

HARP-F

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ASSESSMENT OF SIMPLIFIED APPROACHES TO TREATMENT OF WASTING/ ACUTE MALNUTRITION IN MYANMAR: CURRENT STATUS AND OPPORTUNITIES FOR RAKHINE STATE

REVIEW

**A review by the HARP
Facility**

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Acronyms

ACF	Action Against Hunger
BHS	Basic health staff
CBO	Community-based organisation
CHW	Community health worker
CLA	Cluster lead agency
CSO	Civil society organisation
EHO	Ethnic health organisation
ENN	Emergency Nutrition Network
FAO	Food and Agriculture Organisation
FBF	Fortified blended food
GAP	Global Action Plan
GNC	Global Nutrition Cluster
HARP-F	Humanitarian Assistance and Resilience Programme Facility
ICCM	Integrated community case management
IMAM	Integrated management of acute malnutrition
IOM	International Organization for Migration
IRC	International Rescue Committee
LEARN	Leveraging Actions to Reduce Malnutrition initiative
MAM	Moderate acute malnutrition
MAMI	Management of small and nutritionally at-risk infants under six months and their mothers
MHAA	Myanmar Health Assistant Association
MHF	Myanmar Health Fund
MMFCS	Myanmar Micronutrient and Food Consumption Survey
MOHS	Ministry of Health and Sports
MOU	Memorandum of understanding
MSF	Médecins Sans Frontières
MSI	Management Systems International
MUAC	Mid-upper arm circumference
NGO	Non-governmental organisation
NNC	National Nutrition Centre
NIE	Nutrition in emergencies
OTP	Outpatient therapeutic programme
PIN	People in Need
PLW	Pregnant and lactating women
RI	Relief International
RUF	Ready-to-use foods
RUSF	Ready-to-use supplementary food
RUTF	Ready-to-use therapeutic food
SAG	Strategic advisory group
SAM	Severe acute malnutrition
SBCC	Social and behaviour change communication
SCI	Save the Children International
SDG	Sustainable Development Goals
SFP	Supplementary feeding programme
TA	Travel authorisation
TBC	Thai Border Consortium
TMO	Township medical officer
TSFP	Targeted supplementary feeding programme
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
WFP	World Food Programme

WHO World Health Organisation
WHZ Weight-for-height z-score

Introduction

The nutrition situation and wasting treatment/ integrated management of acute malnutrition (IMAM) in Myanmar

Globally, 45.4 million children under five years of age are wasted.¹ In 2012, the Sustainable Development Goals (SDGs) incorporated the World Health Assembly Resolution's 2025 global targets to reduce and maintain wasting/ acute malnutrition to less than 5% but these targets are off track.² In Myanmar, while wasting/ acute malnutrition has decreased from 13%³ in 1991 to 7%⁴ in 2018, the prevalence of wasting/ acute malnutrition remains above the global target and progress has likely deteriorated due to the COVID-19 pandemic and the coup d'etat in February 2021.

Wasting/ acute malnutrition treatment in Myanmar is integrated into the existing health service delivery system where healthcare workers who provide wasting/ acute malnutrition services also treat children with pneumonia, malaria and other diseases. Integrated management of acute malnutrition (IMAM) or wasting/ acute malnutrition treatment is delivered by basic health staff (BHS), community volunteers, local/ international non-governmental organisations (NGOs) and through government hospitals.

Nutrition-specific service provision in Myanmar had been decreasing since 2017, prior to the COVID-19 pandemic, leaving many children untreated and thus increasing the risk of malnutrition, morbidity and mortality. Nutrition services, including active wasting/ acute malnutrition case detection, referral and treatment, have been severely disrupted by insecurity and increased access restrictions since 2017.⁵ Service provision, including outside of Rakhine, has been further reduced by the COVID-19 pandemic and the recent political instability. Scale-up and uptake of wasting/ acute malnutrition treatment in Myanmar remains low with only 42.3% of children with severe wasting/ acute malnutrition and 20.4% of children with moderate wasting/ acute malnutrition targeted receiving treatment in 2021.⁶

A recent barrier analysis of wasting/ acute malnutrition treatment in Rakhine State, Myanmar identified the following key challenges and barriers⁷:

- **Difficulties obtaining travel authorisation (TA) for service provision for international and national NGOs to operate and for caregivers to travel to health facilities to seek treatment leads to gaps in providing and accessing wasting/ acute malnutrition treatment services.** Caregivers who often have to travel long distances to seek treatment and cannot afford the transportation costs do not seek treatment. Therefore, children are either not treated or treatment is delayed, increasing risk of mortality.
- **There is limited coverage of treatment services even in locations where nutrition partners and governments are operational.** There has always been a low coverage of treatment services in Rakhine State but since the coup d'etat, several outpatient therapeutic programme (OTP) sites provided through government health facilities that were operational have not provided consistent services and funding for those locations was at times discontinued due to the approach of limiting engagement with the de facto authorities.
- **Obtaining a memorandum of understanding (MOU) required by organisations providing services is a long process and is typically inflexible in changing service activities and locations, making scale-up of wasting/ acute malnutrition treatment difficult.**

¹ [Global Nutrition Report 2021](#)

² [Global Nutrition Report 2021](#)

³ [Myanmar National Nutrition Survey 1990](#)

⁴ [Myanmar Micronutrient and Food Consumption Survey 2018](#)

⁵ [HARP-F 2021. Nutrition in Myanmar: Focus on Rakhine State](#)

⁶ [Myanmar Nutrition Sector Dashboard December 2021](#)

⁷ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

- **Limited cohesion within wasting/ acute malnutrition treatment services and between nutrition partners where severe wasting/ acute malnutrition and moderate wasting/ acute malnutrition are treated in separate programmes increases the risk of children missing lifesaving treatment.** For example, organisations who are providing treatment for moderate wasting/ acute malnutrition may not be providing treatment for severe wasting/ acute malnutrition, resulting in leaky referrals where children do not continue to the next stage of treatment as it is in a separate programme.
- **Wasting/ acute malnutrition treatment is seen as medically intensive and difficult for low-literate or inexperienced health care workers/ volunteers to provide treatment.** As a result, scale-up of wasting/ acute malnutrition treatment has been difficult.
- **Community perceptions and taboos prevent health-seeking behaviours.** Communities do not believe wasting/ acute malnutrition is a life-threatening problem, so do not seek treatment. Additionally, men may not support families to seek treatment. However, the root causes of this finding have yet to be explored.
- **There has been a ready-to-use supplementary food (RUSF) pipeline break during the first few months of 2022.** This leaves children with moderate wasting/ acute malnutrition without treatment.
- **Funding for nutrition is limited and is often not prioritised in the Myanmar humanitarian response.** In 2021, the nutrition sector only received 36.6% of the required funding based on the Humanitarian Response Plan 2021.⁸

The barriers to seeking maternal and child health services are multi-factorial, with Muslim households facing additional obstacles and disparities between treatment services available in camp versus non-camp settings, and these need to be addressed to achieve increased coverage of treatment services. Another major gap in provision of wasting/ acute malnutrition treatment includes a need for better management, including referral, of children with severe wasting/ acute malnutrition and medical complications to inpatient services. Yet, wasting/ acute malnutrition services, and nutrition services more broadly, have been neglected historically in the humanitarian response in Myanmar. Despite a recent shift in prioritising implementation of wasting/ acute malnutrition treatment services, there is still an urgent need for new, evidence-based approaches for treatment of wasting/ acute malnutrition in particular as a central part of the humanitarian response, in order to reach the most vulnerable children.

What are simplified approaches?

Simplified approaches refer to a number of simplifications to existing national and global protocols to treat uncomplicated child wasting.⁹ These approaches arose from the need to improve cost-effectiveness, quality, efficiency and coverage of wasting treatment in the context of limited resources and increasing needs. The simplification can be considered as an enabling factor to promote integration of services into national systems or to increase coverage of services in emergencies, such as during the COVID-19 pandemic.

In March 2019, the World Health Organization (WHO), United Nations High Commissioner for Refugees (UNHCR), United Nations Children's Fund (UNICEF) and the World Food Programme (WFP) concluded that although preliminary findings on simplified approaches are promising, there still is not a sufficient volume of evidence on the effectiveness of simplified approaches to justify a change in the global recommendations. However, they also concluded that support should be made to national coordination platforms to increase the evidence base and to lead on the use of simplified approaches to the treatment of child wasting in exceptional circumstances.^{10,11} Despite a lack of normative guidance, with the onset of COVID-19, UNICEF also endorsed a series of simplified approaches to maintain wasting treatment services.¹²

⁸ [OCHA Financial Tracking Service Myanmar Humanitarian Response Plan 2021.](#)

⁹ [What Are Simplified Approaches. A Common Definition 2022](#)

¹⁰ [Simplified approaches for the treatment of child wasting. An executive briefing from a technical consultation between the World Health Organization, the Office of the United Nations High Commissioner for Refugees, the United Nations Children's Fund and the World Food Programme 2019](#)

¹¹ [Simplified Approaches website: Using Simplified Approaches in Exceptional Circumstances](#)

¹² [Simplified approaches: Tools and resources 2022](#)

In February 2020, five United Nations (UN) agencies (the Food and Agriculture Organisation (FAO), UNHCR, UNICEF, WFP and WHO) released the Global Action Plan (GAP) Framework on Child Wasting¹³ to accelerate progress to achieve the SDG wasting target. As part of the GAP, adaptations to wasting services and normative guidance are being reviewed to identify opportunities to scale-up wasting treatment.¹⁴ UN agencies have developed Country Roadmaps for Action under the GAP and while Myanmar is not a frontrunner country on this effort, it could benefit from the learnings and plans identified by the frontrunner countries.

Due to the barriers with scaling up coverage of wasting/ acute malnutrition treatment in Myanmar, adaptation and innovation is necessary. Simplified approaches present an opportunity to address a number of the barriers to increasing coverage and ensuring access to treatment for many malnourished children. Approaches such as using Family mid-upper arm circumference (Family MUAC/ mother MUAC) and piloting other simplified approaches to wasting/ acute malnutrition treatment, for example treatment by low-literate health workers/ volunteers or adapted dosages in the absence of sufficient quantities of ready-to-use therapeutic food (RUTF), are needed. Other opportunities in the Myanmar context include further integration of nutrition services into mobile health clinics.

There are many definitions of simplified approaches. This report uses UNICEF's definitions (Table 1). Note that several approaches have been used together and have thus been referred to as the combined protocol.

Table 1: Definition of simplified approaches adapted from UNICEF's definitions¹⁵

Current Practice		Simplified Approach and Description
1	MUAC and oedema screenings conducted by community health workers (CHWs) and other health centre staff.	Family MUAC: Caregivers are trained and equipped to screen their own children for acute malnutrition by measuring MUAC and assessing oedematous malnutrition. Also known as mother-led MUAC.
2	Treatment of children with wasting/ acute malnutrition without medical complications takes place in a central location, typically an OTP or outpatient clinic or facility.	CHW-led treatment of wasting: Enabling and empowering CHWs to treat wasting/ acute malnutrition without medical complications at community level. Also includes simplification of protocol and tools for low-literate health workers and use of mobile teams.
3	Current treatment protocol calls for weekly follow-up visits for children receiving treatment.	Reduced frequency of follow-up visits: Reducing the frequency of follow-up visits for wasted children admitted into treatment from weekly to biweekly or monthly. Including reduced number of visits to health facilities during treatment and use of CHWs through existing interventions, such as mother support groups, to provide follow-up outside the health facility.
4	Children are admitted and discharged for treatment using three possible criteria: MUAC and/ or oedema and/ or weight-for-height z-scores (WHZ).	MUAC and/ or oedema only: Use of MUAC cut-off (in addition to screening for oedema) to admit all children rather than using WHZ alone or WHZ in addition to MUAC.
5	Whilst severe wasting/ acute malnutrition is usually treated systematically, children with moderate wasting/ acute malnutrition are not always eligible for treatment.	Expanded admissions criteria: Increasing the MUAC cut-off to admit all children <125mm into one programme, so that children across the spectrum of wasting/ acute malnutrition who are considered higher risk are eligible for treatment (discharge criteria based on MUAC >125mm).

¹³ [Global Action Plan Child Wasting 2022](#)

¹⁴ [UNICEF 2022 Adaptations to Wasting Services and Normative guidance Review Information Note for Ministry of Health Staff and National Implementers.](#)

¹⁵ [UNICEF 2021 Simplified Approaches for the Management of Wasting](#)

6	Current treatment models use two products to treat severe wasting/ acute malnutrition (RUTF) and moderate wasting/ acute malnutrition (fortified blended food [FBF] and RUSF).	Use of single treatment product: Treating wasted children without complications with one product - RUTF - irrespective of the severity of wasting/ acute malnutrition.
7	Under current protocol RUTF dosage is based on weight, and thus increases over the course of treatment. Current dosage tables can be hard to administer and adhere to.	Reduced dosage: Normally used in combination with a single treatment product (but not always), dosage of treatment product is most commonly reduced to 2 sachets/day for severe wasting/ acute malnutrition and 1 sachet/day for moderate wasting/ acute malnutrition, as determined by MUAC or oedema status.

Source from UNICEF 2021. *Simplified Approaches for the Management of Wasting*

Global Evidence: Where have simplified approaches been implemented?

Evidence summaries of simplified approaches globally have been well documented in recent systematic reviews:

- Action Against Hunger’s State of Evidence 2021: Modifications Aiming to Optimize Acute Malnutrition Treatment in Children Under Five¹⁶
- UNICEF (2021) Treatment of wasting using simplified approaches. A Rapid Evidence Review¹⁷

COVID-19 Adaptations

- Wrabel et al (2021). Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic¹⁸
- Action Against Hunger (2022). Adaptations to the Management of Acute Malnutrition in the Context of COVID-19¹⁹

For reference, the global evidence on each simplified approach is presented in Annex 1.

The evidence base on simplified approaches is growing, with implementation predominantly in the West and Central Africa region and in rural settings in both humanitarian and development contexts. The Simplified Approaches website²⁰ has been collating research on simplified approaches and has so far documented 90 publications as of January 2022. These range from peer-reviewed evidence papers, Emergency Nutrition Network papers, proposals, trials, articles and reports.

More recently due to the COVID-19 pandemic, a number of simplified approaches have received temporary endorsement to adapt to limited person-to-person contact to reduce the risk of transmission, movement restrictions and to mitigate the risks of potential supply chain disruptions. A briefing paper on using simplified approaches in exceptional circumstances has been published.²¹ As a result, more organisations have implemented simplified approaches. The Simplified Approaches website allows organisations to self-report what and where this is occurring (Figure 1). As of January 2022, 52 countries have implemented simplified approaches with the most popular being Family MUAC (39 countries). The combined protocol, consisting of any combination of the following simplified approaches: MUAC/oedema only, expanded admissions criteria, use of single treatment product and reduced dosage, is the second most popular (31 countries). The State of Acute Malnutrition’s tracker for COVID-19 adaptations to the management of wasting/ acute malnutrition²² which reports on individual simplified approaches shows that after Family MUAC (35 countries), the modified frequency of follow-up visits (29 countries) is the second most commonly used simplified approach, followed by the use of one product for treatment (12 countries) (Figure 2).

