

CMAM Surge Final evaluation report Tahoua, Niger

Prepared by Erin McCloskey for Concern Worldwide

September 2019



This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of Concern Worldwide and do not necessarily reflect the views of USAID or the United States Government.

Table of Contents

1. INTRODUCTION.....	3
1.1 CMAM SURGE APPROACH	3
1.1.1 Surge approach principles and objectives	3
1.2.2 Surge components.....	3
1.3 SUMMARY OF THE CMAM SURGE APPROACH IN NIGER	4
1.4 NIGER BACKGROUND INFORMATION	5
2. EVALUATION OBJECTIVES AND SCOPE	8
2.1 OBJECTIVES.....	8
2.2 METHODOLOGY.....	8
2.3 ANALYTICAL FRAMEWORK.....	10
2.4 LIMITATIONS OF THE EVALUATION	10
3. DESCRIPTION OF HEALTH FACILITY MALNUTRITION ADMISSIONS DATA.....	11
3.1 TRENDS IN ADMISSIONS - OTP	11
3.2 TRENDS IN ADMISSIONS - SC.....	14
3.3 CONCLUSION ON ADMISSIONS TRENDS – OTP & SC	15
.....	16
4. EFFECTIVENESS	16
5. IMPACT	24
6. EFFICIENCY	31
8. ACCEPTANCE/RELEVANCE	32
8. SUSTAINABILITY	36
9. CONCLUSION	39
10. ANNEXES.....	42
ANNEX 1.....	42
ANNEX 2.....	43
ANNEX 3.....	44
ANNEX 4.....	44

1. Introduction

1.1 CMAM Surge approach

1.1.1 Surge approach principles and objectives

The Surge approach for the Community-based Management of Acute Malnutrition (CMAM) is primarily intended as a localized health system strengthening initiative, designed to support better anticipation of, preparation for, coping with, and bouncing back from, periodic surges in demand for acute malnutrition management services. The CMAM Surge approach strives to improve the effectiveness, efficiency and equity of CMAM services without undermining the capacity and accountability of government health actors and without negatively affecting other services.

Concern has implemented the CMAM Surge approach in Kenya, Uganda, and Niger, and have recently started the approach in Burundi, Chad, Ethiopia, and Pakistan. In West Africa, several NGOs have started, or will soon start, to implement CMAM Surge. These organizations are largely ECHO or OFDA funded and include NGOs operating in Mali, Niger, Burkina Faso, Chad, Senegal, Mauritania, and Cameroun.

The global history of the Surge approach is quite short. The first pilots occurred in northern Kenya and eastern Uganda, starting in 2012. Niger followed in 2014 with other countries adding programmes from 2016 onwards. Evaluations of implementation in Kenya and Uganda were very positive and this evaluation for Niger complemented by a similar one in Ethiopia aim to add to the global evidence base.

1.2.2 Surge components

CMAM Surge is a stepped approach with a flow that can be seen in Figure 1.

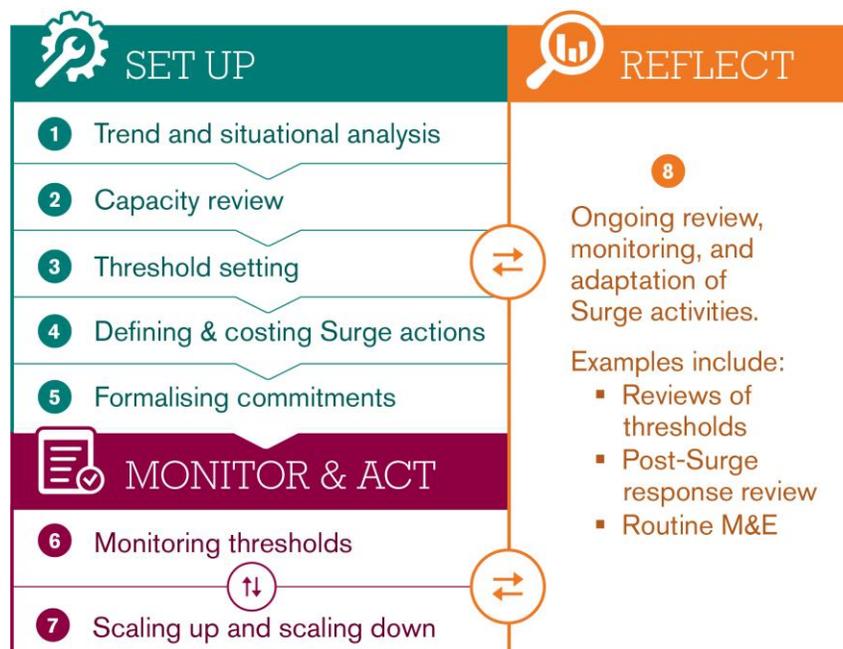


Figure 1. Steps in the CMAM Surge Approach.

Step 1 involves the analysis of trends for acute malnutrition and other key childhood morbidities such as diarrhea, malaria and pneumonia. These trends are contrasted against a calendar of seasons and local events in order to discuss what drives these key prevalences. In **step 2** the health centre reflects on its own capacity to handle increasing caseloads and changes in workload. In this case, capacity should encompass human resources (and their fluctuations), skills, infrastructure, and equipment. The thresholds are set in **step 3**. These are the thresholds of caseloads above which internal actions or external support are required in order to maintain service quality. The thresholds are categorized as normal, alert, serious and emergency. **Step 4** involves defining and costing surge actions, to be implemented when passing each threshold. In **step 5**, the commitments required to formalize the actions defined in step 4 are developed. This includes commitments that the facility requires from all stakeholders, such as community structures and local authorities, health authorities, and other partners such as NGOs. The monitoring of caseloads against thresholds is **step 6** and happens at either a weekly or monthly basis. **Step 7** is initiated when a threshold is crossed and involves the scale-up and scale-down of surge support as appropriate. The Surge approach is meant to be iterative and adaptive and the periodic reflection and review of surge thresholds and actions is **step 8**.

1.3 Summary of the CMAM Surge approach in Niger

Concern has been supporting nutrition in the Tahoua region of Niger since 2005. Initially support was in the form of mobile sites, which were directly implemented by Concern teams. From 2009, a new approach was taken and Concern began working with the MoH to integrate the management of acute malnutrition in the standard health facility package. Concern works primarily in two health districts within Tahoua Region – in Tahoua Commune (an urban/peri-urban district) and Tahoua Departement (rural district).

Concern introduced the Surge approach in 2014, starting with 11 health centers as well as the Stabilization Center (SC) in the Tahoua Regional Hospital. However, the approach was not maintained in the health facilities due to a lack of adequate supervision and support. The exception to this was the SC, which has been consistently implementing the Surge approach since 2014. The concept was re-launched and strengthened in 2016 and since then there has been a gradual scale-up with full-coverage of the two health districts that Concern supports in the region being achieved in 2018 (10 sites in 2016, 11 sites in 2017 and the remaining 19 centers as well as the second stabilization facility in 2018, see Table 1 with further details provided in Annex 1). However, in this evaluation only 13 sites are considered in the 2018 analysis, due to the fact that the remaining six sites only started Surge implementation in late 2018 and therefore do not have enough data¹. Currently all facilities implementing Surge in the Tahoua region of Niger are supported by Concern. In addition to supporting health facilities, Concern also supports health posts (*les cases de santé*). Health posts are attached to health facilities and offer a more basic care package. While health posts offer acute malnutrition management services, no health posts are currently implementing the Surge approach.

¹ These 6 sites are newly built health facilities (Bagga, Birawa Inkafi, Dajin Saka, Danfa, Kolkolie, and Takoussa)

Table 1. Summary of the number of health facilities starting Surge approach by year

Health District	2016 start	2017 start	2018 start	Combined
Urban (Commune)	3	3	3	9
Rural (Department)	7	8	16	31
Hospitals	1 (2014)	1		2
TOTAL	10	11	19	42

For the Surge approach, Concern's focus in Niger is on supporting the capacity development of Surge facilitators, supporting the Surge implementation process at health facility level, and monitoring CMAM programme quality in conjunction with district health staff. For CMAM in general, Concern's focus is on all aspects of quality improvement, with support being largely technical in nature. Examples include refresher trainings and joint supervision visits. Concern supervisors are responsible for monitoring and supporting Surge and CMAM implementation and quality in a grouping of health facilities. While the supervisors are meant to support implementation of Surge actions as mentors, due to their busy work schedules they were not necessarily present for the roll-out of each of the Surge steps in all the facilities they are responsible for. In addition to technical support, Concern regularly provides logistical support for delivery of Ready-To-Use Therapeutic Foods (RUTF) to health facilities as the district has a limited logistical capacity. While the districts are now responsible for ordering RUTF stocks directly from UNICEF, Concern helps the district advocate for additional RUTF supplies when they receive inadequate quantities. For the next phase of programming Concern's role in the Surge approach will expand to include national level actions on coordination and advocacy, as well as supporting scale-up by other partners.

Currently, Concern Niger offers the most advanced implementation of a Surge-type approach in the region. As such, there is an urgent need to document and share learning with other West African countries where the CMAM Surge approach is being scaled-up, largely with ECHO funding. Through funding provided by the U.S. Agency for International Development Office of Foreign Disaster Assistance (USAID/OFDA), Concern has commissioned evaluations of the CMAM Surge approach in both Niger and Ethiopia. The evaluations focus on understanding the effectiveness, impact, efficiency, relevance and sustainability of the approach. To compliment this Concern has also commissioned a Cost-Effectiveness Analysis of the Surge approach in each country.

1.4 Niger background information

Niger is a landlocked country in western Africa. Over 80% of its land is covered by the Sahara desert. Niger is the fifth poorest country in the world² and in 2016 it was ranked 187th out of 188 countries on the United Nations Human Development Index³. At nearly 4%, Niger has one of the highest annual population growth rates in the world. The climate of the region is Sahelian

² Global Finance Magazine (February 2017). The Worlds Richest and Poorest Countries.

<https://www.gfmag.com/global-data/economic-data/worlds-richest-and-poorest-countries>

³ UNDP (2016). Human Development Report 2016. <http://hdr.undp.org/en/2016-report>

with the main livelihoods being pastoral/nomadic in the north of the region, an agropastoral belt north of Tahoua town with a small portion south west of the town, and rainfed millet and sorghum cropping south of Tahoua town⁴ (see Figure 2 below).

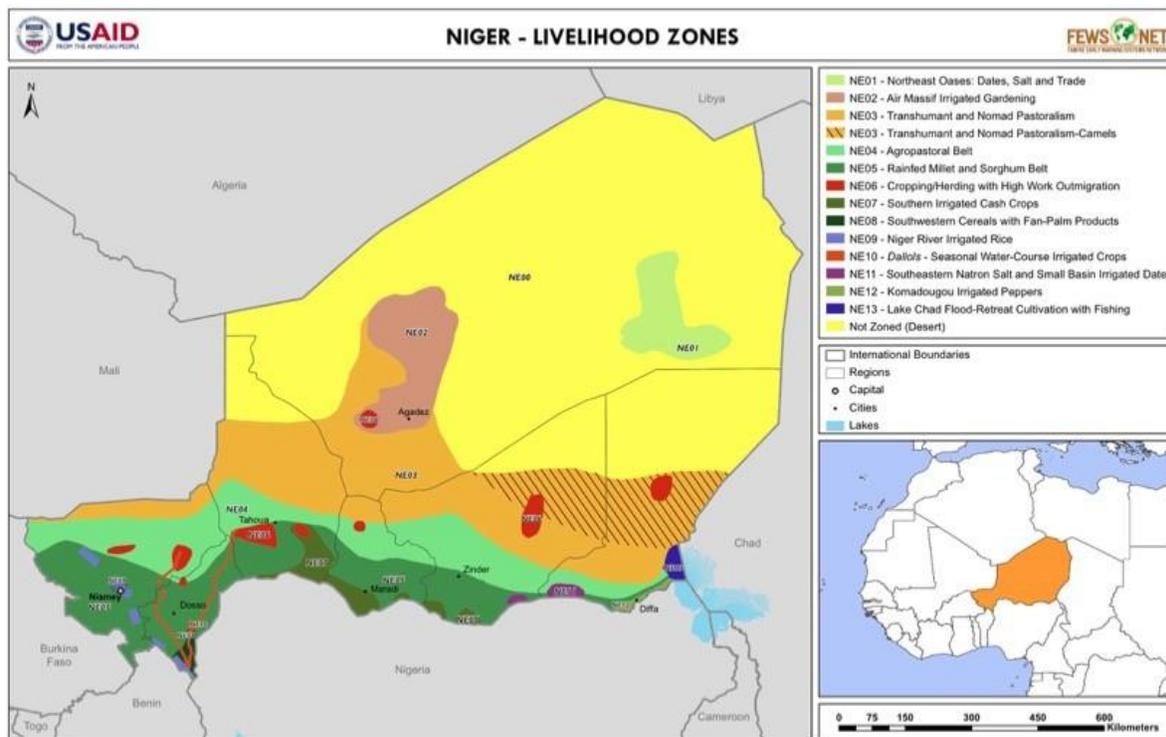


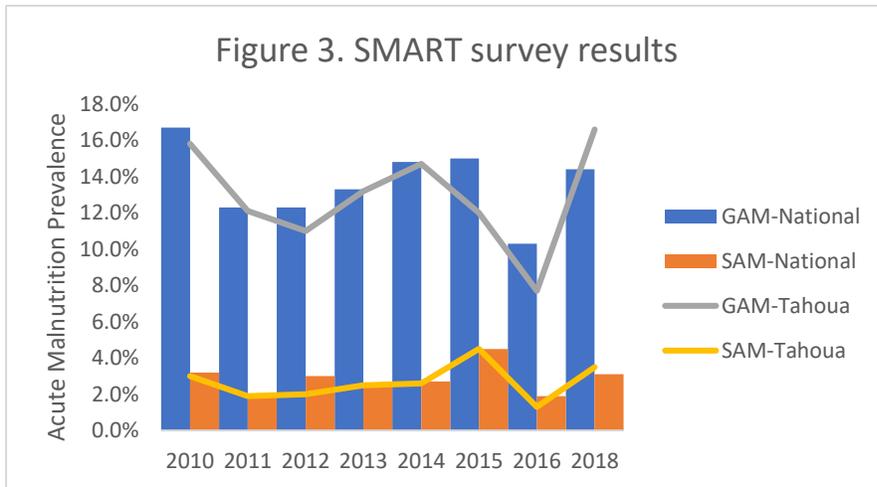
Figure 2. Niger Livelihood Zones (FEWS NET/USAID)

When looking at indicators of economic well-being, Tahoua region performs poorly with respect to the rest of Niger, which is already one of the poorest countries in the world. In a 2012 Multiple Indicator Survey⁵, Tahoua region had the worst indicators of economic well-being in the whole country with 50% of the population being in the lowest two wealth quintiles. The same survey indicated that 88.7% of females and 72.6% of males in the region have no formal schooling, the lowest in the country. Tahoua region suffers from acute malnutrition and a high prevalence of morbidities, especially malaria. Long-term SMART survey trends can be seen in Figure 3 (note that there was no SMART survey in 2017). While 2016 appears to have the lowest prevalence since 2010, 2018 had the highest, at least for Tahoua Region. Trends in Outpatient Therapeutic Programme (OTP) admissions do not mirror apparent fluctuations in GAM and SAM prevalence, for more detail see section 3.

