CMAM Surge

The ‘CMAM Surge’ approach: setting the scene

By Amanda Yourchuck and Kate Golden

Amanda Yourchuck is an Emergency Nutrition Advisor for the United States Agency for International Development (USAID) Advancing Nutrition. She has over 10 years of experience supporting wasting treatment and prevention activities. Amanda was previously a Nutrition and Health Advisor with Concern Worldwide and served as the technical focal point for global CMAM Surge activities.

Kate Golden is Senior Nutrition Adviser at Concern Worldwide. Her career started in Ethiopia in 2003 in one of the early pilots of community-based management of acute malnutrition. Since then, she has worked in South Sudan, Sudan and Lebanon and supported Concern nutrition programming and strategy development in roughly 20 countries across Africa and Asia as a global adviser.

The authors acknowledge the support of Chris Pain, Head of Technical Assistance at Concern Worldwide and Regina Kopplow, Senior Food and Nutrition Security Adviser, in the writing of this article.
Community-based management of acute malnutrition (CMAM) will celebrate its twentieth anniversary this year. Since its inception in Ethiopia in 2000, and subsequent pilots by Concern Worldwide (Concern) in partnership with Valid International in Malawi (2002) and Ethiopia (2003), it has evolved from a primarily non-governmental organisation (NGO)-driven emergency response to an increasingly integrated part of government-run child health services. Now more than 70 countries are implementing CMAM, many where treatment is integrated into routine basic health services (UNICEF, 2014). An estimated 5.2 million children with severe wasting accessed treatment in 2018. While this shows a remarkable increase from the first pilot, it still only represents 31% of the 16.6 million severely wasted children in need (State of Acute Malnutrition, 2020).

Despite CMAM’s incredible contribution to the management of child wasting, it is clear that more must be done to strengthen and increase coverage of services for wasting within health systems to ensure all children who need life-saving treatment receive it. Concern has continued to identify ways to improve the quality of and access to CMAM services as a core part of its nutrition and health programming. This is achieved through support to existing government health systems, more direct service provision in emergencies where necessary and by piloting new, innovative approaches.

The CMAM Surge approach is one of many ongoing efforts to improve the efficiency and effectiveness of treatment services for wasting during both normal and emergency periods (Kueter et al., 2018; McGrath & Shoham, 2019). The approach uses routine CMAM services as an entry point to strengthen the capacity of health systems to better anticipate, prepare for and respond to peaks in caseloads of wasted children.

The need for a more predictable, sustainable approach to responding to caseload increases, particularly when they reach emergency levels, was first articulated in Field Exchange in 2010. In their article, Suggested New Design Framework for CMAM Programming, Peter Hailey and Daniel Tewoldeberha (2010) highlighted the challenges of CMAM programming as it was typically implemented at that time. They described the seasonal vulnerability of livelihoods and other local systems that drive predictable spikes in CMAM caseloads at particular times of year. The article challenged the traditional ‘stop-start’ emergency response model that failed to adequately address these caseload spikes as responses often began too late, missing the most opportune time to save the most lives. In addition, the article highlighted that traditional emergency responses often led to disruptions in health systems strengthening initiatives, given their parallel nature, and that additional capacity was withdrawn at the end of an emergency, leaving nothing behind to build upon when the next emergency inevitably occurred. Emergency responses relied heavily on external capacity and support from NGO and United Nations (UN) partners which, while meeting immediate needs and providing life-saving support, did not enable governments to build more sustainable country-led response systems.

Around the same time, Concern began searching for ways to improve its own response to nutrition emergencies. Despite decades of experience managing wasting in both emergency and non-emergency settings (including at least a decade before the development of CMAM), Concern faced many of the same challenges and frustrations articulated in the Hailey & Tewoldeberha article. While it was clear that Concern and government health staff in most countries were well aware of the local

---

1 CMAM aims to reach the maximum number of acutely malnourished children with treatment services at decentralised outpatient care sites. The CMAM approach consists of four main components: community outreach, outpatient care for the management of SAM without medical complications, inpatient care for the management of SAM with medical complications and programmes for the management of moderate acute malnutrition (MAM), such as a supplementary feeding programme (SFF).

2 There has been a recent shift towards use of the term ‘wasting’ rather than acute malnutrition to emphasise its importance outside ‘acute’ emergencies. Wasting is also easier to visualise and, therefore, more likely to move people to action. CMAM, however, treats both children who are wasted and/or have nutritional oedema.

3 For more information about Concern’s experience delivering CMAM and other wasting treatment services see the following two reports: https://reliefweb.int/report/world/concern-worldwide-s-learning-15-years-community-management-acute-malnutrition
warning signs of an imminent nutritional emergency, this knowledge was not being sufficiently leveraged to trigger early action. Concern also saw that capacity varied considerably between health facilities and that relatively modest but tailored support could help health teams better cope with increases in demand for services. Finally, Concern could see that CMAM admission numbers could be a practical and efficient trigger of timely support but they needed to be understood relative to historical trends and a health facility team’s own capacity to respond. Based on experience from multiple countries, this prompted Concern to develop and pilot what is now known as the CMAM Surge approach in Kenya in partnership with the Kenya Ministry of Health and the United Nations International Children’s Fund (UNICEF) beginning in 2012 (Kopplow et al., 2014).

The CMAM Surge approach uses eight steps to help government health teams respond to relative changes in capacity and caseloads (Figure 1). These steps begin with an analysis of the local context, including a review of seasonal trends and known risk factors that drive child wasting rates (Step 1) and individual health facility capacity (Step 2). The analysis process culminates in the setting of health facility-specific thresholds that, when crossed, trigger a shift from normal implementation into a higher phase of action based on the severity of the situation (alert, serious, emergency) (Step 3). Pre-agreed Surge actions and support from both government and non-government actors are agreed (Step 4 and 5) and activated (Step 7), with the first level of action often being taken from within the health facility itself, sometimes in collaboration with communities. Thresholds are monitored on an ongoing basis by health facility staff using routine health facility data (Step 6), enabling action as soon as a threshold is crossed. The status of each health facility is also monitored by the higher level health authority (e.g., district health management team) that can, in turn, monitor trends across a wider geographic area and call for higher-level regional or national response if the situation continues to deteriorate.

Now, nearly eight years later, CMAM Surge is being implemented in 12 countries with technical assistance to governments provided by multiple NGO and UN partners and financial support from both development and emergency donors across humanitarian and development contexts (Figure 2). Concern has had a direct implementation presence in seven of these countries. In other countries, partners have either introduced CMAM Surge on their own using Concern’s CMAM Surge Operational Guidance or worked in coordination with Concern to bring CMAM Surge to scale with multiple implementing partners. During this time, a wealth of knowledge has been generated that points to lessons learned and best practices. It is important to now take stock of what we know and chart the way forward for practitioners to further refine and scale up the approach.

Figure 2 Countries implementing surge CMAM

CMAM Surge* Status of implementation based on known partner** as of end 2020

<table>
<thead>
<tr>
<th>Country</th>
<th>Implementation Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>Past</td>
</tr>
<tr>
<td>Chad</td>
<td>Planned</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Current</td>
</tr>
<tr>
<td>Kenya</td>
<td>Current</td>
</tr>
<tr>
<td>Niger</td>
<td>Past</td>
</tr>
<tr>
<td>Pakistan</td>
<td>Planned</td>
</tr>
<tr>
<td>Somalia</td>
<td>Planned</td>
</tr>
<tr>
<td>Sudan</td>
<td>Current</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Past</td>
</tr>
<tr>
<td>Uganda</td>
<td>Planned</td>
</tr>
</tbody>
</table>

*Concern has implemented/is implementing CMAM Surge in Burundi, Chad, Ethiopia, Kenya, Niger, Pakistan and Uganda.

References


Since 2012, both CMAM programming and the contexts in which Concern supports delivery of treatment services for wasting have changed, demanding new thinking on how to best adapt and scale up health systems strengthening approaches such as CMAM Surge where they are most needed. Services are being delivered in increasingly challenging contexts against a backdrop of protracted crises with varying levels of government capacity and support. Seasonal patterns are being disrupted by climate change and more systemic issues such as supply chain breakdowns as well as security and economic factors disrupt health seeking behaviours and patterns in service delivery and uptake. With the Covid-19 pandemic pushing health systems to their limits and challenging our traditional way of delivering CMAM services, this stock-taking is even more timely.

This series of articles highlights the accomplishments and experiences of a wide range of CMAM Surge practitioners and other stakeholders. We begin by sharing experiences from Kenya, home of the original CMAM Surge pilot, where scale-up and innovations in CMAM Surge continue. We then turn to francophone West and Central Africa where CMAM Surge was rapidly scaled up by NGO implementing partners across the Sahel from 2018-2019. We examine the cost-effectiveness of the approach in light of its aim to optimise the efficiency of treatment service delivery, particularly during peak periods. The potential elements of a Health Surge that seeks to apply CMAM Surge principles to a broader set of child illnesses is then outlined. Finally, we reflect on key lessons learned through both formal evaluations and diverse field experiences to help guide the way forward for the continued refinement and scale-up of the approach. We hope that this series is a useful consolidation of many years of rich learning that can contribute to the ongoing effort to bring wasting treatment services to scale, even in the most challenging of contexts.

For more information please contact Kate Golden at kate.golden@concern.net

Note

For more information please contact Kate Golden at kate.golden@concern.net
CMAM Surge

Implementing the IMAM Surge approach - experiences from Kenya

By Weldon Ngetich, Grace Gichohi, Francis Wambua, Tewoldeberhan Daniel, Yacob Yishak and Patrick Codjia

Weldon Ngetich is a Nutrition Specialist with Concern Worldwide in Kenya. He is an experienced Public Health Nutritionist with over 10 years of experience in nutrition programming in Kenya and other developing countries in Africa and Asia.

Grace Gichohi works with the Kenyan national government’s Ministry of Health, Division of Nutrition and Dietetics as the Program Manager, Nutrition in Emergency/Nutrition Commodities. She has extensive experience in integrated management of acute malnutrition (IMAM) programming in Kenya.

Francis Wambua has been a nutrition specialist with UNICEF Kenya since August 2015. Prior to joining UNICEF, he worked with the Ministry of Health Kenya as Nutrition Program Officer supporting Emergency Nutrition and Micronutrient Deficiency Control programmes for over 10 years.

Dr Tewoldeberhan Daniel is a Nutrition Specialist with UNICEF Kenya. He has over 15 years of experience working in public health and nutrition in Ethiopia, Sudan and Kenya and co-authored a suggested design framework for community-based management of malnutrition (CMAM) in 2010 that contributed to the initial conceptualisation of the IMAM Surge approach.

Yacob Yishak is Country Programs Director for Concern Kenya country office. He has over 15 years of experience in public health and nutrition in Africa.

Patrick Codjia is the Chief of Nutrition with UNICEF Kenya. He has previously worked on nutrition programmes for various UNICEF Offices (Eastern and Southern Africa Regional Office, Country Offices in Botswana, DRC and Malawi), an international non-governmental organisation (NGO) in Eastern Democratic Republic of Congo and a research centre in Burkina Faso.

KENYA

What we know: The Arid and Semi-arid Lands (ASAL) of Kenya are prone to frequent droughts and floods and seasonal spikes in malnutrition, resulting in nutrition emergencies.

What this article adds: Following a successful Integrated Management of Acute Malnutrition (IMAM) Surge pilot in Marsabit County 2012-2014, Concern Worldwide (Concern), UNICEF and the Ministry of Health (MoH) scaled up the approach in 10 priority ASAL counties to improve health system shock-responsiveness. A national IMAM Surge toolkit was developed and training cascaded from national to health facility level. Data was shared at sub-county, county and national levels through an online ‘dashboard’. By June 2020, IMAM Surge was implemented in 63% of targeted ASAL county health facilities. The approach has enabled timely decision-making and planning of supplies and human resources in response to surges in demand, as demonstrated by a case study of Turkana county. Success factors include early and sustained government leadership and the involvement of decision-makers at sub-national level, the integration of IMAM Surge into key national and sub-national strategic planning documents, facility-level mentoring and on-the-job training, the empowerment of staff to appraise and react to data and online compilation of data. Challenges include the prioritisation of drought response over health system strengthening in acute situations, weak community-facility linkages and resource constraints which limited capacity for surge action. Plans include further scale-up in more health facilities and counties, the development of more formal linkages with broader early warning systems, the use of facility data to trigger seasonal preventive actions and trials of an IMAM Health Surge model.

Background

The Government of Kenya, as one of the signatories of the Alma Ata Declaration of 1978 and 2018,1 has a vision for the provision of sustainable Primary Health Care (PHC) services that are high-quality, safe, comprehensive, integrated, accessible, available and affordable for everyone, everywhere. In 2018, the president of Kenya declared Universal Health Coverage to be a national priority under the ‘Big Four Agenda’ for national sustainable development and has committed to make strategic investments in health to ensure that all residents of Kenya can access the essential health services they require by 2022 (MoHK, 2019). Unfortunately, frequent, large-scale disasters regularly challenge the realisation of this vision, leading to disruption of health service delivery and the frequent derailing of longer-term health system strengthening efforts.

Integrated Management of Acute Malnutrition (IMAM) in Kenya, adopted by the Ministry of Health Kenya (MoHK) in 2009 (previously supported by non-gov-

1 Global Conference on Primary Health Care (October 2018). Declaration of Astana.
The Arid and Semi-arid Lands (ASAL) of Kenya are spread across 23 of Kenya’s 47 counties. Historically marginalised and underserviced, Kenya’s ASALs are particularly prone to frequent droughts and floods, and nutrition emergencies and seasonal spikes in malnutrition are common. Consequently, the Kenyan government, with support from partners, has made significant investments to develop the capacity of county and sub-county authorities to manage emergencies. In an effort to build shock-responsiveness from within the ASAL health system, Concern Worldwide (Concern) and the Marsabit County Health authorities developed and piloted the IMAM Surge approach in 14 health facilities over two years from May 2012 to mid-2014.

A 2015 evaluation of the Marsabit pilot found the IMAM Surge to be feasible, effective and highly acceptable. As a result, MoH and Concern endorsed the approach for implementation in other areas of Kenya with a high wasting burden. This article documents and shares lessons learned on the resulting scale-up of IMAM Surge in Kenya, highlighting the process, key successes and challenges to date.

**Process for the rollout of IMAM Surge**

There were several key phases in the rollout of IMAM Surge in the Kenyan context that contributed to its success, as follows:

*Government leadership and development of IMAM Surge guidelines/tools*

For any new initiative, a clear national policy and guideline is critical to ensure government ownership at all levels and to steer implementation. One of the first steps in the IMAM Surge rollout in Kenya was therefore to support the government to develop an IMAM Surge guide and toolkit, drawing from the experience of the Marsabit pilot. The toolkit was developed under the umbrella of the Emergency Nutrition Advisory Committee (ENAC) which hosted consultation meetings with key stakeholders to inform the process. A final guide/toolkit for health workers and a facilitator’s guide for trainers were ready for rollout by July 2016.

A core team within ENAC was formed with representation from UNICEF, the MoH and Concern to lead the rollout process in 10 ASAL counties with the highest burden of child wasting (Baringo, Garissa, Isiolo, Mandera, Marsabit, Samburu, Tana river, Turkana, Wajir and West Pokot). This was guided by a roadmap outlining the key steps and timelines for scale up at both national and county level. Key steps included the training of trainers, engagement with county/subcounty health management teams and other implementing partners, set-up at health facilities (Steps 1 to 4 of the IMAM Surge approach) and the development of a basic set of monitoring and reporting tools. The IMAM Surge toolkit was later integrated into county strategic planning documents including the County Nutrition Action Plan (2019-2023) and the County Integrated Development Plan (2018-2022). This has given IMAM Surge formal endorsement and a better chance for resource allocation during annual county budgeting processes.

*Capacity development of key stakeholders via the job training*

A training of trainers (ToT) based on the IMAM Surge toolkit/guide and facilitators’ guide was conducted in September 2016. Course facilitators were drawn from MoH national level, UNICEF and Concern and participants (IMAM Surge trainers) came from seven of the 10 target ASAL counties. These 15 national trainers subsequently went on to train 53 county/sub-county trainers from county health departments and implementing partners (including Save the Children, Action Against Hunger (AAH), Kenya Red Cross Society, World Vision Kenya, International Rescue Committee (IRC) and Concern). The county/sub-county trainings followed a standard four-day curriculum and focused on mentoring skills (to use with health facility staff) and the technical skills necessary to use the IMAM Surge toolkit. During the training, each county developed a detailed one-year roadmap for implementation and these have subsequently been revised annually based on learning and contextual changes.