¹⁶ [Action Against Hunger 2021 State of the Evidence: Modifications Aiming to Optimize Acute Malnutrition Management in children under Five.](#)

¹⁷ [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review.](#)

¹⁸ [Adaptation to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹⁹ [Action Against Hunger 2022 Adaptations to the Management of Acute Malnutrition in the Context of COVID-19](#)

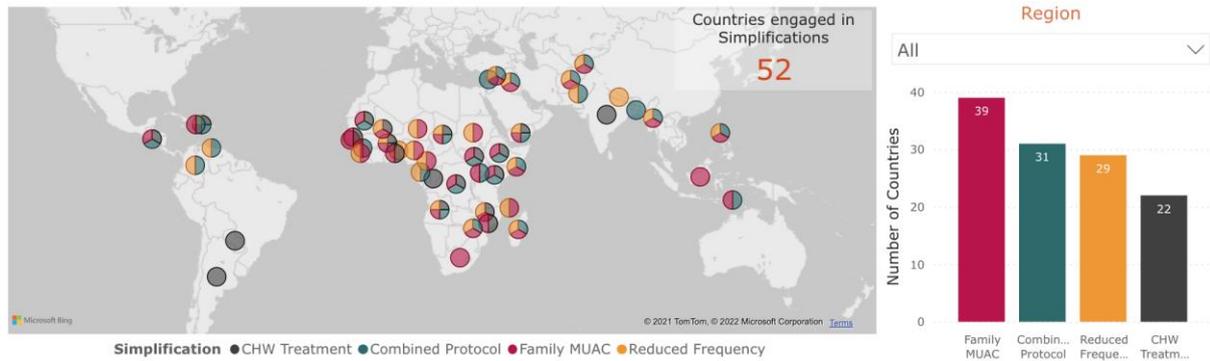
²⁰ [Simplified Approaches website](#)

²¹ [Simplified Approaches website: Using Simplified Approaches in Exceptional Circumstances](#)

²² [State of Acute Malnutrition: Innovations and COVID-19 adaptations](#)

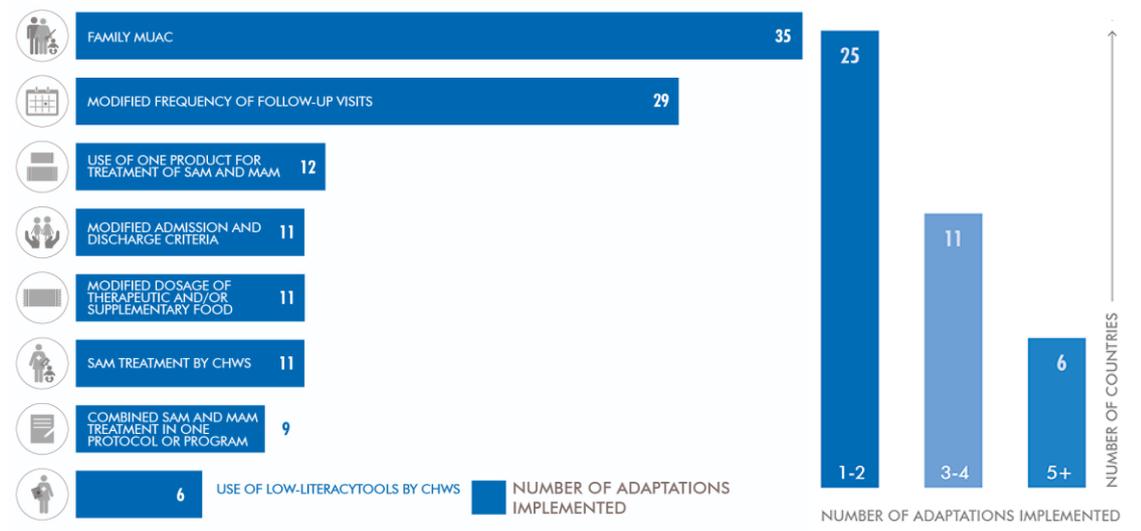
The Emergency Nutrition Network and Action Against Hunger have been key in documenting country-specific case studies such as the use of Family MUAC and MUAC-only admissions in Cox’s Bazaar,²³ reduced frequency of follow-up appointments in Ethiopia,²⁴ and expanded admissions criteria in Uganda COVID-19 experiences.²⁵

Figure 1: Number of countries implementing simplified approaches worldwide according to the Simplified Approaches website (self-reported)



Source: <https://www.simplifiedapproaches.org> as of January 2022

Figure 2: Number of countries implementing simplified approaches according to the State of Acute Malnutrition



Source: <https://www.acutemalnutrition.org/en/innovations-and-covid19-adaptations> as of March 2022

Purpose and Objectives of Report

This report was commissioned by the Humanitarian Assistance and Resilience Programme Facility (HARP-F) to review the evidence on simplified approaches to wasting/ acute malnutrition treatment both at the global level and in Myanmar specifically, to inform the use of simplified approaches by the subnational Rakhine Nutrition Cluster in Rakhine State, Myanmar.

Objectives:

- ²³ [Adaptations to CMAM programming in Cox’s Bazar in the context of the COVID-19 pandemic. Field Exchange 63](#)
²⁴ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)
²⁵ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

- To examine the global evidence base for simplified approaches and what guidance currently exists, including for COVID-19 adaptations, in order to understand what may be relevant for the Myanmar and Rakhine State contexts (Annex 1).
- To identify what simplified approaches have been implemented or trialled in Myanmar, in what locations and what the results were.
- To identify barriers and opportunities for each simplified approach in Rakhine State, Myanmar.
- To identify what simplified approaches would be feasible/appropriate to pilot/implement/scale-up in Rakhine State.

The context in Rakhine State differs from other geographic locations in Myanmar and so this report focuses on providing recommendations for Rakhine State specifically, given this is where most evidence was collated and analysed. The findings from Rakhine State can be examined and applied to other geographic locations in Myanmar however, considering the differences in other contexts e.g. where ethnic health organisations (EHOs) are present given they play a much larger role in providing treatment of wasting services in locations outside of Rakhine State.

Methodology

Firstly, a literature search was conducted using the following steps:

- Review of targeted website searches including the Simplified Approaches website, Emergency Nutrition Network website (ENN papers, Field Exchange articles and en-net forum) and the State of Acute Malnutrition website.
- Additional Google Scholar and general Google search using the search terms below.
- Review of Myanmar national and subnational Nutrition Sector/ Cluster meeting minutes.
- Snowballing method to identify further reports of interest.

Search terms used in the literature review included:

Mother MUAC, Family MUAC, simplified approaches wasting/ acute malnutrition, simplified approaches acute malnutrition, reduced dosage, single product, MUAC only

Secondly, a survey (Annex 2) focusing on simplified approaches, what is being implemented and/ or planned and where, was shared with the subnational Rakhine Nutrition Cluster in December 2021. Qualitative questions regarding simplified approaches were also asked to key informants participating in interviews for a separate project commissioned by HARP-F: '[Localisation: Review of evidence and best practice to inform the Myanmar Nutrition Sector](#)'. These interviews were conducted between November and December 2021 and the questions were added on as a separate set of questions to relevant partners, so were not framed in the context of localisation. A total of nine organisations either responded to the survey or provided input via interviews. Informed consent was sought from key informants participating in the localisation interviews to include relevant data in the analysis of this report.

Utilising all the above sources of information, considerations for piloting and scaling up simplified approaches to wasting/ acute malnutrition have been outlined in this report based on the available global and Myanmar-specific evidence.

Limitations:

- Communication with stakeholders had to be conducted remotely due to the COVID-19 pandemic and insecurity in Myanmar. Interviews were conducted remotely via Skype, Teams and Zoom which may have affected the depth of information collected.
- There was at some stages of this project limited stakeholder engagement due to multiple research projects being conducted at the same time requiring feedback from the same stakeholders. Questions on simplified approaches were asked at the end of key informant interviews for another research project if there was sufficient time remaining. A mapping and an online survey were sent to the partners via the subnational Rakhine Nutrition Cluster Coordinator with one response received. To facilitate further discussion with partners who provide wasting/ acute malnutrition treatment, the evaluation team directly emailed key stakeholders. Despite best efforts, the limited responses received limited the scope of the original objectives of the research.

- Limited documentation was available in Myanmar due to political sensitivities and COVID-19. This may mean not all experiences were captured in the evidence included in this report.

Findings

In this section, each simplified approach will be discussed individually using the below structure, with the exception of the one product approach and reduced dosage which have been discussed together.

- **Definition** of the simplified approach according to global evidence
- **Standard practices** based on the Myanmar IMAM Operational Protocol (2017)
- **Temporary adaptations** allowed under the Adapted Emergency Nutrition Programming Guidance during COVID-19 developed by the Myanmar Strategic Advisory Group (SAG) of the Myanmar Nutrition in Emergencies (NIE) working group under the Myanmar Nutrition Technical Network in July 2020 and updated in December 2021 in response to the political crisis
- **Current and past implementation experiences** of the simplified approach in the Myanmar context
- **Positives and risks** associated with the potential scale up of the simplified approach in Rakhine State
- **Recommendations** for implementing the simplified approach in Rakhine State

To assess the scalability of each simplified approach in Rakhine State, the Management Systems International (MSI) framework “Scaling Up from Vision to Large-Scale Change” has been applied.²⁶ The framework provides a list of questions for 10 steps to scaling up which then can be used to categorise each step as task achieved, task partially achieved, and task not achieved. Annex 3 shows an initial assessment and provides a narrative for each task for scaling up each simplified approach in Rakhine State.

1. Family MUAC

What is Family MUAC?

MUAC and oedema screenings are usually conducted by CHWs and other health centre staff. In the Family MUAC approach caregivers are trained to screen their own children for malnutrition by measuring MUAC and oedema.

What is allowed under existing guidelines in Myanmar?

Myanmar IMAM Operational Protocol (2017)

Health workers and volunteers conduct MUAC screening.

COVID-19 Guidelines: SAG Adapted Emergency Nutrition Programming Guidance during COVID-19 Pandemic in Myanmar

- If there is a full population mobility restriction, contact caretakers who are previously trained on how to take MUAC measurements. They should report the results to the health staff/ service provider by phone, text message, viber or other social media or recognised media channel. Otherwise, prioritise passive screening for all sick children by BHS in health facilities.
- During MUAC screening, caretakers should be taught how to measure MUAC properly so that they are ready to measure their children’s MUAC by themselves when movement is fully restricted (or otherwise).

To facilitate the use of Family MUAC, UNICEF developed a [video](#) in Myanmar language to show caregivers how to measure MUAC accurately with a focus on interpreting MUAC colours (interviews).

Implementation experiences in Myanmar

There are limited documented experiences of using Family MUAC in Myanmar (Table 2). Several organisations did have plans to start using Family MUAC in response to the COVID-19 guidelines but have faced challenges with getting permission from the National Nutrition Centre (NNC). Action Against Hunger (ACF) and the Ministry of Health and Sports (MOHS) jointly implemented Family MUAC in Rakhine between December 2019 and October 2020 (Box 1). Due to ACF’s

²⁶ [MSI Scaling Up from Vision to Large-Scale change. A Management Framework for Practitioners Third Edition, 2020.](#)

longstanding presence in Myanmar, they were able to get TA to conduct the pilot. However, due to COVID-19 the endline survey was not fully completed and the original plan to conduct a randomised controlled trial was changed to an operational pilot. Finally, in response to COVID-19, UNICEF prepositioned MUAC tapes in Rakhine in anticipation of increased screening by caregivers (interviews).

Table 2: Mapping of implementers and description of implementation for Family MUAC

Implementers	Description
ACF and MOHS	Innovative Actions to Treat Malnutrition Mother-MUAC: Implemented in Rakhine (Minbya and Thandwe) from December 2019 - October 2020 (Box 1).
People in Need (PIN)	Myanmar Health Fund (MHF) Mother-MUAC: Suspended due to COVID-19 pandemic.
World Concern	COVID-19 adaptations: Not implemented due to difficulty with getting permission (interviews).
International Rescue Committee (IRC)	COVID-19 adaptations: Plans to start Family MUAC screening as part of social and behaviour change communication (SBCC) in locations where IRC implements IMAM (interviews).
Thai Border Consortium (TBC)	COVID-19 adaptations: Has been looking at implementing Family MUAC to move out of the clinic-centric approach towards a community approach (interviews).
Save the Children International (SCI)	COVID-19 adaptations: In December 2021, SCI started implementing Family MUAC in 18 villages in Pauktaw, Rakhine. SCI also implemented Family MUAC in Kachin and Yangon. Mothers and transferable life skills volunteers have been trained to teach mothers on Family MUAC. If they identify malnourished cases, they will contact SCI staff and refer cases appropriately. SCI has generated some evidence on the effectiveness and accuracy of Family MUAC.
ACF	COVID-19 adaptations: Has continued to provide training to health workers to train women in the community to measure MUAC in Thandwe, Rakhine since their study ended in 2020 (see above). This has expanded to training mothers in mother support groups.
Medical Action Myanmar	COVID-19 adaptations: Has trained caretakers to measure MUAC under staff supervision.

Box 1: Innovations to Treat - Integrated Management of Acute Malnutrition (IMAM) Program

Date of programme: December 2019 - October 2020

Implementers: Action Against Hunger (ACF) and Ministry of Health and Sports (MOHS)

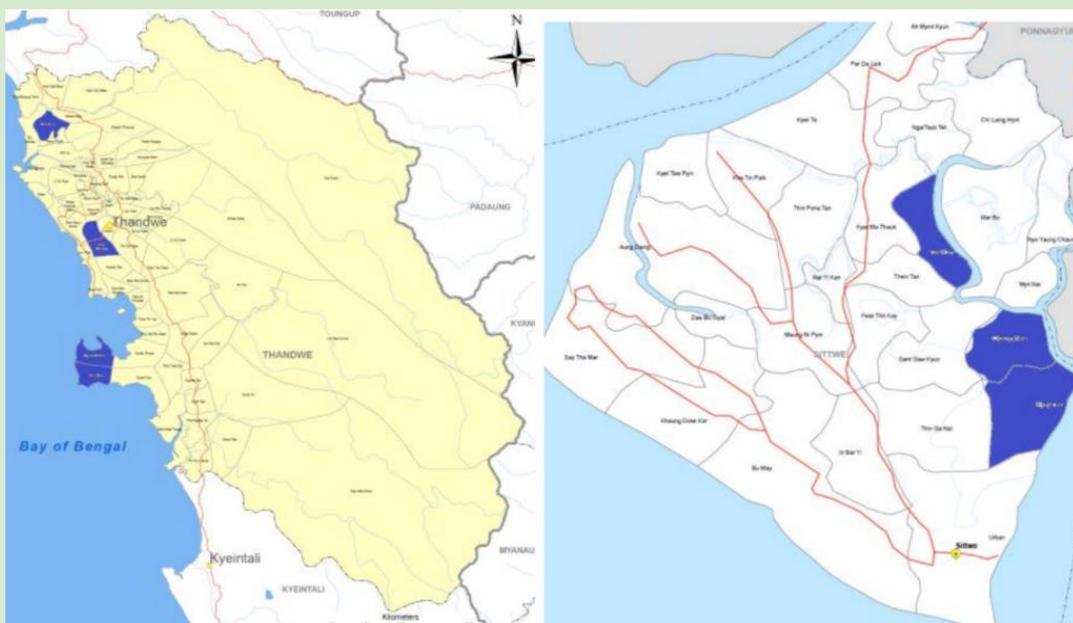
Locations: 11 villages in Rakhine (Sittwe and Thandwe townships) (Figure 3)

- Townships purposively selected with IMAM programme - represents different socio-demographic characteristics and good accessibility (as assessed in 2019 when COVID-19 restrictions were not already in place)

- Excluded sub-rural health centres where a special program or assistance have been provided

Description: The rationale behind the Family MUAC (mother MUAC) approach was to enhance the detection of wasting/ acute malnutrition cases in the community and increase the number of referrals for treatment at OTPs. Project staff and BHS trained CHWs taught and monitored mothers using MUAC tapes. Trained mothers received MUAC tapes and colour-coded recording sheets. Routine growth monitoring promotion activities by BHS were also a platform for mothers to learn to measure MUAC. The intention was for mothers practising MUAC well to share their experiences and continue as co-trainers.

Figure 3: Maps of Thandwe and Sittwe townships where the Innovations to Treat - IMAM program was implemented



Outcomes and Impact:

- Family MUAC is feasible with a simple training and distribution of MUAC tapes
- Mothers were able to accurately measure MUAC
- Family MUAC is considered cost-efficient compared to other community mobilisation programmes

Lessons Learned:

Operational challenges

- Delayed start in Sittwe and Minbya Townships due to unsuccessful ethical clearance procedures by the NNC and State Health Director.
- Delayed TA in Thandwe due to newly established office for ACF mission.
- Delayed training due to COVID-19: training was maintained remotely through Skype.
- Limited training spaces to limit the number of participants at the field level to maintain social distancing.
- Procurement and delivering nutrition supplies and commodities was a challenge.
- Only 171 mothers were trained, which was 40% of the estimated total number of mothers (421) due to COVID-19.