⁴ FEWSNET/USAID Niger Livelihood Zones. <http://fews.net/west-africa/niger/livelihood-zone-map/august-2011>

⁵ Institut National de la Statistique (INS) et ICF International, 2013. Enquête Démographique et de Santé et à Indicateurs Multiples du Niger 2012. Calverton, Maryland, USA : INS et ICF International.

Prevalence of acute malnutrition was thought to be high in 2018 due to a variety of factors, including heavy rains, which led to a particularly heavy malaria season. In Niger malaria is the greatest cause of morbidity and mortality among children under 5 years and pregnant women, and Tahoua region demonstrates the lowest rates of anti-malarial use among young children in the country⁶.



The seasonal calendar, combined for different livelihood zones, for Niger can be seen in Figure 4 below. It clearly shows the theoretical lean seasons however the malarial season which coincides with the rainy season appears to have a significant influence on undernutrition prevalence in Tahoua region.

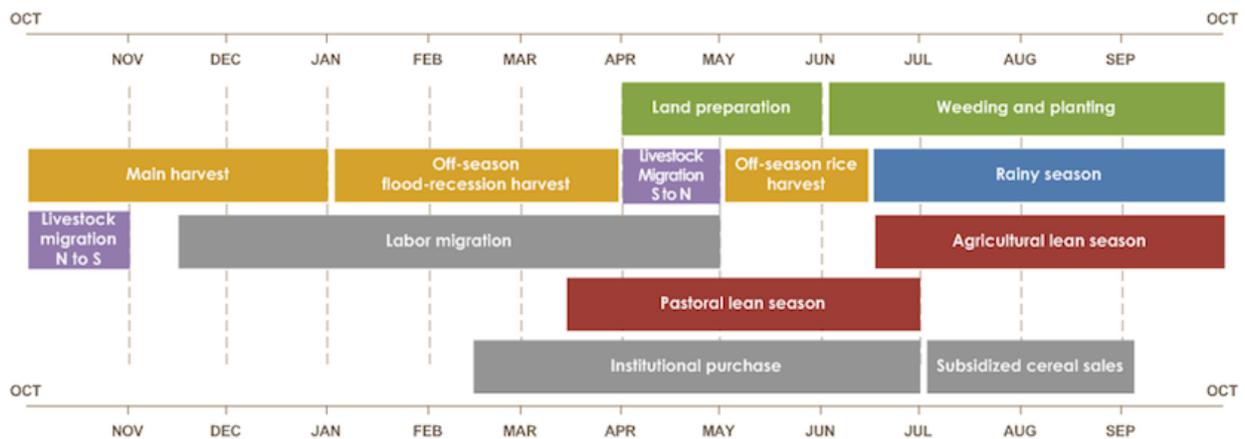


Figure 4. Niger seasonal calendar (FEWSNET)⁷

Livelihood-influenced population movements noticed by Concern in their programme area include outward movements during planting and harvesting seasons and inward movements

⁶ Ibid

⁷ <http://fews.net/file/87829>

during the rainy season. This pattern is noticed in the admissions data for the SC and the urban health district OTPs and is discussed in section 3.

2. Evaluation Objectives and Scope

2.1 Objectives

The principal evaluation question is: can the CMAM Surge Approach strengthen the capacity of the health system to manage periodic increases in caseloads of acute malnutrition and other relevant child illnesses during a shock or stress while maintaining the service quality in a manner that is sustainable and acceptable to users and service providers?

The proposed objectives of the evaluation are:

1. To assess the relevance and acceptability of the CMAM Surge approach to the Niger context and identify any further adaptations required
2. To assess the degree to which the CMAM Surge approach was implemented as planned/envisioned in line with the global guide, to capture any Niger-specific adaptations, and identify where further adaptations may be required
3. To assess the effectiveness of the approach in protecting the quality of management services for acute malnutrition and other relevant childhood illnesses (notably malaria, pneumonia and diarrhea) during periodic increases in caseloads (or potentially other predictable shocks or stresses to the health system) without having a negative impact on other services in the context.
4. To assess the wider impact and sustainability of the CMAM Surge approach in the Niger context, particularly in terms of how it fits within the existing health system structures and process and other relevant government, civil society or donor mechanisms for emergency and development actions, and signs of wider impact achieved during the implementation period or potential impact should it be scaled up as well as any potential negative effects.
5. To assess the efficiency of the approach as implemented in the Niger context and in light of the cost effectiveness analysis being undertaken alongside the implementation and evaluation by a separate consultancy team.

2.2 Methodology

The original intent of the evaluation was to conduct a comparison of health facilities before the CMAM surge preparedness and response mechanisms were put in place (retrospective assessment of 2017) and after (real time assessment in 2018). However, the reality of implementation and the operating and security environment did not permit this to the full extent. Several of the sites were quite far from Tahoua town and security rules do not permit overnight field stays for expatriate staff, meaning that several of the sites were inaccessible to the consultant. While the in-person comparison was not necessarily possible, the data was exploited to draw out a contrast of 2017 versus 2018. In addition, the implementation of the

Surge approach did not happen at one definitive time point in 2017 or 2018 but involved a gradual roll-out in the implicated facilities.

Data collection rolled out in a series of phases and processes. This included:

- **Literature Review.** A review of background information on Tahoua, Niger as well as Concern's history in the area. This was performed by the external evaluation consultant.
- **Data review.** The external consultant conducted a review of all available data related to the CMAM sites in Tahoua from 2014 onwards, compiling a database to compare and contrast statistics. Data from May 2014 to December 2018 was used in the data analysis for the Stabilization Centre. For the OTP some longer term general trend analysis used data from May 2014 to December 2018, however when considering the impact of the Surge approach only data from January 2016 to December 2018 was used.
- **Baseline assessment (Digital Data Gathering).** This was performed by Concern and included tools listed in Annex 2. The baseline assessment was planned to be implemented in January 2018, however it was delayed until March 2018 due to issues with translation of the questionnaires and uploading of the questionnaires into the digital data gathering devices.
- **Mid-line field visit.** The external evaluation consultant performed a series of field visits to sites implementing the Surge approach and several not implementing the approach. The sites visited are in Annex 3. The purpose of the field visits during the midline assessment was to capture differences between sites implementing Surge and those not implementing Surge.
- **Niger learning review session.** At the mid-line visit the external evaluation consultant conducted a learning review session to help stakeholders identify key programme learning as well as identifying the next strategic goals for the Surge approach in Niger. The Surge team in Niger (comprising the MoH and Concern staff) hold an annual learning review and information from the most recent one was reviewed prior to starting this session in order to reduce duplication. Outcomes from the learning review sessions were incorporated into recommendations in this report.
- **Regional learning workshop.** In September 2018 the external consultant facilitated a workshop in Niamey, Niger for partners in Francophone Africa who are implementing (or who will soon be implementing) the Surge approach. The focus of the workshop was to extract and share what each country program had learnt from Surge implementation. A separate workshop report is available for this component.
- **Endline field visit.** In December 2018 the external consultant visited Tahoua Niger again for the endline visits. The original intention of the endline visit was to compare facilities that had implemented Surge in 2017 to those that had started in 2018. However, this was unfeasible due to security restrictions which limited time in the field. Instead the field visit focused on visiting sites which had experienced a caseload surge. The comparison of 2017 versus 2018 sites was achieved by examining the data.
- **Endline assessment (Digital Data Gathering).** This assessment is a follow-up from the Baseline and meant to provide a contrast to look for changes with the implementation of the Surge approach.

- **Cost-Effectiveness Analysis.** The cost-effectiveness analysis was conducted by a separate set of consultants. The final report was reviewed and the main messages pertinent to the evaluation were included in this report.
- **Evaluation Dissemination Event.** In Niamey, in June 2019 Concern held a dissemination event in order to share the findings of the evaluations, provide time for questions and to ensure a consultative process for the development of key recommendations.

A variety of quantitative and qualitative information was used in the evaluation, as listed in Annex 2.

During the midline and endline field visits, the external consultant conducted key informant interviews with voluntary community screeners (called *Rélais Communautaires* or RComs), health facility staff, District Sanitaire (DS) officials, Direction Régionale de la Santé Publique (DRSP) officials, Direction de la Nutrition (DN) officials and other relevant stakeholders. Sampling was purposive in nature and sought to include a wide diversity of actors involved in Surge in the identified districts and at regional and national level.

The final evaluation report uses an evaluation results matrix (Table 2) to provide an overall ranking as well as a ranking per criteria area in the analytical framework (see analytical framework in section 2.3 below). This ensures a clear understanding of how the programme is performing along the individual evaluation criteria as well as provide an overall assessment. The final criteria scores were informed by a synthesis of all the data collection processes.

Table 2. Evaluation matrix (1=Low, 5=High)

Criteria	Rating					Rationale
	1	2	3	4	5	
Effectiveness						
Impact						
Efficiency						
Acceptance/Relevance						
Sustainability						

2.3 Analytical Framework

An analytical framework was developed based on the DAC evaluation criteria, and all the data collection processes were capitalized on to assess the degree to which each of the criteria was met. The full analytical framework with the research questions can be seen in Annex 4.

2.4 Limitations of the Evaluation

A key limitation of the evaluation is that the Concern supported sites in Tahoua Region already had fairly good CMAM service quality indicators (discharge criteria) before implementation of the Surge approach. Therefore, the ability to quantitatively assess the Surge approach's impact on quality by considering OTP discharge criteria is limited as it is trying to improve something that is already good.

Several operational constraints were experienced by the Concern-supported programme in Tahoua Region during the evaluation period. There was a considerable problem with RUTF availability in Tahoua region in 2018, due to incorrect ordering by the regional authorities coupled with a lack of funds to procure additional supplies, which led to a serious pipeline rupture. Further compounding this, the end of 2017 and the first 6 months of 2018 also saw a significant strike of nurses (over 90% of nursing staff) which affected the ability of health facilities to achieve typical levels of new admissions. To add to this, in Tahoua region there is a frequent reshuffling of health staff and therefore it is difficult to trace which staff were present in the facilities at the time of the surge. In addition, data gathering in Tahoua region is complex with long distances and insecurity limiting access, especially for expatriate staff.

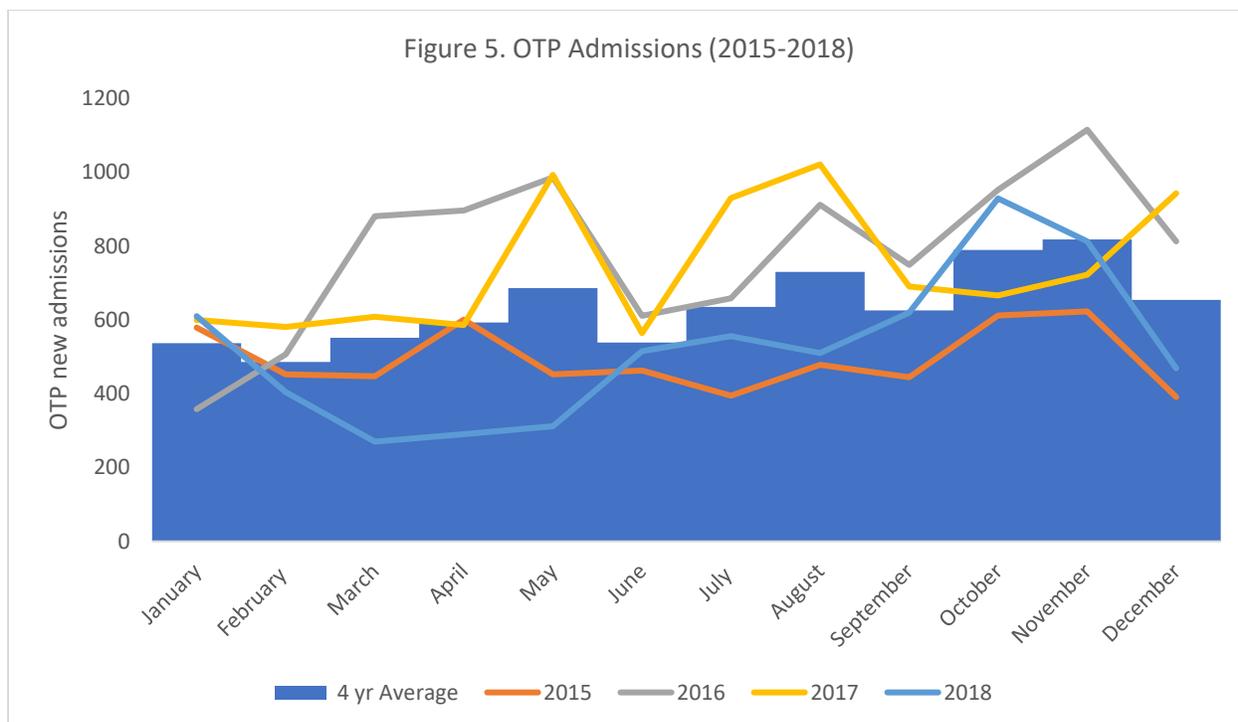
There were specific constraints related to the implementation of the Concern-led baseline and endline assessments. These included delays in getting a proper translation of the questionnaires (from English to French) and technical constraints in uploading the questionnaires into the handheld digital data gathering devices. In addition, at the time of baseline assessment data collection attendance at health facilities was particularly low due to a RUTF stock-out. This led to the sample size for the SAM consultation observations and the caretaker interviews being much less than the target of 102 children. In the end, enumerators were able to observe a total of 13 SAM consultations at eight facilities and interview 21 caretakers at five health facilities. The sample sizes during the endline assessment were significantly better with between 93 to 100% of the intended sample being surveyed. However, this makes it difficult to compare the baseline and endline results.