Before rolling out to health facilities, partners and national MoH representatives engaged key decision/making partners at county level, including County Health Management Teams (CHMT), the Chief County Officer in the Department of Health and the Director of Health, to build ownership of the approach and the rollout process.

**Practical support to set up IMAM Surge at health facility level**

Most of the counties adopted a mentorship/on-the-job training (OJT) approach whereby health staff were taken through each step of the IMAM Surge process at facility level. Others adopted a classroom approach whereby health workers were trained centrally then moved to their respective facilities to set up IMAM Surge. Analysis from different counties showed that the mentorship/OJT approach was more successful because it allowed all health workers to participate in the process, provided adequate time to address individual facility issues and enabled the immediate development of clear, common guidelines.
context-specific implementation and monitoring plans. The OJT set-up process was conducted in two to three sessions at each facility. A total of 469 health workers have received OJT to date. Once thresholds were defined and surge actions identified, health facilities were provided with monthly monitoring charts for real-time monitoring of thresholds and the tracking of planned surge action.

**Active engagement of health staff in real-time monitoring of IMAM Surge data**

Monitoring caseloads and factors that may influence caseloads is an ongoing process through IMAM Surge implementation. At facility level, admissions of wasted children and activities that might affect care-seeking are monitored through facility registers and wall charts (Figure 2). Wall charts help health facility teams to visualise seasonal factors that affect caseloads (top chart in Figure 2), current monthly trends in moderate and severe child wasting admissions and child illness consultations compared to thresholds (middle chart in Figure 2) and identify actions that will be triggered if a threshold is passed (bottom chart in Figure 2). At the end of every month, health facility staff review their data to understand if either severe or moderate (or both) child wasting admissions are normal or have passed their respective alert, alarm or emergency thresholds. Actions are initiated accordingly and further actions planned for the coming three months if increases in cases are expected.

After summarising facility-level information, data on admissions and any thresholds crossed are shared with the sub-county Records Officer who enters the data into the online health information system. This data is used to update the IMAM Surge dashboard, a key monitoring tool of the Sub-County Health Management Team (SCHMT) (Figure 3) that uses colour codes to clearly show the proportion of health facilities that have passed their alert, alarm or emergency threshold. This provides a clear and quick overview of the nutrition situation across all the health facilities implementing IMAM Surge to support a timely response to increases in wasting levels. In general, more moderate acute malnutrition (MAM) cases than severe acute malnutrition (SAM) cases are observed across the sub-counties and MAM cases rise before SAM cases (although this is not always consistent and depends on the level at which thresholds have been set).

During the IMAM Surge scale-up in the ASALs, partners such as Concern scheduled regular joint follow-up visits to health facilities with the SCHMT followed by review meetings to support the real-time monitoring and analysis of data. Partners supporting rollout paid frequent visits to health facility teams during the initial stages to ensure that all the steps were well understood and correctly taken, particularly around the setting of thresholds. This has been essential to motivate and empower staff to understand when and why caseloads are increasing and to trigger action and communication on additional support needed.

**Key successes**

IMAM Surge is now in roughly two-thirds of health facilities in 10 priority ASAL counties

Within the 10 high-burden ASAL counties targeted for IMAM Surge scale-up, a total of 750 health facilities provide IMAM services. Of those, 469 facilities (63%) were implementing IMAM Surge as of June 2020. All facilities implementing IMAM Surge in the 10 counties monitor the nutrition situation through monthly wall charts while 29 sub-counties out of the total 45 located in seven of the 10 counties have active IMAM Surge dashboards. This high level of scale-up is largely due to the cascading of training from national to county level and health facility levels which enabled wide reach of health staff at multiple levels.

**Increased demand for and use of local nutrition data in decision making**

The IMAM Surge training and mentoring component has been effective in creating a culture
Since the IMAM Surge scale-up began, Kenya has experienced two drought episodes, in 2017 and 2019. Turkana County, one of the most vulnerable counties in Kenya, was particularly affected. Data from SMART survey reports revealed global acute malnutrition (GAM) prevalence rates across the sub-counties of Turkana from 32% to 37% in 2017 and 20% to 31% in 2019. These were similar GAM prevalence rates to those of the 2011 crisis, however, unlike in 2011, IMAM Surge had been scaled up to the majority of health facilities and by 2018 IMAM Surge dashboards were in place for most sub-counties.

By March 2019, county stakeholders were detecting a deterioration of the nutrition situation via IMAM Surge dashboards. This raised an early alert at different levels – even as other early warning indicators such as the Vegetation Condition Index (VCI) and prices of livestock and crops remained relatively normal or inconclusive (NDMA, 2019). Figure 3 shows the percentage of health facilities at ‘normal’, alert, alarm and emergency caseloads based on new admissions per month for 2019. The blue line marks the point at which 50% or more of health facilities are above their ‘normal’ thresholds – a warning to the County Health Management Team that health facilities are becoming critically overloaded by cases of child wasting. This state of alert for Turkana County mirrors very closely the VCI warning that the county was ‘moderately below normal vegetation’ for April, May and June. It also provided a sign of trouble as early as February and March while the VCI was still reported as ‘normal vegetation’.

The IMAM Surge early warning allowed Turkana County to put in place preparedness actions to manage increasing caseloads. Guided by IMAM Surge data and tools, the county developed an emergency response plan that included the mapping of outreach sites as well as budgeting for emergency actions and heightened coordination.

By July/August 2019 – normally the peak period for malnutrition – Turkana County was managing caseloads of child wasting better than during previous droughts. The IMAM Surge dashboards not only detected the emergency but helped to activate timely surge support packages from the County and Sub-county Health Management Teams and partners to prevent further deterioration. Some of the actions initiated by the county to address the situation included the scale-up of child feeding products and medical supplies needed monthly – as a result the majority of facilities in place for most sub-counties.

Use of the dashboard by sub-county and county health teams has supported timely decision making and more evidence-based response planning. For example, the dashboard has been used to identify malnutrition ‘hotspots’ and direct appropriate monitoring and supervision. Surge data has also been used to advocate for the recruitment of additional staff for health facilities with higher caseloads, improving their ability to manage essential services during peak periods (MoHK, 2019). For example, when the Laisamis sub-county dashboard indicated health facilities were becoming overwhelmed, the county and sub-county allocated additional resources with support from partners to increase mass screening of real-time analysis at facility, sub-county and county levels. It has developed an appetite for both data and the skills to use them for decision making. This has helped to improve, for example, the forecasting of therapeutic and supplementary feeding products and medical supplies needed monthly – as a result the majority of facilities reported zero stock-outs of ready-to-use therapeutic foods by 2018, aside from those resulting from national level supply chain gaps (MoHK, 2018). Health facility staff also use facility data to plan leave days during periods of low caseloads and in some cases to prompt CHWs to increase nutrition screening when data shows lower than expected caseloads.

and referral (including paying for allowances for CHWs to work extra hours), expand service delivery through outreach services and increase monitoring and supervision to health facilities. At facility-level, health staff used the data to restructure their leave plans, recall staff on leave and provide direct support to CHWs for screening. The case study on Turkana provides a more detailed example of this (Box 1).

**Mentoring and technical support**

During the rollout process, MoHK, UNICEF and Concern have continued to provide close technical support for monitoring and technical backstopping through field visits, remote technical discussions and annual reviews. The ASAL counties implementing IMAM Surge share their dashboards with the emergency focal person at the national MoHK monthly for review and to inform an update to the ENAC. This enables close engagement between national and regional government and the initiation of timely technical support when needed, including field visits for mentoring and monitoring. Periodically, the core team conduct monitoring support at county level on behalf of ENAC to ensure that the approach is implemented as per national guidelines and to provide any additional technical support needed.

Annual IMAM Surge reviews are conducted both at county and national level to generate and share learning. County level review meetings enable local stakeholders to share specific learning to help to refine the approach in context and national level review meetings draw participation from all 10 high-burden ASAL counties for broader learning and to inform guideline updates. For example, it was noted that the IMAM Surge dashboard automatically classified the nutrition situation using the number of new admissions (as per national guidelines) but this was not moving swiftly enough back to a ‘normal’ classification once the situation had stabilised. Based on this feedback, national IMAM Surge guidelines were revised so the dashboards use total enrolled cases (not new admissions) when deciding if/when a facility should return to a normal classification. This allows more resources to be more efficiently allocated to where they are most needed.

**Lessons learned**

Early and continued government leadership of the process, with support from other stakeholders familiar with IMAM Surge, was critical for the sustainability of the approach, supported by the joint development of a national IMAM Surge guideline, toolkit and roadmap to guide the initial rollout at each level. The engagement of decision makers at county and sub-county levels in the development of the roadmap was crucial in driving implementation forward. Integration

---

1 Vegetation Condition Index (VCI) is a measure of the state of plant health relative to the same period during the previous year. It is expressed as a % and gives an idea where the observed value is situated between the extreme values (minimum and maximum) in the previous years. Lower values (dark red, red and yellow) indicate bad and good vegetation state conditions, respectively.
of IMAM Surge into key strategic planning documents, including the Kenya National and County Nutrition Action Plans and County Integrated Development Plans, resulted in the allocation of resources and further strengthened government ownership and leadership by key decision-makers. Ownership of the approach has been clearly demonstrated at all levels of health service delivery and management (CHMT, SCHMT, health staff, CHVs, Health Facility Management Committee (HFMC)) and is one of the key drivers of the success of the approach.

Another important lesson was the effectiveness of OJT and ongoing mentoring to support IMAM Surge at health facility level. Classroom-based trainings were less effective, largely because it was not possible to use local data from the participants’ own facility and due to a lag time between training and actual set-up.

A final key to the success of the approach was the use of IMAM Surge dashboards at county level. This enabled the aggregation of child wasting admission data set against context-specific caseload thresholds to enable the rapid identification of deteriorating nutrition. This was critical for initiating early action and preventing the situation from worsening and the dashboards seem to have functioned at least as well as, if not better, than some standard early warning dashboards. Strengthening of community units and linking them more firmly into the IMAM Surge process could help to trigger more effective active case finding and referrals of children with acute malnutrition.

Lastly, resource constraints have affected the ability of health facilities to trigger IMAM Surge actions when a threshold is breached with Surge support largely coming from partners. The planning and costing of Surge actions should be further streamlined into sub-county/county planning and budgeting processes with a greater focus on the actual inclusion. Inclusion of Surge actions in the local government’s disaster risk financing mechanisms will ensure early action is not constrained.

What next for IMAM Surge in Kenya?

IMAM Surge is already an important approach for monitoring and responding to the nutrition situation in Kenya’s ASALs. The next steps are to further scale up the approach in the 10 counties and beyond with support from UNICEF and Concern. Integration of IMAM Surge processes, tools and outcomes into MoH and sub-county/county mechanisms will further improve its relevance, effectiveness and sustainability. Another important next step is the linking of IMAM Surge dashboards with early warning systems. This is especially important in vulnerable counties such as Turkana. UNICEF is currently exploring possible linkages, particularly the linking of IMAM Surge with the National Drought Management Authority (NDMA).

Under the leadership of the MoHK, UNICEF and Concern in Kenya are already innovating and adapting the IMAM Surge approach to further improve its effectiveness. Moving forward, research and learning processes are crucial for supporting the future refinement, development and adaptation of the IMAM Surge approach in this country. In 2021, Concern will examine and document and barriers (including cost) across CMAM Surge programmes where thresholds have been exceeded but where surge was not triggered. Concern are also planning to trial two new IMAM Surge components in Kenya, including the expansion of the IMAM Surge approach to improve management of critical child illnesses alongside wasting management (Health Surge) and the use of facility-level IMAM Surge data to identify and trigger seasonal actions at community level to prevent spikes in wasting and related morbidities in critical months.

For more information, please contact Weldon Ngetich at weldon.ngetich@Concern.net

References

CMAM Surge

The role of coordination in CMAM Surge scale-up in West and Central Francophone Africa

By Diane Moyer, Amanda Yourchuck and Patricia Hoorelbeke

Diane Moyer is the current Regional Humanitarian Nutrition Advisor for Western and Central Africa for Save the Children International. She has over 10 years of field experience managing nutrition programmes in Asia and Western and Central Africa in both humanitarian and development contexts.

Amanda Yourchuck is an Emergency Nutrition Advisor for the United States Agency for International Development (USAID) Advancing Nutrition. She has over 10 years of experience supporting wasting treatment and prevention activities and was previously a Nutrition and Health Advisor with Concern Worldwide where she served as the technical focal point for global community-based management of acute malnutrition (CMAM) Surge activities.

Patricia Hoorelbeke is Head of the Directorate-General for the European Civil Protection and Humanitarian Aid Operation (DG-ECHO) office in Mali. Patricia is from a bio-engineering background and has worked in West and Central Africa since 1998 with experience working for Action Against Hunger as a country and regional director and the United Nations Children’s Fund (UNICEF).

The authors acknowledge the support of the Directorate General for European Civil Protection and Humanitarian Aid Operations (DG ECHO) for the work described in this article.

WEST AND CENTRAL AFRICA

What we know: Frequent food crises in countries in the West and Central Africa (WCA) region lead to surges in levels of child wasting that require health systems to respond rapidly to changing needs.

What this article adds: Following the inclusion of community-based management of acute malnutrition (CMAM) Surge in the Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG-ECHO) 2017 Humanitarian Implementation Plan (HIP) for West Africa, the partners included the approach in proposals across the region. A regional CMAM Surge Taskforce was developed, led by Save the Children International (SCI) in close collaboration with Concern Worldwide (Concern), to coordinate and support regional scale-up. Country-level coordination mechanisms were necessary in Mali and Niger. In Mali, SCI implemented a CMAM Surge pilot in the Mopti region in 2017 and was funded by DG ECHO to coordinate and provide technical support to other Surge implementing partners. Key facilitators towards scale include coordination mechanisms set up at multiple levels of the health system, focused capacity building of national staff with technical support from SCI and Concern Niger, harmonised monitoring and evaluation and a focus on accountability and government leadership. Across the region, enablers for the scale-up of the CMAM approach have been donor leadership and engagement, development of a common, country-level vision for the approach and accountability mechanisms to track progress. Barriers include inadequate planning time to facilitate country-level leadership and ownership, short-term funding that constrains a long-term systems strengthening approach and fragile health systems. CMAM Surge is now being implemented and scaled up in six countries in WCA with commitment by the Taskforce to document and share learning. Multi-year funding has been accessed in Niger and Mali. Purposive coordination and collaboration in the region remain necessary for current and emerging surge approaches.

The need for a responsive health system in West and Central Africa

In July 2020, it was anticipated that more than 15 million children in West and Central Africa (WCA) would become wasted over the course of the year. All countries in the region have national community-based management of acute malnutrition (CMAM) protocols with countries continuing to scale up geographic coverage of CMAM services. Yet, in 2018, only an estimated 30% of children in need of treatment received it (Woodhead et al., 2019).

Nearly two decades of insecurity, marked by political instability and the emergence and spread of armed groups, alongside increasing climate vul-
nerability have only exacerbated the nutrition situation. The region has experienced several successive food crises with vulnerable households unable to sufficiently recover between shocks. Several WCA countries have been recently identified as ‘hotspots’ at risk of significant deterioration of food security situation caused by the above drivers as well as the secondary effects of the COVID-19 pandemic (FAO & WFP, 2020). The persistently high levels of child wasting and unpredictable operating environment require that the region’s health systems be prepared to respond rapidly to changing needs.

Scale-up of CMAM Surge

The CMAM Surge approach was designed with many of the challenges facing WCA in mind – to build the capacity of health systems to trigger rapid responses to deteriorating nutrition situations. Niger was the first country to implement CMAM Surge in the region where Concern Worldwide (Concern) had been supporting CMAM service delivery in the Tahoua Region since 2005 beginning with direct service provision in response to a food security crisis. The focus later shifted to supporting the health system to integrate wasting treatment into the package of basic health services for children under five years of age. Following subsequent food crises in 2009 and 2011, the CMAM Surge approach was introduced in 2014 to better respond to recurring shocks. In 2016, several francophone regional trainings and consultations orientated a wider pool of stakeholders to the concept of CMAM Surge.

During this same period, the Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG ECHO) prioritised finding better ways to respond to an increasingly volatile context and growing humanitarian needs in the West Africa region. The 2017 DG ECHO Humanitarian Implementation Plan (HIP) for West Africa included a specific focus on the development of national capacities to ensure an adequate level of preparedness. This included a focus on improved capacity for quality data collection and dissemination for early warning and early action and support for comprehensive and participatory risk assessments. For the nutrition sector, DG ECHO urged its partners to strengthen nationally and locally appropriate systems and strategies, responsive to seasonal trends and risks. DG ECHO specifically referred to the CMAM Surge approach in its Disaster Risk Reduction strategy as a means to strengthen local capacity to understand risks and design shock-responsive mechanisms that would allow continuity of quality essential treatment services in the face of surges in demand. As a result, several different partners included CMAM Surge in proposals to DG ECHO as part of their nutrition programmes in intervention areas in Niger, Mali, Burkina Faso and Mauritania.