Study limitations

- Endline survey not completed.
- Not a randomised controlled trial as originally planned.
- Mothers selected were more educated compared to other parts of Rakhine which may have impacted whether

they were able to accurately measure MUAC.

- The short duration of the study with limited participants (171). Screening coverage may not have been sufficient to detect severe acute malnutrition (SAM) cases.

What don't we still know?

- Whether Family MUAC is superior to standard care as current evidence is compared to Sphere standards.
- How sustainable the approach is, the effectiveness of increasing screening on treatment coverage and what the change was in mothers' knowledge, attitude and practice. The assessment of whether mothers could correctly measure MUAC was based on one visit eight months post training. All children were not wasted; therefore it is unclear whether they would have self-referred to the clinic.

Opportunities:

- Expand use of MUAC to other family members and caregivers including grandmothers and fathers.
- Raise awareness through the mother care group model (implemented by SCI) and integrate Family MUAC into different nutrition interventions.
- Standardise volunteer guidelines to include Family MUAC in specific nutrition activities such as MUAC screening, health education and community mobilisation.
- Include Family MUAC screening in basic nutrition services.

Source: (1) Action Against Hunger 2020. Effectiveness Study of Mother MUAC approach to Treat Malnutrition in Rakhine State, Myanmar (2) Action Against Hunger 2019. Innovative Actions to Treat Malnutrition in Rakhine Annex A. Project Proposal

Positives to implementing this approach in Rakhine State

- **Addresses key barriers to active screening including obtaining TA and movement restrictions.** In Rakhine, active screening was only done in those villages where village-based volunteers were functioning due to movement restrictions between villages and difficulty obtaining TA.²⁷ Scaling up Family MUAC can provide a solution to this, although some challenges remain in reaching caregivers to train them on Family MUAC.
- **Increased coverage and frequency of screening can lead to earlier detection and fewer hospitalisations.** In Myanmar, inpatient care is only managed by the government and not provided by NGOs. With the coup d'etat, government services have been severely disrupted leaving gaps in inpatient care.²⁸ Earlier detection and fewer hospitalisations is vital to preventing child deaths. Several studies' experiences show that Family MUAC has led to an increase in self-referrals, earlier detection and fewer hospitalisations including in Chad²⁹, Burkina Faso³⁰, Niger³¹, Democratic Republic of the Congo³² and Ethiopia in children under six months of age.³³ For example, in Chad screening coverage was 85.5% in 21 areas using Family MUAC compared to 79.6% in 24 areas where CHWs conduct the screening. Of those screened, the Family MUAC approach showed a higher percentage of severely wasted children identified by mothers who were admitted for treatment at the health centre (63.2%) compared to the CHW screening approach (50.2%). Additional benefits included reduced dropout rates in outpatient and inpatient wasting/ acute malnutrition treatment.³⁴
- **Family MUAC has already been implemented in Rakhine.** Family MUAC is feasible in Rakhine with simple training and distribution of MUAC tapes (Box 1). Mothers were able to accurately measure MUAC. Since Family MUAC has already been implemented, the tools, including a training video developed by UNICEF, have been contextualised for

²⁷ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

²⁸ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

²⁹ [In Chad, the mother-MUAC approach improves treatment access for malnourished children. Field Exchange 65](#)

³⁰ [OptiMA study in Burkina Faso: Emerging findings and additional insights. Field Exchange 60](#)

³¹ [Alé et al. 2016. Mothers screening for malnutrition by mid-upper arm circumference is noninferior to community health workers: results from a large-scale pragmatic trial in rural Niger. Arch Public Health. 2016;74\(1\):38.](#)

³² [State of Acute Malnutrition: The Family MUAC Approach - COOPI](#)

³³ [Implementing the family-MUAC approach for infants under 6 months in the context of COVID-19 in Ethiopia. Field Exchange 64](#)

³⁴ [In Chad, the mother-MUAC approach improves treatment access for malnourished children. Field Exchange 65](#)

Rakhine. The Leveraging Actions to Reduce Malnutrition (LEARN)³⁵ initiative is also delivering training on Family MUAC and has held one community of practice on Family MUAC, with another coming soon, to support learning, sharing of barriers and sharing of experiences amongst partners.

- **Family MUAC is low-cost, which is especially important in Myanmar where funding for nutrition is low.** The main costs for Family MUAC are the MUAC tapes and training. While there may be increased costs with an increase in self-referrals, the potential for shorter length of stay in the treatment programme and reduced risk of medical complications from early detection may reduce the costs in the long-term.^{36,37} In Chad, the support costs were reduced by 27% in the Family MUAC approach compared to the standard approach.³⁸
- **Low ‘do no harm’ risk.** Since Family MUAC has a strong evidence base and a low ‘do no harm’ risk, acceptance of the approach is more likely. Since this is a community approach, there is little authorisation required to pilot or scale-up Family MUAC. This approach also does not require changes to the current IMAM protocol.
- **Link to broader SBCC.** Family MUAC can be incorporated into SBCC implementation to improve nutrition practices, for example when building awareness of the risks of malnutrition.
- **Implementation is relatively easy.** Previous experience in Myanmar shows that with simple training, caregivers can accurately measure MUAC.

Potential risks when implementing this approach and ways to address risks in Rakhine State

Potential Risks and Limitations	Ways to address this
<p>Detection of wasting/ acute malnutrition by a caretaker may not necessarily translate to seeking treatment.³⁹</p> <p>It is not known whether this approach improved health-seeking behaviour or not in Rakhine when implemented. With limited coverage of treatment services even in townships where NGOs are present, people may still live far from available nutrition services. Lack of money for transportation to health facilities will still be a barrier to seeking treatment.⁴⁰</p> <p>Experiences in Kenya showed that caregivers were concerned that staff would be frustrated with them for inaccurate MUAC measurements and as a result, they may not seek care.⁴¹</p>	<p>UNICEF as the nutrition cluster lead agency (CLA)</p> <ul style="list-style-type: none"> ● Ensure an SBCC strategy is designed with the Family MUAC approach to encourage continuation of health-seeking behaviours. ● Messaging needs to be developed around inaccurate self-referrals to avoid discouraging health-seeking practices. Ensure messaging and proper sensitisation is included in the SBCC strategy. ● Mass media could be used to remind caregivers to screen and provide guidance on what to do if they identify children with yellow or red MUAC measurements. ● Develop a standardised transportation cost structure for caregivers to attend nutrition services for treatment where needed. <p>Implementing partners</p> <ul style="list-style-type: none"> ● Retrain caregivers who self-refer children with inaccurate measurements and encourage them to

³⁵ [LIFT annual report 2020](#)

³⁶ [Blackwell N, Myatt M, Allafort-Duverger T, Balogoun A, Ibrahim A, Briend A. Mothers Understand and Can do it \(MUAC\): a comparison of mothers and community health workers determining mid-upper arm circumference in 103 children aged from 6 months to 5 years. Arch Public Health. 2015;73\(1\):26.](#)

³⁷ [Grant A, Njiru J, Okoth E, Awino I, Briend A, Murage S, et al. Comparing performance of mothers using simplified mid-upper arm circumference \(MUAC\) classification devices with an improved MUAC insertion tape in Isiolo County, Kenya. Arch Public Health. 2018;76:11](#)

³⁸ [In Chad, the mother-MUAC approach improves treatment access for malnourished children. Field Exchange 65](#)

³⁹ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

⁴⁰ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

⁴¹ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

	<p>continue positive health-seeking behaviours (see below for more on training).</p> <ul style="list-style-type: none"> Develop standardised monitoring for tracking referrals and follow up to identify and fill gaps as required.
<p>Scale-up of Family MUAC may increase admissions. With disruptions to health services at health facilities due to the COVID-19 pandemic and the coup d'etat, there is a risk of inadequate provision of wasting/ acute malnutrition treatment services to accommodate increased referrals.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> Family MUAC may need to be coupled with the CHW-led wasting/ acute malnutrition treatment approach, including mobile clinics, to address this problem. Combining Family MUAC with the MUAC-only approach may target children at highest risk of mortality with potentially little increase in admissions.
<p>It is unknown how many additional supplies (MUAC tapes, RUTF, RUSF) are required to scale-up Family MUAC. In Myanmar during the COVID-19 pandemic, UNICEF was able to procure additional MUAC tapes. With potentially increased admissions, there will be additional RUTF/ RUSF requirements. Stock-outs in 2021 were noted in the Rakhine Coordination Meeting Minutes but subsequent interviews did not report this as an issue. However, in December 2021, there have been concerns regarding a supply chain break due to RUSF stuck at the port.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> To ensure sufficient stock of MUAC tapes and RUTF/ RUSF, enough lead time is needed for procurement. Experiences in Malawi showed that it took UNICEF three months to procure such items.⁴² UNICEF is now piloting a proxy prevalence tool as an early warning for increasing caseloads, to inform the need for supply increase. <p>Implementing partners</p> <ul style="list-style-type: none"> If MUAC tapes are a constraint, targeted distribution is required instead of full coverage. If COVID-19 guidelines allow, one MUAC tape may be shared amongst two to three households.
<p>Adequate training requires additional funding and optimal frequency of re-training is required to maintain accuracy of MUAC measurements. Inaccurate measures are potentially disheartening for caregivers who then travel to seek care but are refused treatment. Research shows that refresher training is required to maintain accuracy of MUAC measurements. There is no guidance on optimal frequency of re-training, however retraining requires little time.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> To scale-up training, use cascade training and integrate training with existing entry points. Identify upcoming training where this can be integrated. This was done in early 2022 where Family MUAC training was provided with the IMAM training. Determine a set frequency for re-training and contribute to the evidence generation around the required frequency and intensity of refresher training for effective use of Family MUAC. <p>Implementing partners</p> <ul style="list-style-type: none"> Determine how training can be provided. Given COVID-19, training may be conducted remotely with CHWs who are part of the community and can train mothers in that community. Use the LEARN initiative and SUN Civil Society Alliance to support further training at subnational level. SCI have developed a robust verification approach for Family MUAC which can be used, adapted and shared with other implementing partners.
<p>Monitoring and evaluation strategy needs to be defined in the community and at health centre levels using a small set of feasible and reliable indicators.⁴³</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> Use existing guidelines to develop standardised indicators to be used. Include indicators which can help determine early detection and increased coverage.

⁴² [State of Acute Malnutrition: The Family MUAC Approach: GOAL](#)

⁴³ [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review.](#)

<p>In addition to a monitoring and evaluation strategy, there is a need to assess effectiveness of the Family MUAC approach. Globally, there are no standardised set of indicators but multiple pieces of guidance exist.</p>	<ul style="list-style-type: none"> Collate lessons learned and disseminate findings at Nutrition Cluster coordination meetings. <p><i>Resource: GOAL Family MUAC toolkit community training monitoring tools and health facility monitoring tools</i></p>
<p>Entry points/ platforms need to be defined for scale-up/pilot.</p> <p>There are several organisations with plans to scale-up the Family MUAC approach. Further entry points or opportunities need to be explored.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> Determine the main barriers to seeking treatment at a localised level (as this varies hugely between townships and states) including the involvement of men in the decision-making process. Men have been shown to be key decision-makers in children seeking treatment but the reasons underpinning this have yet to be explored.⁴⁴ This analysis can then be used as an entry point for Family MUAC targeting those who are identified as the primary decision-makers. <p>Implementing partners</p> <ul style="list-style-type: none"> Determine the entry points and platforms for scaling up focusing on those who are the most influential decision-makers to ensure optimal health-seeking behaviours. This could be through: <ul style="list-style-type: none"> Including all members of the family including grandparents, fathers, adolescent girls and mothers to be. As a priority, men in the family should be trained as they are often the main decision-makers in the family. Raising awareness through mother care group models and integrating Family MUAC in different nutrition interventions. Including MUAC screening in basic nutrition services. <p><i>Resource: Family MUAC approach in the time of COVID-19: implementation considerations for programme managers (Save the Children, July 2020)</i></p>

Recommendations for implementation in Rakhine State

Family MUAC is widely accepted in Rakhine State and should therefore be scaled up further. For this approach to be successfully scaled up, a stronger monitoring and evaluation system should be developed to ensure evidence is generated on the approach, MUAC tapes need to be adequately supplied, and treatment needs to be available for those who are screened and referred for further support.

Next steps include:

- Subnational Rakhine Nutrition Cluster to coordinate with nutrition partners to identify locations where Family MUAC can be scaled up and determine who will be doing what where.
- UNICEF (as the nutrition CLA) to ensure sufficient MUAC tapes are available in Myanmar.
- Myanmar Nutrition Cluster to develop standardised monitoring and evaluation reporting tools and procedures for Family MUAC.
- Rakhine State nutrition implementing partners to identify entry points for scaling up Family MUAC in locations where it is not currently being implemented.

⁴⁴ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

- Subnational Rakhine Nutrition Cluster to determine how Family MUAC screening data can be collected and used. MUAC screening data, although not representative, may provide insights and trends into wasting/ acute malnutrition prevalence, as might UNICEF's proxy prevalence tool.

2. CHW-led treatment of wasting

What is CHW-led treatment of wasting/ acute malnutrition?

The standard global IMAM protocol includes treatment of children with wasting/ acute malnutrition without medical complications in a central location, typically at a static outpatient health post, clinic or facility.

Under global guidance, community health worker-led (CHW-led) treatment of wasting/ acute malnutrition enables and empowers CHWs to treat wasting/ acute malnutrition without medical complications at the community level, i.e. not within a facility but through other modalities e.g. mobile teams, in locations that don't have a static health facility. CHW-led treatment of wasting/ acute malnutrition can also include the simplification of the protocol and tools suitable for low-literate health workers.

Global guidance from the Global Nutrition Cluster (GNC) and UNICEF recommends the use of mobile health teams and CHWs to manage and treat wasting/ acute malnutrition in the community under the context of partial or full population mobility restrictions, while IRC advises CHW-led treatment regardless of mobility restrictions.

What is allowed under existing guidelines in Myanmar?

In Myanmar, there has been confusion over what a CHW is and what CHW-led treatment of wasting/ acute malnutrition means.

For the purposes of this report, if children are screened in the community, referred to health facilities for initial treatment but are followed-up in the community with provision of RUTF/ RUSF, this has been referred to as CHW-led treatment. This modality encompasses standard IMAM screening practices but includes elements of CHW-led treatment during the follow-up stage.

For the purposes of this report, the definition of CHW-led treatment includes treatment services provided by EHO/NGO/MOHS staff and volunteers in the community, as long as it is not at a static health facility, clinic or OTP site. This differs from the definition of CHW-led treatment of wasting under global guidance (mentioned above).

Myanmar IMAM Operational Protocol (2017)

Current national protocols do not allow for CHW-led treatment in the community. CHWs are only permitted to carry out screening including active case finding by MUAC, referrals and home visits.

Standard IMAM programming incorporates MUAC screening for children under five years of age and pregnant and lactating women but not treatment or distribution of RUTF/ RUSF by CHWs. Therefore, screening in the community but not treatment is included in the national IMAM protocol.

COVID-19 Guidelines: SAG Adapted Emergency Nutrition Programming Guidance during COVID-19 Pandemic in Myanmar

The adapted protocol for COVID-19 allows for volunteer-led treatment at the household or in the community.

- Treatment can be conducted by NGO and EHO staff and volunteers.
- Cases can be treated in the household or in the community. If there are medical complications, they should be referred immediately to the nearest clinic or hospital.

Implementation experiences in Myanmar

Prior to COVID-19, wasting/ acute malnutrition screening and referrals to appropriate services at health facilities were made: CHW-led treatment in the community did not take place. Screening was conducted through mobile clinics and community volunteers in the community but treatment was still provided at health facilities or NGO/EHO-run facilities such as those operated by ACF or SCI, and those supported by EHOs funded by Access for Health.