3. Description of health facility malnutrition admissions data

The data included in the analysis relates to OTPs and one SC from two health districts in the Tahoua Region of Niger, which are supported by Concern. The two health districts are Tahoua Commune which is a urban and peri-urban district, and Tahoua Departement which is a rural health district.

3.1 Trends in Admissions - OTP

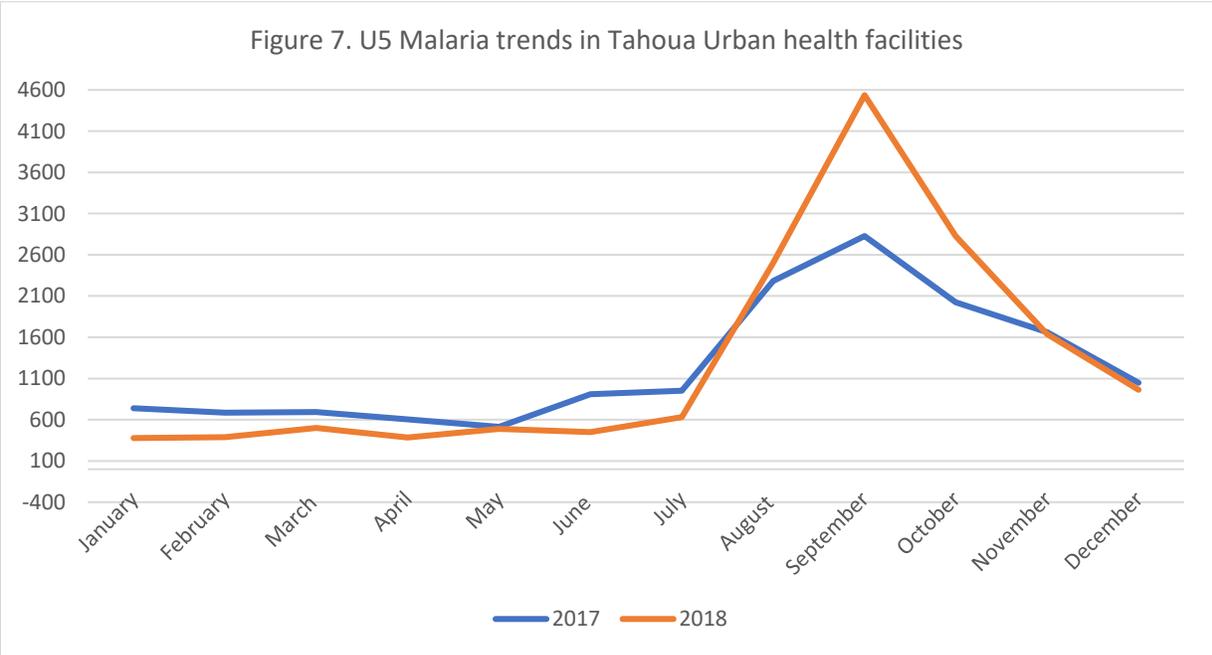
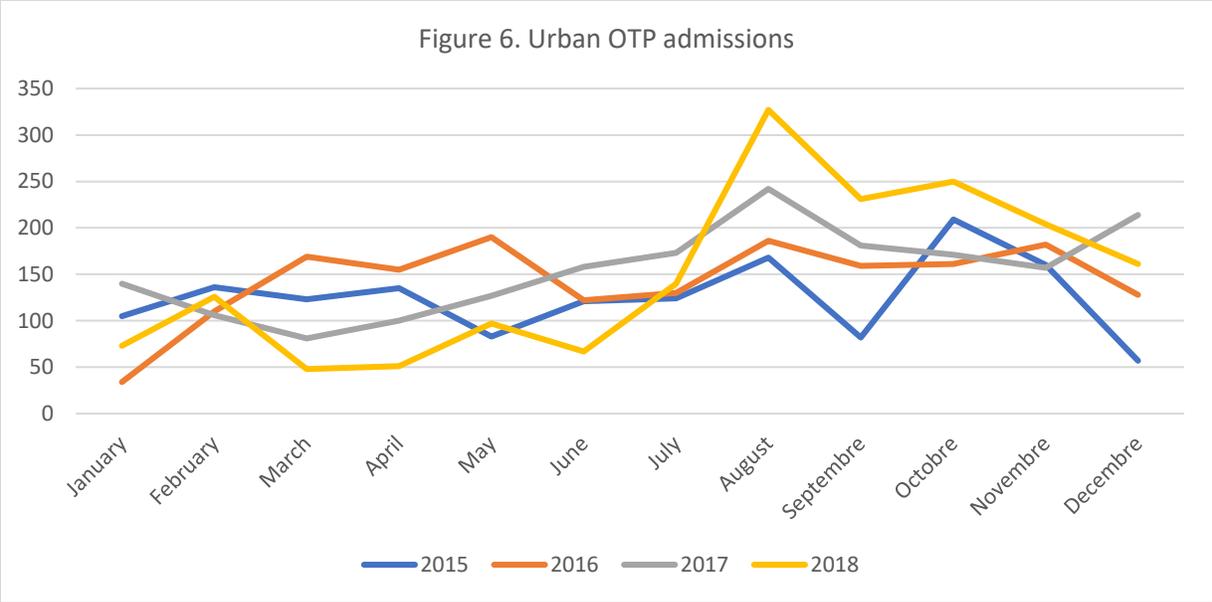
For the Outpatient Therapeutic Programme (OTP) in Tahoua region, data from 2015 to 2018 was analyzed and can be seen in Figure 5. The highest admissions trends were witnessed in 2016 and this is reportedly due to: an intensification of community-based screening due to a higher investment in community engagement (reduced afterwards due to a political decision); no strike of health facility staff; and adequate RUTF and other supplies. Interestingly, this is in contrast to SMART survey findings, which indicate that 2016 had the lowest prevalence of GAM and SAM since 2010 (see Figure 3 in section 1.4). However, the SMART survey data for Tahoua Region includes a number of other health districts in which Concern does not operate. Overall this indicates the importance of system issues as opposed to external issues influencing SAM caseload or workload in health facilities.



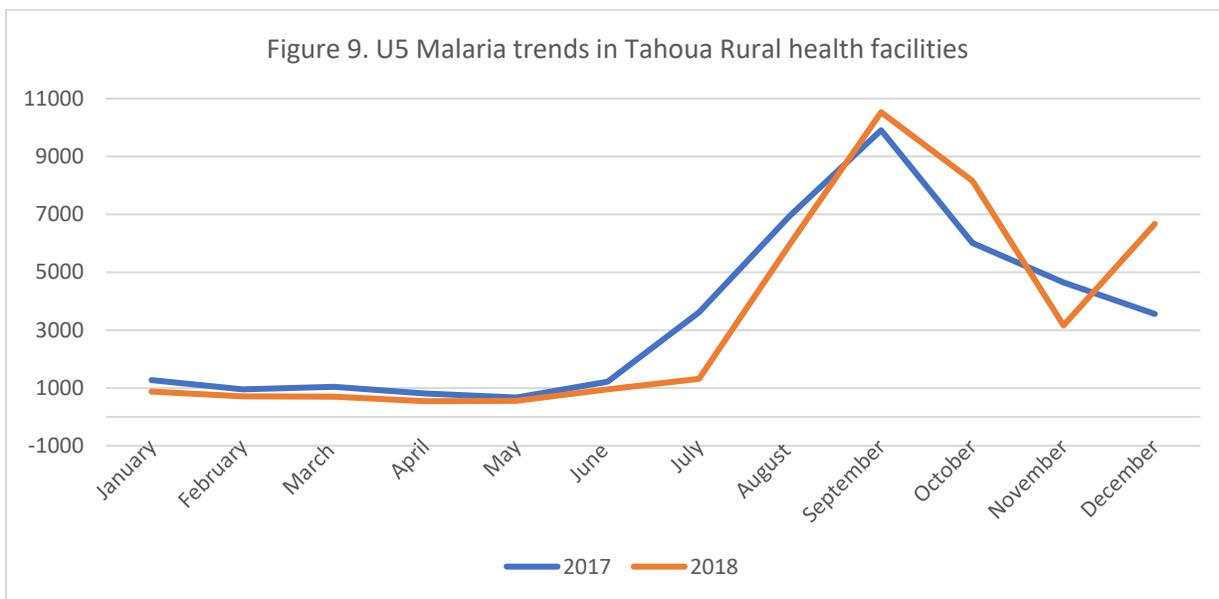
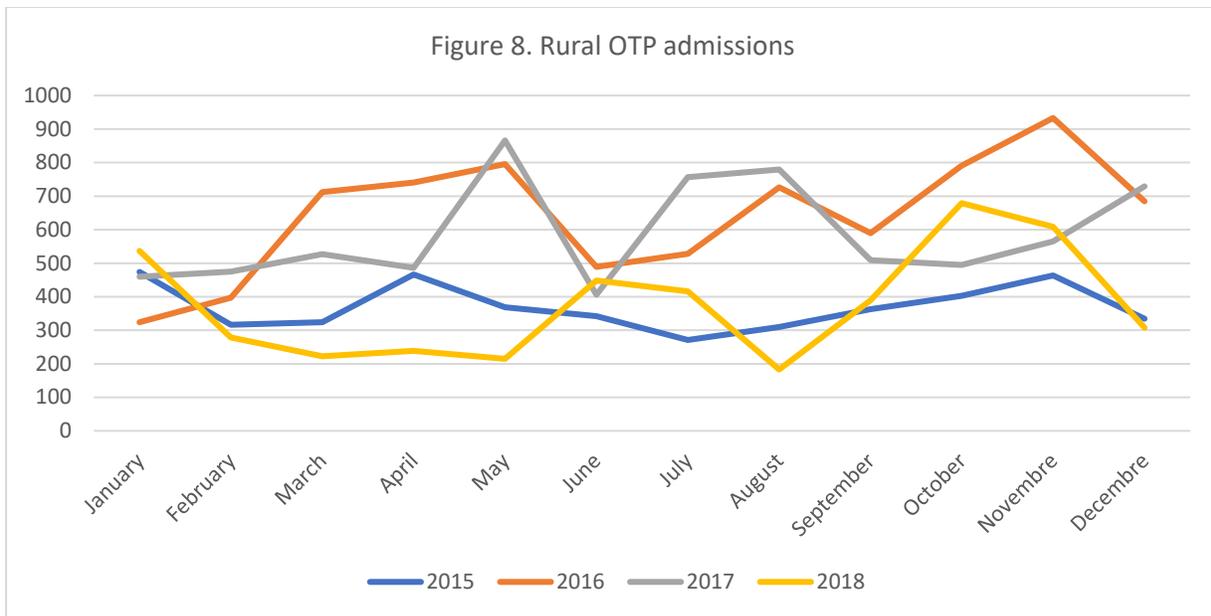
Also in contrast to SMART survey results are the 2018 admissions trends. Although Tahoua Region had the highest GAM rates in the last eight years and the second highest SAM rates, monthly admissions were significantly below the four year average until September. The key reasons for this is that the region experienced a breakdown in the RUTF pipeline in 2018; a strike of nursing staff; and the closure of several health posts. While Concern and partners tried to employ several mitigating measures, there was obvious community reluctance to commit to the programme without the promise of Ready-to Use Therapeutic Food (RUTF).

Comparing the yearly admissions to the four-year average demonstrates something of a confused picture with respect to admissions trends for the outpatient management of severe acute malnutrition in Tahoua Region (see Figure 5). The 2018 admissions cannot be easily compared to previous years due to the systemic issues affecting service delivery, as mentioned above. While there are some similarities between 2016 and 2017 there are also notable differences. The seemingly chaotic nature of the OTP admissions is due to systems issues as opposed to external or community level SAM prevalence affecting service utilization.

Exploring the data by rural centres (Figures 6), shows an August spike in OTP admissions in likely due to malaria trends. Malarial trends for urban sites are provided for comparison (Figure 7).



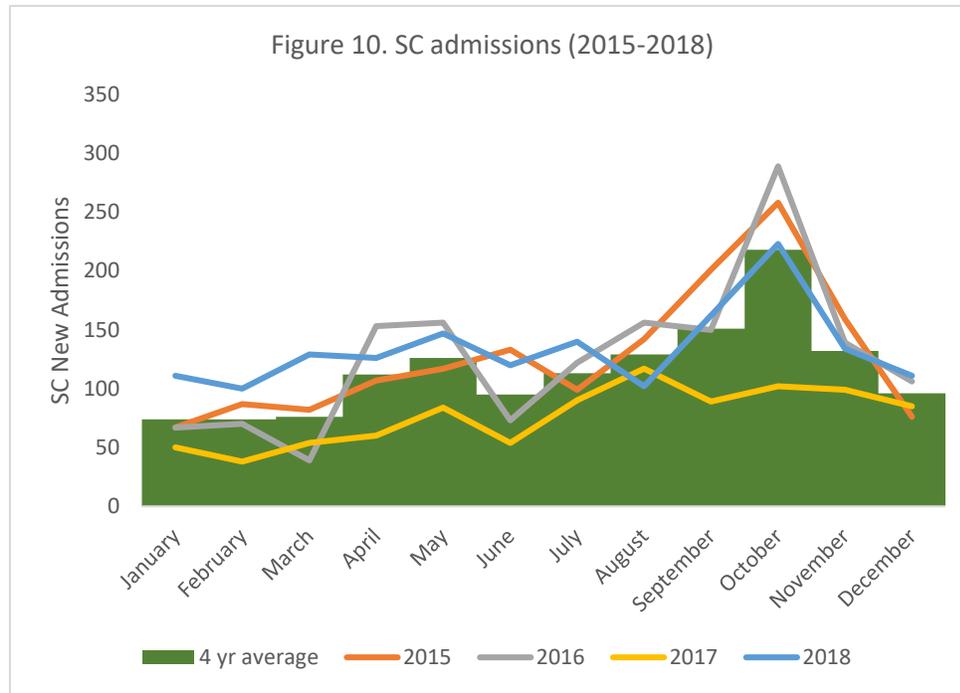
The same spike in SAM admissions is not as evident in the rural OTP data which is more volatile (Figure 8), despite the fact that rural health facilities show similar seasonal spikes in malaria admissions (Figure 9). Note, the malaria data from the rural facilities is not complete for every site.