Coordination mechanisms

Given the large number of DG ECHO partners implementing CMAM Surge in the region, the value of strong coordination mechanisms, both within countries and at regional level, was quickly recognised. This was particularly important given the newness of the CMAM Surge approach to most implementing partners. At regional level, a WCA CMAM Surge Taskforce was established in 2017. This group was led by Save the Children International (SCI) from the regional hub of Dakar in close collaboration with the Concern Worldwide Niger and headquarters team. Members included non-governmental organisation (NGO) implementing partners, United Nations (UN) agencies and donors. The objective of this group was to convene CMAM Surge implementing partners on a monthly, and later quarterly basis, to support the sharing and harmonisation of good practices and tools and ensure a consistent understanding of the approach amongst all actors while driving the continued contextualisation and growth of the approach to meet the specific regional needs and challenges. Terms of reference for members and a workplan were developed that aimed to develop guidance and tools in response to the needs identified by its members. The Regional Taskforce also provided support to a regional CMAM Surge review workshop held in Niamey, Niger in September 2018 which many Taskforce member organisations and government staff representing country programmes from across the region and other francophone CMAM Surge implementing countries attended. This workshop allowed for in-person, cross-country exchanges about the experiences and challenges encountered when introducing CMAM Surge into a new operating context and for taking stock of regional experience to date.

Coordination was also required at country level where several DG ECHO partners were simultaneously working to scale up the approach in different regions and districts. This was particularly important in Niger and Mali, both of which had high numbers of implementing partners operating in each country. In Niger, coordination was initially fairly informal and organic. As the number of CMAM Surge implementing partners grew, the DG ECHO Nutrition Alliance, a forum that brings together DG ECHO’s nutrition partners in-country, was used to keep implementing partners informed of CMAM Surge activities. Coordination for the approach has since evolved into a more formal mechanism, embedded in the national nutrition technical working group. In Mali, a more purposive approach to coordination was taken from the beginning of scale-up. The following section shares the key enabling factors and challenges to coordination in Mali as the approach was rapidly scaled up by partners between 2017 and 2019.

Scale-up of CMAM Surge in Mali: A case study

The situation in Mali has become one of the most complex crises in the world with a population that faces growing humanitarian needs. Many regions experience a volatile security situation, leading to population displacement and additional strain on an already fragile health system that struggles with weak governance, lack of funding and trained human resources and frequent shortages of drugs and nutrition inputs. Regular seasonal outbreaks of malaria, acute respiratory infection (including pneumonia) and diarrhoea combined with chronic poverty, food insecurity and poor caring practices lead to surges of child wasting that increase burdens on already stretched health facilities. Mali continues to have one of the worst health situations in the world with child mortality exceeding 101 deaths per 1000 live births. Global acute malnutrition (GAM) rates commonly reach the serious and emergency thresholds, particularly in the northern part of the country (Figure 1).

CMAM has been implemented in Mali since 2006 with the first national guidelines finalised in 2007. Early funding for CMAM in Mali was provided primarily by emergency donors which led many implementing partners to adopt an emergency-style implementation model that was often in parallel with other health services (Deconinck et al., 2010). Humanitarian and development actors have since advocated for and supported the better integration of wasting treatment within the basic package of services offered by the health system. The CMAM Surge approach was a natural next step to continue to support this integration process through a concerted health system strengthening approach and by specifically helping health facilities to better prepare for and respond to frequent shocks and stresses.

From pilot to scale-up

SCI implemented a CMAM Surge pilot project as part of its broader nutrition programme in the Mopti Region in 2017 with financial support...
from DG ECHO. Given this experience with the Mopti pilot, in 2018 SCI was given additional financial support by DG ECHO to coordinate and provide technical support to DG ECHO’s other implementing partners who were just initiating the CMAM Surge approach in their programme areas. This was done to strengthen their technical capacities for a smooth, harmonised scale-up of the approach.

Key implementation components
SCI put in place four key components that helped to facilitate the scale-up process as follows:

**Set up of coordination mechanisms at multiple levels of the health system**
Coordination mechanisms were put in place at multiple levels, each with clearly defined roles and responsibilities. A technical working group was first formed by SCI and other DG ECHO implementing partners to agree on ways of working, objectives and the sharing of lessons learned. As government capacity increased, this group evolved into a National Taskforce chaired by the Ministry of Health (MoH) CMAM Surge focal point and expanded to include participation from other relevant stakeholders such as the United Nations International Children’s Fund (UNICEF). Through regular technical working group and subsequent National Taskforce meetings, good practices, challenges and recommendations were shared amongst actors.

Part of the process of setting up the implementing partner technical coordination mechanism was the signing of memoranda of understanding between DG ECHO’s NGO implementing partners. While this process took time and delayed the start of activities in the field, it was critical for ensuring clarity around roles and responsibilities, establishing consistent ways of working and enabling the cascading of coordination down to sub-regional and local levels when implementation began.

Sub-regional and local level coordination mechanisms were set up by the implementing partners in their regions of operation and included participation from sub-regional MoH focal points. This was particularly important to ensure the smooth coordination and harmonisation of approaches in areas where more than one implementing partner was operating (Figure 2). The objective was also to share common costs across partners, particularly those of the trainings and stakeholder sensitisation activities that took place early on.

**Focused joint capacity building**
The capacity building component was essential to the success of scale-up and aimed to ensure that all stakeholders, both new implementing partners and local actors, had the same understanding of the approach and how to implement it. Special attention was given to the transfer of competencies to the MoH to support the future sustainability of the approach. A standard training of trainers (TOT) model was used with the first TOT involving national and regional level MoH actors with technical support from SCI and the Concern Worldwide Niger team.

The step phase of CMAM Surge training took place in two parts. Firstly, traditional classroom training was provided to identified health facility focal points. This was followed by on-site support from the trained CMAM Surge focal points at health facilities to implement the CMAM Surge set up steps. Halfway through the two-year scale-up period, a review was undertaken to improve the content and make it more appropriate for target trainees. More emphasis was placed on on-site training and coaching and learning by doing which was found to be more effective than the classroom-style multi-day trainings.

However, during the capacity building process, some implementing partners found they had not allocated adequate resources to build local capacity on CMAM Surge. Most implementing partners planned for one initial five-day training that only covered the setting of thresholds and Surge action plan development. Additional costs such as communication with stakeholders, validation of responses plans and follow-up support were not included in initial budgets. This meant that these activities had to take place at a smaller scale with SCI providing some support for key activities such as Surge action plan validation, pulling from resources allocated to their coordination resources.

**Harmonised monitoring and evaluation**
Monitoring and evaluation mechanisms were intentionally harmonised at several levels. All NGO partners, and therefore all implementation sites, used a common CMAM Surge supervision tool that was jointly developed by the implementing partners and validated by the MoH Nutrition Directorate. Supervision visits were also undertaken jointly by peers or implementing partners and government actors and involved all partners working in the same operating area whenever possible. Quarterly workshops attended by both implementing partners and government focal points provided an opportunity to review processes, identify bottlenecks and share best practices. Shared monitoring and evaluation standards also helped to ensure that the scale-up was done to the same standard across regions according to the CMAM Surge Operational Guide. This common CMAM Surge monitoring framework was eventually adopted by the government as part of the national CMAM protocol.

**A focus on accountability and government leadership**
MoH focal points identified at each health system level (national, regional, local) were intended to ensure government leadership and ownership at all steps of the scale-up process. To ensure accountability across system levels, stakeholder meetings were held to disseminate information on progress and results, such as the number of health facilities implementing CMAM Surge or sharing experiences on the efficiency of a triggered Surge response. Dissemination activities took place via CMAM Surge-specific coordination mechanisms and other existing national platforms such as the Cadre Commun de Sante – a group of DG ECHO-funded implementing partners delivering emergency health interventions across the northern regions of Mali. Implementation updates were also shared through a ‘WhatsApp’ group which created friendly competition between local stakeholders seeking to highlight their achievements and an incentive for active participation, thus reinforcing local level accountability. The sharing of progress and positive results via these platforms helped to facilitate the adoption of the CMAM Surge approach by the government at the end of the initial scale-up period.

Due to implementation delays in some districts, less time was available to gain full government buy-in to the approach and coordination mechanisms before the start of implementation. Communication and sensitisation among regional and local stakeholders were done shortly before the start of facility-level implementation. This led to the perception that CMAM Surge was an NGO-led approach and created an expectation that the implementing partners would provide all the relevant inputs when Surge actions were triggered, rather than health facilities and districts first looking to their own internal capacities. While government leadership was still present in terms of buy-in and interest in the approach, government ownership in terms of financial or in-kind contributions to Surge responses was compromised.

Despite these challenges in some geographic areas, the interest of the local authorities that began during the initial 2017 pilot continued to grow during scale-up. The ongoing engagement of government at all levels throughout the pilot and scale-up process helped to facilitate ownership of the approach at the policy level. The government has since integrated the CMAM Surge approach within the national CMAM protocol and has formally adopted the joint supervision and monitoring tools developed as part of the coordinated scale-up process. As a next step, the leadership of the National Taskforce and regional bodies should be fully transitioned over to the MoH with implementing partners stepping back into a technical assistance role. This will require an increase in government ownership and a gradual shift towards national actors stepping into resource Surge actions.

Momentum around the Surge approach continues to grow with UNICEF investing in a pilot of the Health Surge approach which applies CMAM Surge principles and steps to a broader range of morbidities. This pilot will also be implemented with support from SCI beginning in 2021.

**Regional lessons for scale-up**
Three enablers of successful scale-up have been identified from the country and regional coor-
Donor leadership and engagement

DG ECHO’s interest in the CMAM Surge approach was the catalyst for scale-up in the region. As well as including CMAM Surge in its HIP, DG ECHO called for and directly invested in purposeful coordination to ensure that all partners worked together to develop adequate tools which was key to delivering coordinated quality action. In addition, DG ECHO’s nutrition technical team actively engaged in the regional scale-up process, participating in the Regional Taskforce, undertaking field visits and engaging in CMAM Surge technical discussions with implementing partners.

However, despite DG ECHO’s active leadership and engagement in the scale-up process at the proposal stage, not all implementing partners had the necessary information and technical reference materials to fully understand the requirements of the approach in terms of the time commitment and resources required. At the time, there were very few publicly available technical resources – the CMAM Surge Operational Guide was available online and had been circulated to partners but it included limited information on planning for approach start-up and scale-up. It was difficult for some implementing partners to estimate the required human, financial and logistical resources for all the steps of the approach. In some instances, this led to inadequate planning of both time and resources, resulting in implementation delays and some steps not being adequately addressed. To avoid these issues in the future, donors could support their partners with more information about suggested approaches prior to the proposal development process and support them during the proposal review to ensure plans are achievable and budgets are sufficient. This could include generic budget and activity guidance and suggested performance indicators. More experienced partners could also be leveraged to support during the activity inception and start-up stages, as was done in Mali where Concern provided initial training to SCI staff at the start of their pilot project.

Including time to build a common understanding of the approach

Without a common understanding of the approach, scale-up may be inconsistent, leading to confusion among stakeholders and limiting success. When introducing a new approach such as CMAM Surge it is important to allow adequate time for sensitisation and the creation of a common vision for the approach at national and sub-national levels. This vision needs to be shared by government actors and across implementing partners. This process can take several months and must be allowed for in the implementation timeline. While this can be challenging when working under the short-term timeframes of emergency funding mechanisms, it is critical to establish expected ways of working, shared responsibilities and accountability mechanisms as part of the CMAM Surge start-up and scale-up processes.

The importance of a common understanding of the CMAM Surge approach at the regional and global level was identified early in the scale-up process and is what drove the creation of the regional CMAM Surge Taskforce. This was done to minimise the possibility of a fracturing of the CMAM Surge approach as less experienced actors sought to adapt the approach for their different operating contexts. While contextualisation is critical, it is important that all actors understand the core components of the approach before adjustments are made. Omission of key steps or their incorrect application could lead to inappropriate interventions that may affect sustainability or be damaging to the health system. The CMAM Surge Taskforce has played a key role in ensuring that the quality and integrity of the approach has been maintained across actors and contexts.

Importance of a clear, agreed accountability process

Common understanding builds a foundation for accountability. Stakeholders can then be held accountable to a set of common expectations and a shared understanding of roles and responsibilities. In the case of Mali, a formalised coordination framework and the signing of MOUs facilitated a faster, smoother and more harmonised scale-up. The formality of the process, including the engagement and interest of the donor in these partner discussions, also helped to ensure that commitments were taken seriously and adhered to. Through regular meetings, partners were able to share best practices, alert each other to bottlenecks and seek advice from their peers and thus generate an in-country community of practice. This regular engagement also brought to light challenges much earlier than may have happened if communication was limited to standard reporting timelines and processes, giving more flexibility to implementing partners as a group to think creatively in response to unexpected issues.

Next steps in the region

In 2017, only Niger and Mali were implementing CMAM Surge in the region with the support of Concern Worldwide and SCI. Today CMAM Surge is being implemented in an estimated 900 health facilities across 70 districts in six countries (Niger, Mali, Burkina Faso, Mauritania, Chad and Senegal) with ongoing scale-up in each.

There is a continuing need for coordination and collaboration among Surge actors in the region. DG ECHO has included Health Surge as a proposed activity in the region’s 2021 HIP. The growing stakeholder interest in the emerging Health Surge approach has led to a reinvigoration of the CMAM Surge Regional Taskforce which is guiding regional discussions in coordination with the CMAM Surge Global Technical Working Group around Health Surge to ensure stakeholders have a common understanding of how to pilot and expand this new version of CMAM Surge. Lessons learned from the rapid regional scale-up of CMAM Surge will need to be integrated into new Health Surge operational guidance that will also need to include details on if and when facilities that are currently implementing CMAM Surge should transition to the broader Health Surge approach.

Finally, for both CMAM Surge and the emerging Health Surge approach, there is a need to better communicate the long-term commitment to health systems strengthening that is integral to implementing Surge approaches. While the approach appeals to emergency donors and actors, given its aim is to improve response to shocks, the approach remains across regions via these mechanisms seen in development-focused activities. Both donors and implementing partners need to understand that CMAM Surge is a long-term investment in capacity and systems strengthening. This means that emergency donors should look at funding timelines for Surge efforts but also that development donors should integrate Surge into their long-term systems strengthening efforts. Surge approaches present an opportunity to bring emergency and development actors together to strengthen coordination within the humanitarian-development nexus and develop creative solutions to meet the unique and dynamic needs of shock-prone areas of protracted crises. Some shifts in funding timelines have been seen in the region with CMAM and Health Surge activities in Niger and Mali receiving multi-year funding to integrate the approaches into the health system.

Coordinated efforts between donors and their implementing partners will also better facilitate the eventual transition of Surge activities fully over to government. It is important to bear in mind that CMAM and Health Surge operate within the spectrum of health systems strengthening; in some contexts implementing partners will need to play a substitution or support role while building system and government capacity to eventually take on more direct investment in the resourcing of Surge actions. Complementary support to sustainable financing, planning and appropriate revenue-generating mechanisms is required to enable the eventual transition of Surge and other health systems strengthening efforts fully over to governments.

The regional and global coordination mechanisms aim to continue documenting and disseminating learning as scale-up continues within WCA and globally. Moving forward, a more concerted effort will also be made to ensure coordination and sharing across regions via these mechanisms so that eastern and western African counterparts can learn from each other, as well as from colleagues implementing Surge in other parts of the world.

For more information, please contact Diane Moyer at moyerdiane@hotmail.fr

Concern resources on CMAM Surge in French are available at https://www.concern.net/in-sights/cmam-surge-approach

References


CMAM Surge: understanding costs and potential contribution to CMAM’s cost-effectiveness

By Kate Golden and Simone van Dijk

Kate Golden is Senior Nutrition Adviser at Concern Worldwide. Her career started in Ethiopia in 2003 in one of the early pilots of community-based management of acute malnutrition. Since then, she has worked in South Sudan, Sudan and Lebanon and supported Concern nutrition programming and strategy development in roughly 20 countries across Africa and Asia as a global adviser.

Simone van Dijk is a freelance consultant with over 12 years of experience in the humanitarian and development sector at the intersection of research and policy development. Simone has worked for the Red Cross Movement (Netherlands, Colombia, International Federation of the Red Cross), Save the Children (UK and International) and other smaller international non-governmental organisations.

The authors would like to acknowledge Concern Worldwide’s Ethiopia and Niger teams who carried out data collection for the Concern community-based management of acute malnutrition (CMAM) Surge cost-effectiveness studies and Jean Christophe Fotso of EVIHDAF and Mark Myatt for leading the studies.