There have been several examples of CHW-led wasting/ acute malnutrition treatment in the communities since the COVID-19 guidelines were published (Table 3):

- Treatment of wasting by CHWs through mobile clinics:** During COVID-19, a review of Rakhine meeting minutes shows UNICEF has piloted nutrition service integration in Mediciens San Frontières (MSF) mobile health activities with supplies provided by UNICEF and WFP in Rakhine (Box 2). Expansion of these services continue as more health partners are being trained on nutrition.⁴⁵ The International Organization for Migration (IOM), IRC, Relief International (RI), and the Myanmar Health Assistant Association (MHAA)/ Access to Health are planning to cascade this modality to other parts of Rakhine, including Buthidaung, Maungdaw and Sittwe townships in Rakhine.
- Follow-up of treatment at the village level through community volunteers:** In other examples of CHW-led management of wasting/ acute malnutrition, follow-up activities such as anthropometric measurements and distribution of RUSF/ RUTF are provided in the community either through mobile teams or community volunteers. However, children are screened by CHWs or volunteers in the community and are then initially referred to the targeted supplementary feeding programme (TSFP) or OTP if diagnosed as having wasting or acute malnutrition for a formal diagnosis to be made.

There is no documentation on the impact on malnutrition of community-led wasting/ acute malnutrition treatment in Myanmar.

Table 3: Mapping of implementers and description of implementation for CHW-led treatment

Implementers	Description
MSF*	Treatment of wasting/ acute malnutrition by CHWs currently being implemented through mobile clinics since mid-2021 (Box 2).
ACF	Screening, referral and follow-up activities have been carried out by community volunteers and CHWs. ACF is in the process of negotiating with the township medical officer (TMO) to introduce treatment in the community in their operating areas. However, this has been rejected since there has been concerns as to whether CHWs have the capacity to conduct integrated community case management (ICCM).
MHAA	Plans to cascade treatment of wasting/ acute malnutrition through mobile clinics in Ann and Kyaukphu townships, Rakhine State.*
IRC*	Plans to cascade treatment of wasting/ acute malnutrition through mobile clinics in Sittwe and Ratheduang townships, Rakhine State.
RI*	Plans to cascade treatment of wasting/ acute malnutrition through mobile clinics in Kayuktaw, Mrauk-U and Myebon townships, Rakhine State.

⁴⁵ July 2021 Rakhine Meeting Minutes

IOM	Plans to cascade treatment of wasting/ acute malnutrition through mobile clinics in Buthidaung, Maungdaw and Sittwe townships, Rakhine State.
Medical Action Myanmar	Provided follow-up and distribution of RUTF/ RUSF using medical mobile teams in Kachin, Kayin, Chin, Mon, and Sagaing states. Village health workers are also trained to screen and treat children for wasting/ acute malnutrition using MUAC measurements in the village at village health centres in all Medical Action Myanmar coverage areas.

Source: June 2021 Rakhine Meeting Minutes, *survey

Box 2: Médecins Sans Frontières (MSF)-led integration of wasting/ acute malnutrition treatment in mobile clinics

Implementers: Médecins Sans Frontières (MSF)

Description: The mobile health clinics provide primary health care closer to the community. In mid-2021, MSF piloted integrated nutrition services with mobile health clinics with supplies from UNICEF and WFP. The following services were introduced:

- Passive screening of mothers and children
- Treatment of children aged under five years of age with severe and moderate wasting/ acute malnutrition
- Referral of pregnant and lactating women (PLW) with moderate wasting/ acute malnutrition as needed
- Referral of severely wasted children aged under five years of age with medical complications to inpatient therapeutic programme
- IYCF counselling

Locations: Buthidaung, Maungdaw, and Rathedaung townships, Rakhine State

Lessons Learned:

- Increased coverage of wasting/ acute malnutrition treatment to vulnerable populations without incurring additional costs to the beneficiaries.
- Those children and PLW with moderate wasting who required referrals to services not covered by MSF did not seek further treatment due to the need for TA. Support has been provided through Access to Health's partners⁴⁶ since 2022.
- Greater flexibility in compliance is needed for procurement to ensure quick delivery of essential nutrition supplies in emergency settings.

Source: July 2021 Rakhine Coordination Meeting Minutes, Interviews

Positives to implementing this approach in Rakhine State

- **Reduces the need for organisations to obtain TA.** The difficulty obtaining TA has limited organisations from conducting necessary treatment activities in both villages and camps, including conducting follow-up visits. Only community volunteers have been able to conduct screening.⁴⁷
- **Reduces the distance beneficiaries need to travel to obtain treatment leading to more children being treated and earlier.** Barrier analyses conducted with mothers have identified that the main difficulty with seeking wasting/ acute

⁴⁶ACF, IOM, IRC, MHAA, and RI

⁴⁷ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

malnutrition treatment is the long-distance caregivers need to travel to health facilities. This includes lack of money for transportation charges.

- **Increases coverage and reduces defaulter rates, especially in areas where nutrition treatment services are limited.** Global evidence on CHW-led wasting/ acute malnutrition treatment shows that CHW-led wasting/ acute malnutrition treatment exceeds Sphere standards and is non-inferior to facility-based outpatient treatment, with some studies showing improvements in defaulter rates and programme coverage.⁴⁸ In Myanmar, there is limited coverage of treatment services even in townships where EHOs/ NGOs are present, due to restricted MoUs requiring additional permission to change services provided or locations. Currently, more children are being screened than those who receive treatment and the full package of CHW-led treatment may address this.
- **Increased trust between CHWs and communities to facilitate health seeking behaviour.** A barrier in caregivers seeking care in Rakhine State is the lack of trust in wasting/ acute malnutrition treatment programming.⁴⁹ In a review of the CHW-led wasting/ acute malnutrition treatment in Bangladesh, CHWs were perceived by caretakers to be trustworthy because they were close to the community and were more knowledgeable than themselves.⁵⁰ The CHW-led treatment provides an opportunity to improve the relationship and perception of wasting treatment to be beneficial and therefore encourage caregivers to seek care and continue with treatment.
- **Integrating wasting/ acute malnutrition treatment with other childhood illnesses can decrease mortality rate.**⁵¹ Operational case studies found that CHW-led treatment improved early detection leading to decreased mortality rates.⁵² This was also attributed to addressing barriers to seeking treatment of pneumonia, malaria and diarrhoea, which are the same barriers as for treating wasting/ acute malnutrition.⁵³ Additionally, CHW-led treatment provides an opportunity for CHWs to communicate the linkages between disease and malnutrition. Myanmar has one of the highest mortality rates for children under five years of age in the South-East Asia region.⁵⁴
- **CHW-led screening and follow-up is already implemented in Rakhine with established links between community outreach services and static facilities** through mobile clinics by multiple partners. CHWs have experience treating childhood illnesses which is useful experience when treating severe wasting/ acute malnutrition in addition.
- **In settings where CHW-led treatment is led by NGOs where adequate supervision and training is provided, as opposed to national health systems, this simplified approach is found to be more cost-effective than facility-based care (standard IMAM protocol).**⁵⁵ In Myanmar it is intended that CHW-led treatment will be managed by NGOs/ EHOs, providing an opportunity to reduce costs and effectively treat more children with ever scarce funding.

Potential risks when implementing this approach and ways to address risks in Rakhine State

Potential Risks and Limitations	Ways to address this
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⁴⁸ [Action Against Hunger State of the Evidence 2021 Modifications Aiming to Optimize Acute Malnutrition Management in Children under Five.](#)

⁴⁹ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

⁵⁰ [Lopez-Ejeda et al. 2019. Can community health workers manage uncomplicated severe acute malnutrition? A review of operational experiences in delivering severe acute malnutrition treatment through community health platforms. Maternal & child nutrition, 15\(2\), e12719. https://doi.org/10.1111/mcn.12719](#)

⁵¹ [Linking Nutrition & \(Integrated\) Community Case Management. A Review of Operational Experiences.](#)

⁵² [Management of severe acute malnutrition by community health workers: Early results of Action Against Hunger research. Field Exchange 60](#)

⁵³ [Linking Nutrition & \(Integrated\) Community Case Management. A Review of Operational Experiences.](#)

⁵⁴ [HARP-F 2021 Nutrition in Myanmar: Focus on Rakhine State](#)

⁵⁵ [The Cost-efficiency and Cost-effectiveness of the Management of Wasting in Children: A review of the evidence, approaches, and lessons](#)

<p>CHW-led treatment can only be sustained if supplies consistently reach community-level, but supplies are typically bulky/ expensive and can be difficult to transport and store.⁵⁶</p> <p>Community volunteers are able to visit communities to distribute RUTF/ RUSF (barrier analysis). While there are no indications of misuse of RUTF/ RUSF by CHWs in the community, there needs to be adequate CHW supply management including monitoring the supply transportation from health facilities to households, ensuring storage quality and security of CHWs.</p>	<p>Implementing partners</p> <ul style="list-style-type: none"> • Ensure CHWs are able to record and report supply usage. Health facilities and central stores should be equipped to preposition supplies and transport ready-to-use foods (RUF). • CHWs need to be able to store supplies safely and adequately in easily accessible locations.⁵⁷ Ensure this is part of the project design.
<p>There are townships which are hard to reach in the rainy season which cannot be reached by boat or mobile clinics.⁵⁸</p>	<p>Implementing partners</p> <ul style="list-style-type: none"> • Consider the use of remote phone-based counselling in areas where there is adequate signal. This was found to be helpful in Nepal during the COVID-19 pandemic.⁵⁹ • Expansion of CHW-led treatment will not always be possible in difficult to reach areas. However, in areas where access is possible, transport for CHWs should be considered when scaling up/ piloting and integrated as part of the project design. Providing transportation for CHWs (e.g., bicycles, motorbikes) enables easier fulfilment of responsibilities and wider coverage.⁶⁰
<p>Requires significant training. Training (including refresher training) and development of tools need to be aligned with the existing capacity and education levels of CHWs to enable easier uptake and enhance quality of care.</p> <p>In Rakhine State, treatment of wasting/ acute malnutrition is seen as medically intensive.⁶¹ The simplification of existing tools using low-literacy toolkits and registers can help CHWs document, monitor and interpret children's nutrition status over time.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> • Advocate for the use of low-literacy tools to treat wasting/ acute malnutrition. Review existing low-literacy tools, adapt for Rakhine State and test with CHWs. Revise based on field testing results. • Determine frequency of refresher training required and adjust as needed. • Raise awareness that outpatient treatment of wasting/ acute malnutrition without medical complications is not medically intensive.⁶² <p>Implementing partners</p> <ul style="list-style-type: none"> • Investigate potential for the LEARN initiative to provide technical support at subnational level and collaborate with UNICEF on continued training to partners.
<p>Adding severe wasting treatment to ICCM increases CHW workload. Health volunteers and staff who provide</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> • Determine how to incentivise CHWs. Examples from the RISE study recommend:

⁵⁶ [Action Against Hunger State of the Evidence 2021 Modifications Aiming to Optimize Acute Malnutrition Management in Children under Five.](#)

⁵⁷ [Community health worker-led treatment for uncomplicated wasting: insights from the RISE study. Field Exchange Digest 64](#)

⁵⁸ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

⁵⁹ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

⁶⁰ [Action Against Hunger State of the Evidence 2021 Modifications Aiming to Optimize Acute Malnutrition Management in Children under Five.](#)

⁶¹ Interviews

⁶² Rakhine State Nutrition Communications Strategy (forthcoming in June 2022)

<p>nutrition services in the community may not prioritise nutrition amongst other health interventions.⁶³ This suggests there may be a need for incentives or additional staff to help offset the additional workload.</p>	<ul style="list-style-type: none"> ○ CHWs should receive a salary in line with the minimum national guidelines for CHWs. ○ Certifying or recognising CHWs for acquiring extra skills and responsibilities. May want to develop a certification process to help differentiate CHWs who are able to provide wasting/ acute malnutrition treatment.⁶⁴ <p>Implementing partners</p> <ul style="list-style-type: none"> ● Ensuring quality of care through close supervision and frequent refresher training may increase staff workloads. To ensure quality of care, frequent supervision should be in place by NGO partners or MOHS and consideration should be given to how supervision structures can be enhanced within the health system to ensure long-term sustainable support.⁶⁵ ● Use caseload projections to understand how many severely wasted children a CHW might be expected to manage and likely extra workload. ● Remote monitoring of CHWs may be considered in the context of COVID-19 or if CHWs only need to manage 1-2 children with wasting/ acute malnutrition (low caseload).
<p>Referrals for services which are not provided by CHWs in the community need to be arranged and coordinated. There need to be functional inpatient treatment services and health services where children who cannot be treated in the community can be referred to. It is essential to address the barriers to seeking treatment for referred services such as the need to help caregivers and children obtain TA to travel to health centres to seek inpatient care.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> ● Develop a standardised transportation cost structure for caregivers to attend health centres for treatment (MHAA have a model for this that could be adapted). ● Identify where functional inpatient services are located and provide the relevant information to caregivers. ● Advocate for funding to implement inpatient services where there is a gap in coverage.
<p>If the burden of wasting is low, the CHW-led approach may not be cost-effective.⁶⁶ Currently, treatment for moderate wasting is not routinely included in mobile clinics. Determine whether CHW-led treatment should be for severe wasting/ acute malnutrition without complications only or also for moderate cases, as this would improve the cost-effectiveness potentially.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> ● Treatment for both severe and moderate wasting/ acute malnutrition should be included in the CHW-led approach to increase cost-effectiveness. In Myanmar, only 20.4% of children with moderate wasting/ acute malnutrition targeted received treatment in 2021.⁶⁷ This would also address the lack of harmonisation between severe and moderate wasting/ acute malnutrition treatment. ● Prioritise CHW-led treatment in pockets of townships with a high prevalence of wasting if funding is constrained.

⁶³ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

⁶⁴ [Community health worker-led treatment for uncomplicated wasting: insights from the RISE study. Field Exchange Digest 64](#)

⁶⁵ [Community health worker-led treatment for uncomplicated wasting: insights from the RISE study. Field Exchange Digest 64](#)

⁶⁶ [Action Against Hunger State of the Evidence 2021 Modifications Aiming to Optimize Acute Malnutrition Management in Children under Five.](#)

⁶⁷ [Myanmar Nutrition Sector Dashboard December 2021](#)

<p>To roll-out CHW-led programming, there needs to be approval from the TMO.⁶⁸</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> • Develop an advocacy brief outlining the evidence, benefits, risks and mitigation strategies to CHW-led wasting/ acute malnutrition treatment in the community. Include training strategies for low-literate health workers to address concerns around lack of capacity.
<p>Monitoring and evaluation strategy needs to be defined for CHW-led treatment of wasting.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> • Use existing guidelines to develop standardised indicators to be used. Develop and establish a monitoring system to track progress against the standardised indicators and to assess trends over time. • Collate lessons learned and disseminate findings at nutrition cluster coordination meetings.

Recommendations for implementation in Rakhine State

Given the travel restrictions and low coverage of treatment of wasting/ acute malnutrition in Rakhine State, it is recommended that CHW-led treatment is scaled up. However, adequate training and supervision will be essential to ensure CHW-led wasting treatment is properly integrated with other services. To achieve this, next steps may include:

- Implementing partners to review existing programming, referral mechanisms and treatment services to determine the most appropriate entry point for CHW-led treatment, including who should provide treatment services at the community level.
- UNICEF to adapt low-literacy tools available at the global level for the Rakhine context. Implementing partners to pilot and trial in locations where CHWs can potentially provide wasting treatment.
- UNICEF to develop an advocacy brief which can be used to seek approval for CHW-led treatment of wasting/ acute malnutrition from TMOs.
- Implementing partners and UNICEF to develop a supervision and monitoring/ evaluation strategy to ensure CHWs receive adequate support, can manage supplies appropriately, have access to transport especially for hard-to-reach areas and receive adequate training.

3. Reduced Frequency of Follow-up Visits

What is reduced frequency of follow-up visits?

Current treatment protocols call for weekly follow-up visits for children receiving severe wasting/ acute malnutrition treatment. In the reduced frequency of follow-up visits, children who are admitted into the treatment programme may be followed up on a biweekly or monthly basis instead. This simplified approach is often linked to the reduced dosage simplified approach in addition.