3.2 Trends in Admissions - SC

For the Stabilization Centre (SC), comparing the average monthly admissions for the past 4 years reveals some seasonal trends (see Figure 10). There is a small peak in admissions in May and a much more dramatic one in October with a gradual build up. The October surge coincides with the yearly malaria outbreak in the region (see Figures 7 & 9). A significant number of children experience a SAM and malaria co-morbidity in Tahoua. Anecdotal evidence suggests that the malarial peak in the inpatient facility may be so drastic due to livelihood factors –

largely the pressures of the agricultural planting season constrain the ability of families to access timely malaria treatment. Therefore, there is a tendency to seek treatment late, when there is a significant deterioration in the child's condition, necessitating hospitalization for co-morbidity of malaria and severe acute malnutrition. As can be seen from Figure 10, the



admission trend for the SC is much lower in 2017 than in previous years. This is due to two potential reasons: a widespread health worker strike, which reduced referrals to the inpatient facility; and the opening of second inpatient facility opened in Tahoua town in September 2017, thereby helping to mitigate the October

malarial spike on SC admissions in the Regional Hospital. However, high admission levels resumed in 2018 likely due to a lack of RUTF in OTPs causing deterioration in severely malnourished children requiring SC hospitalization care; a particularly bad malaria seasons due to heavy rains and a delayed malaria prophylaxis campaign.

3.3 Conclusion on admissions trends – OTP & SC

What is evident from the admission trends is that there are a series of systemic health system issues that affect admissions. The only peaks that can be conclusively linked to seasonal changes are those observed in the SC and the urban OTP, these are the August-October peaks associated with malaria season in Tahoua. This spike is most significant in the SC, potential reasons for this are the severity of a severely malnourished child with complications makes seeking health services more likely or there is a higher reliability of services in the hospital-based SC than in the OTPs (in terms of staff on site and product/drug availability).

While it is likely that Surge supports individual facilities to deal with admission fluctuations there clearly remains overarching issues in health system functionality, which will continue to impact the ability of the system to expand and contract to community level changes in SAM incidence. The clear impact of system issues is demonstrated by high caseloads in 2016 when community investment was at its peak, and low caseloads in 2018 when there is less

investment in community, a stock-out of RUTF in health facilities, the closure of health posts, and a wide nursing strike.

On reviewing trends in severe acute malnutrition, the following conclusions emerge:

- ✓ RUTF stock outs and nursing strikes greatly reduce coverage while investment in community improves it – indicating the critical importance of health system issues influencing admissions into OTP
- ✓ Stabilization Centre admission statistics show clear and consistent seasonal trends with clear peaks in October during the yearly malaria outbreak
- ✓ A smaller but fairly consistent peak, likely associated with malaria, is also observed in the urban OTPs
- ✓ The analysis of OTP and SC trends clearly shows the pertinence of Surge integration at higher levels of the system (above the health facility), as well as the need for more community based programming

4. Effectiveness

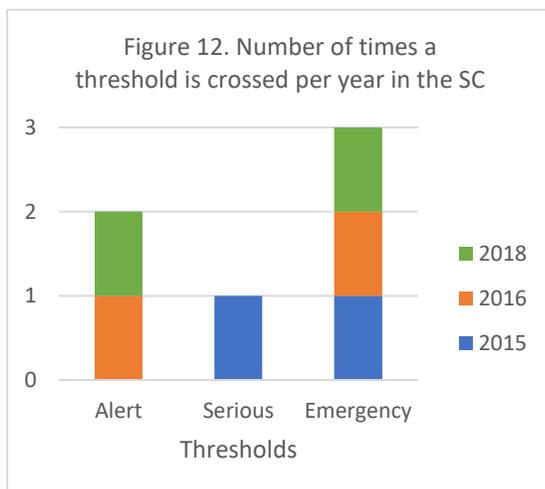
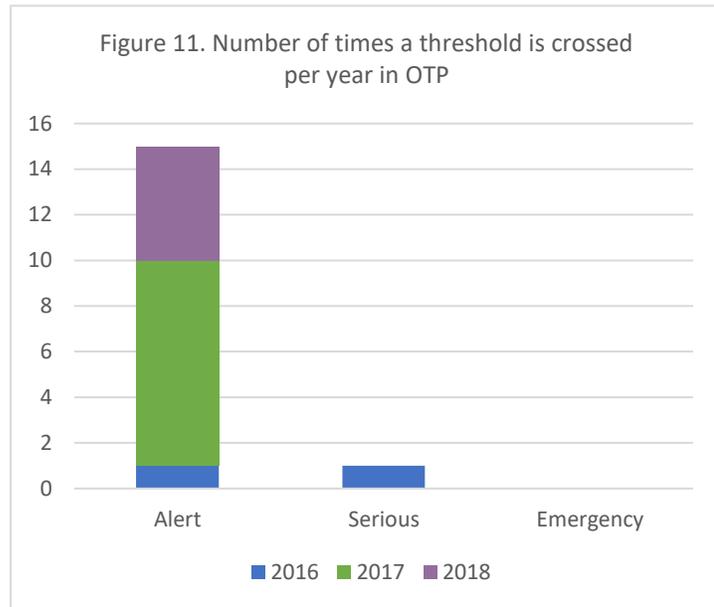
Criteria	Rating					Rationale
	1	2	3	4	5	
Effectiveness			X			<ul style="list-style-type: none"> - The setting of thresholds is complex at first but becomes easier with mentorship/supervision and experience. - The thresholds were crossed at appropriate intervals for OTPs. The pattern of threshold crossing for the SC is unconventional but is explained by the steep spike in admissions during the malarial season - Threshold breaching is always investigated and in the OTPs this involves the support of the RComs. - The SC demonstrates appropriate adaptation of thresholds based on changes in the capacity and workload of the facility. However, the same flexibility is not apparent in the OTPs (despite significant changes in human resources during the evaluation period). - Thresholds are being respected and support, whether it be from the community, health management committee (<i>Comité de Gestion</i> [COGES]) or other comes in a timely manner. The DHMT has not been involved in the majority of Surge responses largely due to the fact that they have only reached the alert phase and can be handled internally. - Key CMAM indicators meet Sphere standards at all stages of the approach (all thresholds), however it was the same before implementation of the Surge approach so this is not very indicative. - There is a correlation between an improvement in OTP discharge indicators at an aggregated level and wider coverage of the Surge approach, although this can only be seen as correlation and there is insufficient evidence to confirm causation.

Q1: Are clinics able to set realistic threshold levels based on sound analysis?

Threshold Intervals

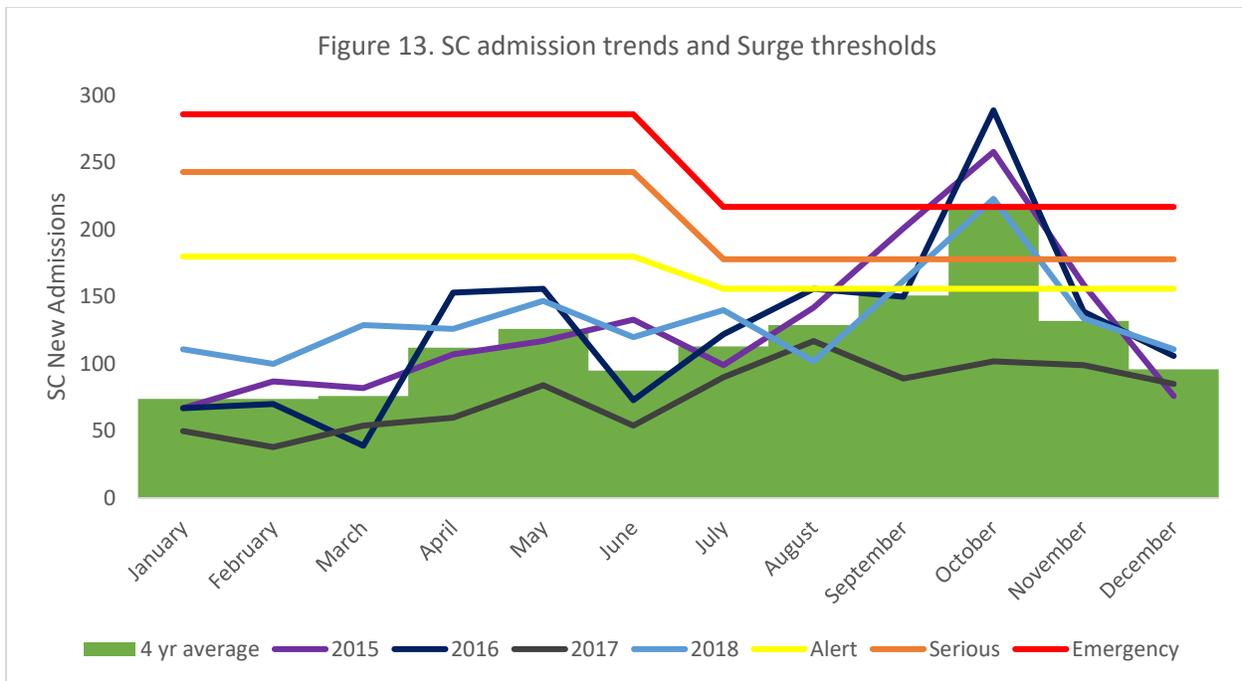
The Surge approach is intended to be a phased approach for managing resources according to need. As such, the thresholds should show a pattern of having more alerts than serious and more serious than emergency.

Up until the end of 2018, a Surge threshold had been crossed 16 times in total across all OTP sites, as can be seen from Figure 11. The alert threshold has been passed the most often (15 times) with the serious threshold only being passed once. The pattern of alert being crossed more than serious is appropriate and can indicate good establishment of thresholds. The size of the interval between the thresholds varies widely among the 40 OTP sites implementing the Surge approach in Tahoua Region, as it depends on the baseline number of children expected at the centre each month and the capacity of the centre to handle fluctuating caseloads with their existing resources.



The SC at the Regional Hospital has crossed six thresholds since implementing the Surge approach in 2014. As can be seen from Figure 12 the emergency threshold has been crossed the most followed by the alert then the serious threshold. When the emergency threshold is passed it is always in October and coincides with the spike in malaria admissions, see Figure 10. The October admission increase is often dramatic with the number of new admissions increasing by as many as 139 children between September and October, with the average increase between these two months being 68 children. This means that the phases often move from normal to

emergency in one month.



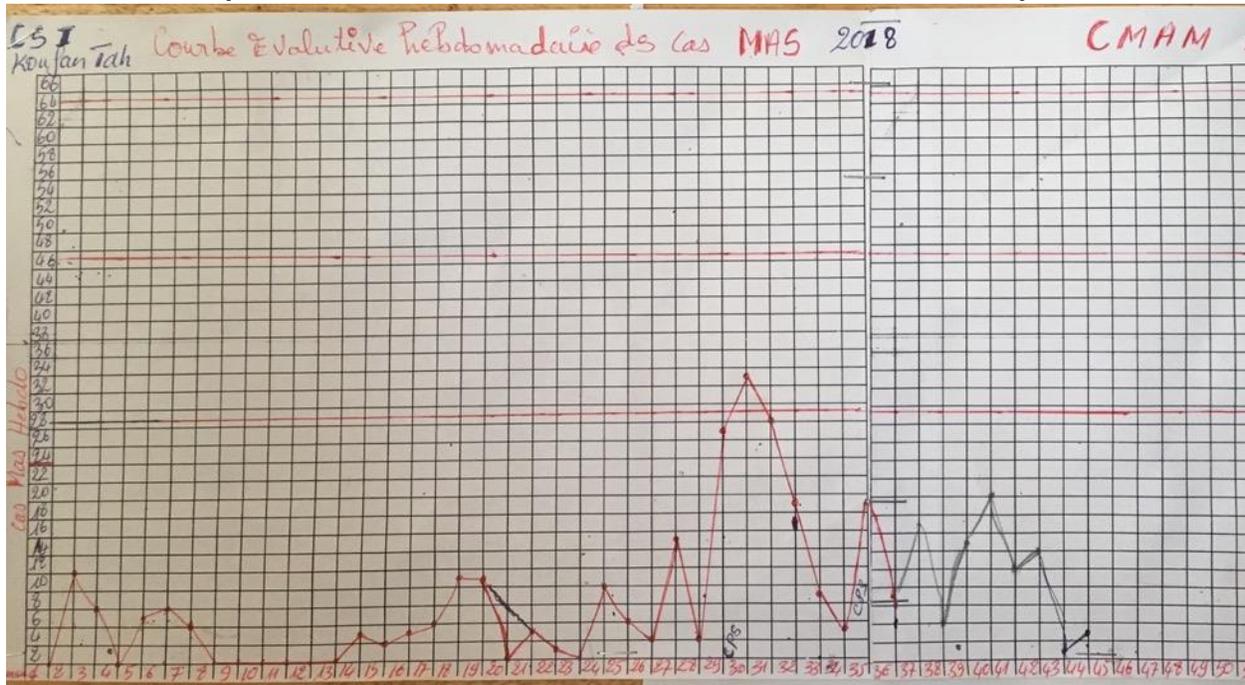
When the SC began the Surge approach in 2014 they had one set of thresholds which they applied for the whole year. However, as can be seen from Figure 13 above, the SC now has two different sets of thresholds, with the thresholds reducing in the second half of the year. This is based on the experience of managing both the high malaria cases in October coupled with the higher number of SAM cases due to the malaria outbreak, since the SC is integrated into the hospital's pediatric unit. In the second half of the year, the pediatric unit becomes overwhelmed with malaria cases. This reduces their ability to absorb a high number of SAM cases without the need for additional resources, and therefore they have adjusted their thresholds accordingly.

Threshold adaptation

Respondents felt that the initial setting of thresholds was a fairly theoretical exercise, even when using their own data. Many health facilities subsequently changed their thresholds during the implementation period to accommodate experience.

Some of the larger OTP sites have opted for a weekly charting of new admissions, as can be seen from Picture 1 below taken at the Koufan Tahoua health facility in the town of Tahoua. Since this is a busy health facility, they have established weekly expected cases and thresholds. For these types of high-volume sites, a threshold is considered breached when it is exceeded during two consecutive weeks. The image indicates that the alert threshold was exceeded at the end of week 30, however the cases dipped below for week 31 and therefore a surge response was not initiated. Here, the staff have also taken the initiative to indicate the probable reason for the increase in cases, which was active case finding during a seasonal malaria chemical prophylaxis campaign (chimio-prévention du paludisme saisonnier "CPS").