Introduction

The community-based management of acute malnutrition (CMAM) Surge approach aims to optimise the efficiency of the delivery of wasting treatment services over time by helping health systems better anticipate and prepare for peak periods of service demand. The approach builds on the premise that appropriate, early action is generally more cost-effective than a traditional, large-scale response launched once an emergency is underway (Idris, 2018). As part of a broader effort to evaluate the added value of CMAM Surge, Concern Worldwide (Concern) developed a Value for Money (VIM) framework to help examine whether CMAM Surge is likely to be more cost-effective than routine delivery modalities for CMAM and conducted two cost-effectiveness analyses (CEA) in contexts where CMAM Surge was being implemented.

Many different approaches to CEA and terminology exist. Concern used the widely recognised definitions of VIM and CEA outlined by the United Kingdom’s Foreign, Commonwealth and Development Office (UK FCDO)¹ as the basis for this analysis.² Recognising some limitations of the model, UK FCDO emphasises the importance of using qualitative methods alongside quantitative ones to contextualise and understand VIM results (DFID, 2013).

This article outlines key factors to consider when assessing the cost-effectiveness of the CMAM Surge approach, shares results and some challenges from the two CMAM Surge CEAs carried out to date and suggests priorities for future cost analysis related to CMAM Surge.

What we know about CMAM’s cost-effectiveness

A recent review of five CMAM cost-effectiveness studies suggests that CMAM is cost-effective (AAH & SCI, 2020). Several limitations, however, must be considered when interpreting the results including some inconsistency in methods across studies and contextual aspects that were not always well accounted for but likely influenced cost-efficiency and cost-effectiveness. Box 1 defines the CMAM CEA measures commonly used. The review found that the cost per disability adjusted life year (DALY) avoided was USD26 to USD23 USD53. This is within the international benchmark for a highly cost-effective intervention set by the World Health Organ-

---

¹ Formerly the UK Department for International Development (DFID)
³ Disability adjusted life year (DALY) are useful when comparing different types of health interventions as a metric to quantify the total burden of disease due to mortality and morbidity. One DALY can be thought of as one lost year of ‘healthy’ life.
Box 1  CMAM CEA measures explained

Cost per child treated is how much it costs to treat each child, usually regardless of the treatment outcome (although in some cases, including in the studies below, children who defaulted were excluded).

Cost per child cured/recovered represents the cost for each child who reached the criteria for recovery/being cured of acute malnutrition.

Cost per DALY averted is the cost of averting loss of one life year that has been adjusted for any additional disability incurred. These can be compared to a) the single fixed standard of less than USD100 at the time of analysis and/or b) the per capita GDP of the country in which the intervention is implemented.

Cost per death averted is the cost required to avert a death in the population of interest. Unlike DALYs, this does not take into account morbidity and associated disability.

The CMAM Surge Value for Money (VfM) framework

The CMAM Surge VfM framework was developed in 2016 using UK FCDO’s approach to VfM which focused on economy, efficiency and effectiveness (see Box 2). The VfM framework suggested two main comparisons to focus on when assessing the cost-effectiveness of CMAM Surge: 1) CMAM Surge versus routine CMAM service delivery via the government health system and 2) CMAM Surge versus a more traditional, non-governmental organisation (NGO)-led emergency nutrition response. The VfM framework also outlines the key costs and effects that need to be measured to make these two comparisons. The first comparison is more straightforward, given how widely available wasting treatment services now are within government health systems. The second comparison requires finding (and seizing) an opportunity to assess the cost and outcomes of a more traditional, external emergency CMAM response, ideally in the same context and at the same time that CMAM Surge is being implemented. Alternatively, it requires building a theoretical picture of what such a traditional response would look like and cost. Based on the experience of trying to implement the VfM framework, as outlined below, the framework is currently being updated by Concern and will be available soon.

CMAM Surge cost-effectiveness study in Ethiopia

This study was carried out as part of a broader evaluation of a CMAM Surge pilot in the Amhara Region of Ethiopia in 2018/2019 with funding from the United States Agency for International Development (USAID) ( Fotso & Myatt, 2019). The study followed the logic of the VfM framework and was designed to compare the cost per child cured and the cost per DALY averted by treatment services for wasting delivered via CMAM Surge with the standard intervention in two woredas over a 12-month period. The outcomes of the study were the number of children cured, the number of deaths averted (i.e., the number of lives saved) and the number of DALYs averted. The CMAM Surge approach was implemented in one woreda (Bati – the ‘intervention woreda’) and a more traditional emergency nutrition response was expected to be triggered in the second woreda (Dewa Cheffa – the ‘comparison woreda’). The expected emergency response included a six-month support package of staff, transport, supervision and a strengthened supply chain for ready-to-use therapeutic food (RUTF).

In practice, the expected emergency response was not triggered in the comparison woreda as planned. This was because the situation was not classified as a ‘hot spot 1’ woreda by the government but rather a ‘hot spot 2’ woreda, meaning it was not prioritised for the full emergency response package via central humanitarian funding. Thus, Concern provided a more basic package that included refresher CMAM training and some basic logistics support. As such, the study reverted to a more basic comparison between CMAM Surge and ‘routine CMAM’.

The study found that the CMAM Surge and routine CMAM arms were both highly cost-effective at USD21.58 and USD10.75 per DALY averted respectively – well within the WHO benchmark of three times the national per capita GDP which, for Ethiopia, was USD772 in 2018 according to the World Bank. CMAM Surge, however, turned out to be less cost-effective than the routine CMAM package delivered via government health services (USD21.58 (95% confidence interval: 16.38 – 28.20) for CMAM Surge and USD10.75 (95% confidence interval: 8.47 – 14.88) for ‘normal’ CMAM). The same was true for the cost per child cured – CMAM Surge was more expensive at USD49.55 (95% CI: 324.28 – 377.30) versus USD135.56 (95% CI: 127.11 – 144.40).

There were several limitations to this study that are important when interpreting the findings. Firstly, there were additional costs directly associated with the set-up of CMAM Surge, such as trainings, that were not required for routine CMAM, given that CMAM Surge is a new approach. Secondly, because the CMAM Surge set-up and the study itself required closer supervision and data collection, Concern undertook many of the programme support activities in the Surge woreda that would usually be covered.

Box 2  Value for Money and cost-effectiveness definitions

Efficiency: How much do you get out in relation to what you put in, measuring the efficiency in delivering the expected outputs.

Effectiveness: The optimal use of resources to achieve intended outcomes.

Cost analysis: Cost analysis is a broad category that evaluates the cost of delivering an intervention and the components of the cost to help identify major cost drivers, e.g., the cost of ready-to-use therapeutic food (RUTF).

Cost-efficiency analysis: A type of cost analysis that analyses cost per programme output. In the context of treatment of wasting, this is usually cost per child admitted for treatment, regardless of the outcome.

Cost-effectiveness analysis: Cost-effectiveness analysis combines cost data with a programmatic outcome, e.g., the cost per child who recovered following treatment. This is usually expressed in a cost to effectiveness ratio.

4 Two of the seven studies reviewed were less traditional CMAM with community health workers delivering SAM services outside of the health facility and/or an alternative (combined) protocol delivered for SAM/moderate acute malnutrition (MAM).

by the woreda health office. Finally, the number of children treated for SAM in the CMAM Surge woreda (891) was lower than in the routine CMAM (1,286) during the study period and caseloads were relatively low across both woredas during the study period (four admissions per month versus three admissions per month for routine and Surge CMAM respectively).

**CMAM Surge cost-effectiveness study in Niger**

This study was conducted across two health districts in the Tahoua Region of Niger as part of the wider evaluation of the CMAM Surge approach in Niger and Ethiopia with funding from USAID (European Civil Protection and Humanitarian Aid Operations (ECHO) supported most of the programme implementation costs). The aim of the Niger study was to assess the cost-effectiveness of the CMAM Surge approach across the two health districts in relation to the WHO benchmark – no comparison arm was planned. The analysis also sought to observe any differences in costs or cost-effectiveness measures between health facilities that had been implementing CMAM Surge longer (since 2016) versus more recent adopters (2018). Similar to the Ethiopia CEA, the Niger study found that CMAM Surge was highly cost-effective at USD26 per death averted – well within the WHO benchmark of three times the national per capita GDP which, for Niger, was USD378 in 2017 according to the World Bank.

**Comparing CMAM Surge cost-effectiveness with CMAM cost-effectiveness**

The results from the Concern CMAM Surge CEA studies in Ethiopia and Niger were quite similar to the results of the CEA studies included in the recent review of cost-efficiency and cost-effectiveness of the management of wasting in children (AAH & SCI, 2020) in terms of cost per child recovered, cost per DALY averted and cost per death averted (Table 1). This is true for both the CMAM Surge intervention and the ‘normal’ CMAM arm in Concern’s study in Ethiopia although the comparison also highlights the particularly low cost per DALY and low cost per death averted seen in the normal CMAM arm in the Ethiopia study.

**Challenges in measuring CMAM Surge cost-effectiveness**

Several challenges have emerged during our efforts to assess the cost-effectiveness of CMAM Surge relative to other, more routine modalities of wasting service delivery. Some of these challenges stem from the nature of the CMAM Surge approach itself and others reflect broader challenges inherent in cost-effectiveness and VIM evaluation methods. While the DFID VIM framework offered a useful foundation for outlining the main comparisons and data needed to assess CMAM Surge cost-effectiveness, a number of limitations exist that DFID/FDHO has recognised and is working to overcome. These include a tendency to prioritise short-term results over longer-term change and a limited ability to include the outcomes of a programme or intervention that are important for impact but harder to quantify (DFID, 2013). Three main challenges have arisen in the process of trying to evaluate the cost-effectiveness of CMAM Surge that are important to consider when planning any future studies:

- **Cost-effectiveness analysis is a very general science**
  
  Given the variation in CEA methods and assumptions and the influence of contextual factors, comparisons across studies and implementation settings can be challenging. While DALY was devised to make comparisons across interventions and contexts easier by creating a more relative measure, they must still be compared with caution and with strong consideration of contextual aspects. The WHO benchmark for a highly cost-effective intervention – that the cost per DALY averted should be less than the country’s per capita GDP – is useful for general guidance. However, given that even a low-income country like Ethiopia has a per capita GDP of USD858, many different interventions will be considered highly cost-effective and prioritising remains a challenge.

**CMAM Surge is a process, not strictly an intervention, and its unique outcomes are not yet quantifiable**

CMAM Surge itself – although it has many components – can be classified as an intervention for the purposes of comparison because it has standard treatment outcomes that are quantifiable. CMAM Surge, on the other hand, is an enhanced process that helps to deliver quality wasting treatment services (CMAM) in certain contexts. However, many of its additional benefits can be difficult to discern if using only standard effect outcomes, such as the number of children treated or cured. The additional benefits of CMAM Surge often lie in less quantifiable, more qualitative improvements seen within the health system, such as the improved morale of health facility staff as they gain the skills to better manage their workload and deliver quality services throughout the year. Because CEA focuses specifically on assessing the quantifiable impact of an intervention, such positive spill-over effects are often left unaccounted for. As outlined above, this is a widely recognised challenge when using standard CEA approaches such as DFID’s VIM framework, particularly when assessing interventions with societal outcomes and impacts. Defining costs that are unique to CMAM Surge as opposed to general CMAM costs can also be challenging. A more detailed analysis of the cost categories, using a refined theory of change for CMAM Surge, will help to reflect on the cost related to the processes.

**CEA generally requires a comparison scenario which is often difficult to create and capture in real-time**

CMAM Surge was designed to move the nutrition community away from more traditional emergency nutrition responses that are expensive, often come late and are not adapted to existing local capacities. Such traditional emergencies are often difficult to predict and might not happen during the study period or in a comparable context. As the humanitarian and development sector is gradually shifting to more early warning and disaster preparedness strategies, comparing the cost-effectiveness of CMAM Surge with a full-blown nutrition emergency response may not be pertinent as it was 10 years ago. It would, nonetheless, strengthen the argument for more preventative than reactive humanitarian action. The only alternative to a real-time comparison would be to build a hypothetical traditional nutrition response scenario which would require a large number of assumptions and compromise comparability. In addition, it is critical that CEA it is done over several years as one of the main advantages of the approach is its ability to help health systems cope with caseload surges over time.

**Priorities for cost analysis of CMAM Surge going forward**

The main question that has emerged from the experience so far is whether more robust evidence

---

### Table 1 Cost-effectiveness results of CMAM Surge versus those available for CMAM

<table>
<thead>
<tr>
<th>Type of programme</th>
<th>Study</th>
<th>Country</th>
<th>Cost per child recovered (USD)</th>
<th>Cost per DALY averted (USD)</th>
<th>Cost per death averted (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CMAM Surge</strong> (outpatient treatment of SAM)</td>
<td>EVIHF/DFC/ Concern, 2019</td>
<td>Ethiopia (intervention woreda)</td>
<td>350</td>
<td>22</td>
<td>39</td>
</tr>
<tr>
<td><strong>Routine CMAM</strong> (outpatient treatment of SAM)</td>
<td>EVIHF/DFC/ Concern, 2019</td>
<td>Niger</td>
<td>165</td>
<td>26</td>
<td>1,567</td>
</tr>
<tr>
<td></td>
<td>EVIHF/DFC/ Concern, 2019</td>
<td>Ethiopia (comparison woreda)</td>
<td>136</td>
<td>11</td>
<td>768</td>
</tr>
<tr>
<td></td>
<td>Bachmann, 2009</td>
<td>Zambia</td>
<td>-</td>
<td>53</td>
<td>1,170</td>
</tr>
<tr>
<td></td>
<td>Wilford et al., 2011</td>
<td>Malawi</td>
<td>-</td>
<td>42</td>
<td>1,365</td>
</tr>
<tr>
<td></td>
<td>Tekeste et al., 2012</td>
<td>Ethiopia</td>
<td>145</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Frankel et al., 2015</td>
<td>Nigeria</td>
<td>219</td>
<td>30</td>
<td>1,117</td>
</tr>
<tr>
<td></td>
<td>Ali et al., 2017</td>
<td>Nigeria</td>
<td>114</td>
<td>48</td>
<td>1,778</td>
</tr>
</tbody>
</table>

(Adapted from the Cost-efficiency and cost-effectiveness of management of wasting in children (AAH & SCI, 2020))
CMAM Surge

Hawaye Ahmat, mother of 4, sits with one of her two twins, both of which were admitted for treatment of wasting in a Concern support health centre in Koutoufou Village, Chad 2018

demonstrating that the CMAM Surge approach is more cost-effective than standard CMAM is actually needed. More specifically, do we need to demonstrate that CMAM Surge is more cost-effective than the predominant delivery system for wasting treatment services via government health services or a traditional emergency response? Our emerging conclusion is probably not. Recognising that CMAM itself appears to be broadly cost-effective (although more research is needed to strengthen this evidence) and that CMAM Surge is a variation on the original CMAM model, we feel it would be more worthwhile to invest resources to improve our understanding of how the costs and the process of costing surge activities could be improved for more effective CMAM Surge implementation. We therefore suggest that the following areas are prioritised in relation to the cost analysis of CMAM Surge:

**Focus on strengthening the step of costing CMAM Surge activities within the approach rather than on broader cost-effectiveness analysis for now**

Defining and costing surge actions to be triggered when a caseload threshold has been crossed is a critical step (Step 4) of the CMAM Surge approach. Understanding how this step is currently being implemented and how it could be improved will help to improve the effectiveness of the approach and the design of future CEA studies. In 2021, Concern plans to engage with partners in a review of the specific actions that are being identified in Surge Action Plans across countries, how they are being costed, how much they cost and, finally, if cost is a barrier to triggering agreed actions when caseload thresholds are crossed (Steps 6 and 7).

Experience to date has shown that the costing process (Step 4) is often not being carried out in sufficient detail. This is likely because costing is set to take place at the health facility level in the current CMAM Surge guidance. This makes sense for smaller surge actions, as health facility teams are very able to determine the ‘cost’ of activities that only require time or minimal monetary inputs. Costing of the more significant surge actions, however, such as additional health staff or more support/cash for transporting additional RUTF can really only be done well by the District Health Management Team (DHMT) who, ultimately, will be the those who provide such support. In the revised CMAM Surge global guide (due at the end of 2021), this costing step must be more explicitly placed with the DHMT within the eight CMAM Surge steps and more extensive tools and guidance provided. This will help to ensure that the costs associated with each action are accurately calculated and, most importantly, will facilitate the inclusion of critical costs within the district health budgets or other contingency budgets at district level or higher. This, in turn, will provide health facilities with greater assurance that support will be delivered when caseloads rise, motivating them to invest in more detailed planning.