What is allowed under existing guidelines in Myanmar?

⁶⁸ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

Myanmar IMAM Operational Protocol (2017)

- Weekly follow-ups

COVID-19 Guidelines: SAG Adapted Emergency Nutrition Programming Guidance during COVID-19 Pandemic in Myanmar

- Consider reducing the frequency of follow-up of treatment of severe wasting/ acute malnutrition to monthly instead of weekly.
- Consider reducing the frequency of follow up of treatment of moderate wasting/ acute malnutrition to monthly instead of biweekly.
- For severe wasting, provide 3 packets of RUTF a day for children above 2 years of age and 2 packets of RUTF a day for children less than 2 years of age.
- For moderate wasting, provide 1 packet of RUSF a day. If RUSF is not available, use RUTF.
- Conduct monthly follow up and distribution of RUTF by a trained partner/volunteer. Provide this service door to door and supply another month's worth of RUTF/RUSF each time.

Implementation experiences in Myanmar

In Rakhine State, several organisations (ACF, MHAA, Medical Action Myanmar) started reducing the follow-up frequency of severe wasting/ acute malnutrition cases from weekly to biweekly between May and June 2021. ACF, in coordination with WFP, also reduced the frequency of visits according to the COVID-19 guidelines from biweekly to monthly for moderate wasting/ acute malnutrition cases to reduce the need for physical contact in February 2020.⁶⁹ As one month of RUTF/ RUSF portions were provided, there were concerns over the misuse of supplies. To prevent this, community volunteers and BHS continued to visit the children at home on a weekly basis to check whether the products were being consumed appropriately.⁷⁰ In June 2021, Save the Children reported they continued to supply RUF on a weekly basis despite the COVID-19 adaptations. There is no documentation on the impact of reduced frequency to date.

Positives to implementing this approach in Rakhine State

- **Reduces the burden of caregivers in terms of time and transportation and may help to increase compliance.** This is one of the main barriers to caregivers seeking treatment in Rakhine State where families live far from health centres.⁷¹
- **Allows for continued programming especially with increasing mobility restrictions, insecurity and need for TA for beneficiaries in Myanmar.**
- **Reduces the workload of clinic staff allowing for increased coverage with finite resources.** Enrolling more children in the programme may reduce the overall cost to treat a child (cost efficiency). However, global experiences during COVID-19 show mixed feedback on the workload of health care workers as more time was spent on admin and logistics planning to accommodate the change.⁷² If reduced frequency is continued for longer, this will not be the case. This is especially important in Rakhine State as clinic staff have found it hard to prioritise nutrition activities when responsible for both health and nutrition services.⁷³
- **Follow-up visits can easily be changed as it does not require modification to MOUs or require additional TA.** Given these are well-known and identified barriers in Myanmar, this is a very important benefit to this approach.

Potential risks when implementing this approach and ways to address risks in Rakhine State

⁶⁹ Feb 2020 Rakhine meeting minutes

⁷⁰ Interviews; Rakhine meeting minutes

⁷¹ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

⁷² [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

⁷³ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

Potential Risks	Ways to address this
<p>Change in schedule may create confusion amongst caregivers, creating distrust in the wasting/ acute malnutrition programme. Change of schedule needs to be well communicated with caregivers to avoid confusion.</p>	<p>Implementing Partners</p> <ul style="list-style-type: none"> ● Provide sufficient community sensitisation to reduce confusion among caregivers and ensure uptake of new schedules.⁷⁴
<p>It will alter staff responsibilities if staff are providing support at the household level between visits or if they need to coordinate more with CHWs, including community volunteers.</p>	<p>Implementing partners</p> <ul style="list-style-type: none"> ● May require more sensitisation and support to caregivers during visits on how to monitor a child's status between visits (e.g. how to identify complications and weight loss, what constitutes an adequate appetite, how they can use MUAC through the Family MUAC approach etc.). Since this may increase their workload, this support should be provided sensitively.
<p>Supplies will be needed in larger quantities during the weeks when wasting/ acute malnutrition treatment services are provided.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> ● Ensure existing supply chains can support supply prepositioning to meet increased nutrition product needs to cover extended duration between visits.⁷⁵
<p>Acceptability of reduced frequency may be limited over safety and misuse of RUTF/ RUSF concerns. In Myanmar, there are concerns amongst partners over whether enrolled children whose nutrition status deteriorates are not receiving proper care between follow-up appointments.⁷⁶ Larger quantities of RUTF/ RUSF distributed may encourage sharing in the family and/ or selling in the community, potentially increasing length of stay and non-response rates. The Rakhine Nutrition Cluster flagged the sale of RUFs in markets in 2021.⁷⁷</p>	<p>Implementing partners</p> <ul style="list-style-type: none"> ● Increase home visits to ensure robust caregiver support in managing larger rations between appointments.⁷⁸ ● Encourage caregivers to return empty RUF sachets when collecting the next batch of RUF to deter selling of RUF between appointments. Educate caregivers on the proper use of RUF and the importance of not sharing or selling rations. ● Ask BHS/ community volunteers to conduct spot checks at shops in the community to look for RUF for sale. ● Strengthen the community monitoring system for RUF including educating community leaders to report selling of RUF.
<p>Caregivers may struggle to store larger rations of RUTF/ RUSF properly and safely at home.</p>	<p>Implementing partners</p> <ul style="list-style-type: none"> ● Explore storage alternatives for families unable to safely manage the larger ration sizes that accompany less frequent visits to treatment services.
<p>Concerns exist if rapid deterioration of enrolled children occurs and may</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> ● Determine a definition for high-risk children and schedule more frequent

⁷⁴ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

⁷⁵ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

⁷⁶ Rakhine Nutrition Sector Coordination Meeting notes

⁷⁷ Interviews

⁷⁸ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

<p>not be identified quickly with reduced frequency of follow-up visits.</p>	<p>appointments for them.</p> <p>Implementing partners</p> <ul style="list-style-type: none"> • Sensitise caregivers on warning signs for deterioration in health of malnourished cases, including being able to identify the danger signs and use of MUAC (combine with Family MUAC approach). • Consider following-up children using phone-based counselling to ensure contact is maintained and help caregivers to self-assess the child's nutritional status.⁷⁹
<p>Evidence is currently lacking to fully support the reduced frequency follow-up approach.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> • Pilot this approach and contribute to the evidence base. Randomise by health centre and compare length of stay and average weight gain to normal protocol.

Recommendations for implementation in Rakhine State

It is recommended that evidence generation on reduced frequency of follow-up continues beyond the COVID-19 pandemic and political instability to encourage caregivers to continue seeking treatment for their children, as mobility restrictions are likely to continue. To ensure effectiveness of the programme, rapid deterioration between follow-up treatments will need to be systematically monitored and addressed before taking this approach to scale. This approach is already being implemented by some partners with the addition of weekly follow-up by community volunteers, which can provide a basis for further evidence generation.

Next steps include:

- Implementing partners to integrate this approach with Family MUAC and encourage families to monitor the progress of their own children between visits to treatment sites. Implementing partners to ensure volunteers can train caregivers on Family MUAC.
- Implementing partners to ensure sufficient sensitisation of communities when a shift to reduced frequency of follow-ups is taken, to ensure trust is maintained and they understand what is required of them.
- During weekly visits, volunteers should systematically record MUAC readings, and ensure caregivers are aware of signs of deterioration and the importance of not selling or sharing RUF. To do this, The Rakhine Nutrition Cluster will need to develop updated standardised monitoring forms.
- UNICEF to develop/ adapt a one pager pictorial representation of warning signs for caregivers to look for in malnourished children.

4. MUAC and/or oedema only

What is MUAC and/or oedema only?

Current global IMAM practice is to admit and discharge children based on either MUAC and/or oedema and/or WHZ. This adaptation uses MUAC-only and oedema to admit and discharge all children, instead of using WHZ alongside or with MUAC.

The MAMI Global Network have encouraged the use of MUAC-only criteria for children under six months of age despite a lack of internationally validated thresholds since COVID-19. However, outside of COVID-19, there is little guidance to support the use of MUAC-only admissions in this age group.

What is allowed under existing guidelines in Myanmar?

⁷⁹ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

Myanmar IMAM Operational Protocol (2017)

While MUAC-only screening is part of the IMAM guidelines 2017, admissions are in practice based on both MUAC and WHZ.

Both active case finding in the community and passive case finding at health centres are done with MUAC measurements. Children can be admitted to wasting/ acute malnutrition treatment based on a low MUAC or low WHZ, meaning the two anthropometric measurements are independent criteria for admission. Discharge is based on either MUAC or WHZ criteria (and no oedema). If a child is admitted with MUAC, they should be discharged based on the MUAC criteria and vice versa.

Myanmar COVID-19 Guidance: Adapted Emergency Nutrition Programming Guidance during COVID-19 Pandemic in Myanmar (July 2020)

- In the context of the COVID-19 response, only MUAC measurements and presence of oedema will be used to identify cases of wasting to shorten the contact time with cases and therefore to reduce the potential transmission of COVID-19.
- MUAC and oedema are also recommended as the only criteria for admission and discharge from wasting treatment programmes.

The COVID-19 guidelines are in alignment with extensive guidance to support the temporary shift to MUAC-only admission and discharge criteria to reduce the exposure to COVID-19, especially when personal protective equipment and disinfecting solutions cannot be secured.

Implementation experiences in Myanmar

Other than MHAA who have implemented MUAC-only admissions in one township in Rakhine State, MUAC-only admissions are not being implemented in Myanmar (Table 4).

Implementing partners have expressed concerns with MUAC-only admissions due to the potential for missed children with low WHZ. In the June 2021 Rakhine Nutrition Cluster Coordination meeting minutes, ACF and SCI reported they continued to use both MUAC and WHZ measurements for admissions to OTPs. MHAA have also been measuring both anthropometric measures in Kyauk Taw, Mrauk Oo and Minbya Township but have implemented MUAC-only admissions in Rathedaung Township, as the de facto authorities did not allow WHZ measurements in this area.⁸⁰

Table 4: Mapping of implementers and description of implementation for MUAC and/or oedema-only admissions

Implementers	Description
MHAA	Implemented MUAC-only admissions in Rathedaung Township as the de facto authorities did not allow WHZ measurements in this area. ⁸¹

Positives to implementing this approach in Rakhine State

- **MUAC is a better predictor of mortality and morbidity than WHZ in children with severe wasting.** In children less than six months of age, MUAC and weight for age z-score identified infants at risk of mortality and morbidity better than WHZ.⁸² In children under five years of age, MUAC <11.5cm is a better predictor of mortality compared with

⁸⁰June 2021 Rakhine Cluster Coordination Meeting Minutes

⁸¹June 2021 Rakhine Cluster Coordination Meeting Minutes

⁸² [Anthropometric Criteria for Identifying Infants Under 6 Months of Age at Risk of Morbidity and Mortality: A Systematic Review](#) (A systematic review including 19 studies from low- and middle-income countries published between 1990 and October 2020)

WHZ<-3. Therefore, those children more at risk of mortality in Rakhine State would be selected for treatment using this criteria, which would help to prioritise limited resources more effectively. It may also mean moderate wasting/ acute malnutrition cases could potentially be treated using resources saved from severe wasting/ acute malnutrition treatment.

- **Allows for continued enrolment of nutritionally vulnerable children in the context of suspended WHZ measurements.** This is especially beneficial when de facto authorities disallow WHZ measurements.
- **MUAC measurements are simpler to take than WHZ enabling a faster scale-up of wasting/ acute malnutrition treatment, more accurate identification of cases and potentially adoption of other simplified approaches.** Because MUAC is easier to measure, a MUAC-only approach facilitates admitting more at-risk children. The approach can be used by low-literate health workers or new, less experienced implementers. In Rakhine State, there are not enough wasting/ acute malnutrition treatment services being provided. Using this simplified approach would enable the expansion of wasting/ acute malnutrition treatment provided by NGOs, community-based organisations (CBOs), and civil society organisations (CSOs). In the context where a rapid increase in wasting/ acute malnutrition prevalence is anticipated and resources are scarce, MUAC and/or oedema only admissions provide an opportunity to provide lifesaving treatment to more children, and the most at-risk cases also.
- **MUAC-only programming reduces equipment and job aids required.** MUAC measurements require less bulky measurement devices compared to measuring weight and height. When coupled with CHW-led treatment in the community, this may be beneficial in hard-to-reach areas in Rakhine State where communities are only accessible by foot, boat, motorcycle etc.
- **Use of MUAC-only programming may increase acceptability of wasting/ acute malnutrition treatment by increasing the coherence between Family MUAC, community-level screening and admissions.** Currently community volunteers conduct MUAC screening but admissions in Rakhine are still mostly based on both MUAC and WHZ. This means some cases identified by WHZ alone would be missed, which risks confusion with caretakers.
- **Given the likelihood that COVID-19 will continue, the MUAC-only approach reduces exposure to COVID-19** especially when personal protection equipment cannot be secured.
- **The MUAC-only approach may be an entry point to screening and treatment of children under six months of age** who have been excluded from wasting treatment across Myanmar. The MAMI Global Network has provided guidance on using MUAC only for children under six months of age during COVID-19 despite a lack of internationally validated thresholds.
- **MUAC-only programming may allow for treatment of moderate wasting/ acute malnutrition due to reduced caseload of severe wasting/ acute malnutrition.** With the reduced caseload, resources may be allocated to treating moderate wasting/ acute malnutrition, thus preventing a potential deterioration to severe wasting/ acute malnutrition given cases would be picked up earlier.

Potential risks when implementing this approach and ways to address risks in Rakhine State

Potential Risks	Ways to address this
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<p>Acceptability of the MUAC and/or oedema only approach by nutrition partners is limited. There are concerns over children with low WHZ but adequate MUAC missing treatment. MUAC and oedema only programmes may be better at identifying children at highest risk of near-term mortality than WHZ, but WHZ and MUAC mostly identify distinct groups of children, leaving children with low WHZ but adequate MUAC without treatment.</p>	<p>UNICEF as the cluster lead</p> <ul style="list-style-type: none"> Using already available Myanmar data, remotely conduct a study to compare the performance of MUAC, WHZ, and weight-for-age admission and discharge criteria, and outcomes for those cases identified, in children under five years of age (may require a consultant for this). <ul style="list-style-type: none"> Examine how much caseload changes with MUAC and oedema only and how it compares with using WHZ and MUAC. Determine the most appropriate MUAC cut-offs for Myanmar. In Cox’s Bazaar in Bangladesh, the Nutrition Sector used SMART survey results to explore what cut-offs were appropriate to ensure children who were considered malnourished under WHZ were also considered to have wasting/ acute malnutrition according to MUAC cut-offs.⁸³ The same analysis can be done for Myanmar using available IMAM data/ SMART surveys.
<p>MUAC-based discharge criteria has not been assessed.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> When adopting this approach, ensure clear guidelines are provided for MUAC-only admission and discharge criteria, including whether different cut-offs should be used (for example 125mm instead of 115mm at admission) and how long the child should meet the criteria for before discharge using evidence generated. Develop a job aid with visuals to accompany the change in protocol.

Recommendations for implementation in Rakhine State

While implementing this simplified approach would complement the CHW-led approach and would be a straightforward simplified approach to take to scale, additional research is required prior to scaling up in Rakhine State. When it is taken forward, it is recommended that this approach is combined with the expanded admissions criteria to ensure children who are usually admitted under WHZ are not missed. Due to the concerns and risks outlined above, MUAC and oedema only admissions may not currently be well received by nutrition implementing partners in Myanmar. However, should further research be conducted, and concerns by nutrition implementing partners in Myanmar be addressed through adequate sensitisation, it is recommended this simplified approach be taken forward.

To improve acceptability and determine the appropriateness of this simplified approach in the Rakhine context, the following next steps are recommended:

- In locations where MUAC-only admission is implemented already such as in Rathedaung Township, implementing partners should ensure evidence is captured and analysed to document positive and negative outcomes and any adverse impacts, including on mortality.
- UNICEF should conduct a caseload scenario analysis like the one done in Cox’s Bazaar, Bangladesh⁸⁴. This would provide evidence as to what MUAC cut-offs would be appropriate in the Rakhine context, what that would mean for resources and indicate the recommended way forward in terms of implementing this simplified approach and how to do so if deemed a worthy endeavour.

