Specifically, the evaluation will seek to answer, but not limited to, the following evaluation questions.

Relevance

- To what extent is the CMAM strategy linked with others so that they form a synergistic set that is relevant to achieve the health and nutrition programme results, especially for the most vulnerable children? In other words, is the CMAM strategy used within the most relevant set of strategies?
- To what extent did the original CMAM strategy evolve and transform itself into other strategy in the selected programme areas/districts?
- To what extent is the CMAM strategy relevant for and aligned with the needs of the national stakeholders, especially the most relevant children and women?
- To what extent has the CMAM programme been implemented in partnership with the relevant stakeholders?
- Were the CMAM objectives appropriate in the overall problem context, needs and priorities

Efficiency

- How well has the CMAM programme implementation been managed in the programme districts/areas?
- To what extent is the CMAM programme cost efficient? Could the same results have been achieved using different strategies and with less resources?
- To what extent did the various activities transform the available resources into the intended CMAM outputs in terms of quantity, quality and timeliness

Effectiveness

- To what extent has the CMAM programme contributed to achieving (or not) the expected outcome and output level results in the programme areas?
- To what extent was the CMAM strategy more (or less) effective due to the synergies with other strategies in the framework of the Country Programme (especially with the other Nutrition components as well as Health and WASH interventions)?
- To what extent has the CMAM strategy contributed to reducing bottlenecks and barriers
that determine equity gaps affecting vulnerable children in the programme areas?

- What have been the main factors that promoted or hindered the effectiveness of the CMAM approach?
- What difference did CMAM make, as measured by how far the intended beneficiaries really benefited from the products or services

**Impact**

- To what extent has the CMAM intervention contributed to achieving (or not) the expected impact level results in the relevant programme areas? Impact should be assessed, to the extent possible by using standard indictors, such as wasting and/or global acute malnutrition (GAM).
- To what extent has the intervention contributed to reducing the equity gaps in the programme areas in favour of the most vulnerable children?
- What are the unintended consequences (positive and negative) of the CMAM intervention?

**Sustainability**

- To what extent has the intervention contributed to promoting ownership, including capacity building of national/local/community stakeholders?
- What are the opportunities for and risks to the sustainability of the programme benefits in the short, medium and long term?

**Application of human right based approach (HRBA)**

To what extent has the HRBA, including equity focus and gender mainstreaming been applied across all the concerned programme areas?

As appropriate, the evaluation shall include an overall performance rating for each of the above five evaluation criteria, on the basis of the following scale:

- Highly satisfactory (fully according to plan or better);
- Satisfactory (on balance according to plan, positive aspects outweighing negative aspects);
- Less than satisfactory (not sufficiently according to plan, taking account of the evolving context; a few positive aspects, but outweighed by negative aspects);
- Highly unsatisfactory (seriously deficient, very few or no positive aspects). Each rating should be stated as part of the conclusions for each of the five criteria.

The evaluation will also:

- Assess the degree of success achieved in the CMAM in Malawi and to gather lessons learned and best practices
- Examine processes and results related to the four key components of the CMAM: Community outreach, OTP, NRU and SFP.

**Evaluability Assessment**

At the inception stage, the evaluators are expected to conduct a thorough review and analysis of a wide range of available secondary data in order to identify information gaps and other
evaluability challenges and discuss solutions to address them. It’s anticipated that the available programme and secondary data and the envisaged qualitative data collection will address most of the evaluation criteria and the corresponding questions, except some aspects of the impact criteria (e.g. the challenge to form a valid comparison group). In such cases, the evaluation team will, at the inception stage, consult with the evaluation reference group for alternative approaches, including additional data collection to complement what cannot be assessed through desk review or the use of less rigorous evaluation approaches or agreeing on a set of evaluation questions that can be reasonably assessed.

**EVALUATION APPROACH AND METHODOLOGY**

The overall evaluation approach will be based on the specific theory of change for the CMAM intervention. The evaluation report should identify how the CMAM intervention has been understood to address the identified problems. This can include a results chain or other logic models such as a logframe. It will include inputs, outputs, outcomes as well as impacts. The models need to be clearly described and explained. To this end, the evaluation will be guided by the global CMAM conceptual framework/strategy and the country specific CMAM logic models and results frameworks which will need to be discussed and made explicit in the initial stage of the evaluation. In addition, the evaluation will also need to apply a systems evaluation approach to examine CMAM implementation / management aspects. In light of the purposive selection of programme beneficiaries, the evaluation will have to use a non-experimental design approach. Triangulation of data (combining quantitative and qualitative data as well as data from a range of stakeholders) will have to be considered to increase reliability and validity of the findings and conclusions.