**Continue to refine the costs and more quantifiable outcomes that are unique to CMAM Surge**

There are several standard cost categories specific to CMAM Surge including additional training and mentoring on the CMAM Surge steps and potentially additional staff time required to set-up the approach and monitor caseloads – these are beyond what a health facility team might do normally. These need to be captured more systematically in any cost analysis for CMAM Surge going forward. At the same time, we should continue to improve monitoring and evaluation tools to better capture the ‘softer’ impact of CMAM Surge. This will enable us to better measure the positive (or negative) effect of the approach on the capacity of the health system to deliver essential services and, in time, allow us to better measure its cost-effectiveness. This will require working closely with health system experts who routinely measure health worker and health user satisfaction, health worker capacity and health system functionality.

**Develop a set of practical tools to capture CMAM Surge costs as part of implementation**

For the reasons outlined above, a set of easy-to-use tools for collecting data on the costs associated with CMAM Surge is needed to improve implementation and lay the groundwork for potential cost-effectiveness studies in the future if and when we feel they would add value. This set of tools should build on those that already exist for CMAM costing and planning, such as those developed by FANTA (2012) and those developed as part of the two CMAM Surge cost-effectiveness studies in Niger and Ethiopia (Fotso and Myatt, 2019; AAH & SCI, 2020). These tools, however, must be adapted to include costs that are unique to CMAM Surge and to collect data at the critical steps in the CMAM Surge process at health facility and district level. This will require an inherent level of flexibility and iteration to capture both the cost of activities that were planned and agreed if/when thresholds were crossed and the costs that were finally incurred for the activities and support actually delivered. Such a prospective and retrospective costing tool will be required as part of the annual CMAM Surge process in each setting to learn and to improve efficiency for the next Surge implementation cycle.

**Conclusion**

Cost-effectiveness is a critical consideration in assessing the added value of a new approach such as CMAM Surge. To produce meaningful results, we must distinguish how CMAM Surge differs from routine CMAM and how to quantify outcomes and costs that are unique to the new approach. We consider that more practically focused cost analysis, a strengthening of the costing component of the CMAM Surge process and the development of experience-informed user-friendly costing tools related to CMAM Surge are the priorities.

Such developments would allow for more robust, comprehensive and longer-term CMAM Surge cost-effectiveness studies.

For more information, please contact Kate Golden at Kate.golden@concern.net

7 See field article in this special section of Field Exchange entitled “CMAM Surge: lessons learned on the journey so far”

**References**


Expanding CMAM Surge beyond nutrition – towards a broader Health Surge approach

By Erin McCloskey, Kate Golden and Amanda Yourchuck

Erin McCloskey is a public health nutritionist and independent consultant currently working for Concern Worldwide. Erin has over 15 years of experience supporting the development of resilient health systems, empowered communities and an improved understanding of the nutrition and water, sanitation and hygiene (WASH) intersect.

Kate Golden is Senior Nutrition Adviser at Concern Worldwide. Her career started in Ethiopia in 2003 in one of the early pilots of community-based management of acute malnutrition. Since then, she has worked in South Sudan, Sudan and Lebanon and supported Concern nutrition programming and strategy development in roughly 20 countries across Africa and Asia as a global adviser.

Amanda Yourchuck is an Emergency Nutrition Advisor for the United States Agency for International Development (USAID) Advancing Nutrition. She has over 10 years of experience supporting wasting treatment and prevention activities. Amanda was previously a Nutrition and Health Advisor with Concern Worldwide and served as the technical focal point for global CMAM Surge activities.

The authors would like to acknowledge the support of Lucy Lafferty, Concern Niger Nutrition Adviser, Diane Moyer, Regional Nutrition Adviser for Save the Children International and Christine Bousquet and Breda Gahan, Concern HQ Health Advisers, for their support in the development of this article.

GLOBAL

What we know: Demand for treatment services for childhood diseases (particularly malaria, diarrhoea and acute respiratory infection (ARI)) surge in response to seasonal changes and shocks.

What this article adds: A broader Health Surge approach is emerging, prompted by health facility staff beginning to apply community-based management of acute malnutrition (CMAM) Surge principles to other childhood disease services. Lessons learned from implementing countries to date (Sierra Leone, Burkina Faso, Chad, Niger, Ethiopia and Mauritania), including during the COVID-19 response, have informed working definitions, key elements of a package and key principles of an approach currently modelled on the CMAM Surge steps. Health Surge can be viewed as a quality improvement approach that empowers health workers to better anticipate, prepare for and manage fluctuations in demand for essential nutrition and child health services at facility-level in real-time, in complement to wider disease surveillance and response mechanisms. Health facility staff set specific thresholds for single diseases of public health importance in their catchment area to inform decisions and action on health facility capacity; information can be aggregated at district or regional levels to reveal rising stress on the health system. Adaptability of the approach is key and should always consider the context, effectiveness, local and national ownership, process transparency and sustainability. Experiences indicate that the Health Surge approach should protect services for the most vulnerable and will benefit from local prioritisation of illnesses, the tailoring of threshold setting methods according to how health facility capacity; information can be aggregated at district or regional levels to reveal rising stress on the health system. Adaptability of the approach is key and should always consider the context, effectiveness, local and national ownership, process transparency and sustainability. Experiences indicate that the Health Surge approach should protect services for the most vulnerable and will benefit from local prioritisation of illnesses, the tailoring of threshold setting methods according to how local health services are organised and disease-specific surge actions. Digital monitoring approaches will help real-time monitoring. Existing global and regional technical working groups on CMAM Surge are now coordinating Health Surge efforts. Tools and guidance are currently being developed by Concern and will be piloted in Niger, Kenya and Mali by Concern and Save the Children from early 2021.

The evolving Health Surge approach

Seeing the value of applying community-based management of acute malnutrition (CMAM) Surge to their nutrition tasks, many staff and supporting non-governmental organisations (NGOs) have begun to apply its principles to other areas of their workload, most often to services for common childhood diseases (malaria, diarrhoea and acute respiratory infection (ARI)). Disease surveillance and response mechanisms exist – at least in theory – in most countries. The emerging Health Surge approach aims to complement these mechanisms by supporting real-time monitoring of key illnesses so that the planning and allocation of resources to address caseload fluctuations can occur before a health facility is overwhelmed.

The concept of Health Surge was originally tried by health authorities in Sierra Leone in 2018 with support from Concern Worldwide (Concern) where existing CMAM Surge guidance was adapted for use in a malaria programme. Since the beginning of 2019, other stakeholders...
have been innovating and adapting CMAM Surge to the broader health agenda (Figure 1). Partners from Francophone West Africa came together recently to share early experiences from their Health Surge adaptations via the CMAM Surge Regional Taskforce (October 2020). The experiences shared highlighted the diversity of approaches taken and further underscored the need to agree on a common vision for the Health Surge approach while promoting further innovation and structured documentation and learning across contexts. Based on this experience, working definitions were developed by Concern in consultation with the Global CMAM Surge Technical Working Group (TWG) for both CMAM Surge and the emerging Health Surge approach (Box 1).

Within the broader landscape of health system strengthening, Health Surge is best viewed as a quality improvement initiative because it focuses specifically on refining the process of service delivery at health facility level, particularly during periods of peak demand. Quality improvement has been defined as “systematic, data-guided activities designed to bring about immediate improvement in healthcare delivery in particular settings” (Baily et al., 2007). Health Surge focuses on how services are organised and delivered to ensure that the correct services are provided where and when they are required. Health Surge aligns with the five principles of quality improvement activities (as outlined in Massoud et al., 2017):

- **Client focused:** Health Surge aims to protect the consistent delivery of services for patients, especially the most vulnerable, precisely at a time when quality is at risk of being compromised (health workers overwhelmed).
- **Understanding work as processes and systems:** Health Surge analyses existing capacity and processes for dealing with peaks in service demand and it looks to improve these to produce better results for clients and reduce the stress placed on health workers.
- **Teamwork:** Health Surge promotes collaboration between a health facility and health district management to foster ownership of the process. It also supports identification of key stakeholders for task shifting purposes during peak service demand periods such as community workers (health and other), cleaners, guards, etc.
- **Testing changes using real-time data:** Health Surge supports real-time data interaction and use, tracking changes in patient visits for different services against the capacity of the facility to cope, thereby ensuring service availability and quality when it is needed. Health facility teams should revise surge thresholds regularly based on any changes in their capacity which impact on their ability to manage caseloads.
- **Shared learning:** A learning review is built into the Health Surge approach on a monthly, annual and post-Surge basis.

This article provides a framework for Health Surge based on learning to date. The approach and related tools are still being developed and consolidated and will be shared throughout 2021.

**Health Surge and existing disease surveillance and response systems**

Since 1998, the World Health Organization (WHO) has been supporting Integrated Disease Surveillance and Response (IDSR) systems to ensure that diseases of public health significance are identified and responded to as needed. This system includes three categories for surveillance: epidemic prone diseases (e.g., Ebola), diseases targeted for eradication or elimination (e.g., measles) and other conditions of public health importance to a specific country. The first two disease categories require immediate notification to health authorities and have standard (usually national) thresholds that should trigger immediate action from the country’s outbreak response system. Health Surge is not intended to address these two categories of ‘notifiable diseases’ and replace their existing emergency response mechanisms. This was underscored and clarified by the experience of trying to adapt the CMAM Surge approach to COVID-19 which has now become a notifiable disease in most countries (see Case Study from Niger in Box 2).

---

**Box 1 Working definitions of CMAM Surge and Health Surge**

**CMAM Surge:** The goal of the CMAM Surge approach is to support the health system, and empower health workers, to better anticipate, prepare for and manage fluctuations in the demand for wasting treatment services. It is the original surge approach and largely follows the Global CMAM Surge Operational Guide developed by Concern and the tools adapted for use in different countries.

**Health Surge:** The goal of the Health Surge approach is to support the health system, and empower health workers, to better anticipate, prepare for and manage fluctuations in the demand for essential nutrition and child health services. The modalities of this approach are currently being developed.

---

**Figure 1** Countries where elements of a Health Surge approach have been initiated with partner support

**Status of implementation based on known partner** support as of end 2020

*Partner refers to NGO, UNICEF or WFP

---

1 As per Figure 1, this includes Ministry of Health (MoH) staff in Niger and Chad with support from the Croix Rouge Française (CRF) and Concern, in Mauritania with support from FRC, in Burkina Faso with support from Terre des Hommes and in Ethiopia and Sierra Leone with support from Concern.

2 Partners who participated in the webinar included NGO representatives, UNICEF staff and donor organisations.

The Health Surge approach is much more focused on helping health facilities to manage their workload during periods of increased caseload than on alerting health authorities to a possible outbreak. Health Surge is therefore more suited to the third category – major diseases, events or conditions of public health importance. These diseases are country-specific, based on a given epidemiological context, and reported on a monthly basis through the Health Management Information System (HMIS).

Most countries have defined thresholds for this category of diseases, however, this is often “an observed increase in cases over time” or something more specific such as a doubling of caseloads compared to a five-year average. Such a vague definition is often difficult to act on in practice and, when applied, thresholds are often set as absolute case numbers at an aggregated level (district/regional/national) that do not allow for variations across health facilities. The thresholds also do not consider the health system’s capacity to respond at different levels. By the time an outbreak is declared at an aggregated level, the situation at individual health facilities may already be very serious.

The value of the proposed Health Surge approach is that it works to define specific thresholds for single diseases of public health importance appropriate to a given catchment area and within the context of health facility capacity. It does not interfere with standard reporting for these diseases but it does initiate earlier action at local level to protect service quality in the face of rising caseloads. As seen with CMAM Surge, when information on the number of health facilities passing their context-appropriate surge thresholds is aggregated at a district or regional level, it provides a powerful visual of not only the rising caseloads of malnourished children but the real stress the rising caseloads have on the health system. The Health Surge approach has the potential to introduce the same tailored approach to monitoring and managing increased caseloads of child illness in light of a health facility team’s own capacity to cope.

### Health Surge in practice

The value and potential of a Health Surge approach has been in evidence for years at the Tahoua Regional Hospital in Niger. The improved utilisation of monthly CMAM and other morbidity data by staff in the paediatric ward following engagement with the CMAM Surge approach led to a better understanding of the pressure that severe wasting and malaria both exert on the health system during the annual malaria spike (September/October). As a result, the hos-

#### Box 2 Case Study: COVID-19 and CMAM Surge in Niger

In the early stages of the COVID-19 pandemic, it quickly became clear that even strong health systems in well-resourced countries had trouble coping with rapid increases in workload due to an influx of COVID-19 cases. In an effort to better prepare for and limit the risk of a similar scenario unfolding in Concern’s nutrition programme areas, Concern attempted to adapt its CMAM Surge guidance to the COVID-19 context. The pandemic served as an unexpected catalyst for defining a broader Health Surge approach that had already been under development for several years. Concern’s experience adapting CMAM Surge to the COVID-19 context in Niger provides the most practical learning. Ultimately, the adaptation of CMAM Surge raised more questions than answers but the experience has helped shaped thinking on the Health Surge approach, particularly what it can and cannot address.

Concern has been supporting CMAM Surge implementation in two health districts in the Tahoua Region of Niger since 2016, alongside other partners in other regions. From the outset of the pandemic, it was clear that COVID-19 had high potential to negatively affect wasting treatment services by a) increasing the number of individuals seeking treatment at health facilities, b) creating longer CMAM treatment consultation/review times due to heightened infection prevention and control (IPC) measures and c) reducing human resources due to staff being infected or re-prioritisation/task shifting for certain services.

The main aim of adapting CMAM Surge to the COVID-19 context in Tahoua was to help health teams maintain quality treatment services for severe wasting while taking into consideration the additional challenges COVID-19 presented. However, given that health staff were likely to be overwhelmed by demand for services beyond just child health and nutrition, a new approach to tracking caseloads and assessing capacity was needed. Lastly, given the low testing capacity in Tahoua, the team saw potential for the new set of data they planned to track to be used to alert health authorities of possible spikes in COVID-19 cases.

The most immediate questions were: what data should be collected, how often and how should the data be used? The government’s disease surveillance system was already tracking and reporting confirmed COVID-19 cases where testing was available. Given the low testing capacity in Tahoua, however, the Concern team began exploring the feasibility of using fever, diarrhoea and/or acute respiratory infection (ARI) as a proxy marker for COVID-19 and setting some broader workload thresholds that would define when health facility teams needed to take additional measures or seek external support. Diarrhoea and ARI data are routinely collected on a monthly basis to feed into the Health Management Information System (HMIS) and are monitored (usually on wall charts) as part of CMAM Surge. Of these, data on ARI appeared to be most relevant and accessible, as diarrhoea was not considered a reliable sign of possible COVID-19 infection and fever data was not readily available and/or not reliable unless combined with malaria testing results. Given COVID-19 cases are more prevalent in adults, the programme decided to track ARI cases for all age groups – not just in children under five years, as is done routinely in CMAM Surge.

However, there were practical challenges in the collection of ARI data that made it impossible to collect reliable data frequently enough to monitor the situation (weekly). The working definition of ARI data also varied between health facilities (pneumonia, severe pneumonia or cough and cold). Given these challenges, and the fact that the worst-case scenarios of COVID-19 were not fully realised in Niger, the Ministry of Health (MoH) and the Concern team decided the data was not reliable enough to inform surge actions. The health facilities therefore reverted to implementing normal CMAM Surge while the MoH continued to scale up IPC measures and expand testing to the degree possible.

While CMAM Surge did not prove to be a perfect fit for the COVID-19 context, the experience has helped to more clearly define the parameters required to adapt CMAM Surge to a broader health context and refine the development of Health Surge. This includes a better definition of the types of morbidities that are appropriate for threshold setting, the frequency of data collection, the feasibility of including multiple age groups and how to define appropriate action plans. More on these lessons is shared throughout this article.

---

*See field article in this special section of Field Exchange entitled, “Implementing the IMAM Surge approach – experiences from Kenya”*
Pitual’s inpatient therapeutic centre now tracks malaria cases alongside malnutrition cases and lowers its CMAM Surge thresholds for the second half of the year to account for the reduced capacity of the facility due to the influx of malaria cases. Figure 2 shows wasting/oedema admissions (2019) and CMAM Surge thresholds, contrasted with 2019 malaria admissions data.\(^3\)

In some contexts, seasonal peaks in wasting may not always materialise but other morbidities may still cause facilities to have increased workloads. In Ethiopia, severe wasting caseloads in the CMAM Surge pilot facilities were very low (most facilities saw fewer than 10 severely wasted children over the course of a month) with the majority of pilot facilities never passing thresholds or triggering Surge response actions. Instead of deciding that CMAM Surge was not helpful or relevant to them, health facility staff revised the approach and designed thresholds for diarrhoea cases instead. Bati woreda, where the Surge pilot took place, is particularly vulnerable to diarrhoea outbreaks and health facility workers have found the Surge process helpful for planning and bouncing back from outbreaks.