5. Expanded admissions criteria

What is the expanded admission criteria?

Current practice is for treatment of severe wasting/ acute malnutrition to be treated separately from moderate wasting/ acute malnutrition. In the expanded admissions criteria approach, MUAC admissions are expanded to <125mm to include

⁸³ [Adaptations to CMAM programming in Cox’s Bazar in the context of the COVID-19 pandemic. Field Exchange 63](#)

⁸⁴ [Adaptations to CMAM programming in Cox’s Bazar in the context of the COVID-19 pandemic. Field Exchange 63](#)

children with moderate wasting/ acute malnutrition who are considered high risk to be eligible for treatment under the same programme. This approach is combined with the MUAC-only admissions/ discharge simplified approach.

What is allowed under existing guidelines in Myanmar?

Myanmar IMAM Operational Protocol (2017)

Moderate and severe wasting are treated in separate programmes. Admissions using MUAC are based on the following:

- Inpatient care and OTP admissions for children with severe wasting: MUAC <115 mm
- TSFP admissions for children with moderate wasting: MUAC ≥ 115mm and <125mm

Myanmar COVID-19 Guidance: Adapted Emergency Nutrition Programming Guidance during COVID-19 Pandemic in Myanmar (July 2020)

Current COVID-19 guidance does not allow for expanded admissions but only a shift to MUAC-only admission and discharge (and oedema).

- Admission and discharge criteria may be shifted to rely on MUAC-only which does not involve excessive contact with beneficiaries. WHZ poses challenges due to the nature of contact required when measuring height, as there is too much close contact and three people are required for measurement. For those who have already been admitted using WHZ, continued monitoring of weight only can be done, as height does not change over a short period of time.

UNICEF does not apply an alternative MUAC cut-off to avoid false positive cases leading to increased programme cost.⁸⁵ However, wasting trends are monitored closely and, if required, UNICEF will introduce an “at risk group” for children whose MUAC is 125-135mm who would be treated with one RUTF sachet a day as necessary. There was a plan to declare this in the next Nutrition Cluster meeting, however as of the end of February 2021, this had not been declared.

While the Myanmar COVID-19 guidance does not provide specific cut-offs for MUAC, global COVID-19 guidance for expanded admissions from UNICEF and WHO endorses the temporary expansion of admission thresholds for children 6-59 months of age. For severe wasting in children 6-59 months of age, using <120mm or <125mm can be considered. WFP recommends considering expanding the MUAC cut-off from 12.5cm to 13.0cm for admission to the TSFP.

Implementation Experiences in Myanmar

Expanded MUAC admissions was introduced in 2008 during the Nargis Response and again in 2018 in 19 Yangon Townships in response to the Demographic and Health Survey which showed Yangon had the second highest prevalence of wasting in the country.⁸⁶ As IMAM could not be implemented in Yangon, through discussions with the NNC, cases in the “at-risk group” identified by MUAC 125-135mm in children 6-59 months were provided with one sachet of RUTF per day. This continued for 2-3 months but due to supply constraints was stopped.

Positives to implementing this approach in Rakhine State

- **Simplifies the guidance and harmonises the treatment for severe and moderate wasting/ acute malnutrition, which would be beneficial for Rakhine State where treatment of severe and moderate wasting/ acute malnutrition is managed in separate programmes.**⁸⁷ Harmonising services would help reduce those children who are lost when referred between services. In Myanmar, because different organisations provide treatment for moderate and severe wasting separately, when children are referred from OTPs to TSFPs or vice versa, they may not be properly referred, end up attending treatment, and/or may not be followed up. The expanded admissions simplified approach could help address this problem.

⁸⁵ Interviews

⁸⁶ Interviews

⁸⁷ [Guesdon et al. 2020. Potential consequences of expanded MUAC-only programs on targeting of acutely malnourished children and ready-to-use-therapeutic-food allocation: lessons from cross-sectional surveys. BMC Nutr 6. 5 \(2020\)](#)

- **Guidance has been established in Myanmar for this approach, it has been trialled previously outside of Rakhine State, and it provides an opportunity to provide treatment in locations where IMAM is not currently implemented.** Expanded admissions has been used in Yangon in emergencies to provide treatment in locations where IMAM has not been implemented. If it is implemented in additional locations in Rakhine State it may provide an opportunity to quickly scale-up wasting treatment services, especially with the current political instability.
- **Increasing MUAC admission thresholds captures additional at-risk children which is especially important in a context where coverage of moderate wasting treatment is low in Rakhine State.** Expanded MUAC admission criteria would address implementers' concerns regarding missed children who would have been admitted otherwise based on WHZ.

Potential risks when implementing this approach and ways to address risks in Rakhine State

Potential Risks	Ways to mitigate the risk
<p>Expanding admissions may increase caseload, increasing the demand for supplies and resources. (Note that there is also a counter argument that in treating more children earlier, that the caseload of severe wasting/ acute malnutrition may decrease, so an overall benefit will be seen. However, this would need to be evaluated in practice in the Rakhine State context and therefore the risk of increased caseload should still be assessed.)</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> • Conduct a scenario analysis with different thresholds to prioritise the most at-risk children according to MUAC and determine the cost implications of expanding the admission criteria as opposed to the costs of having separate OTP and TSFP programs. Note: an increase in caseload may not necessarily be the case in Rakhine State because children who may be missed using the MUAC-only approach may be included in the expanded MUAC admissions approach. • Determine the most appropriate MUAC cut-offs by analysing available anthropometric data comparing MUAC thresholds, which would include children who are classified as having wasting who would otherwise be missed (see MUAC-only admission for more details).
<p>Staff may deprioritise children admitted above the standard protocol MUAC threshold as they may view them as being less vulnerable.</p>	<p>Implementing partners</p> <ul style="list-style-type: none"> • Ensure training includes the reasons for the expanded protocol and the benefits in treating all severe and the most at-risk moderate cases in one programme.
<p>Current MUAC tapes do not align with the expanded admissions approach, which may cause confusion amongst staff and with caregivers when coupled with Family MUAC.</p>	<p>Implementing partners</p> <ul style="list-style-type: none"> • Additional training and refresher training is required on using MUAC tapes with the expanded admissions approach. Cascade training to caregivers when combined with the Family MUAC approach. • While this may be tedious, consider marking on the MUAC tape the new cut-offs to help avoid confusion.
<p>There may be scepticism over this approach as it needs to be used with the MUAC-only admissions approach.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> • Sensitise Rakhine nutrition cluster partners on the MUAC-only approach and expanded admissions criteria to demonstrate the potential benefits and discuss concerns. • Identify the main barriers and solutions to overcome identified barriers with the MUAC-only approach. • Use the caseload calculations and modelling approach recommended above to provide evidence for implementation of expanded admissions criteria.

Recommendations for implementation in Rakhine State

Expanded admissions criteria is viewed as a temporary option for treatment of wasting/ acute malnutrition in the absence of TSFP and/ or OTP services and has so far been more intended for acute crisis settings. While there are multiple benefits to scaling up this approach along with MUAC-only admissions, piloting and scaling up will likely be unsuccessful due to scepticism from Rakhine State nutrition implementing partners. Due to this, the limited experience of implementing this simplified approach in Rakhine State and the risks and barriers outlined above, it is not recommended that this simplified approach be scaled up yet.

Next steps to consider this approach and potentially overcome existing barriers include:

- Determine the most appropriate MUAC cut-offs for the Rakhine State context by analysing which children would be included at what MUAC cut-offs when their WHZ is also measured. Consider the cost implications of potentially only having one service to treat wasting/ acute malnutrition considering the caseload for the one programme would likely be more (given expanded MUAC cut-offs would likely be used) than an OTP or TSFP alone.
- Consider piloting expanded admissions in Rathedaung Township (MHAA) given the government approval for MUAC-only programming in this location. Ensure evidence is documented and resources are allocated to analyse this evidence.
- If funding is available, pilot in additional locations in Rakhine State where IMAM is not currently implemented. Note this would require also piloting the MUAC-only approach.

6. Use of single treatment product / reduced dosage

What is the use of single treatment product and reduced dosage?

Standard treatment protocols use RUTF to treat severe wasting and RUSF/ FBF to treat moderate wasting. However, in the single treatment product approach, children with wasting/ acute malnutrition, regardless of their severity, are treated with one product (RUTF). Reduced dosage is sometimes combined with the single treatment product approach. In this approach, instead of using weight to dose RUTF, which increases over time, dosage is reduced to two sachets/day for severe wasting/ acute malnutrition and one sachet/day for moderate wasting/ acute malnutrition. However, dosage amounts have yet to be standardised. Different combinations of reduced dosage have been trialled globally. The GNC suggests reducing the dosage of RUTF to two sachets per day for children with severe wasting/ acute malnutrition and one sachet of RUTF for children with moderate wasting/ acute malnutrition as a temporary measure. Concern Worldwide's COVID-19 guidance provides guidance for a simplified RUTF dosage based on MUAC, and only on weight if the guidance for reduced dosage based on MUAC is not possible (Figure 4).

Figure 4: Concern Worldwide's COVID-19 guidance for simplified RUTF dosage based on MUAC and partially simplified RUTF dosage based on weight

➤ **Simplified RUTF dosage based on MUAC (not weight) wherever possible**

MUAC	Total sachets of RUTF			
	Per day	Per week	Per 2 weeks	Per 4 weeks
MUAC <115mm	2	14	28	56
MUAC 115 mm to <125mm	1	7	14	28

➤ **Partially simplified RUTF dosage based on simplified weight categories**

Child's Weight (kg)	Simplified weight category (kg)	Total sachets of RUTF			
		Per day	Per week	Per 2 weeks	Per 4 weeks
3.5 – 4.4	3.5 – 5.9	2	14	28	56
4.5 – 4.9					
5.0 – 5.9					
6.0 – 6.9	6.0 - 7.9	3	21	42	84
7.0 – 7.9					
8.0 – 8.9	8.0 – 11.9	4	28	56	112
9.0 – 9.9					
10.0 – 11.9					
≥12.0	≥12.0	5	35	70	140

Source: Concern Worldwide April 2020. Adapting community-based management of acute malnutrition in the context of COVID-19.

What is allowed under existing guidelines in Myanmar?

Myanmar IMAM Operational Protocol (2017)

RUSF is used for treating moderate wasting/ acute malnutrition and RUTF is used to treat children with severe wasting/ acute malnutrition. RUTF dosage is based on a child's weight using a lookup table, which equates to approximately 150 kcal/kg/day for the transition phase. This means providing a smaller amount of RUTF at the beginning of treatment when weight is low and gradually increasing this as the child gains weight. In the recovery phase, the energy intake is increased to 150-220 kcal/kg/day. For treatment of moderate wasting/ acute malnutrition, it is recommended that one sachet or RUSF per day is provided.

Myanmar COVID-19 Guidance: Adapted Emergency Nutrition Programming Guidance during COVID-19 Pandemic in Myanmar (July 2020)

- Ensure mitigation measures are in place in the event of imminent pipeline breaks (e.g. ration cuts, prioritising age groups, etc.). UNICEF is collaborating with WFP to put in place a 'one-product approach' for management of severe wasting/ acute malnutrition and moderate wasting/ acute malnutrition as contingency if the supply chain is disrupted.
- For severe wasting, provide three packets of RUTF a day for cases above two years of age and two packets of RUTF a day for cases under two years of age. When children are identified as severely malnourished, they should receive one month of RUTF at one visit by BHS or the relevant service provider.
- For severe wasting, where there is no RUTF, RUSF can be provided instead. The use of RUSF needs to be explained with clear messaging (what is the standard protocol and why RUSF will be provided instead in this situation) to prevent future confusion.
- For moderate wasting, one packet of RUSF per day per child is still recommended. However, where there is no RUSF, one packet of RUTF/child/day can be provided.
- Wasting trends should be monitored closely and if required, an "at risk group" will be introduced for children with MUAC 125-135mm who will be provided with one RUTF sachet per day.⁸⁸

⁸⁸ Interviews

Implementation experiences in Myanmar

The first documented adoption of reduced dosage of RUTF to treat severe wasting/ acute malnutrition in children without complications was in Rakhine State, Myanmar in 2009 by ACF in response to a shortage of RUTF (Box 3). The programme reached Sphere standards with an overall 92% cure rate. In 2022, Medical Action Myanmar did not receive RUSF from WFP and supplied RUTF to children with either severe or moderate wasting.⁸⁹

Outside of Rakhine State, the single treatment product approach combined with reduced dosage for both severe and moderate wasting/ acute malnutrition was implemented during the Nargis Response in 2008 and again in 2018 in 19 Yangon Townships after the Demographic and Health Survey showed Yangon had the second highest prevalence of wasting in the country. Since IMAM was not rolled out in Yangon, the NNC agreed to implement IMAM for two to three months using the single product approach along with expanded admissions of the “at-risk-group” with MUAC 125-135mm. The programme was stopped due to RUTF supply constraints. While the impact was not quantified, UNICEF reported “satisfactory” increases in MUAC measurements over 2-3 months. This approach was again introduced in the first quarter of 2019 in five Yangon peri urban townships but was suspended due to COVID-19.

UNICEF conducted a four-day IMAM training in March 2022 which included the use of the single treatment product approach.

Box 3: Low-Dose RUTF Protocol by Action Against Hunger

Date of programme: July 2009 - January 2010

Implementers: ACF and MOHS

Locations: Coastal areas of Northern Rakhine State

Description:

The low-dose RUTF protocol was developed in response to an anticipated procurement shortfall of the RUTF supply due to importation difficulties during the annual hunger gap. Severe wasting/ acute malnutrition was defined as WHZ <-3 and/or MUAC <110mm without oedema and no medical complications.

The low-dose RUTF protocol:

Stage 1 (usual protocol)	Stage 2 (reduced dosage)
<ul style="list-style-type: none"> RUTF dose according to child’s weight from admission until child reached MUAC≥110mm and a WHZ≥-3, plus an additional safety margin of 200g (children <65cm) or 300g (children≥65cm). 	<ul style="list-style-type: none"> RUTF dosed at 1 sachet per day (82g or 500kcal/day) regardless of weight until completion of treatment. Encouraged home-cooked food in addition to RUTF: 4 non-spicy family meals per day but prioritise RUTF. Encouraged to continue breastfeeding at all times. Received care practice education session.

Follow-up was at the OTP weekly, consistent with current 2017 IMAM guidelines. Additional criteria were added to in response to non-traditional RUTF dosage including:

- Detailed criteria on how to respond to a deteriorating or non-responsive child.
 - Not gaining weight/ losing <5% of admission weight and with WHZ≤-3 → sent to day care centre to receive treatment according to stage 1 with psychosocial and nutrition ACF staff in two-day care centres.
 - Deterioration in stage 2 (WHZ <-3 or MUAC <110 mm or weight loss >5% → back to stage 1 in the OTP /

⁸⁹ Interviews

inpatient care if with medical complications.

- Service quality improvement and beneficiary support.
 - Opening of a 2-day care centre to provide psychosocial support to mothers on child feeding and care practices.
 - Additional training of ACF staff on the facilitation of group discussions, health care awareness creation and management training.
 - Strengthening of early referral by the community through enhanced community awareness sessions and refresher training for community volunteers.
 - Support to caregivers or home-cooked food provided to complement the low-dose RUTF.
 - Dedicated protocol developed for non-responsive treatment.
 - Streamlining of programme delivery process.

Results:

- ACF were able to provide nutrition treatment to all children presenting with severe wasting/ acute malnutrition which would not have been possible with the standard protocol.
- The low-dose RUTF protocol reached Sphere minimum standards with 90.2% recovery, 2% defaulter and 0% death rate.
- 8.9% (n=252) of children deteriorated in stage 2 and were sent back to stage 1. For those who were sent back to stage 2, recovery rates were lower at 74.2%.
- Older age groups presented with a lower recovery rate, increased length of stay and decreased weight gain.