Picture 1. Weekly evolution of OTP admissions, Koufan Tahoua Health Facility



There are a few examples of health facilities altering their thresholds based on changes in human resources, however this remains a weak point. The decision to alter thresholds is taken by the health facility staff based on their sense of being overwhelmed, although even when it is done there is no documentation clearly outlining justifications. During the time of the midterm review visit the capacity of several health facilities was compromised due to non-payment of a certain cadre of nursing staff by the government, resulting in a high level of demotivation, absenteeism⁸ and a widespread strike. Yet, very few of the affected health facilities adjusted their thresholds to account for this.

The SC's threshold differences for the first and second half of the year are an interesting adaptation, which takes into account overall capacity and workload of the facility during the stress of the malaria season.

Causes of threshold fluctuations

In each case when a threshold is passed the causes are investigated with the help of the Rélais Communautaires (RCom) and the COGES. In the OTPs the causes of passing a threshold have included:

⁸ A large number of nurses had been hired by the Ministry of Health under a specific donor grant. That grant had expired however no financial continuity plan had been put in place to ensure these staff could be paid. At the time of the visit they had not been paid for 8 months and therefore several were no longer coming to work on a regular basis.

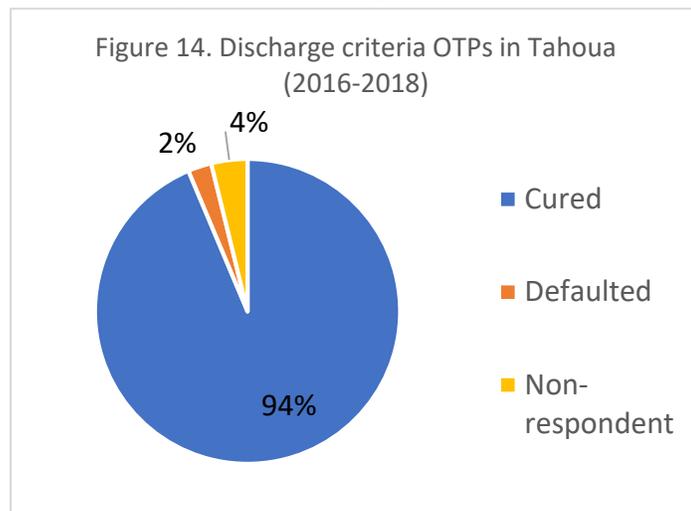
- Personnel changes in a nearby health post. The new staff was unfamiliar with CMAM protocols and therefore was referring everyone to the health facility (see Box 1).
- Increases in acute malnutrition corresponding with the malaria peak
- Movements of population for livelihood reasons following seasonal patterns

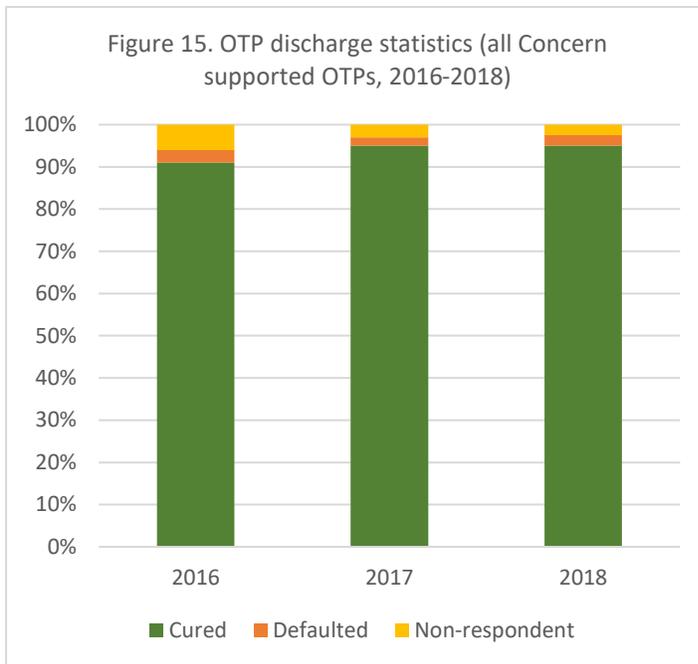
Q2: Are key CMAM indicators meeting SPHERE standards at all stages of the approach (all threshold levels)?

Outpatient Therapeutic Programme

Comprehensive discharge data is available for all sites, and data from January 2016 to December 2018 was analyzed. During this three-year time period a total of 22,053 children were discharged from OTP.

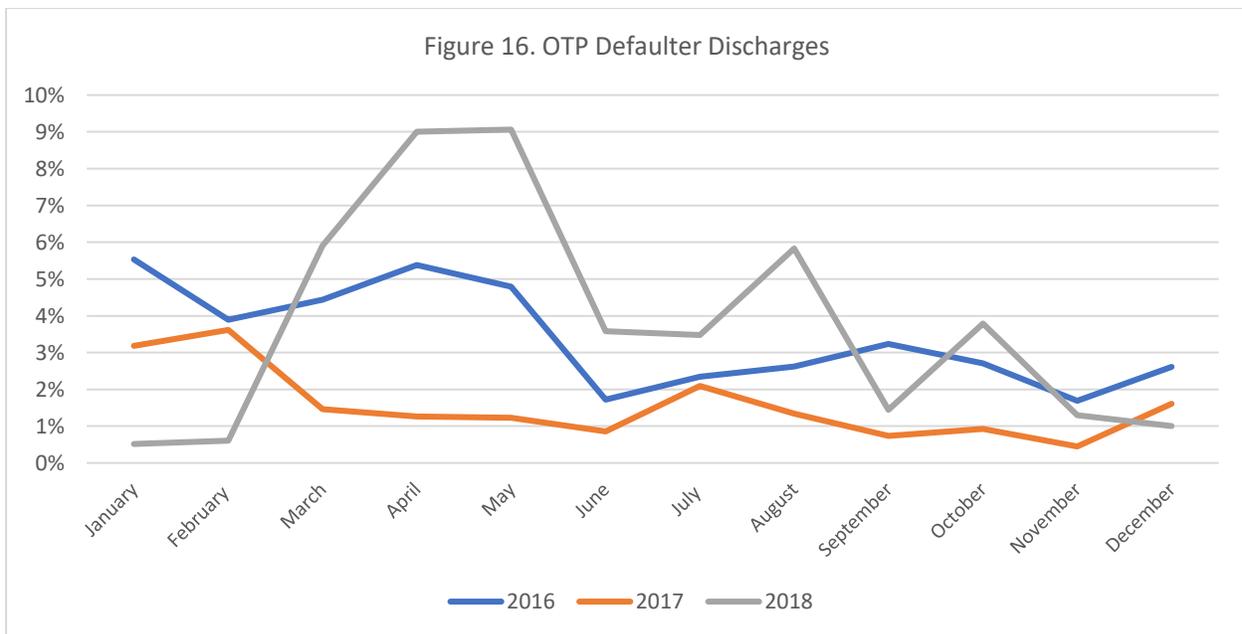
Discharge criteria are well within SPHERE standards, with an average cure rate of 94% for all OTP sites, see Figure 14. Death rates are not included as they are minimal (under 1%). Figure 15 shows a slight improvement in SPHERE standards from 2016 to 2018. Only a minimal change is seen when considering sites that have only been implementing the Surge approach since 2018 and those that started earlier (see Section 5 below). The percentage of children cured shifting by 4-5 percentage points. More detail is also provided in Section 5, Question 1.





When looking at individual OTP sites, there are months where discharge criteria fall below Sphere standards, however these instances are isolated, non-repetitive. These cases occur more in 2016 and less from 2017 onwards. Crossing a Surge threshold was not associated with changes in discharge criteria for any of the studied sites.

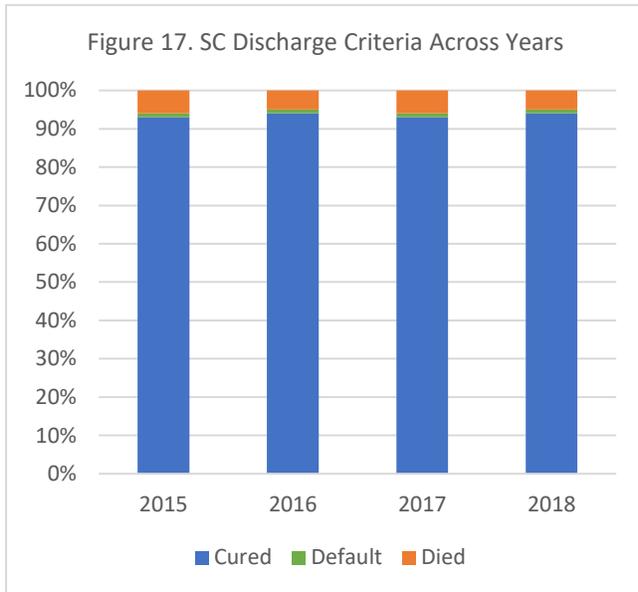
Defaulter rates were higher in 2018 than in previous years. The issues experienced in 2018 are detailed above. However, the defaulter rates, when aggregated, never exceeded the SPHERE standards, see Figure 16 below.



Stabilization Center

With respect to the SC, the discharge criteria have remained steady over the last 4 years, with an average cure rate of 94% and a death rate of 5%, both well within SPHERE standards. The other discharge types are negligible. When comparing the discharge statistics across the years we can see some potential of the Surge approach to protect discharge outcomes. It is evident from Figure 10 that 2017 had the lowest new admissions to the SC within the period under review, and that it was significantly lower than the normal admissions during the malaria peak

period. However, despite significant peaks in other years (2016 in particular), the admission criteria remain unchanged (see Figure 17 below).

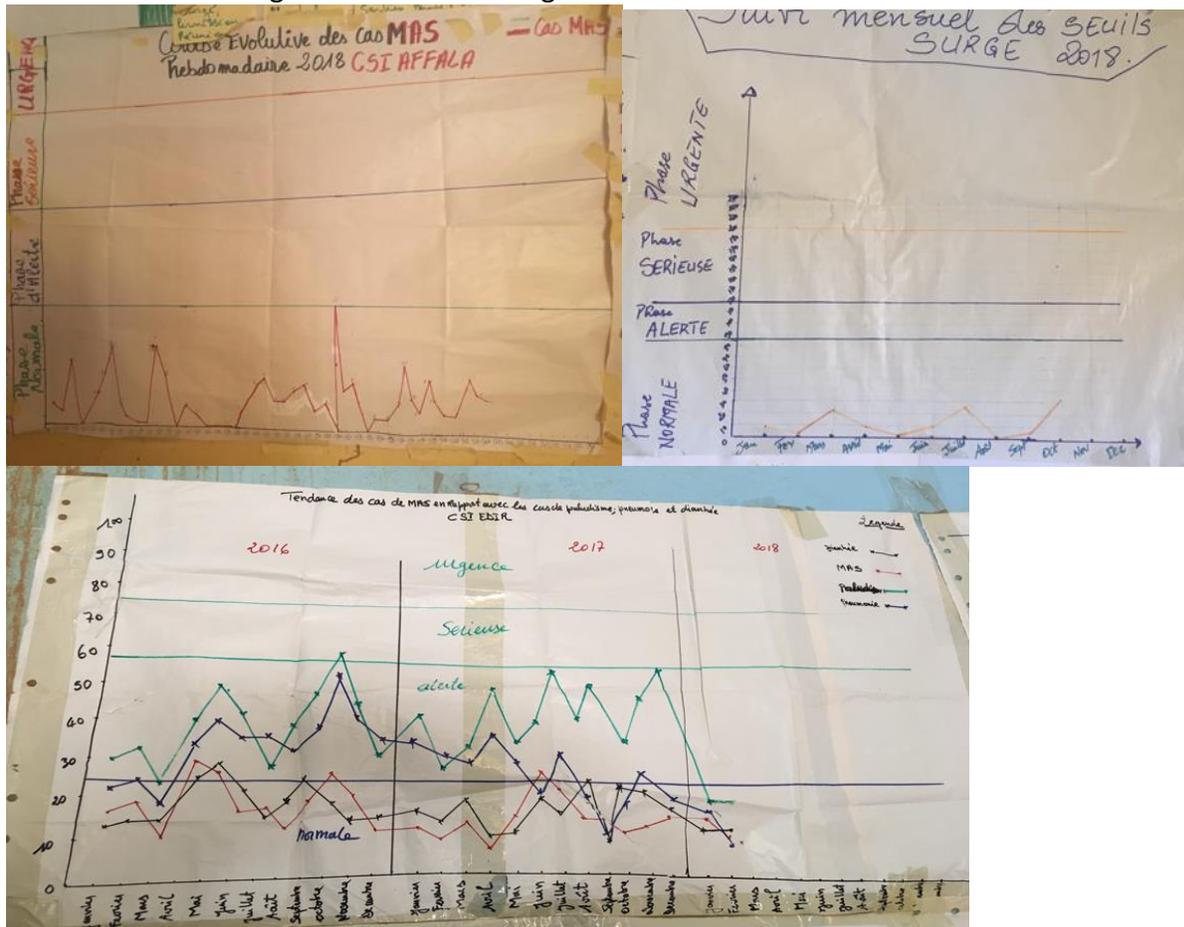


Q3: Are set thresholds being respected and is support being requested in a timely manner?

Q4: Does the District HMT respond to support requests in a timely and adequate manner?

There is sufficient and strong evidence of thresholds being monitored and respected. In all health facilities visited the thresholds are being visually monitored with wall charts tracking new admissions against thresholds. Some examples can be seen below in Picture 2.

Picture 2. Monitoring of SAM caseloads against thresholds in different OTPs



In the bottom image from Edir health facility, admissions are being tracked across years and morbidities. The green line is malaria, the blue line pneumonia, the black line diarrhea and the red line severe acute malnutrition. The cases of severe acute malnutrition cross the alert threshold three times— twice in 2016 and once in 2017 (although this is a retrospective mapping, Edir only began the Surge approach in 2017). From this picture we also get a good example of the main causes for under 5 consultation at the clinic – malaria and pneumonia. The trend for SAM appears to be somewhat faithful to the trend for malaria and diarrhea.