“CMAM surge has helped me understand and monitor the events in the community [that] affect the number of SAM cases coming here [to the health post]. I also monitor diarrhoea cases... knowing the events of this specific department helps us to prepare beforehand like securing... resources. For example, this is a rainy season with a lot of rain...it is common to have more diarrhoea, so this CMAM Surge will help us prepare for diarrhoea beforehand” Health Worker – Bati Heath Post, Ethiopia

**Towards a common vision of the Health Surge approach**

The Health Surge approach is currently evolving but several lessons can be drawn from the early experiences of those currently adapting CMAM Surge to address broader child health services. This includes the initial efforts to adapt CMAM Surge to support the COVID-19 response. This learning can move stakeholders towards a more coherent vision of a Health Surge approach. This will be essential to support the development of common programming tools, minimum quality standards and evaluation criteria which will be needed to refine and scale up the approach if it proves successful.

A key advantage of a Health Surge approach will, no doubt, be its adaptability. However, it is important that, wherever implemented, the Health Surge support package should foster:

**Contextualisation:** The approach should focus on severe wasting and the other illnesses in a given catchment area that contribute most to under-five mortality that place stress on the health system, exhibit fluctuations within or between years and are reasonably predictable. In addition, it should support and never duplicate existing outbreak response mechanisms where they exist.

**Effectiveness:** As a quality improvement initiative, support should be tailored to the needs and capacities of the health system to protect the continuity and quality of these services during periods of peak demand and/or reduced health facility capacity.

**Ownership:** Health workers, governments and the community should be empowered and should determine when and how they require additional external support to better manage services.

**Transparency:** Thresholds, support packages and delivery modalities for the response should be agreed with all relevant parties.

**Sustainability:** The package of support should strengthen the health system in a way that accounts for and prepares for better management of emergencies, allowing for greater long-term resilience.

**CMAM Surge or Health Surge?**

Many practitioners now trialling Health Surge have a solid background in CMAM Surge which has made the shift to include other morbidity smoother. Others, however, have started directly with Health Surge and any new health facility or health district team may choose to do the same if they face significant surges of child wasting and common childhood illnesses. Some countries or areas may opt to simply continue with CMAM Surge or potentially start with CMAM Surge and introduce additional morbidities as their experience grows. In all cases, it is useful to move gradually through each of the eight steps of the CMAM Surge to support the COVID-19 response. This includes the initial efforts to adapt CMAM Surge to support the COVID-19 response. This learning can move stakeholders towards a more coherent vision of a Health Surge approach. This will be essential to support the development of common programming tools, minimum quality standards and evaluation criteria which will be needed to refine and scale up the approach if it proves successful.

A key advantage of a Health Surge approach will, no doubt, be its adaptability. However, it is important that, wherever implemented, the Health Surge support package should foster:

**Contextualisation:** The approach should focus on severe wasting and the other illnesses in a given catchment area that contribute most to under-five mortality that place stress on the health system, exhibit fluctuations within or between years and are reasonably predictable. In addition, it should support and never duplicate existing outbreak response mechanisms where they exist.

**Effectiveness:** As a quality improvement initiative, support should be tailored to the needs and capacities of the health system to protect the continuity and quality of these services during periods of peak demand and/or reduced health facility capacity.

**Ownership:** Health workers, governments and the community should be empowered and should determine when and how they require additional external support to better manage services.

**Transparency:** Thresholds, support packages and delivery modalities for the response should be agreed with all relevant parties.

**Sustainability:** The package of support should strengthen the health system in a way that accounts for and prepares for better management of emergencies, allowing for greater long-term resilience.

**CMAM Surge or Health Surge?**

Many practitioners now trialling Health Surge have a solid background in CMAM Surge which has made the shift to include other morbidities smoother. Others, however, have started directly with Health Surge and any new health facility or health district team may choose to do the same if they face significant surges of child wasting and common childhood illnesses. Some countries or areas may opt to simply continue with CMAM Surge or potentially start with CMAM Surge and introduce additional morbidities as their experience grows. In all cases, it is useful to move gradually through each of the eight steps of the CMAM

---

\(^3\) 2019 malaria admissions data demonstrate an illustrative malaria admission trend.
Surge approach (see Figure 3) consolidating experience after each.

What have we learned that can inform development of a Health Surge approach?

Nutritionists must engage more with our health sector colleagues

CMAM Surge, while founded on shared health system strengthening and quality improvement principles and implemented by health facility staff and District Health Teams, was developed largely by nutrition experts. Developing the full Health Surge approach will require deeper engagement with a wide variety of health system actors and government departments including those responsible not just for child health (which may in fact cut across multiple departments) but for disease surveillance and response. The MoH in each country must be engaged and lead the development of a Health Surge approach. The fact that so many health facility staff in various countries have already initiated or embraced a shift from CMAM Surge to a more holistic Health Surge approach is a good sign but further engagement across all levels of the health system is now needed to solidify the approach.

Keep the focus on child survival

Many factors can drive health facility workload and capacities. There may be a temptation to try to address all health facility and health system challenges via a single approach but it is important to stay focused on protecting services for the most vulnerable: children under five years of age who are most vulnerable to wasting and illness and where interventions can have the most significant impact on mortality levels.

While some programmes may set thresholds that consider services for a variety of age groups to account for their contribution to overall workload, the CMAM Surge and Health Surge are best suited to services to ensure continuity and quality of child health and nutrition services.

Determine priority illnesses to monitor

Which illness to track should be determined at health facility level based on the catchment population’s main burden and seasonal trends. It might be helpful, however, to first create a master list of morbidities that are of public health concern within a given district or region based on historical analysis of health data and seasonal trends. Health facilities could then select from this master list, based on the epidemiology of their catchment area. Many health facilities are already following key illnesses, as can be seen in Figure 4. It may also be useful to track an overall indicator of total consultations as a general indicator of workload fluctuations (see below). The availability and reliability of data via the existing HMIS and any other data collection mechanisms must also be taken into consideration when selecting which morbidities to consider, as highlighted in the COVID-19 case study.

The setting of thresholds needs to consider how health services are organised at facility level and how they realistically link to action

As articulated elsewhere, setting thresholds is a complex process that already poses challenges within the standard CMAM Surge model. Those who have already started Health Surge pilots have experimented with different threshold types. These fall into four main categories:

1. Several single thresholds: facilities set and follow a maximum of three illnesses (severe wasting and two morbidities), creating separate thresholds for each.
2. A multi-morbidity threshold: facilities create an index that aggregates severe wasting and several selected morbidities into a single threshold. Together they are meant to reflect both the illnesses that are the biggest risk to child survival as well as workload.
3. A total consultations threshold: facilities simply track total consultations coming into the facility, generally regardless of age or service, to serve as an overall reflection of workload.
4. Combination model: facilities track two of the above, usually several individual illnesses (severe wasting and maybe one or two other morbidities) and a total consultations threshold.

These threshold approaches are still a work in progress but may provide a helpful starting point for stakeholders embarking on the Health Surge approach who could then adapt to their context and share learning as they proceed. As above for the focal morbidities, it is recommended that a common approach to threshold setting is established for at least one district and ideally a whole country. This will allow for easier aggregation of Health Surge data to district, province and national levels.

An important factor when deciding which type of threshold approach to use is how the various services are organised at a health facility which determines patient flow and staff workload. In scenarios where a few staff are providing all services at a health facility, the ‘total consultations’ threshold may be most relevant. In scenarios where facilities have a larger, more varied group of staff with specific responsibilities and/or where wasting treatment services are still not well integrated into other outpatient services (and are delivered by different staff), ‘several single thresholds’ may be more appropriate. Health facility patient flow is usually determined by national guidelines for primary healthcare. These policy documents can help Health Surge practitioners decide on a common threshold approach for all facilities of the same type in a given country or district. A standard approach through an administrative region will be necessary, otherwise aggregation into district level dashboards will not be possible.

However, when determining how to set thresholds, it is important to think through how thresholds link to action planning and funding. While some actions may be the same regardless of morbidity (e.g., the need for additional staff), others will be disease-specific (e.g., buffer stocks of ready-to-use therapeutic food (RUTF) for increases in severe wasting, more malaria tests

---

Figure 4

Monthly wasting and morbidity consultations, Inkarkada Health Centre, Tahoua, Niger (Concern Worldwide 2018)

In this figure the green line represents severe acute malnutrition, the red line malaria, the blue line pneumonia and the black line diarrhoea

8 In most cases, this list likely already exists under Integrated Disease Surveillance and Response (IDSR) protocol.
9 See field article in this special section of Field Exchange entitled “CMAM Surge – lessons learned on the journey so far”
and drugs ahead of the peak malaria season or hygiene messaging during a diarrhoeal outbreak. If multi-morbidity or total consultation thresholds do not identify and/or account for which services are driving workloads up, then it may be difficult to trigger appropriate action based on Surge action plans. The ideal scenario may be to identify and set individual thresholds for the key conditions and morbidities that fluctuate and impact on staff workload while at the same time monitoring total consultations. If key conditions and morbidities have been properly defined then fluctuations in total consultations during the year are mostly likely due to these. Following total consultations will help to clarify this and indicate if a major cause of health system stress has been missed.

Digital data solutions are even more vital when monitoring multiple indicators that include illness

As thresholds become more complex – beyond solely child wasting admissions (as in CMAM Surge) – digital systems for data gathering and synthesis become even more important. While monitoring several thresholds at health facility level will be feasible, monitoring the number of facilities that have passed their multiple thresholds at a higher level, such as district or region, to detect a more system-wide emergency may be challenging. Digital, cloud-based data systems that are linked into governments’ District Health Information Systems (DHIS), disease surveillance and early warning systems will be critical to ensure real-time monitoring. However, digitisation of data collection must not compromise a core component of the Surge approach which is to engage health staff at facility level to interact with and use their data for local decision making. Digital data systems should optimise data-driven decision making at all levels as CMAM Surge evolves further into the Health Surge approach.

Where to begin?

The development and implementation of the Health Surge approach must be grounded in the national and local health systems and embedded within or synchronised with other health system strengthening and quality improvement efforts and be based on a strong understanding of the capacity of the health system at different levels. On a practical level, it can borrow heavily from the tools and guidance that have successfully supported the scale-up of CMAM Surge. Therefore, revisions to the existing CMAM Surge Operational Guide will form the basis for the Health Surge approach. All eight steps from CMAM Surge will remain the same for Health Surge for the time being, although this may be adjusted as we learn. The main changes occur at the planning stage and in steps 1 to 4 (Figure 3).

Where steps are adapted, this will involve expanding the data collected, the thresholds set and monitored, capacities assessed and surge activities identified. More guidance on this is forthcoming in early 2021 from the Global CMAM Surge Technical Working Group which is currently led by Concern and includes representation from the United Nations Children’s Fund (UNICEF), MoH Kenya and other agencies engaged in implementing or funding CMAM Surge.

Next steps

A Health Surge approach holds great promise for complementing ongoing health system strengthening efforts by increasing the shock-responsiveness of health systems at certain times of the year and beyond those for the treatment of child wasting. The approach still needs to be fully elaborated through engagement with a wide range of partners and its overall acceptability and effectiveness in improving the management of health services must be tested and further documented. The West Africa CMAM Surge Regional Taskforce will continue to facilitate its members to share the experience of trialling different aspects of the Health Surge approach. Meanwhile, the Global CMAM Surge TWG, led by Concern, will develop and support a coordinated plan to gather, document and share evidence and experience from the implementation of the Health Surge approach during the course of 2021. In addition, the Global CMAM Surge TWG is actively seeking to expand health sector representation throughout 2021.

In coordination with the Global TWG, Concern is working to develop a set of practical Health Surge tools that will be piloted in a coordinated fashion in Niger, Kenya and Mali by Concern and Save the Children from early 2021. These tools will be adapted from the existing CMAM Surge Operational Guide and toolkit and will be available to any health authorities or organisations looking to expand on the success of CMAM Surge. Learning from the pilot and other country experiences will be documented and shared throughout 2021 and will result in the revision of the current CMAM Surge Operational Guide into a global guide and toolkit for Health Surge by the end of 2021. Ministries of Health and other partners could then use this as a basis to develop their own tools and guidelines for their own country contexts based on their needs and wider health system strengthening activities.

For more information please contact Kate Golden at kate.golden@concern.net

References


CMAM Surge: lessons learned on the journey so far

By Erin McCloskey, Amanda Yourchuck and Peter Hailey

Erin McCloskey is a Public Health Nutritionist and independent consultant currently working for Concern Worldwide. Erin has over 15 years of experience supporting the development of resilient health systems, empowered communities and an improved understanding of the nutrition and water, sanitation and hygiene (WASH) intersect.

Amanda Yourchuck is an Emergency Nutrition Advisor for the United States Agency for International Development (USAID) Advancing Nutrition. She has over 10 years of experience supporting wasting treatment and prevention activities. Amanda was previously a Nutrition and Health Advisor with Concern Worldwide and served as the technical focal point for global CMAM Surge activities.

Peter Hailey is a humanitarian nutritionist who has lived and worked in emergencies and fragile areas of Central Europe and Africa for the last 25 years. Peter is now Director of the Centre for Humanitarian Change based in Nairobi with a focus on adaptive learning, resilience, nutrition and health information systems and famine.

The authors would like to acknowledge all the communities, health facility teams, country governments, NGO partners and donors who have contributed to the learning process for CMAM Surge. In addition, the authors thank the West Africa Region CMAM Surge Taskforce and the Global CMAM Surge Technical Working Group.

Global

What we know: Community-based management of acute malnutrition (CMAM) Surge aims to enable wasting treatment services within health systems to respond quickly and effectively to surges in demand.

What this article adds: This article synthesises lessons learned from eight years of CMAM Surge programming across multiple countries. Findings from independent evaluations show the key strengths of the approach to be its relevance and acceptability to staff and institutions from national to facility levels, its ability to empower health facility staff, improved understanding and use of data for decision-making, particularly at health-facility level and of the causes of severe wasting and the integration of wasting management into health services and systems. Wasting admissions data have been used to manage community health services and better understand and respond to spikes in other morbidities in different locations. Areas to strengthen include the monitoring and use of data to inform decision-making at district-level, the systematic involvement of community stakeholders and the testing of a community-level Surge process and more frequent review and revision of Surge thresholds in response to contextual changes. Consensus on the next steps include testing, documenting and developing guidance for a Health Surge approach (expanding CMAM Surge beyond wasting management), capturing CMAM Surge’s contribution to health system strengthening and resilience, evaluation and adaptation of the approach for fragile contexts and embedding CMAM Surge data in early warning and to inform early action and wasting prevention efforts. The Global CMAM Surge Technical Working Group, led by Concern Worldwide, will continue to drive an active learning and development agenda.

Eight years on from the first community-based management of acute malnutrition (CMAM) Surge pilot in Kenya, a wealth of experience and learning across a variety of contexts has been generated. During this time, independent evaluations have been undertaken of four of Concern Worldwide (Concern)’s CMAM Surge programmes in East and West Africa and several regional and global CMAM Surge learning and consultation meetings have taken place (Table 1). This article synthesises themes that have emerged from these evaluations and consultations, identifying the approach’s strengths, country-led innovations and areas to develop. It also proposes key areas for further exploration.

Strengths of the CMAM Surge approach

- Significant relevance and acceptability of the approach
- Empowerment of health facility staff to make decisions about their work
- Improved understanding, utilisation and appreciation of data for decision making
- Strengthened relationships with local authorities

Evaluations that have taken place to date highlight several strengths of the CMAM Surge approach that are consistent across the country experiences. The following sections highlight a selection of those commonalities that emerged from the publications and events listed in Table 1.

Significant relevance and acceptability of the approach

All three evaluations across different implementation contexts concluded that the CMAM Surge approach is highly relevant and acceptable. This is likely because the CMAM Surge approach places leadership at health facility level with health facility staff driving the identification of and response to surges in demand for services. Facility staff also recognise the relevance of the approach beyond the management of wasting and see how they can extend its principles to a broad range of health services.