Lessons learned:

Operational

- Rakhine State was ideal for testing a simplified approach due to the absence of natural disasters during 2009, home feeding was part of the treatment, and the existence of well trained and experienced staff. Programming was not reliant on the government, making it easier to manage.
- Some of the constraints to sustainability were high turnover of medical staff.

Considerations for future

- Larger portions of RUTF should be provided for children older than 48 months of age who are more likely to become non-responders and children admitted with WHZ<-3.5 who have lower chances of recovery.
- The approach provided service quality improvement and beneficiary support which may have contributed to the success of the results.
- Households cannot be relied on to cover energy and micronutrient requirements in stage 2. To mitigate this, conduct a baseline food security assessment and reinforce food security levels.

Limitations

- Results compared to Sphere standards instead of standard care, this project was not a randomised controlled trial.
- High cure rates may also be attributed to additional service quality components to the protocol.
- The project had a short timeframe (six months).

Source: (1) James, P et al. 2015. Low-dose RUTF protocol and improved service delivery lead to good programme outcomes in the treatment of uncomplicated SAM: a programme report from Myanmar. 10.1111/mcn.12192 (2) Cosgrove, N et al 2012. Qualitative review of an alternative treatment of SAM in Myanmar. Field Exchange 42, p6. <https://www.enonline.net/attachments/1617/FEX-42.pdf>

Positives to implementing this approach in Rakhine State

- **Reduced dosage approach has been implemented in Rakhine State with ACF having previous experience.** Previous experience shows that recovery rates were above Sphere standards. If this approach is scaled up or piloted, implementers can leverage ACF’s existing contextualised tools and experience. Lessons learned are specific to

Rakhine State, including the use of larger portions for children who are older than 48 months to avoid them becoming non-responders.

- **Enables continuation of programming in settings with RUTF/ RUSF shortfalls and absence of weight measurements.** In 2022 RUSF supplies have been disrupted at the port in Myanmar, so this approach could be considered as a potential solution. The standard dosage is based on weight but in the context of COVID-19 to reduce contact and risk of transmissions, there may be a need to stop weight measurements and use MUAC-only admission/discharge criteria.
- **Increased coverage, efficiency and cost-effectiveness.** This approach is found to be effective in treating more children with the same total amount of product especially where coverage of severe and moderate wasting treatment in Myanmar is below 50%.⁹⁰ The ComPAS study⁹¹ showed that less RUTF was used and there was a lower total cost per child recovered with the reduced dosage. In Rakhine State, where nutrition is underfunded, the single product and reduced dosage approaches would be a good way to enable the treatment of more children.
- **Research shows reduced dosage has non-inferior recovery rates** compared to recovery rates using weight-based dosage. This is an essential piece of evidence to address concerns of nutrition implementing partners in Rakhine State regarding the use of these simplified approaches.
- **A single product for treatment of severe and moderate wasting/ acute malnutrition is useful for harmonising technical guidance, cost efficiency and supply chain management, enabling easier scale-up of wasting treatment.** Training and dosage calculations are easier due to eliminating the need to use weight lookup tables. This is especially beneficial in Rakhine State if coupled with treatment at the community level with low-literate staff or volunteers. With reduced supplies needed, storage and transportation of supplies is also easier for both beneficiaries and health systems. Staff can prepare and forecast rations ahead of time instead of on a case-by-case basis.
- **The reduced dosage simplified approach may also help address issues with selling of RUTF** in Rakhine State. Less product is provided to the caregiver, so it is more likely to be prioritised for the wasting case it is intended for.
- **This simplified approach may address the concern that wasting treatment is viewed as medically intensive** and therefore not suitable for implementation by lower capacity organisations and staff, a main barrier to scaling up nutrition in Rakhine State.

Potential risks when implementing this approach and ways to address risks in Rakhine State

Considerations	Recommendations and next steps
<p>There are concerns over the negative impact of reduced dosage for children who are larger and older. Reduced dosage for larger children may impact length of stay and they may require larger portions. Reduced dosage may also result in a negative impact on height gains, which may lead to a higher burden of stunting.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> • While current COVID-19 guidance in Myanmar has taken this into account by recommending three sachets of RUTF for children over two years of age and two sachets of RUTF for children under two years of age for severe wasting, and one sachet of RUSF (or RUTF where RUSF is not available) for cases of moderate wasting, the definition of these cut-offs and optimal dosage will need to be revisited by analysing monitoring data and modelling, to prevent unintended adverse effects on recovery. <p>Implementing partners</p> <ul style="list-style-type: none"> • Progress of children with wasting/ acute malnutrition undergoing treatment who are larger and older need to be monitored closely, either through community volunteers or at the facility, to ensure adequate weight or MUAC gain to identify deterioration early.

⁹⁰ [Myanmar Nutrition Sector Dashboard December 2021](#)

⁹¹ [The "ComPAS Trial" combined treatment model for acute malnutrition: study protocol for the economic evaluation](#)

<p>For children admitted under the standard programme, there is a need to address potential dissatisfaction of caregivers with receiving less product than the standard protocols.</p> <p>This is unlikely an issue for children admitted under the new programme.</p>	<p>Implementing partners</p> <ul style="list-style-type: none"> • Ensure caregivers are sensitised and consulted through implementation of the approach, including through use of clear messaging to justify why there has been a change in protocol. • Determine the reasons for any dissatisfaction to tailor messaging accordingly. This may be because of food insecurity rather than reduced product quantity.
<p>The use of a single product relies on an adequate RUTF pipeline.</p> <p>If the RUTF pipeline breaks, treatment may have to be suspended.</p>	<p>UNICEF as the nutrition CLA</p> <ul style="list-style-type: none"> • In Rakhine State, this is not seen as a problem.⁹² However, if the RUTF pipeline becomes an issue, the simplification of dosage and single treatment products approach has the potential for a more efficient RUTF pipeline, improving forecasting and monitoring of the supply chain and reducing leakages/ misuse. • Ensure there is adequate supply of RUTF and alert implementing partners of upcoming pipeline breaks.

Recommendations for implementation in Rakhine State

Reduced dosage is seen as a temporary approach in Myanmar. Globally, there are concerns over increased length of stay and relapse from moderate to severe wasting but evidence is limited in Myanmar.⁹³ Despite previous experience it is recommended that the implementation of this approach should not be scaled up without additional evidence generation on safety. However, with the potential pipeline break of RUSF, this may be an opportunity to pilot reduced dosage and the single product approach and determine suitability for scale up in Rakhine State. Next steps could include:

- Implementing partners to conduct a comparison study in Rakhine State between the reduced dosage protocol and standard IMAM protocol measuring weight gain, length of stay and cost-effectiveness, as well as noting any unintended adverse outcomes.
- UNICEF and implementing partners to ensure the monitoring and evaluation strategy includes the opportunity to monitor older children.
- When implementing these approaches, implementing partners should combine this simplified approach with the CHW-led treatment simplified approach to reduce the burden of supply chain management.

Summary of Findings

- **COVID-19 has created an opportunity to trial and pilot simplified approaches which would not have been possible previously, but there has been little documented evidence on the use of simplified approaches in Rakhine State or Myanmar more generally.** The evidence that is available is predominantly from implementation in Rakhine State with the Family MUAC simplified approach most commonly adopted by various organisations, especially during COVID-19.
- **Monitoring and evaluation of existing simplified approaches programming needs to be strengthened to contribute to the evidence base.** Extensive research has not been conducted in Rakhine State but the adoption of simplified approaches during COVID-19 has created an opportunity for needed evidence generation to help identify cost savings, the potential for increased coverage, and improved feasibility and effectiveness of wasting/ acute

⁹² Interviews; Rakhine sector coordination meeting minutes; [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

⁹³ [Action Against Hunger 2022 Adaptations to the Management of Acute Malnutrition in the Context of COVID-19](#)

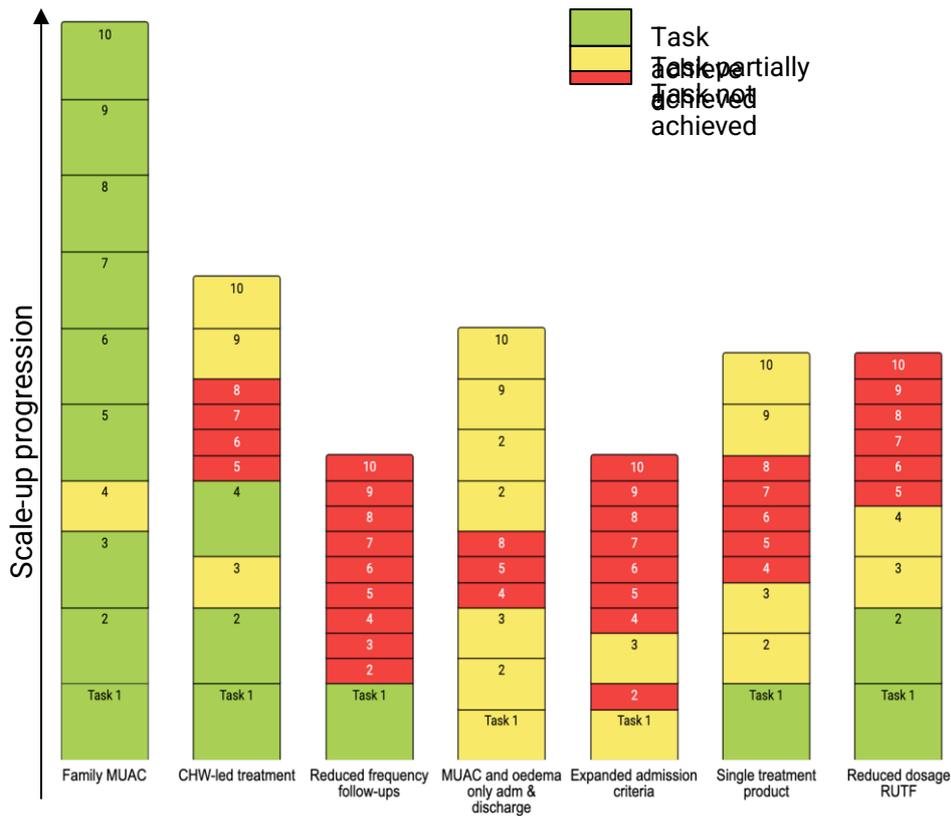
malnutrition treatment services. Evidence generation is also needed for advocacy purposes in relation to the need to prioritise nutrition in the emergency response in Rakhine State and to mobilise funding.

- **While Family MUAC is well accepted by the Nutrition Cluster, there is resistance to other simplified approaches.** The most implemented simplified approach and the one likely to continue beyond the COVID-19 pandemic is Family MUAC. However, many of the other simplified approaches are viewed as temporary measures and even then, their potential worth in addressing current challenges to wasting treatment is not fully understood.
- **This examination of global evidence and Myanmar-specific experiences shows that simplified approaches have huge potential to overcome barriers to scaling up wasting/ acute malnutrition treatment and piloting should be considered in Rakhine State.** The escalation of needs for wasting/ acute malnutrition treatment in the context of restricted movement and the need for TA creates an opportunity to further expand and document experiences with implementing simplified approaches to wasting/ acute malnutrition treatment. While most of the different simplified approaches have been examined individually in this report, several of these simplified approaches implemented together would be appropriate for the Rakhine context.
- **Using the [MSI Framework](#)⁹⁴ to assess scalability of each simplified approach, Family MUAC is currently the most scalable approach in Rakhine State.** Figure 5 provides a visual representation of the ten tasks assessed under the framework for each simplified approach, with the size of box representing the status of the task achieved. The taller the “tree” the more scalable the simplified approach is. Annex 3 provides a narrative for each task.
- **For sustainable changes and simplified approaches to be widely accepted in Rakhine State, there may be a need to update the IMAM guidelines.** The Barrier Analysis conducted in Rakhine State in 2022⁹⁵ showed that implementers still prefer to follow the IMAM guidelines, despite temporary COVID-19 guidelines for implementation being developed. Further dissemination of the temporary COVID-19 guidelines for implementation is needed to support the sensitisation of nutrition partners to simplified approaches.

⁹⁴ The MSI framework aims to improve the track record of taking solutions to scale by offering practical advice on a 10-task process for effective scaling up: 1) Create a vision; 2) Assess scalability; 3) Fill information gaps; 4) Prepare a scaling up plan; 5) Legitimise change; 6) Build a constituency; 7) Realign and mobilise resources; 8) Modify organisational structures; 9) Coordinate action 10) Adapt strategy and maintain momentum.

⁹⁵ [HARP-F 2022. Barriers, Bottlenecks, and Solutions for Nutrition Programming in Rakhine State, Myanmar](#)

Figure 5: Scalability of simplified approaches in Myanmar



Source: Based on the Summary of Questions for Developing and Implementing a Scaling Up Strategy, included in Scaling up -- From Vision to Large-Scale Change: A management Framework for Practitioner, v3.0 2020.

Recommendations and Next Steps

- **Family MUAC should be scaled up and piloted in areas of Rakhine State where it has not yet been adopted** since the approach is widely accepted, has a low risk of harm, and requires little to no authorisations to be implemented.
- **MUAC-only admission (with oedema) is the gateway to using other simplified approaches.** Switching to the MUAC-only approach combined with CHW-led treatment of wasting should be further expanded or piloted in communities beyond screening alone since restrictions with TA are not likely to improve. This should be done in combination with low-literacy tools to enable new implementers (community volunteers, CBOs and CSOs) to provide treatment more easily. Given the concerns over missing children with severe wasting/ acute malnutrition who would normally be identified using the WHZ criteria, it is essential to better understand the risk of mortality of children with severe wasting and moderate wasting in Myanmar identified through MUAC and WHZ, as well as the resulting caseload implications if a switch is made to MUAC-only programming with expanded admission/ discharge criteria.
- **Consider combining the CHW-led treatment simplified approach with the single treatment product and reduced dosage simplified approaches if supply management becomes difficult or if the RUF pipeline is disrupted in Rakhine State, which has occurred.** Reduced dosage has significant potential to improve efficiency of the supply chain and increase the number of children treated with the same amount of supplies.

- **The expanded admissions simplified approach, which includes children with moderate wasting/ acute malnutrition in addition to severe wasting/ acute malnutrition in the same programme, should be piloted with the MUAC and/or oedema only admissions simplified approach in selected locations** to generate evidence on the appropriate MUAC cut-offs for the Rakhine State context. While there are still many unknowns regarding the expanded admissions approach, piloting this approach is necessary to generate evidence to address concerns over missed children eligible using WHZ criteria.
- **More evidence is needed prior to scaling up the reduced frequency of follow-up simplified approach in Rakhine State.** However, adaptations to this approach with weekly follow-ups from volunteers is currently being implemented in Rakhine State to address safety concerns and this should be continued. If CHW-led treatment is implemented with volunteers providing RUTF/ RUSF in the community, this approach may not be necessary.
- **It is important to ensure sufficient sensitisation of communities when a shift to use of any simplified approaches is taken,** to ensure continued trust and understanding of what is required of them, and to avoid any confusion in correct protocols.

The following are next steps on how this research should be utilised.