Surge actions are initiated in the 2 or 3 days following detection of a threshold being crossed. There is not a formal requirement for notification of the district health authorities and in the majority of cases when an alert threshold is crossed they are not notified, as no action is generally required from them at this point. This means that the district health teams are potentially unaware of caseload increases in real-time. Having a protocol to alert the district, even if no direct support is being requested, can further strengthen communication and provide an opportunity for the district health staff to discuss any supply and staffing issues.

Box 1. Using trend data to uncover CMAM access issues.

Edir, a health facility implementing the CMAM Surge approach since 2017, was one of the facilities visited during the midterm review. This facility had previously passed a Surge caseload threshold and initiated a series of community meetings to better understand the causes (as the increased caseload was not anticipated when considering the seasonal/events calendar and historic caseload). Through the community engagement they discovered that a neighbouring facility had a new nurse who was unfamiliar with the management of acute malnutrition and therefore was not offering the treatment. Nursing staff from Edir undertook to train the new nurse through visits every two weeks, thus alleviating their own caseload and supporting capacity development in a colleague. The Surge staff attribute this success due to a close relationship with the community which they feel was developed due to the Surge implementation process.

The majority of actions initiated when an alert threshold is crossed pertain to reorganization of the center. In the majority of cases, meetings with the RComs, key communities members and/or the COGES have taken place in order to investigate the causes for the rise in new admissions. Respondents site this as a critical step and in a number of examples led to actions in order to reduce the pressure on the health facility, see Box 1.

Recommendations: Effectiveness

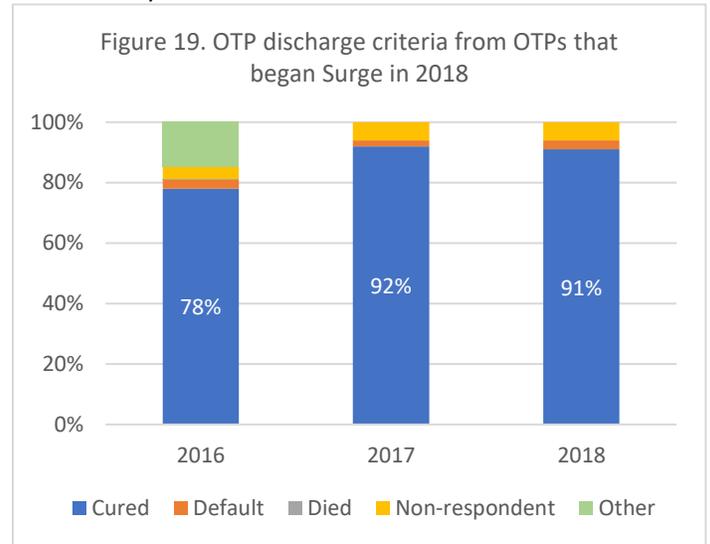
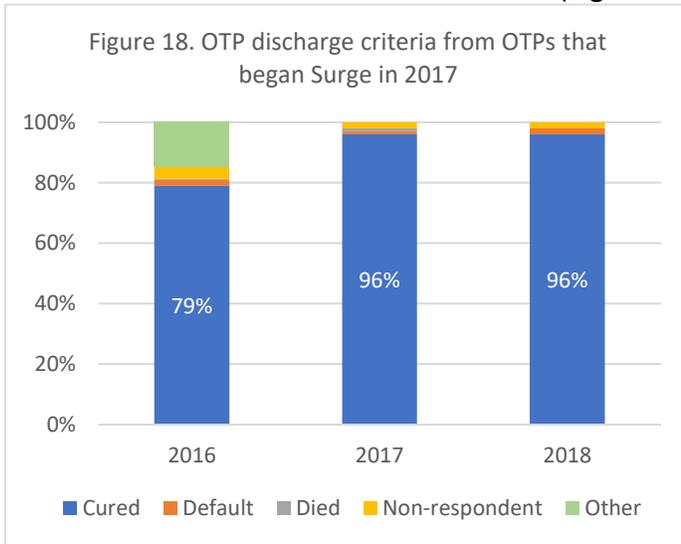
- The initial setting of thresholds needs to be a supported process (mentoring/supervision)
- Thresholds should be reviewed every 6 months or when there is a change in the capacity of the health facility (shifting human resources, etc.)
- Ensure that health facilities are alerting district health authorities of any threshold breaches to strengthen communication and allow for a contact point to discuss potential staffing and supply shortages which could further compromise quality care.

5. Impact

Criteria	Rating					Rationale
	1	2	3	4	5	
Impact				X		<ul style="list-style-type: none"> - There is a correlation between an improvement in OTP discharge indicators at an aggregated level and wider coverage of the Surge approach, although this can only be seen as correlation and there is insufficient evidence to confirm causation. - In addition, Surge facilities which have been implementing the approach for longer demonstrated better discharge indicators during a time of stress than did facilities which were just starting to implement the Surge approach. - The Surge approach is not specifically intended as a coverage improvement method, however health facility staff report an improved interest and understanding of acute malnutrition thanks to the Surge approach. In addition, health staff are using anticipated caseloads to monitor and support the work of RComs. - There are several unintended consequences of the approach, all of them positive. These include improved relationships with communities and authorities, better understanding of local context, and better understanding of SAM. - The Surge approach has garnered respect and interest at all levels in Niger and beyond in the West Africa region.

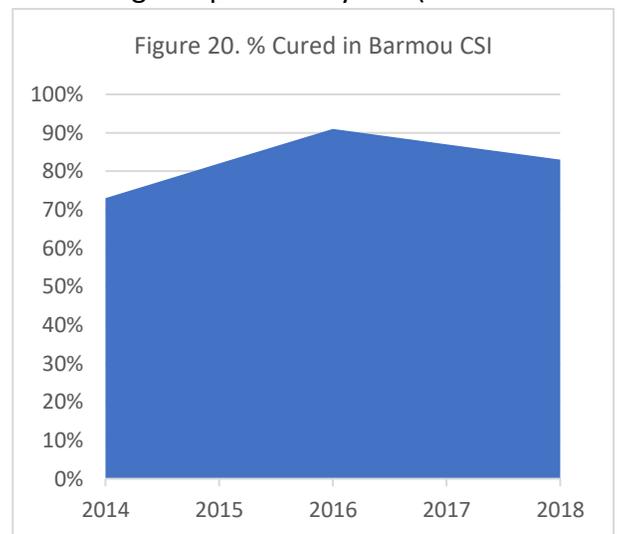
Q1: Are key CMAM indicators (cured, died, defaulter) better in the Surge approach than in the traditional model (particularly during caseload increases)?

The Surge approach is intended to maintain the quality of service delivery in times of admission increases. A key measure of service quality in CMAM programmes are the discharge indicators. When comparing OTP discharge criteria from facilities that started Surge in 2017 and those that started in 2018 we see little difference (Figures 18 & 19 below).



There is not concrete evidence of caseload surges affecting discharge criteria in the OTPs, whether prior to or after Surge implementation. Even well performing facilities experience months when discharge criteria do not meet SPHERE standards but this is not consistently associated with a surge in beneficiary numbers.

In Barmou, where the Surge approach was implemented in 2016, the percentage of children discharged as cured from the OTP was lowest in the first half of 2015 when admissions remained largely below average. When admissions reach their highest point in 5 years (March 2016) the cured rate remains well above SPHERE standards. When considering the average percent cured before and after Surge implementation in Barmou CSI, it is certainly lower before Surge implementation, although it decreases in 2018 due to a lack of available RUTF (see Figure 20). While this is only one example it is fairly typical in Tahoua region. Across the Concern supported programme the cure rate in OTPs was fairly poor in 2015, but rose in 2016 onwards. While individual OTPs show fluctuating rates of children cured, overall the sites are well above SPHERE standards regardless of admissions surges. While the cured rates rose from 2016 onwards and therefore coincide with the beginning of the Surge implementation, the coverage of Surge was poor in the beginning and the cured rates rose across the board, not just in sites with Surge. Therefore, there is no



definitive evidence that the Surge approach has improved CMAM outcome indicators as compared to the traditional model.

Theoretically, Surge approach processes and outcomes can support the ability of a facility to manage stress in the healthy system and not just surges in beneficiary numbers. The health system stress of 2018 in Tahoua region are detailed above. In order to deal with the lack of RUTF, some health facilities halted admissions and discharges during stock-out months and/or utilized positive deviance approaches or cooking demonstrations to support families and maintain their commitment to health facility attendance. One health facility managed to procure soap to distribute to the families by working with the COGES. This was done uniquely as a token, to encourage health-seeking behaviour despite the lack of RUTF. Once the RUTF was back in stock, RComs were used to spread the message that services for the management of acute undernutrition had fully resumed. When comparing key discharge criteria between health facilities that began the Surge approach in 2017 and those that began in 2018, we can see a slight difference. Facilities that began the approach in 2017 had better discharge outcomes during the 2018 stresses than those that began the approach later, see Table 3 (note that deaths are not included as they are negligible). When considering these numbers, it is important to remember that the stress on the OTP sites in 2018 was not related to high admission numbers but to a lack of supplies.

Table 3. 2018 Discharge Criteria (averages) for Health Facilities (January to June 2018) depending on the year they began implementing the Surge approach.

Year began Surge	Cured	Defaulter	Non-response
2017	94%	3%	2%
2018	86%	4%	10%

Q2: Is coverage of CMAM services affected by the approach?

This evaluation found that there is not sufficient data to determine if the Surge approach concretely affected coverage. The evolution of rural coverage of CMAM services can be seen in

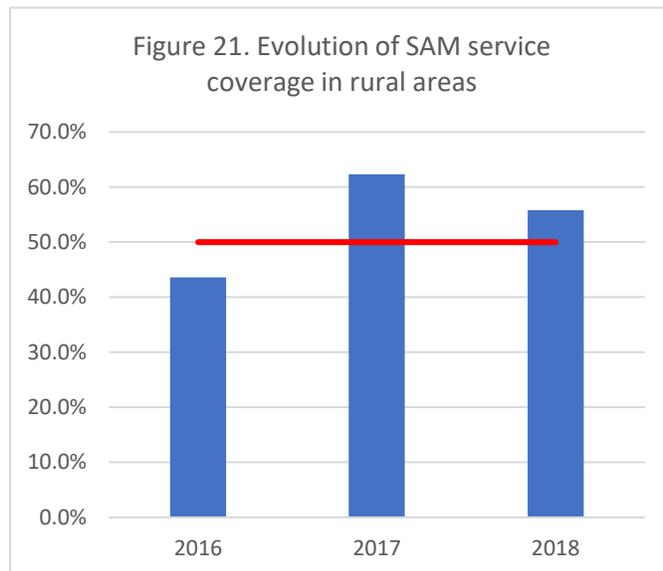


Figure 21. In 2016 coverage of CMAM services in rural areas was below SPHERE standards, at the same time only 28% of rural OTPs were implementing the Surge approach. In 2017, coverage of Surge facilities in rural areas increased to 60% while case coverage increased to 62.3%. In 2018 100% of rural OTP sites were implementing the Surge approach while case coverage reduced to 55.8%. At the same time, it can be argued that the significant challenges experienced by the health system in 2018 could have been more detrimental to the coverage statistics, OTP admissions were well below those expected. Urban coverage has always

been expected to be high and therefore was never included in the coverage surveys prior to 2018. The 2018 results showed a 64.8% coverage in the urban district which is below the SPHERE standards (in urban areas coverage should be greater than 70%). However, again the 2018 results are affected by the health system stress. The Surge approach is not explicitly meant to improve coverage of CMAM services, at the same time a correlation between increasing coverage of the Surge approach and the protection of coverage of CMAM services.

While the quantitative data is not definitive, anecdotal evidence suggests that the Surge approach could affect coverage in a positive way. Respondents in interviews noted that before the approach they did not treat SAM management as they did other morbidities.

“Before the CMAM Surge approach we did not understand malnutrition like we understand other diseases. Now we see how it can be like diarrhea and other diseases.

Nurse in-charge at Affala Health facility, Tahoua

However, when considering the measurement of coverage it is important to note that there is not a unified way to measure coverage, and that coverage assessments can be flawed.

Part of the Surge approach, as it is implemented in Niger, is calculating the anticipated monthly cases. While previously the health staff did not necessarily notice SAM admission fluctuations, after implementing the approach they would react if admissions did not reach those expected. Therefore, the Surge approach not only prepared the health staff for surges in admissions but it also made them conscious of periods of low admissions and produced a reaction to support coverage. In Niger, the RComs screen children in the community and refer them to facility for triage and treatment. As a volunteer workforce, RComs can be difficult to motivate. Several

health facility staff indicated that they used the expected caseloads to discuss RCom performance, so that if monthly admissions do not reach the expected caseloads they will discuss with the RComs and look for solutions to increase screening and referrals. Equally, if caseloads surge, discussions with the RComs are always the first recourse to try to understand causes.

All other elements of the system being equal, anecdotal evidence supports the fact that the Surge approach could improve coverage through a better understanding of the expected monthly cases and the tracking of screenings with the RComs. In addition, strengthened communication between health facilities and communities, which has been noted with the Surge approach, can improve trust which may positively impact on confidence in services thereby indirectly increasing demand.

Q3: During a surge were other activities at the clinic impacted? Was quality maintained?

There was no evidence that other health services are affected by surges in cases of severe acute malnutrition, however the lack of data on other morbidities makes it difficult to offer a firm determination. The SC mentioned that during the annual October spike in admissions they reduce the length of their admission intake forms as a time saving technique, but they did not feel that this negatively impact on quality.

However, some health staff, particularly at the SC mentioned sometimes feeling overwhelmed during the malarial season. However, they could not offer specifics when probed and therefore it appears to be more a general feeling of increased stress as opposed to something more which would statistically affect quality. There is no evidence of fluctuations of SPHERE standards for discharge criteria during surges in new admissions.

Q4: Are there unintended consequences of the approach?

There are several unintended consequences of the approach however they appear to all be positive. The unintended consequences include:

- *Improved confidence in work and a sense of empowerment.* The impact on confidence in health workers is clear and strong in all interviews conducted with those involved. Health workers find the process of thinking through and plotting out causes and actions empowering. They mentioned feeling significantly more confident in their ability to be self-sufficient and more able to take initiative.