The consultants are expected to present, in detail, their approach, methodology and tools, with an action plan and time frame that addresses the expected outputs, with reference to the overall and specific objectives as well as budget. The following key steps must be included:

- Carry out an in-depth literature review of documentation on CMAM in particular in Malawi. The literature review should include, but not be limited to, the following documents:
  - CMAM national guidelines, training materials and job Aids (revised in 2012)
  - The 2009-2012 CMAM operational plan through desk reviews, bilateral meetings and interviews/consultations with relevant stakeholders etc.
  - The draft CMAM operational plan 2015-2020
  - Supply chain management evaluation and recommendation
  - Donor reports since 2012
  - The bottleneck analysis 2014 reports
  - The planning, monitoring and evaluation (PME) of CMAM at national level and as a part of District Implementation Plans formulation process
  - The coordination and management aspects of CMAM implementation (institutional framework and other aspects of enabling environment)
  - Final Evaluation of the Community-Based Therapeutic Care Institutionalization in Malawi (CTCIM) project (USAID-CIDA, September 2013).
Identify key information gaps at the various levels (national, district, facility, community) and develop an inception report detailing where the work will be carried out, who will collect the information, from whom the information will be collected (Sources of information: stakeholder consultations, existing records, in-patients, community leaders etc).

Mixed methods is expected where both qualitative and quantitative approaches will be used as appropriate. Utilising a before and after analysis, the evaluation will rely on available baseline and routine monitoring data obtained from health system databases in addition primary data to be collected as appropriate. Toward this end, the consultants will also endeavor to establish a valid (statistical) comparison group using the raw data sets from MICS and DHS surveys to quantitatively assess programme impact.

Conduct field work with representation of all regions and districts
- Key informant interviews (National partners and DHO, HSAs, community leaders)
- Focus group discussion (representative community outreach sites)
- In-depth interviews (representative CMAM sites)
- Documentation of best practices

Data availability and quality is not perfect at Health Facility level and CMAM sites. The consultants are expected to incorporate data validation approaches in their methodology.

**Ethical clearance** - The consultants are expected to identify all relevant ethical issues from the proposed methodology and seek ethical clearance as appropriate from the National Committee on Research in Social Sciences and Humanities (NCRSH) in accordance with the rules and regulations of conducting research in Malawi.

The evaluation is expected to draw out relevant comparisons where possible. This will require comparing CMAM programmes across various settings both in terms of institutional processes and performance. For such comparisons, the evaluators must be clear of what is to be considered as a “good” standard. Where possible the evaluation should identify good practices that will form the basis for quality design and assessment efforts in future CMAM programming.

**EVALUATION TEAM**

The evaluation is planned to be conducted by a team of individual consultants consisting of an international evaluation expert (a leader and a technical expert) and 2 national technical experts (nutritionist/qualitative data analyst and economist/quantitative data analyst). The leader is expected to have significant research/evaluation background in emergency nutrition programming. The exact division of work will be decided by the institution/team, but in general, the team leader will have the responsibility for all negotiations, decisions, and deliverables. The technical work is to be divided between the team leader and the team members. The team leader is expected to meet the following minimum requirements:

- An experienced consultant or team, or legally registered consulting firm with an
extensive experience of evaluation of complex projects, research methods, analytical skills and approaches in the nutrition and health sector.

- Good understanding of development issue and knowledge of the Malawi context, including policy and programming, including: National Nutrition Programme, and other associated policies.
- Extensive knowledge of CMAM, especially capacity building approaches.
- Understanding of health systems
- Ability to communicate clearly with a wide range of stakeholders.
- Previous experience working with the UN
- Excellent writing skills in English.

Furthermore, the team will be assisted by 2-4 field data collectors.

**DISSEMINATION PLAN**

The final report will be shared widely with Government partners through the Ministry of Health, donors (DFATD, Irish AID and USAID) and cooperating partners. The consultant will produce summary reports for advocacy and document best practices which will be used for dissemination.

**TIME FRAME**

The evaluation will be conducted in two phases. The first stage will involve an extensive inception phase based on analysis of secondary information sources. A detailed inception report will be prepared presenting the evaluation scope and methods based on the information gathered during the first phase. The second phase will involve further investigation based on qualitative primary data collected and preparation of the evaluation report to be delivered by end March, 2016.