“This approach is very important not only to certain disease entities but also to strengthen the overall health systems”

Health Centre staff member, Bati Woreda, Ethiopia

The acceptability and relevance of the CMAM Surge approach is further evidenced by the national-level support it has garnered from various governments. For example, based on the success of the pilot in Kenya, the Kenyan Ministry of Health (MoH) has demonstrated a clear commitment to the
Cost Effectiveness Analysis of the Community-based Management of Acute Malnutrition (CMAM) Surge Approach East Africa Consultation Workshop (report unpublished)

Y year


Uganda
Review of the CMAM Surge Programme in Karamoja, Uganda (unpublished) 2016

East Africa
CMAM Surge Approach East Africa Consultation Workshop (report unpublished) 2016

Francophone West Africa
West Africa Dissemination Workshop for the CMAM Surge Approach (report unpublished) 2016

Global
Consolidation of learning to date in a document: The CMAM Surge Approach: An introduction and learning to date (unpublished) 2017

Francophone Africa
CMAM Surge Review Workshop - Francophone Africa Experience (report unpublished) 2018

Global

Ethiopia

Niger

Niger

Ethiopia

Table 1 CMAM Surge learning events and documentation

<table>
<thead>
<tr>
<th>Geographic Focus</th>
<th>Event/Publication</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>Publication of an article about Kenya CMAM Surge experiences in Field Exchange issue 47: <a href="http://www.ennonline.net/fex/47/meeting">www.ennonline.net/fex/47/meeting</a></td>
<td>2014</td>
</tr>
<tr>
<td>Uganda</td>
<td>Review of the CMAM Surge Programme in Karamoja, Uganda (unpublished)</td>
<td>2016</td>
</tr>
<tr>
<td>East Africa</td>
<td>CMAM Surge Approach East Africa Consultation Workshop (report unpublished)</td>
<td>2016</td>
</tr>
<tr>
<td>Global</td>
<td>Consolidation of learning to date in a document: The CMAM Surge Approach: An introduction and learning to date (unpublished)</td>
<td>2017</td>
</tr>
<tr>
<td>Francophone Africa</td>
<td>CMAM Surge Review Workshop - Francophone Africa Experience (report unpublished)</td>
<td>2018</td>
</tr>
</tbody>
</table>

Empowerment of health facility staff to make decisions about their work

One of the most significant findings from all countries was a change in the mindset of health facility staff in terms of their ability to identify and address challenges without necessarily calling on external support. Within hierarchical health systems that are often dependent on external support during a shock, facility staff can feel disempowered in decision-making processes. In contrast, the CMAM Surge approach puts health facility staff in charge of deciding when and what measures are required to cope with changing caseloads. Results from all the evaluations clearly show that health facility staff find this aspect of CMAM Surge empowering; they mention feeling significantly more confident, self-sufficient and more able to take initiative.

"The CMAM Surge approach allows us to always know where we are and what to expect. If we did not have it, we would feel less confident in our work. It really helps us to plan our activities"

Nurse-in-Charge at Barmou Facility, Tahoua, Niger

"In regard to the supplies, I am more alert than before about having more or having reserve of supplies for those [clients] who need medicine, those who need plumpy nut [RUTF] and others…"

Health Extension Worker, Bati Health Post, Ethiopia

Improved understanding, utilisation and appreciation of data for decision making

In many developing health systems, the collection and transmission of data for child wasting is undertaken as a reporting requirement. Health facility staff do not always see the value in the numbers because they are not linked to decision-making around issues affecting service quality, context changes or capacity. The collation and review of historical trends for wasting and other illnesses does not commonly take place at health facility level. According to the evaluations, after implementing the CMAM Surge approach, health workers indicated that they were far more interested in their own data and diligent about reviewing it because they now had the skills and tools to understand and use it productively. Several health workers mentioned that prior to CMAM Surge they did not notice fluctuations in their monthly data. The CMAM Surge process has ensured that health facility staff now not only know if their caseloads are changing but make decisions based on what the data is telling them.

"[When asked the difference between a centre that has the Surge approach and one does not] Oh! They are not the same at all. They are not the same in terms of how they work and how to do self-evaluation and organise their own activities… Now I can solve my own problems."

Nurse-in-Charge at Kalfou facility, Tahoua, Niger

In the evaluations, some health facility staff stated they did not view wasting like other morbidities, as wasting often does not receive as much emphasis in pre-service training. However, an increased understanding of the data and how those numbers impact workload has led to changing perceptions around wasting treatment services. The Uganda evaluation revealed that CMAM Surge has led to better appreciation of the human resource support required for nutrition services. In this way, it has created a more positive perception of the importance of wasting treatment services that were previously viewed as a non-governmental organisation (NGO)- driven ‘add on’ activity rather than an integral part of the basic service package. Discussions about wasting and how its fluctuations impact the health facility led to better integration of severe wasting treatment services into regular health services.

"The Surge approach has made staff familiar with and appreciate the importance of IMAM."

District Health Officer, Nakapiripirit, Uganda.

CMAM Surge data and analysis can be a powerful tool to improve early warning systems. Currently, health and nutrition information

1 In Kenya, the approach is called IMAM Surge to align with the naming of the integrated management of acute malnutrition (IMAM) approach used in the country.
2 See article in this special section of Field Exchange entitled "Implementing the IMAM-Surge Approach - experience from Kenya".
3 http://library.health.go.et/download/file/fid/672
5 https://www.fantanproject.org/focus-areas/nutrition-emergencies-mam/cmam-training
6 See article in this special section of Field Exchange entitled "The Role of Coordination in CMAM Surge Scale-up in West and Central Francophone Africa"
incorporated into early warning systems is limited to prevalence data from surveys or absolute and aggregated admission numbers/caseloads. CMAM Surge data and dashboards provide a snapshot of caseloads set against locally appropriate thresholds that are based on historical trends and relative to the actual capacity of each health facility. These contextualised thresholds provide a much more accurate and sensitive measure of stress on the health system than static prevalence estimates or absolute caseloads alone. The article on CMAM Surge scale-up in Kenya included in this series shows how CMAM Surge data aggregated from health facilities to the sub-county level provided a better indicator of a deteriorating nutrition situation than other early warning indicators. The use of CMAM Surge data to improve early warning systems and early response warrants further development (see below). A key priority, however, is to streamline data systems and the existing CMAM Surge dashboards, linking better with the Health Information Management System (HMIS) to support real-time analysis and to inform early action.

**Strengthened relationships with local authorities and communities**

In the evaluations from Niger and Ethiopia, there were noted changes in the social capital of health facility staff. Staff reported that the process of the health facility as well as the local health and administrative authorities. A positive understanding that can be hard to produce and get approved), relationships with the district have often still been strengthened. If stakeholders are engaged in the Surge planning process, the absence of formalised commitments does not appear to have had negative consequences. In some contexts, however, especially those where the health system is weaker and/or demands on health facilities might be higher, these relationships may benefit from formal agreements to solidify the partnership and secure external support when required.

In order to improve the ownership, efficiency and sustainability of the CMAM Surge approach, however, Surge actions and budgets should be integrated into the planning and budgeting process of the health facility as well as the local health and administrative authorities. A positive example of this is provided by Kenya whereby CMAM Surge actions have been incorporated into the County Nutrition Action Plans (CNAPs) to some degree.

**Innovations in CMAM Surge to date**

- More data-informed management of community health activities
- Using CMAM admissions to better understand and react to spikes in other morbidities

The CMAM Surge evaluations and learning consultations uncovered several interesting adaptations to the standard approach. In most cases, these innovations were driven by health facility staff and not by the supporting partners. The examples detailed below have pushed the boundaries of the original scope of the approach and should be considered for integration into the standard Surge model.

**Data-informed management of community health services**

In Niger and Kenya, CMAM Surge has led to improved dialogue and expectation setting with community-based volunteers. If caseloads are below or above expectations for a certain time of year, some health workers have initiated discussions with the community volunteers to trigger additional active case finding or an investigation into why there is an unexpected decrease or increase in caseloads. This process has improved the health workers’ relationship with volunteers and their understanding of the local context, and community volunteers have reported feeling more valued and included in the health system. There is potential to take this engagement a step further and empower community-based volunteers in data analysis to better understand the story their data is telling. This would allow community health workers and volunteers to adapt their community-level activities and plans in line with real-time, seasonal data.

**Using CMAM Surge to respond to spikes in other morbidities**

The original CMAM Surge approach hinges on the premise that high quality wasting treatment takes more time than consultations for other childhood illnesses and therefore an influx in cases of wasted children may quickly push health facilities beyond their capacity. However, CMAM Surge practitioners are increasingly recognising that caseloads of wasted children may not always be the primary driver of health facility workload. This has catalysed an emerging ‘Health Surge’ approach that is gaining momentum, such as in Niger where it was applied to co-manage annual malaria spikes with wasting treatment and in Ethiopia to plan for and respond to diarrhoeal outbreaks.

**Priority areas to improve within existing CMAM Surge guidance and programming**

- Strengthen CMAM Surge management at district level
- Involve communities more systematically in the CMAM Surge steps
- Ensure more frequent revision of Surge thresholds

Several priority areas to improve the existing approach have emerged via multiple channels as well as new areas for further development (below). Almost all were clearly articulated during a well-attended CMAM Surge review meeting held in Nairobi, Kenya in May 2019. The purpose of this meeting was to determine

---

7 See article in this special section of Field Exchange entitled “Implementing the IMAM-Surge Approach – experience from Kenya”.

8 See field article in this special section of Field Exchange entitled “Expanding CMAM Surge beyond nutrition – towards a broader Child Health Surge approach”.

9 The meeting included representatives from UNICEF, GOAL, Save the Children, The Centre for Humanitarian Change, ECHO, Kenya MoH, FFP, Somalia and Kenya, as well as Concern Worldwide teams from Global, Chad, Burundi, Ethiopia, Kenya, Niger and Pakistan.
which aspects of the global CMAM Surge guidance and tools required updates based on experience and what aspects still required further learning and documentation — a first step in gathering consensus on future directions for CMAM Surge. Key areas prioritised included a review of the threshold setting process, how to introduce CMAM Surge into a new country and health system, applying the CMAM Surge to different — particularly very fragile — contexts and a more practical set of monitoring and evaluation tools, particularly for district level.

**Strengthen CMAM Surge management at district level**

**Data management**

From the outset, CMAM Surge has primarily focused on health facilities and building their capacity to deliver a localised response to increases in wasting caseloads. Concern’s Operational Guidance for CMAM Surge includes district-focused Surge tools and advice; however, when the guidance was developed these actions were mostly untested. In many contexts, district-level CMAM Surge actions are limited to using the CMAM Surge dashboard and providing some support to health facilities when they cross thresholds. However, a holistic approach and practical tools to empower districts to use that data to better manage their own resources and/or request additional support needs further development.

The CMAM Surge dashboard is currently an Excel-based tool that captures, at a minimum, data on child wasting admissions against thresholds for each facility within a district health team’s management area. While there have been successes in using the dashboard — in Kenya, the CMAM Surge dashboard was credited as being key in the initiation of an early response to growing drought conditions in 2019 (Maintains, 2020) — the dashboard is not always used to its maximum potential. This is due, in part, to the limitations of capturing district-wide CMAM Surge data in an offline spreadsheet. Currently, CMAM Surge data is not integrated into the HMIS as the usability of a district dashboard needed testing before attempting to link it to the formal national health information system. At present, the dashboard requires manual updating, increasing the opportunity for data-entry errors and delays, and limits the number of users who have access to the data. Various online district-level dashboards are already in use within the health sector (e.g., DHIS-2) and in other sectors (e.g., early warning systems for agriculture and food security).

There is a need to develop and test a dashboard that links directly into the HMIS and other relevant data sources, where they are functioning. For this, Kenya is a perfect example. Dashboards should, ideally, use a cloud-based platform so that data can be updated without manual entry. Better access to real-time data can and should be used to inform activity planning, the organisation of the health workforce and supplies and communication and advocacy upwards to the regional or national level if a large number of health facilities or the district health management team itself is showing signs of stress and requires additional support.

**Costing and financing**

The limited role of districts in providing support to CMAM Surge actions at facility level is linked, in part, to constraints in formalising commitments (discussed earlier) as well as the costing and financing of the CMAM Surge action plans. At present, the CMAM Surge action plans should be developed and costed within a single step of the approach (Step 4) which occurs at health facility level (see Figure 2). However, because some Surge actions will require support from actors external to the health facility — such as districts or NGOs working through district health teams — it is important that all the relevant stakeholders play a more active role in this costing process, perhaps better placed within Step 5 of the process (formalising commitments). In this way, the role and accountability of the district and other relevant partners supporting bigger Surge support actions could be strengthened.

Additionally, the initial development and revision of CMAM Surge action plans should be better aligned to government planning and budgeting cycles and other financing mechanisms, such as disaster risk financing systems, to help ensure that promised resources are formally planned for and earmarked within these systems. More practical costing tools for this step are needed to support this process within the Operational Guide.10

**Involve communities more systematically in the CMAM Surge steps**

As noted above, some community-level engagement in the CMAM Surge process is taking place. However, this is often ad hoc and although community representatives are listed among CMAM Surge stakeholders, this aspect is not yet integrated as a core element of the approach. Community members should be consistently involved in the CMAM Surge set-up process, not only to provide important contextual and seasonal insights but also to identify how community members and structures might be able to contribute to Surge action plans.

The evaluations showed that health facilities that had reached out to and formed relationships with community and mayoral structures had stronger Surge responses and felt more confident that they had access to a variety of resources to handle atypical situations than did other facilities. However, guidance around the process of clarifying and structuring relationships with community stakeholders seems to be overlooked. In the initial stages of the CMAM Surge start-up, all stakeholders that can support the Surge process should be identified and invited to participate in the establishment of Surge thresholds and the development of formalised, costed action plans. However, non-financial contributions, such as in-kind support or other community-based resources, should be more systematically identified and included in these plans so that the support can be detailed and predictable.

---

10 See field article in this issue of Field Exchange entitled “CMAM-Surge: understanding costs and potential contribution to CMAM’s cost-effectiveness”
The CMAM Surge approach at community level can be innovated even further to include a community-level Surge process whereby community workers monitor screening numbers against thresholds and develop Surge action plans for when thresholds are passed. Bringing the CMAM Surge process down to the community level will provide an even more timely and early action system, especially in areas with poor coverage of health facilities. Using CMAM Surge data to inform and initiate seasonally appropriate actions to better manage acute malnutrition at the community level will be piloted in Kenya in 2021.

**Ensure more frequent revision of Surge thresholds**

A nearly universal issue that emerged from the evaluations and ongoing consultations was the lack of regular threshold review and revision. It was felt that this could and should happen as part of an annual CMAM Surge review, in response to changes in health facility capacity or operating context or after a surge response but this was generally not being done. Across the evaluations, the setting of thresholds was noted as a complex and theoretical exercise that takes place in the initial set-up stage and is rarely ever revisited or revised. As per the CMAM Surge Operational Guidance, thresholds should be viewed as dynamic and reviewed at least annually and ideally each time a Surge response has been triggered. To address this gap, teams in Niger and Kenya have developed processes to ensure reviews are happening in both these instances.

Collectively reviewing thresholds also gives health facility staff a chance to reflect on whether the thresholds triggered actions that were appropriate to needs and if the thresholds were a true reflection of workload stress experienced by the staff. This is especially important in the context of staff turnover or operating context changes that impact on the ability of the health facility to cope with normal caseloads (e.g., during an acute outbreak or due to increased COVID-19 infection prevention and control measures). Conversely, the inappropriate triggering of Surge actions when the health staff are not in fact overwhelmed can also damage confidence in the system.

In both Niger and Uganda, evaluations found that thresholds were not altered despite changing human resources situations brought about by strikes or frequent staff turnover. A CMAM Surge review workshop for Francophone Africa found that advice based on local experience is needed when first establishing and then reviewing thresholds and that threshold setting should rely on data and on-the-ground experience rather than a formula, as is currently provided in the global Operational Guide. During the Ethiopia pilot, the same standardised thresholds were set for all health facilities, rather than allowing health facilities to adapt to their own capacity. Changes to thresholds at some facilities were noticed during follow-up visits. Essentially, the appropriate setting of thresholds requires experienced support and revision based on learning.

### New areas for developing the CMAM Surge approach

A number of significantly new areas of development for CMAM Surge are included in the global learning agenda being finalised by the Global Technical Working Group (TWG). These new areas will require more substantial piloting and documentation but, to the degree possible, will inform the update of the Global CMAM Surge Guide in 2021 and the generation of additional learning papers.