"[The 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

- *Understanding and use of own health facility data.* Several health workers mentioned that prior to implementing the Surge approach, the collection and transmission of CMAM data was simply a tick-box exercise. Meaning that they did it because it was part

of their job but that they did not use or see much value in the numbers. After implementing Surge, health workers indicate that they are far more diligent and interested in their data. They understand how to plot and use it. Several health workers mentioned that prior to Surge they did not notice fluctuations in their SAM statistics. Now they not only know their expected caseloads, but they react when numbers are both above and below expectations.

“At the third meeting we discussed what we need to do to make sure we get good monthly statistics. Now we are very careful about all our statistics... You really need to get them interested in their statistics and willing and motivated to collect them each month. Surge helps you see why this is so important”

Nurse in-Charge at Edir Facility, Tahoua

- *Better understanding of the causes of SAM in the community.* The process of mapping out historical caseload fluctuations and analyzing this in relation to the event/seasonal calendar is the critical first step in implementing the Surge approach. All respondents indicate that this was a new approach with Surge implementation and significantly improved health worker understanding of local causes of SAM.
- *Improvement in how health workers view integration of SAM services.* A few health staff respondents indicated that they did not necessarily notice SAM case fluctuation previously. However, engaging in the Surge approach has changed how some health workers view the integration of SAM into the overall health package, it enabled them to view it more as a morbidity.

“We are starting to think about it for all the major illnesses, it [Surge] has helped us so much. It is like a quality assurance approach”

Nurse in-Charge at Edir Facility, Tahoua

- *Improved relationships.* The majority of respondents mentioned improved relationships with implementation of the Surge approach – both between health workers and community structures and between health workers and health authorities. Respondents indicated that they felt more comfortable engaging with these different groups after implementing Surge. They suggest this is due to the Surge processes, which they feel are most effective when a wide variety of stakeholders are engaged early on.

“Now we [district and facility staff] are together and we work better as a team. Before, they were like the big Chiefs, we were scared of them but now we are like friends as we are together more.”

Nurse in-Charge at Edir Facility, Tahoua

- *Tool for monitoring the work of community-based screeners.* Health facility workers have credited the Surge approach with helping them to better supervise the work of the RComs. Prior to the Surge approach they never calculated the expected monthly or

yearly cases and therefore they felt they did not have a tool to monitor the work of the RComs. Now they can give concrete quotas to the RComs and they can discuss with them when admissions are lower or higher than normal.

Q5: Has the Surge approach generated interest or changes at all levels of the health system?

The Surge approach has generated interest and commitment across the health system and between different stakeholders.

Within Niger

The MoH sees Concern's Surge implementation in Tahoua as a success and as a way to strengthen the capacity of health workers to manage caseload fluctuations in real time. In addition, they feel the approach offers a level of quality assurance, although an ongoing effort is required to ensure that the MoH is capacitated to be the quality assurance mechanism and not just the NGO partners. The MoH has stated that they would like to see the approach going to scale within Niger. Their concern is currently on the cost of national roll-out and have indicated that they would need the agreement of the regional authorities to approve as well as fund parts of the approach. Within Tahoua Region, the district and regional health authorities are focusing on roll-out for full coverage. They see it as a key tool to support the preparation and independence of health facilities. The MoH at a national level is interested in seeing the approach implemented across the country in areas with high and/or fluctuating caseloads, and would like to see the development of national and regional capacity to support the approach (a pool of Master Trainers/Trainers). In fact, the federal MoH respondent indicated that he had recently recommended the Surge approach to MSF in the health district of Magharia (Maradi Region) where they are supporting the hospital. MSF experienced a surge in SAM caseloads and apparently felt overwhelmed to deal with the numbers. A staff member of the federal MOH suggested they look into implementing the Surge approach so that they can be more prepared for this type of event. Several of the NGOs in Niger have also started to implement the Surge approach after seeing Concern's success in Tahoua Region. The MoH and Concern in Tahoua have helped to train many NGO teams from within and outside of Niger. The Surge sites in Tahoua region, Niger, have served as a training venue for many of these NGOs. Despite these positive advances, there is still work to do at national level to improve widespread sensitization on the Surge approach – both within the Nutrition Department and the wide MoH. In addition, the coverage and quality of CMAM activities in Niger remains complicated by human resource challenges and supply chain issues. While the Surge approach can help highlight these issues, their pervasiveness requires a comprehensive approach to health system strengthen at all levels.

Outside of Niger

The Surge approach has gained momentum in West Africa, in large part due to the success that Concern has experienced with the approach in Niger. Several NGOs in the region are rolling out the Surge approach in Senegal, Mali, Burkina Faso, Mauritania, Cameroon and Chad. There is a CMAM Surge Taskforce based in Dakar, Senegal, which is co-chaired by Save the Children and Concern. The Taskforce aims to map sites and centralize documents, tools, and learning on the

CMAM Surge approach in West Africa. Concern needs to develop a strategic vision for the CMAM Surge approach focused on learning, capacity development and support, in order to remain a leader in the CMAM Surge approach in West Africa and beyond.

Recommendations: Impact

- Ensure all health facilities are using admissions data and expected caseloads as tools to motivate and monitor the work of the RComs, through supportive and constructive discussions
- Concern should develop a method for assessing how their support is impacting on the strengthen and capacity of the health system. This could be achieved by an initial mapping of the current status of health system strengthen, followed by the development of a maturity matrix to delineate the steps to take towards the ultimate goal. As the system moves along the matrix gaining strength then Concern’s support can be gradually withdrawn. This would provide a more structured withdrawal method.

6. Efficiency

Criteria	Rating					Rationale
	1	2	3	4	5	
Efficiency					X	- A Cost-Effectiveness Assessment found that the Surge approach as implemented in Niger was highly cost effective

Q1: What is the cost difference between a response to surge thresholds versus a traditional emergency response?

A separate consultancy was commissioned by Concern in 2017 to investigate the cost-effectiveness of the CMAM Surge approach in Niger. Costs from 2018 for 13 OTPs and their associated SC costs, based on estimated referrals, were included. Costs included were personnel time, capacity development, supervision, supply, other management costs, and opportunity costs for caregivers and RComs. While a detailed report is available, the main finding of the consultancy was that the CMAM Surge approach in Niger was favourably or highly cost-effective. Table 4 below gives details of the costs findings and the standards against which they can be compared.

Table 4. Cost-effectiveness findings for the Concern CMAM Surge approach in Niger.

Cost finding		International standard
Cost per child	\$176.58 USD	International average CMAM cost of \$200 USD/child

Cost per DALY averted	\$28.11 USD	DALY averted < \$100 USD considered “very cost-effective”
		WHO standard of DALY averted < GDP per capita considered “highly cost-effective” (GDP per capita for Niger = \$378.06 USD)

8. Acceptance/relevance

Criteria	Rating					Rationale
	1	2	3	4	5	
Acceptance/Relevance					X	<ul style="list-style-type: none"> - The Surge approach is seen as highly relevant in Niger and has garnered interest and support from the MoH at all levels, as well as other NGOs in Niger and within the Franco-African region. - While some data from beneficiaries is presented, the sampling numbers are so low that interpreting the findings is not possible. - For health workers, the Surge approach is highly valued and appreciated and is associated with higher confidence.

Q1: Is the approach acceptable to all relevant stakeholders? AND

Q2: How do the relevant stakeholders perceive the Approach in terms of its ability to ensure preparedness and to protect quality services?

Beneficiaries

Client perspective on services were assessed by Concern through the DDG process. For the quality of treatment and waiting time portion of the data collection, the original goal of the baseline DDG was to observe 102 SAM children attending the health facility for services. However, due to several constraints, including low attendance of SAM children due to a widespread RUTF stock-out, only 13 children were observed accessing SAM services for the baseline portion (three were new admissions and 10 were follow-up visits). Eight of these children were from the 2018-start group, five from the 2017-start group, and none from the 2016-start group. For the endline a total of 93 children were included in the sample.

As can be seen from Table 5 below, when considering the quality of individual SAM consultations, there is a 9 percent point drop between baseline and endline results when the year groups are totaled (from 46% to 37%) . When broken down the difference is starkest for the 2017 year group moving from 80% of consultations being completed to a minimum standard in the baseline to 33% in the endline. While this difference is dramatic, the significant differences in sample sizes between baseline and endline make the results difficult to interpret.

However, what is clear from the data is that more attention and capacity development needs to be invested in ensuring that SAM consultations are of an acceptable quality.

Table 5. SAM consultations for which 75% of required tasks were completed correctly*

CMAM Surge start year	Total observed		Total consultations completed to minimum standard			
	n		n		%	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
2016	0	27	0	11	N/A	41%
2017	5	33	4	11	80%	33%
2018	8	33	2	12	25%	36%
Total	13	93	6	34	46%	37%

*13 tasks for new admissions; 11 for follow-up visits (according to National Protocol)

Across both baseline and endline, the tasks most often not done were assessing respiration, taking temperature, and checking for oedema. However, when a task was done it was predominately done correctly by the healthworker (67% at baseline and 70% at endline).

There were no significant differences in the perception of health services between the facilities with different years of starting Surge. Overall, a very high proportion of caregivers interviewed rate the quality of SAM and other child health services as good or very good, see Table 6 below.

Table 6. Caretakers who rated the SAM services good or very good*

CMAM Surge start year	Total responded		Rated SAM services good or very good			
	n		n		%	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
2016	10	29	9	29	90%	100%
2017	3	30	3	28	100%	93%
2018	1	36	1	35	100%	97%
Total	14	95	13	92	93%	97%

In addition, 100% of caregivers interviewed stated that they would recommend the services to friends and family, see Table 7 below.

Table 7. Caretakers who said they would recommend the SAM/ child health services to friends/ family

CMAM Surge start year	Total responding		Would recommend service to others			
	n		n		%	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
2016	10	29	10	29	100%	100%
2017	3	30	3	30	100%	100%
2018	1	36	1	36	100%	100%
Total	14	95	14	95	100%	100%

Despite the overwhelmingly positive rating of service quality and satisfaction, a large portion of the caregivers interviewed in the baseline had previously experienced service disruption, for example a closure of the clinic during normal working hours or a lack of available drugs or RUTF, see Table 8 below. That proportion was significantly lower in the endline assessment as the nursing strike and RUTF shortage were both resolved by then.

Table 8. Caretakers who experienced clinic closure or stock out of RUTF or drugs in last 3 months

CMAM Surge start year	Total responding		Experienced clinic closure or stock out in last 3 months			
	n		n		%	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
2016	10	29	9	2	90%	7%
2017	3	30	3	3	100%	10%
2018	1	36	0	14	0%	39%
Total	14	95	12	19	86%	20%

Health Facility Staff and Health Authorities

The acceptance and relevance to health facility workers is detailed under Q4, Section 6. The acceptance and relevance to the MoH as well as other NGOs and other countries is detailed in Q5, Section 6. Many stakeholders perceive the Surge approach as an exit strategy – a way to strengthen the health system and allow for the gradual withdrawal of NGO support. They perceive it as a way to prepare the health system for CMAM admission surges so that the quality of service provision is not compromised at these critical times, and that progressively, the MoH is able to handle the additional actions required during those surges. The MoH’s recognition of this is clear in their recommendation of the approach to MSF to improve their ability to manage admission surges. The MoH’s Director for Nutrition (“Responsible pour la Prise en Charge de la Nutrition”) has stated that the MoH has elaborated detailed preparedness plans for epidemics and they consider the localized plans designed through the Surge approach to be preparedness plans for nutrition. While this is a significant recognition of the importance of the Surge approach, it does indicate the need for a Surge-type approach at district level and

national level to ensure preparedness for a large-scale shock, ensuring that health facilities get adequate support for needs that are outside of their ability to manage.

Q3: How has the approach affected health worker satisfaction?

Anecdotal evidence from qualitative interviews indicates that after implementing the Surge approach health workers are more confident in themselves and their abilities, and are more aware and understand their context and the causes of acute malnutrition. In addition, they appear to have better relationships with community structures and health authorities, which contributes to their pride and confidence.

“[When asked the difference between a centre that has the Surge approach and one that 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 organize their own activities... Now I can solve my own problems.”

Nurse in-Charge at Kalfou facility, Tahoua

Recommendations: Acceptance/Relevance

- No recommendations currently with respect to improving acceptance and relevance with MoH staff. The approach seems highly valued and relevant to health authorities and health staff.
- More supportive supervision and capacity development is required to ensure that all the essential tasks for SAM management are completed
- Beneficiary and health worker satisfaction should be regularly assessed as it greatly affects service quality

8. Sustainability

Criteria	Rating					Rationale
	1	2	3	4	5	
Sustainability				X		<ul style="list-style-type: none"> - An unsuccessful (except for the SC) implementation of the Surge approach in 2014 was followed by a resurgence in 2016. During this implementation sustainability was greatly improved by: local health authorities more involved; a larger number of people were trained, more intense technical support was provided by Concern; and yearly learning reviews were implemented. All facilities that start Surge in 2016 are still implementing the approach. - While some facilities have included Surge action plans in their yearly microplanning/budgeting processes it is not uniformly done. - While some facilities ensure that all relevant stakeholders (including the community) are involved in the Surge action planning it is not uniformly done. Those that include community structures report a great variety of Surge action options are available to them. - Currently, Concern and other NGOs conduct yearly assessments of the strength of facility-level systems. This assessment feeds into decisions about facility support. Now it is time to a more holistic and comprehensive assessment of the entire health system. - The link with existing DRR initiatives is still just in the discussion stages. Needs to be strengthened.

Sustainability is defined as a state where the benefits of an activity continue after donor funding has been withdrawn. It can also be defined as a state where the activities of a project or programme continue through the Government system after external donor funding has been withdrawn. This evaluation criteria was observed as the most improved during the evaluation time period. At the initial visit in March 2018 the team seemed unclear regarding the strategic direction of the Surge program in Niger. However, over the period Concern's vision clarified and strategic moves were made to secure funding in order to take the programme to the next phase.

Q1: Has a sustainability approach been taken?