The evaluation is expected to be carried out between November 2015 and March 2016 for a period of 80 days.

<table>
<thead>
<tr>
<th>Expected Result</th>
<th>Deliverable</th>
<th>Time frame</th>
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<tbody>
<tr>
<td>Methodology and data analysis plan</td>
<td>- Inception report</td>
<td>15 days</td>
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<td></td>
<td>- Power point presentation to validate the methodology to be used for the evaluation</td>
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<td></td>
<td>- Ethical clearance</td>
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<tr>
<td>Data collection and analysis</td>
<td>- Evaluability analysis</td>
<td>21 days</td>
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<tr>
<td></td>
<td>- Analysis of secondary data</td>
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<tr>
<td></td>
<td>- Field report after data collection</td>
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<tr>
<td>Analysis</td>
<td>- Draft evaluation report</td>
<td>24 days</td>
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<td></td>
<td>- Power point presentation on the preliminary findings with Reference Group (UNICEF, government and stakeholders)</td>
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<tr>
<td></td>
<td>- Final report</td>
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Dissemination material
- Draft summary best practices
- Power Point presentation on best practices
5 days

Advocacy material
- Draft summary report for advocacy
- Power Point presentation on advocacy
5 days

Final reports developed according to recommendations
1) Final evaluation report; 2) Summary report for advocacy; 3) Documentation of Best practices; 4) Micro data in soft copy
10 days

Total
80 days

KEY RESULTS

- Methodology that will enhance capacity on evaluation and generate evidence-based recommendations developed and agreed upon
- Final evaluation and recommendations report that will inform high impact CMAM programming
- Best practices documented to generate lessons learnt to strengthen efforts towards quality improvement and coverage of CMAM
- Advocacy summary/briefs developed to inform CMAM advocacy with stakeholders in Malawi and Globally

DELIVERABLES

Intermediary deliverables
- Inception report and power point presentation to validate the methodology to be used in the evaluation.
- Field report after data collection
- A preliminary report highlighting major findings from the assessment and key recommendations shared and reviewed.
- Power Point and De-briefing meeting on the preliminary findings with UNICEF, government and stakeholders
- Draft evaluation report with inputs gathered from stakeholder incorporated
- Draft documentation of best practices and PowerPoints shared and reviewed
- Draft summary advocacy brief and PowerPoints shared and reviewed

Final deliverables
- As final outputs three sets of documents will be required (electronic copies in Word & PDF): 1) Final evaluation report; 2) Summary report for advocacy; 3) Documentation of Best practices (4) Micro data in soft copy

Evaluation report
The Evaluation Report shall be compliant with the UNICEF/ UNEG standards and should include the following components:
- Executive Summary.
- Description of the CMAM programme (including theory of change and relevant
information)
• Purpose of the evaluation, evaluation scope and evaluation criteria
• Description of the evaluation methodology (including evaluability assessment, limitations and ethical issues)
• Findings broken down by evaluation criteria
• Conclusions and lessons learned
• Recommendations
• Appendices, including the Terms of Reference, data collection tools, people contacted and other relevant information

A tightly-drafted, to-the-point and free-standing Executive Summary is an essential component. It should be short and not more than five pages. It should focus mainly on the key purpose or issues of the evaluation, outline the main analytical points, and clearly indicate the main conclusions, lessons learned and specific recommendations. The Executive Summary shall include the Performance Rating of the main 5 evaluation criteria. Cross-references should be made to the corresponding page or paragraph numbers in the main text that follows.

The Recommendations should be the subject of a separate final chapter. Wherever possible, for each key conclusion there should be a corresponding recommendation. The key points of the conclusions will vary in nature but will often cover aspects of the key evaluation criteria (including performance ratings).

**BUDGET**

The consultant should provide a proposed overall budget for the evaluation. Payment will be best on deliverables as follows:
• Inception report and presentation -30%
• Data collection report, draft evaluation report and power point presentations -20%
• Draft dissemination material and presentation -10%
• Draft Advocacy brief and presentation – 10%
• Final deliverables- 30%

Standard UNICEF procedures will apply for invoicing and all other financial management requirements set out in the contract. Standard penalty clauses will also apply for late and poor quality deliverables

**MANAGEMENT OF THE EVALUATION**

The lead consultant will report to the Chief of Nutrition through the Reference group which will include UNICEF Research and Evaluation Group and relevant government and civil society stakeholders. The Reference Group is responsible for quality assurance of the evaluation at each stage. The Reference Group will provide the consultant with the criteria for the evaluation of the quality of each deliverable.