**Test, document and develop guidance for a Health Surge approach**

- Test, document and develop guidance for a Health Surge approach
- Capture CMAM Surge's contribution to a wider health system strengthening agenda
- Explore the applicability of CMAM Surge across different contexts
- Use CMAM Surge data to inform early warning/early action and strengthen prevention

**Better articulate and capture how CMAM Surge complements broader health system strengthening initiatives**

CMAM Surge – and potentially a broader Health Surge approach – is meant to complement and not replace or detract from any existing health system functions or health system strengthening initiatives. A stronger articulation is needed of how CMAM Surge (and Health Surge) can and should complement different health system functions and be integrated into health system strengthening activities. This will require more in-depth analysis of the health systems in each context as well as the broader landscape of health system strengthening initiatives. As a starting point, however, there are two areas where CMAM Surge can add value to traditional health system strengthening efforts. Firstly, CMAM Surge leverages the compilation and review of historical data in light of those caseload fluctuations – something that is possible from existing HMIS data but often is not done. Secondly, the approach focuses on engaging and empowering the health facility staff. Evaluations have shown that the approach has been particularly valuable in strengthening governance at the lowest level of the health system, the health facility, through improved data use, decision-making and relationship strengthening.

CMAM Surge likely adds the most value to health systems with regular fluctuations in caseloads – this is often in contexts with more seasonal trends in food security and morbidities and in challenging contexts where health system strengthening efforts are under-resourced and short-term. One of the main advantages of the approach is the seasonal lens to health system strengthening in those contexts: Action Against Hunger added modules on CMAM Surge within its organisational guide to health system strengthening to address this (AAH, 2017).

The CMAM Surge approach alone cannot address all health system challenges; it is one tool in the larger health system strengthening toolbox. The approach focuses on managing increased caseloads and is not designed to directly address more system-wide health shocks and stresses such as health staff strikes or widespread stock-outs of ready-to-use therapeutic food (RUTF). There are some signs, however, that CMAM Surge may be helping health facilities, and increasingly health districts, to be more resilient to these shocks. In addition, CMAM Surge could be more purposefully leveraged to support advocacy around these wider health system issues at higher levels through its documentation of on-the-ground capacity and workload.

Finally, as the CMAM Surge (and Health Surge) approach grows, it is becoming important to not only articulate but find ways to capture and measure how the approach contributes to health system strengthening – in particular, how it may help to address bottlenecks in service delivery of the six health system building blocks (WHO, 2010). Observations regarding the contribution of CMAM Surge to broader health system strengthening remain largely qualitative but quantitative data is also needed to track the longer term impact and to make a case for continued investment in the approach. This requires agreement on quantitative indicators and tools that can capture Surge-specific contributions to health system strengthening including the level at which they should be applied and the cost of related activities.

**Explore if and how CMAM Surge can work in contexts with very weak health systems**

Current guidance suggests that CMAM Surge is appropriate when the health system has a minimum level of functionality, although how to define this minimum level is not elaborated in the current guidance. This reflects the element of caution taken during the early days of CMAM Surge.  

1. See field article in this special issue of Field Exchange entitled “Expanding CMAM Surge beyond nutrition – towards a broader Health Surge approach”  
2. The formal Health Surge pilots include the health authorities supported by Concern Worldwide in Kenya and Niger and the health authority of Mali supported by Save the Children.
Surge when most experience was being drawn from Kenya where the MoH had taken a strong lead. Based on subsequent experience, the potential to apply the principles and steps to more fragile contexts, where government health systems may be weak or fractured, is clearer. In such contexts, the primary objective of improving capacity to respond to shocks and emergencies would not change but the context will likely be more complex than when the MOH is leading. Broader health system strengthening efforts will also look much different in these contexts and integrating with these requires careful planning.

In fact, health systems and health workers in fragile countries operating within the humanitarian-development nexus may stand to benefit most from the CMAM Surge approach. One of the successes of CMAM Surge is its ability to improve the confidence and self-sufficiency of health workers to assess and manage caseload fluctuations which is arguably even more important in contexts where more central support from government health resources is lacking. In fragile or weak health systems, the same analysis and planning can take place at health facility level and to some degree at health district level. However, Surge support when certain thresholds are crossed would be provided by an NGO, and likely at a much lower threshold than in a more capacitated health system.

The health systems in many of the countries where CMAM Surge has been implemented to date face numerous challenges and undoubtedly suffer from a low level of functionality at certain times. Adaptation and application of the approach in highly fragile contexts such as Somalia or South Sudan has not yet been tried but should be explored in the future. Many elements of the CMAM Surge may even be useful in NGO-led protracted emergency response as these more ‘stand-alone’ interventions are also prone to shocks, stresses and resourcing delays and constraints. An important caveat, however, is CMAM Surge will likely not work in contexts where treatment services for wasting are regularly not available due to the lack of health staff capacity or required resources.

Use CMAM Surge data to inform early warning/early action

Supporting early warning/early action systems is critical to ensure that a deteriorating situation is identified and responded to in a timely manner. While systems exist for food security, agriculture and acute disease outbreaks, early warning/early action for nutrition-specific action remains weak and the contribution of nutrition data to these systems has not been optimised. Nutrition surveillance and detection of nutrition emergencies still relies quite heavily on cross-sectional anthropometric surveys (e.g., SMART surveys) that only show a snapshot of the situation at a given point in time or, where wasting treatment admissions are used in early warning data collection, they are usually aggregated and provided as absolute numbers without useful context.

CMAM Surge data offers more dynamic and contextualised nutrition information for early warning/early action systems and can better represent the relative and changing need for nutrition and health system support. It improves on the aggregated and absolute wasting admission figures by presenting the number of wasted children admitted for treatment relative to historical trends in each facility and set against thresholds that take into account the capacity of health facilities to manage those caseloads. An early success was seen during the 2019 drought in the ASAL of Kenya where county health teams were able to detect a deteriorating nutrition situation via CMAM Surge dashboards even before more traditional early warning measures were signaling alerts.13 This allowed county and sub-county authorities to react sooner. However, this valuable real-time information is not yet integrated into the early warning bulletin produced by the National Drought Management Authority. Similarly, in Ethiopia there is room to integrate CMAM Surge dashboard data into information issued by the government’s Public Health Emergency Management system. Integrating CMAM data into early warning/early action mechanisms would not only improve the specificity of the information but potentially ensure that early actions include health and nutrition activities. CMAM Surge data and thresholds monitoring needs to be linked more functionally to existing government disaster risk financing mechanisms at local, regional or national level to trigger rapid financial support when it is needed. Where governmental mechanisms do not exist or are already overwhelmed, external financial support can be sought. Work to better link CMAM Surge data to community level screening and referral will broaden the representation of data from those children seeking treatment from health facilities.

Conclusion

The almost organic expansion of the CMAM Surge approach and the variety of adaptations in a wide range of contexts shows that those using it have found it adds value in their day to day management of wasting at health facility and health district level. Experience across 14 countries has led to rich learning. Some learning is context-specific while common lessons have also emerged. This article cannot do full justice to the depth of experience but identifies several priority areas of focus to build on which are now elaborated on by Kate Golden (Concern) and Sophie Whitney (ECHO) as they describe their vision and plans for the way forward on CMAM Surge.

For more information, please contact Amanda Yourchuck at amanda_yourchuck@jsi.com

References


13 See field article in this special section of Field Exchange entitled, “Implementing the IMAM Surge approach - experiences from Kenya”
New capacity to support CMAM Surge learning and scale-up

To capitalise on the extensive learning from community-based management of acute malnutrition (CMAM) Surge implementation to date and on emerging opportunities to scale up the approach, sustained funding, technical expertise and strong coordination at local, country, regional and global level will be needed. Concern Worldwide (Concern), with support from Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG ECHO) via the Enhancing Responses to Nutrition Emergencies (ERNE) programme, now has increased capacity to lead and coordinate implementation, adaptation and learning on CMAM Surge globally and to directly support its implementation in selected countries.

Concern relaunched the Global CMAM Surge Technical Working Group (TWG) in late 2020 to provide strategic direction to this work. Members include representatives from non-governmental organisations (NGOs), United Nations (UN) agencies and the Kenyan Ministry of Health (MoH), and Concern is currently working to include more government health partners and health system strengthening actors. The aim of the TWG is to coordinate learning, promote best practice, identify opportunities for collaboration and support advocacy for the continued scale-up of the approach. The group will link closely with the West African CMAM Surge Task Force and other regional or country-level coordination mechanisms.

Concern also now has a dedicated CMAM Surge Adviser situated within its global technical assistance team. The CMAM Surge Adviser, with input from the Global TWG, will work to build the capacity of partners implementing CMAM Surge, coordinate the operational research planned in the global learning agenda, including pilots of adaptations such as Health Surge, promote cross-country experience sharing, synthesise best practice and revise and expand the existing CMAM Surge guidance and tools. The most important work, however, will happen at country level as governments and other health and nutrition actors engage more with the approach and determine if and how it can help to strengthen quality health service delivery in their contexts. CMAM Surge implementation is expected to continue across the 12 countries currently implementing the approach and will expand to at least two more.

What needs to be done

Coordinate learning and promotion of best practices via the Global CMAM Surge Technical Working Group (TWG)

The Global TWG will provide strategic oversight of a global learning agenda for CMAM Surge over the course of 2021 and 2022. Many adaptations and learning initiatives are already planned or underway across different countries. The aim of the learning agenda, which centres on five priority areas (see Box 1), is to bring coherence to those plans and coordinate tools, methods and sharing across initiatives. Concern’s global CMAM Surge Adviser will finalise and share the specific research questions, methods and timelines for learning agenda priorities in coordination with the TWG in early 2021. The learning agenda will remain a living document and Concern will regularly share updates on progress and changes via Concern’s CMAM Surge webpage and other channels. Work under some of the research questions is already planned and funded. For example, Concern will work in partnership with the Kenyan health authorities in Marsabit County to explore how CMAM Surge data can be used to initiate community level actions to better manage wasting.

Concern will make updated tools, learning briefs and other CMAM Surge resources available via a dedicated website. Concern, in coordination with the TWG, will also fully update the existing global CMAM Surge guide by the end of 2021, likely with the addition of Health Surge tools and guidance, if the approach proves useful. Online workshops and exchanges on key topics will also be held and the Concern team is available to provide technical support to CMAM Surge implementers, with a particular focus on (but not exclusive to) Niger, Ethiopia, Sudan, Kenya, Pakistan, Chad and Democratic Republic

Box 1 Key areas of the CMAM Surge global learning agenda

1. Assessing the overall value of CMAM Surge
2. Improving specific CMAM Surge steps (and guidance)
3. Shifting from CMAM Surge to a more holistic Health Surge
4. Integrating CMAM Surge into existing early warning/early action, outbreak response and the health system more generally
5. Using CMAM Surge to strengthen community level action and coordination

1 The ERNE programme supports integrated nutrition and emergency response programming in DRC, Ethiopia, Niger, South Sudan and Sudan. https://www.concern.net/press-releases/concern-launches-major-eu-funded-programme-tackle-childhood-malnutrition
2 See field article in this special section of Field Exchange entitled “The ‘CMAM Surge’ approach: setting the scene”
3 See Global CMAM Surge TWG description and terms of reference at https://www.concern.net/insights/cmam-surge-approach
4 Currently at https://www.concern.net/insights/cmam-surge-approach - dedicated platform coming soon
of Congo where Concern is or will be implementing the approach.

Secure multi-year funding for CMAM Surge
Because the main advantages of CMAM Surge are expected to accrue over time, reliable, multi-year funding, ideally as part of broader support for health system strengthening initiatives, is needed. Usually, a minimum of one year – a full seasonal cycle – is required before the benefits of the approach become apparent. The DG-ECHO has been an early and continued champion of the CMAM Surge approach, promoting its uptake by endorsing CMAM Surge as a core approach to be funded in its annual Humanitarian Implementation Plans. DG-ECHO is now supporting Concern in CMAM Surge activities over three years in four countries via the ERNE programme. As a humanitarian donor, however, DG-ECHO typically focuses almost exclusively on emergency response, for which funding cycles are very short-term.

Greater engagement of development donors and actors, particularly within the health sector, to advocate more multi-year funding for CMAM Surge will be a key priority for the TWG and Concern. Other actors at global and country level should also advocate for this to help ensure that CMAM Surge is in place and functioning before an emergency strikes. Concern and the Global TWG will seek opportunities to pilot and document a partnership with development and humanitarian donors in a single country where development funds are used to support longer-term CMAM Surge set-up and monitoring and a humanitarian actor is poised to provide flexible and rapid funding when pre-agreed CMAM Surge thresholds are crossed to respond to a district- or region-wide emergency. This would be a very practical demonstration of cooperation across the humanitarian-development nexus but will require close coordination and an openness to new funding modalities by different actors.

Take time to build Ministry of Health (MoH) leadership of the approach and engage more with other health actors
To date, partner support for CMAM Surge has predominantly focused on the health facility and health district level with the exception, perhaps, of Kenya. This was appropriate during the early stages of trialling and adapting the approach. Now, however, with more experience behind us and as we look at the potential path to scaling up the approach, more structured engagement with higher levels of government within health systems is essential. More direct engagement with the UN agencies, NGOs, donors and other actors who support and fund broader health system strengthening initiatives will also be needed. Now is the time to bring more of the relevant national MoH departments and decision makers and other health actors into CMAM Surge design and planning processes to avoid CMAM Surge remaining a nutrition-centric approach. This is not a new lesson for the nutrition sector but a critical one. Hindsight around the experience of scaling up CMAM itself over the past 20 years underscores the importance of understanding and integrating into health systems from the outset. This will be a priority for Concern and the Global TWG in 2021.

Such meaningful partnerships will take time, however – another reason to pursue longer-term funding cycles. While many supporting partners are well positioned to deepen their MoH partnerships around CMAM Surge, government decision makers and managers will only embrace the approach if and when they are convinced of its added value. In almost all contexts, therefore, more in-depth analysis of existing health systems and a clearer articulation of how the CMAM Surge approach (and eventually the Health Surge approach) fits within health system strengthening efforts should be a critical next step. We will need to borrow heavily from existing health sector tools for this purpose. Concern has initiated a health facility capacity assessment in the nearly 200 health facilities where they are supporting CMAM Surge in four countries under the ERNE programme. This is just one example of the broader health system analysis tools that CMAM Surge practitioners will need and which Concern and the Global TWG will continue to collate and integrate into the CMAM Surge guidance and toolkit.

Further refine and pilot a more holistic Health Surge approach
There is significant momentum behind the shift to a more holistic Health Surge approach. This must be a joint endeavour of government and non-governmental health and nutrition actors. As a first step, Concern’s health and nutrition teams, in coordination with the Global TWG, are drafting a set of simple Health Surge programming tools. The aim is to pilot these in a coordinated manner during 2021 in Kenya and Niger with support from Concern and in Mali with support from Save the Children International. The Global TWG and health practitioners will be engaged in the review, finalisation of tools and evaluation of the pilot experience.

Integrate CMAM Surge data into early warning/early action systems
CMAM Surge data can provide existing early warning/early actions systems with more dynamic, contextualised nutrition information than that which is traditionally used. More work is needed, however, to determine exactly how to integrate CMAM data into early warning/early action systems at country level, including both the early warning data systems and the mechanisms for triggering early action and rapid support/funding. Under the ERNE programme, Concern will trial ways to link CMAM Surge data to its vulnerability criteria for targeting and triggering timely cash transfers to communities and households. Concern will continue to work in partnership with government health teams in Kenya to refine sub-county and county CMAM Surge dashboards and explore how they can be better integrated into systems used by the National Drought Management Authority. The Global TWG will also actively engage with experts in early warning/early action to identify opportunities and strategies for better integration with CMAM Surge, focusing on up to three countries as case studies. Clearer guidance on how to assess existing early warning/early action systems and identify opportunities to link CMAM Surge data and support into them will be developed as part of the global CMAM Surge guide update by end of 2021.

Be practical: putting CMAM Surge into context
As outlined above, CMAM Surge aims to support health system functions and complement health system strengthening activities. It is certainly not a panacea for all the weaknesses in the health system but it can be an important complement to ongoing initiatives in certain contexts. CMAM Surge likely adds the greatest value in contexts with regular fluctuations in caseloads by introducing simple steps and mechanisms to better manage nutrition and health services during peaks in demand. However, many secondary advantages have also been observed, including health worker empowerment and strengthened relationships between health facility teams, community agents and health district management teams. The Health Surge approach, still in its early development, also has potential to enhance the delivery of quality child health services throughout the year in similar contexts but more robust evaluation will be needed before expanding beyond the planned pilots.

Conclusion
CMAM Surge has garnered a remarkable level of interest and expansion since its inception in 2012. Its appeal lies in its relative simplicity, ability to harness local data and knowledge for more effective planning of health facility activities and focus on empowering health staff to better manage their own workload. The way forward from 2021 is fairly well charted in the global learning agenda and workplan that will be overseen by the Global TWG and in the scale-up plans at country level. Concern, with support from DG-ECHO, will strive to lead this process but, like the CMAM Surge approach itself, further development and scale-up will need to be adaptive and responsive to opportunities and challenges as they arise. Concern is ready and excited to work closely with government health teams and partners to support this process.

For more information, please contact Kate Golden at kate.golden@concern.net