In 2014 during the original roll-out for Surge a sustainability approach was not taken and the involved health facilities did not maintain the approach, apart from the SC at the Regional Hospital. In 2016, the approach was reinvigorated with additional trainings and a heavier involvement of the MoH. From 2016 onwards the approach has grown from 11 facilities to covering 42 health facilities in Tahoua Region by the end of 2018. This is a significant achievement and shows an improvement in how the approach has been implemented and

managed. In addition, all health facilities visited that started the approach in 2016 are still implementing Surge. Some key steps that Concern has taken to improve sustainability of the approach include:

- Ensuring the local health authorities are in the lead and involved in all aspects of the Surge approach
- A yearly learning review of the Surge approach led by the MoH
- Training a larger number of health workers so that more than one per facility is trained (work in progress)
- Providing technical support – during health facility implementation as well as ongoing technical support in monitoring and troubleshooting
- Developing a unit of Master Trainers at Regional and National level (work in progress)
- Involvement of the community and the COGES during health facility implementation

A key lesson learnt from Concern's experience in Niger, contrasting 2014 to 2016 onwards, is that using a stand-alone ToT process does not create sustainable knowledge transfer. The knowledge transfer process needs to be more guided and holistic – involving not only formal training opportunities but also in-person technical support, a health authority capacitated to monitor and supervise the approach, and opportunities to exchange on successes and failures as well as to learn from peers. While many stakeholders are attracted to the approach as a way to phase out NGO and international donor reliance, there is a clear need to phase out technical support gradually and only when a critical volume of MoH and health facility staff are trained and competent in the approach.

At an individual health facility level, sustainability of the Surge approach can be supported by improving microplanning processes and ensuring engagement of community structures (RComs, COGES, Mayoral offices, etc). Surge processes and actions should be included in the yearly facility-level microplanning and financing processes. Whilst some facilities are doing this, others need more support overall for the microplanning process. Health facilities with strong community relations felt that they had more options for dealing with needs as they arose. Some even receiving financial support from COGES or from community canvassing to support Surge actions when their own finances are insufficient.

Another method to improve sustainability of the approach is to include a wider variety of morbidities. Applying the Surge processes across the key morbidities will further improve its relevance and likelihood of being sustained.

Concern is about to enter another stage with the Surge approach in Niger. With their current DIPECHO funding they are working on ensuring the Surge approach is brought to a national scale and is integrated into the CMAM protocol. Concern is supporting the creation of a Master Trainer pool at national and regional level and is using the Tahoua programme as a Center of Excellence for training and learning purposes. In addition, they are seeking longer-term funding (five to 10 years) to ensure sustained and strategic support in the medium-term.

When discussing sustainability for the Surge approach it is important to mention that in addition to Surge being reinvigorated in 2016 the way CMAM services were integrated into the health system also changed that year. Prior to 2016 CMAM services were offered parallel to other pediatric services. It is only from 2016 onwards that the concept of “porte d’entrée unique” (single entry point) was favoured by the INGOs and the MoH for better ownership by the MoH staff of malnutrition and its integration in the paediatric ward at the same level as malaria and diarrhoea.

Q2: How can the role of the NGO and the international donor be phased out?

Stakeholders, especially other NGOs and some donors, have shown interest in the CMAM Surge approach as a method for phasing out involvement in government-owned health system. The concept of the Surge approach is certainly geared towards doing this, by supporting a gradual strengthening in the capacity of health centres to manage more and more cases. The key word here is gradual, the Surge approach should be considered a longer term health system strengthening initiative. In Niger, in partnership with the MoH, NGOs currently make decisions on which health facilities require support by doing a year assessment and scoring each facility on how functional they are with respect to the health system building blocks. This is an informed approach to structuring support, but now partners need to look at the health system more holistically and strategically structure a gradual withdrawal of their support in accordance with a strengthening of the system as a whole (not just the assessment of the capacity of individual health facilities). Ideally, NGO and international donors should development a long-term vision and plan for a gradual reduction of their involvement. This should be done hand-in-hand with the MoH and involve methods of assessing improvement in health system functionality. Support should be phased out when set milestones in health system functionality are reached. In addition to further support sustainability it would be ideal to have UNICEF more engaged in the process. They can offer a level long-term oversight and support and ensure it links in with other health system strengthening initiatives.

Q3: How is the Approach linked to other DRR and/or emergency response efforts at district and community level?

Currently, there is no link between the CMAM Surge approach and other DRR or emergency response efforts at district and community level. However, the Concern team in partnership with the government are currently investigating how to integrate a Surge approach into Niger’s SCAP-RU (Systèmes Communautaire D’Alerte Précoce et de Réponse aux Urgences), a community-level early warning/early action system for food security that forms part of FEWS-NET’s information gathering system. Although the exact nature of the collaboration is still being discussed, it will necessarily entail collecting and acting on screening data, as well as monitoring stocks of essential supplies such as RUTF.

Recommendations: Sustainability

- Echoing a key recommendation under the Impact section – Concern should develop a maturity matrix or similar tool, as well as a method for measuring health system strength, and structure their long-term vision for support, and withdrawal of support according to how they see the health system progressing. Meaning, that the withdrawal of support is predicated on a comparative strengthening of the health system.
- Strengthen Surge process at district and eventually national level.
- Link between district and regional or national level to comprehensively address supply and human resource gaps
- Microplanning and financing skills should be improved at the health facility level to ensure that Surge actions requiring a financial commitment are adequately planned for.
- Concern Niger should strongly consider piloting the inclusion of key childhood morbidities into the Surge model. This will support not only the preparedness of the facilities for surges in key morbidities, but will likely also contribute to health system strengthening on a larger level.
- Opportunities to link the Surge approach to other DRR initiatives, especially those at community level like the SCRAP-RU approach need to be further explored and capitalized on.

9. Conclusion

In reference to the principal evaluation question, the evaluation finds that the CMAM Surge approach, as implemented in Niger, can strengthen the capacity of the health facilities to manage periodic increases in caseloads during a shock or stress while maintaining quality in a manner that is sustainable and acceptable to users and service providers. However, more work is required to ensure resilience is built within the health system.

Overall, the evaluation provides a very favorable view of the Surge approach in Niger with an average score of 4 out of 5, as can be seen in Table 9 below.

Table 9. Summary of the evaluation criteria ratings from the evaluation

Criteria	Rating				
	1	2	3	4	5
Effectiveness			X		
Impact			X	→	
Efficiency					X
Acceptance/Relevance					X
Sustainability				X	
AVERAGE				X	

The key strengths of the approach in Niger are improvements seen in: data analysis, interpretation, and use; self-sufficiency and leadership at the health facility level; confidence of health workers; communication both between the health facility and the community as well as between the health facility and the district health authorities; and understanding as well as integration of SAM into the overall health services. Not only did the CMAM Surge approach help health facilities to prepare for and manage caseload increases but it also initiates actions when caseloads were below expected and therefore is a clear way to improve engagement with the volunteer community health workforce who do the screening and referral (RComs). While the Surge approach has seen many positive developments in the management of acute malnutrition in Tahoua, changes in CMAM outcomes indicators with implementation of the Surge approach were not observed.

The evaluation also found that in the Tahoua Region of Niger the stresses which affect SAM caseload at the health facilities are not uniform throughout the two districts in which Concern works (Tahoua Commune and Tahoua Departement). Overall admission statistics for rural OTPs do not adhere to expected seasonal trends (see Figure 5), such as agricultural lean seasons or malaria spikes. More evident in the statistics of individual health facilities are livelihood factors influencing population movement (moving to planting fields, moving with livestock). Admission trends in urban OTPs are more influenced by seasonal trends such as malaria. At a macro-level, the OTP admissions are influenced by the number of active community health workers (RComs), health worker strikes, and availability of key supplies such as RUTF. These are issues of health system functionality, further demonstrating the need to have an assessment and understanding of health system strength and how Concern is contributing to it both within the Surge approach and in its overall programming. Admissions in the hospital's SC follow clear seasonal trends with peaks being due to malaria outbreaks.

While individual recommendations are provided under each evaluation criteria, a summary of the most crucial ones for moving the CMAM Surge approach forward are in the box below. Concern, with its long experience of implementing the Surge approach in Niger, as well as other African countries, is uniquely positioned to be the champion of the Surge approach. This is currently recognized by many of the regions NGOs as they have relied on Concern's expertise to support capacity development in their own teams. A regional Taskforce for CMAM Surge has been established in Dakar and is managed by Save the Children and Concern. Concern will need

to strategically position themselves in the region in order to maintain their momentum with the approach. The recommendations below will ensure that Concern strategically supports the CMAM Surge approach to its next phase of development both within Niger and within West Africa.

Recommendations: for Concern to move the CMAM Surge approach to the next steps within Niger and beyond:

- Develop a long-term CMAM Surge support strategy for Niger which is based on an understanding of how the health system is maturing – therefore withdrawal of support will be predicated on a comparative strengthening of the system.
- Ensure the long-term strategy includes a Capacity Development and Learning component. Capacity development needs to take into account that ToTs alone are often insufficient for adequate knowledge transfer.
- Pilot a system whereby other key childhood morbidities are included in the Surge approach. Ensure a strong learning component to the pilot.
- Improve the concept and tools for a district Surge approach, so that district health authorities have thresholds when they will require additional support based on the number of health facilities experiencing caseload surges.
- Develop a Global CMAM Surge strategy for Concern in order to not lose momentum with the approach.
- As part of the regional strategy, develop a CMAM Surge approach capacity development unit to support other NGOs or Concern programs in other countries
- Maintain a consistent and active presence in the CMAM Surge Regional Taskforce meetings in Senegal

10. Annexes

Annex 1. Urban and rural health facilities in 2 districts of Tahoua Region (Tahoue Commune and Tahoua Department), as well as the year they began the Surge approach.

Health District	Health Centre	2016 start	2017 start	2018 start
URBAN	Dakaché	✓		
	Koufan Tahoua	✓		
	Maboya Amaré	✓		
	Ama		✓	
	Garkawa		✓	
	Wadata		✓	
	Foukoye			✓
	Kolloma			✓
	Koweit			✓
Sub-total	9	3	3	3
RURAL	Bagaye	✓		
	Bambeye	✓		
	Barmou	✓		
	Hada Chimo	✓		
	Kalfou	✓		
	Mogheur	✓		
	Samo	✓		
	Afala		✓	
	Amaloul Guidiss		✓	
	Amaloul Nomade		✓	
	Edir		✓	
	Inkarkadan		✓	
	Safarfari		✓	
	Takanamatt		✓	
	Toro		✓	
	Adouna			✓
	Guidan Méli			✓
	Taza			✓
	Agoulmaoua			✓
	Anekar			✓
	Karadji Nord			✓
	Latchiwa			✓
	Moulela			✓
	Tébaram			✓
	Toudouni Kalfou			✓
	Birawa Inkafi			✓
	Danfan			✓
Dajin Saka			✓	
Bagga			✓	

	Takoussa			✓
	Kolkolie			✓
Sub-total	25	7	8	16
TOTAL	34	10	11	19

Annex 2. Data sources

Data Collection Type	Tools	Date ranges
Primary	In-depth interviews	March 2018
	Observations	December 2018
	Learning review feedback	February 2018 and March 2018
Secondary	Literature review	Listed below
	Nutrition surveys	http://www.stat-niger.org/statistique/index.php
	CMAM coverage surveys	2016, 2017, and 2018
	CMAM routine performance data and HMIS standard data from the government	OTP: data from 2016-2018 analyzed SC: data from 2014-2018 analyzed (Concern Worldwide databases and Surge dashboards)
	Concern CMAM Surge data collection tools (baseline/endline): Client Observation Tool Client Exit Interview Tool Health Staff Knowledge of CMAM Tool RUTF and Essential Medicines Stock Monitoring Form Health Facility Preparedness and Response	March 2018 and May 2019
	Cost-Effectiveness Assessment	Covering data from 13 OTPs and one SC in 2018

Literature reviewed

Concern Worldwide (2014). Lahiya yara child survival project final evaluation report: Strengthening community health systems in Tahoua District, Niger.

Concern Worldwide/ECHO (2016). Rapport de l'enquête SLEAC.

Concern Worldwide (2017). OFDA Baseline CMAM Surge Narrative

Concern Worldwide/ECHO (2017). Rapport de l'enquête SLEAC.

Concern Worldwide/ECHO (2018). Rapport de l'enquête SLEAC.

Concern Worldwide CMAM Surge Operational Guidelines.

<https://www.concern.net/insights/cmam-surge-approach>

FEWS NET (2017). Nutrition Causal Analysis in Niger: Report of Key Findings. FEWS NET/USAID

Institut National de la Statistique (INS) et ICF International, 2013. Enquête Démographique et de Santé et à Indicateurs Multiples du Niger 2012. Calverton, Maryland, USA : INS et ICF International.

Peter Hailey/CHC (2015). Independent Evaluation of CMAM Surge Model Pilot. Concern Worldwide, Kenya.

Annex 3.

Sites visited during the midline visit (March 2018)

Surge		Non-Surge	
<i>Rural</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>
Barmou	Wadata	Mounlela	Koloma
Edir	CHR/CRENI		
Afala			
Kalfou			

Sites visited during the endline visit (December 2018).

<i>Rural</i>	<i>Urban</i>
Afala	CHR/CRENI
Kalfou	Koufan Tahoua
Bagaye	
Amaloul Guidiss	

Annex 4. Analytical Framework

Effectiveness:

Q1: Are clinics able to set realistic threshold levels based on sound analysis?

Q2: Are key CMAM indicators meeting SPHERE standards at all stages of the model (all threshold levels)?

Q3: Are set thresholds being respected and is support being requested in a timely manner?

Q4: Does the District HMT respond to support requests in a timely and adequate manner?

Impact

Q1: Are key CMAM indicators (cured, died, defaulter) better in the Surge approach than in the traditional model (particularly during caseload increases)?

Q2: Is coverage affected by the model?

Q3: During a surge were other activities at the clinic impacted? Was quality maintained?

Q4: Are there unintended consequences of the approach?

Q5: Has the Surge approach generated interest or changes at three levels of the system (DS, DRSP and DN)?

Efficiency

Q1: What is the cost difference between a response to surge thresholds versus a traditional emergency response?

Q2: Were the projected costs to the DHMT realistic based on actual costs of responding to the thresholds being exceeded?

Q3: What is the difference in waiting time between a surge and non-surge context? Where are the bottlenecks in delivering care quickly?

Acceptance/Relevance

Q1: Is the approach acceptable to all relevant stakeholders?

Q2: How do the relevant stakeholders perceive the Approach in terms of its ability to ensure preparedness and to protect quality services?

Q3: How has the approach affected health worker satisfaction?

Sustainability

Q1: Has a sustainability approach been taken?

Q2: How can the role of the NGO and the international donor be phased out?

Q3: How is the Approach linked to other DRR and/or emergency response efforts at district and community level?