1. UNICEF and the Myanmar Nutrition Cluster to sensitise nutrition partners in Myanmar and Rakhine State to simplified approaches through wide dissemination of the “Adapted Nutrition in Emergency Programming Guidance during COVID-19 Pandemic and Other Emergencies in Myanmar” drafted in December 2021. Call upon available support from the Technical Alliance of the Global Nutrition Cluster to assist with this.
2. The Nutrition Cluster Coordinator to disseminate this report through the national Nutrition Cluster meeting and the subnational Rakhine Nutrition Cluster meeting with the support and leadership of the Integrated Management of Acute Malnutrition/ Infant and Young Child Feeding Technical Working Group (IMAM/IYCF TWG). Hold a workshop to:
 - a. Sensitise nutrition partners on what simplified approaches are and why it is important to consider them in Rakhine State/ Myanmar more broadly (invite partners already implementing simplified approaches to discuss their experiences).
 - b. Present/ discuss results of this report.
 - c. Discuss priority simplified approaches to scale-up and pilot and resources needed. Discuss and verify the MSI Framework to evaluate scalability of simplified approaches in Rakhine State.
 - d. Discuss additional barriers identified in this report, for example ensuring existing supply chains can support supply prepositioning to meet increased nutrition product needs and identify practical solutions for moving forward in the Rakhine State context.
3. UNICEF and implementing partners to take the lead on evidence generation on simplified approaches, which is essential to monitor and evaluate the use of simplified approaches in Rakhine State.
 - a. Measure and document effectiveness, feasibility, success and challenges and integrate documentation within existing monitoring and evaluation systems where possible when implementing simplified approaches in Rakhine State.
 - b. Conduct a remote modelling study on mortality risks for children with severe and moderate wasting identified through MUAC and WHZ in the Rakhine State context to determine what thresholds for a MUAC-only admission and discharge protocol are appropriate. Note an in-person study is not required for this, it can be done remotely using existing data and modelling techniques (see example from Cox’s Bazar, Bangladesh).⁹⁶
 - c. Identify the most appropriate MUAC cut-offs for the expanded admissions simplified approach in Rakhine State using existing IMAM data.
 - d. Conduct scenario analyses using available IMAM data to determine caseload and cost implications of the simplified approaches. See box 4 for recommended scenarios.

⁹⁶ [Adaptations to CMAM programming in Cox’s Bazar in the context of the COVID-19 pandemic. Field Exchange 63](#)

4. The subnational Rakhine Nutrition Cluster to develop advocacy tools/ brief to inform decision-makers and key stakeholders on how to further adopt simplified approaches/ allow the piloting and scaling up of simplified approaches in Rakhine State. Outline the evidence, benefits, risks, and mitigation strategies for the prioritised simplified approaches.
5. UNICEF to continue to include simplified approaches in IMAM training. This should cover the pros and cons, conditions and considerations that are required to roll out simplified approaches.
6. To ensure sustainable changes for simplified approaches to be adopted nationally, UNICEF and the Nutrition Cluster may need to support revision of the IMAM guidelines and associated tools to include simplified approaches, including job aids, data collection tools and MUAC tapes.

Box 4: Recommended scenario analysis

Compare the following scenarios:

Scenario A: MUAC only

Scenario B: MUAC only expanded admissions

Scenario C: MUAC + WHZ (severe wasting/ acute malnutrition only)

Scenario A+: MUAC only + reduced dosage

Scenario B+: MUAC only expanded admissions + reduced dosage

Scenario C+: MUAC + WHZ (severe wasting/ acute malnutrition only) + reduced dosage

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Annex 1: Global Evidence and Experiences

Annex 1a: Family MUAC

Justification for this approach

- Early detection of wasting leading to less hospitalisations.
- In a context of caretakers with little access to information, mothers are empowered to manage their children’s health leaving CHWs with more time to carry out other tasks.

Evidence base for utilising this approach

Evidence Summary: The theory behind Family MUAC is strong and an increasing number of governments and implementing organizations are adopting the approach in numerous contexts. While it is currently one of the most widely implemented adaptations, the evidence base for Family MUAC continues to grow. A recent UNICEF rapid review identified six peer-reviewed articles and 38 implementation resources and case studies (8). Peer-reviewed evidence to date focuses largely on demonstrating that caregivers can measure MUAC and assess edema with the same level of accuracy as trained community health workers (9–13). Robust evidence is lacking regarding effectiveness and cost-effectiveness on improving early treatment, identifying and referring clinical danger signs, how the approach should handle MAM cases in the event that MAM treatment is unavailable, and best practices to ensure an effective program design, including the behavior change component.

What Do We Know?				What Don't We Know?
Effectiveness	Operational Considerations	Cost Considerations	Strengths and Challenges	
<p>Three non-randomized studies found that caregivers can assess MUAC and edema as accurately as CHWs (9,10,14). However, this ability may decrease over time, according to an LQAS survey (8)</p> <p>An efficacy study in Niger found that Family MUAC led to earlier detection and fewer hospitalizations (10)</p> <p>One single-arm study found a positive association between training caregivers and recovery, likely due to changed health-seeking behaviors (12)</p> <p>Operational evidence indicates that Family MUAC can improve the frequency of screenings compared to CHW screenings (8,15)</p> <p>One pilot study indicated that Family MUAC combined with training on clinical danger signs could be used to monitor children's progress through treatment (13)</p>	<p>Supplies and Logistics Insufficient MUAC tapes remains a challenge for scaling (15) Preference for color-coded over the numbers-only MUAC tapes sometimes used for screening pregnant and lactating women (9,15)</p> <p>Training Varied training models accrue different costs (e.g., conference room space; transportation; incentives for caregivers; care group volunteer incentives, etc.) Contextualized, low-literacy training tools needed (15) Frequent refresher trainings may prevent decline in measurement accuracy over time (8)</p> <p>Staffing Potential increase in admissions from caregiver referrals may increase demands on treatment facilities, requiring resources (15) Refresher trainings and follow-ups may increase staff workload (15) Careful planning is needed to determine most appropriate roles for CHWs regarding training, supervision, confirming referrals, and/or hands-on screening (8,15)</p>	<p>Little evidence exists regarding cost-effectiveness of the overall approach</p> <p>Family MUAC may have higher initial costs for training (e.g., training at multiple levels, transportation and incentive costs for caregiver groups, refresher training, etc.) but may be more cost-effective than traditional CHW-based screening models in the longer-term (10)</p> <p>An initial increase in caregiver referrals and admissions may increase costs in the short-term; however, early identification and therefore reduced risks of medical complications and LOS in the program may reduce costs in the long term (9,14)</p>	<p>Strengths High acceptance by community and caregivers (15) Increased understanding of program eligibility improves relationship between caregivers and health staff (15) Implementation is usually considered low risk, and often does not require significant policy changes</p> <p>Challenges Accuracy of caregiver referrals varies widely (9–11) Difficult to ascertain coverage and sustainability of Family MUAC services (8) Lack of standard M&E indicators to understand impact on nutrition program performance and coverage (15,16) Family MUAC has not been proven to increase coverage of AM treatment, given other significant and multiple barriers (e.g., distance to health facilities) (8) Limited resources for MUAC tapes constrain scaling, leaving Family MUAC often targeted only to high-risk families (15) Frustration among caregivers self-referring children to clinics in contexts without services Policy revisions may be necessary before full and sustained integration into health systems (8,16) Categorical Family MUAC reporting (red, yellow, green) may not align with numerical reporting in health information systems (15) Referrals from caregivers may be undercounted if CHWs first confirm and refer going to the health center (8)</p>	<p>What is the impact of Family MUAC on clinic-level outcomes (e.g., early treatment, time to recovery, complications/hospitalizations, recovery rates)? Do these results change when implemented at scale and in different contexts? (17)</p> <p>What impact do training format, supervision, and support have on caregiver learning, retention, and accuracy? What is the most optimal frequency of screening? (17)</p> <p>How effective is Family MUAC in identifying MAM? (17)</p> <p>How effectively do caregivers identify clinical danger signs and refer for treatment, both before and while their child is enrolled in a treatment program? (13)</p> <p>To what extent does this approach address context-specific coverage barriers?</p> <p>What are the most useful indicators for monitoring, evaluation, and learning?</p> <p>How cost-effective is Family MUAC compared to traditional CHW screenings, at scale and in different contexts?</p> <p>What are the most effective low-literacy/numeracy tools for use by community members to detect acute malnutrition? (18)</p> <p>How can Family MUAC be used to detect acute malnutrition in other age groups?</p>

Source: Action Against Hunger (2021). [State of the Evidence 2021](#). Modifications Aiming to Optimize Acute Malnutrition Treatment in Children Under Five.

Where has this been implemented?

Amongst the simplified approaches, Family MUAC is one of most widely implemented adaptations globally with increasing usage due to COVID-19 (Figure 1). It has been implemented in 39 countries mostly in the Africa continent (Figure 6).⁹⁷ Peer-reviewed research is limited to India, Chad, Kenya, Niger, Burkina Faso, Pakistan, Jordan, Mauritania and Bangladesh. More recently case studies from Bangladesh,⁹⁸ Zambia,⁹⁹ Ethiopia¹⁰⁰ and Chad¹⁰¹ during COVID-19 experiences have been documented in Field Exchange.¹⁰²

Figure 6: Number of countries implementing Family MUAC worldwide (self-reported)



Source: <https://www.simplifiedapproaches.org/> as of January 2022

Guidance available

Guidance and toolkit	Description & how can this be used?
Quick Guidance on Family MUAC (UNICEF)	Provides a brief overview of the evidence (outcomes) of Family MUAC, implementation challenges and considerations for programme implementers.
Family MUAC toolkit (GOAL 2019)	Has training guide, presentation, M&E toolkit and case study.
Mother MUAC: Teaching mothers to screen for malnutrition - guidelines for training of trainers (ALIMA 2016)	Provides a sample training session with key messages for trainers. Lists considerations for training. Has useful pictures on how to measure MUAC.
Mother-led MUAC Tools (World Vision 2017)	Useful tools include 1) qualitative baseline tool, 2) monthly reporting format for facilitators, 3) community-level monitoring tool for CHW and mothers, 4) health facility monitoring tool, 5) sample summary of approach to share with stakeholders, 6) sample PowerPoint presentation to train project staff.
Rapid Review: Screening of Acute Malnutrition by the Family at community level (UNICEF 2020)	Has proposed a set of indicators for M&E to assess the effectiveness of the approach of wasting screening by family at community level. Has minimum standards for designing the Family MUAC approach.

⁹⁷ [Simplified Approaches website](#)

⁹⁸ [Adaptations to CMAM programming in Cox's Bazar in the context of the COVID-19 pandemic. Field Exchange 63](#)

⁹⁹ [Zambia efforts in prevention, early detection and treatment of wasting during COVID-19. Field Exchange 64](#)

¹⁰⁰ [Implementing the family-MUAC approach for infants under 6 months in the context of COVID-19 in Ethiopia. Field Exchange 64](#)

¹⁰¹ [In Chad, the mother-MUAC approach improves treatment access for malnourished children. Field Exchange 65](#)

¹⁰² [Field Exchange website](#)

M&E tools for the Family MUAC approach (IMC 2019)	Excel sheet for reporting Family MUAC.
Mothers can do it: screening malnutrition in Niger (ALIMA, Video)	Video of trainer teaching mothers on how to measure MUAC (may not be useful for the Myanmar context).

Covid-19 related guidance, adoptions or lessons

Guidance

Several organisations have endorsed implementing Family MUAC in the context of COVID-19 including Save the Children, GOAL, ACF and IMC.

Experiences and lessons learned

Due to movement restrictions and social distancing preventing screening by health care workers, governments and organisations piloted Family MUAC. Family MUAC is the most common adaptation to wasting detection and treatment in the context of COVID-19.¹⁰³ The modality of Family MUAC varied widely with some building on existing structures (care groups) while either used cascading training models.¹⁰⁴ In Ethiopia, Family MUAC was feasible in screening infants under the age of six months.¹⁰⁵

Training was conducted both virtually and in-person. A common issue was the limited number of MUAC tapes with caregivers. As a result, at risk families were targeted.¹⁰⁶ While existing evidence above shows that caregivers were mostly able to measure MUAC accurately, the experience from COVID-19 shows that accuracy of MUAC measurement by caregivers remains an issue as caregivers are turned away which discourages health-seeking behaviours.¹⁰⁷ At present, there are no standardised set of indicators to adequately assess the effectiveness of the approach in different contexts, a monitoring and evaluation strategy is needed at the community and health centre level.¹⁰⁸ However, results from Chad show an screening and admissions for children diagnosed with severe wasting increased from 79.6% to 85.5% and 50.2% to 63.2%, respectively, when using Family-MUAC compared to screening conducted by CHWs.¹⁰⁹ Similarly, in Ethiopia during COVID-19, training caregivers increased self-referrals of infants under six months of age from none to 41.4% and reduced monthly outreach referrals from 77% to 45.3%.

COVID-19 Guidance	Description and COVID-19 Adaptations
Prevention, early detection and treatment of wasting in children 0–59 months through national health systems in the context of COVID-19 implementation guidance (UNICEF and WHO 2020)	In the context of COVID-19, temporarily encourage caregivers to measure MUAC and check for bilateral pitting oedema on their own child under the supervision of the health practitioner at the health facility.
Management of child Wasting in the context of COVID-19 Brief No. 1 (UNICEF GNC March 2020)	When there are no population mobility restrictions, initiate/intensify training for caregivers and community members on the use of MUAC, and the provision of MUAC tapes to all caregivers.
Programmatic Adaptation Support in the Context of COVID-19 (GNC 2020)	<i>Referral Mechanisms when family identifies low MUAC</i>

¹⁰³ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹⁰⁴ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹⁰⁵ [Implementing the family-MUAC approach for infants under 6 months in the context of COVID-19 in Ethiopia. Field Exchange 64](#)

¹⁰⁶ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹⁰⁷ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹⁰⁸ [UNICEF 2020 Screening of Acute Malnutrition by the Family at Community Level. Rapid Review.](#)

¹⁰⁹ [In Chad, the mother-MUAC approach improves treatment access for malnourished children. Field Exchange 65](#)

	<p>“Before implementing Family MUAC, there is a need to define the appropriate referral pathway. When the mothers are trained on using MUAC, they should also be briefed on what they should do when the MUAC shows red or orange.</p> <p>There are several potential adaptations for COVID-19 in terms of referral for treatment. Which to implement will depend on the context. Options include referral to a health centre/ OTP if services are available and movement permitted, CHW-delivered treatment or, if appropriate, a mobile team with IPC measures in place. If mothers were trained before the COVID-19 pandemic, or to reinforce the message on the referral pathways, use the radio or the media.”</p>
Tools:	
Family MUAC approach in the time of COVID-19 implementation: considerations for programme managers (Save the Children July 2020)	Provides guidance on entry points at the community level and health facility level to implement Family MUAC. Provides IPC measures at distribution, training and monitoring spending on location and target (group vs individuals). Also provides indicators with points of collection for monitoring and evaluation.
Family MUAC Toolkit (GOAL April 2020)	Provides four options for the implementation of Family MUAC. Unlike other guidance, includes PLW and pictorial definition of oedema.
Nutrition programming adjusting to COVID-19 (IMC July 2020)	Endorses Family MUAC approach to be used to strengthen the capacity of mothers and caregivers to detect and monitor their children’s nutritional status when using simple, low literacy/numeracy tools, including mid-upper arm circumference (MUAC) tapes, and promoting the “no-touch” approach. Pictorial guidance can be used as an instructional tool for remote training, or to guide mothers or caregivers on the correct use of MUAC tapes. Messaging via television, radio and mobile phones, through community announcements using megaphones or by posting information in key locations are all effective ways to instruct caregivers, to provide reminders to screen their children and to tell them where to go if they find the child to be malnourished.
Continuing Care During COVID-19 Adopting-Life Saving Approaches to Treat Acute Malnutrition (IRC July 2020)	Making care low-touch or no-touch - This means CHWs train caregivers to effectively assess their own child’s nutrition status using the simplified diagnosis process and criteria with the mid-upper arm circumference (MUAC) tape.
ACF Family MUAC Brief 2020 (ACF 2020)	A two pager that provides a short step on how to implement Family MUAC. Also provides links to country-specific case studies.

Annex 1b: CHW-led treatment of wasting

Objective of approach

- Reduces the distance a child and family need to travel and treatment-seeking costs with the aim to decrease defaulter rates and increase coverage.
- Improve program coverage and early access to treatment.

Evidence base for utilising this approach

Evidence Summary: There currently exists a robust evidence base in support of CHW-led SAM treatment. A 2019 systematic review assessed 12 peer-reviewed articles and 6 grey literature articles related to small-scale studies and pilots (87). A 2020 review identified 15 recent or ongoing projects regarding CHW-led treatment of acute malnutrition (50). Evidence generally shows that outcomes of CHW-led treatment of acute malnutrition programs are non-inferior to facility-based outpatient treatment, with improvements in default rates, program coverage, and sometimes cost-effectiveness. Questions remain regarding effectiveness of MAM treatment by CHWs, cost-effectiveness, long-term quality of care, and optimal training and incentives.

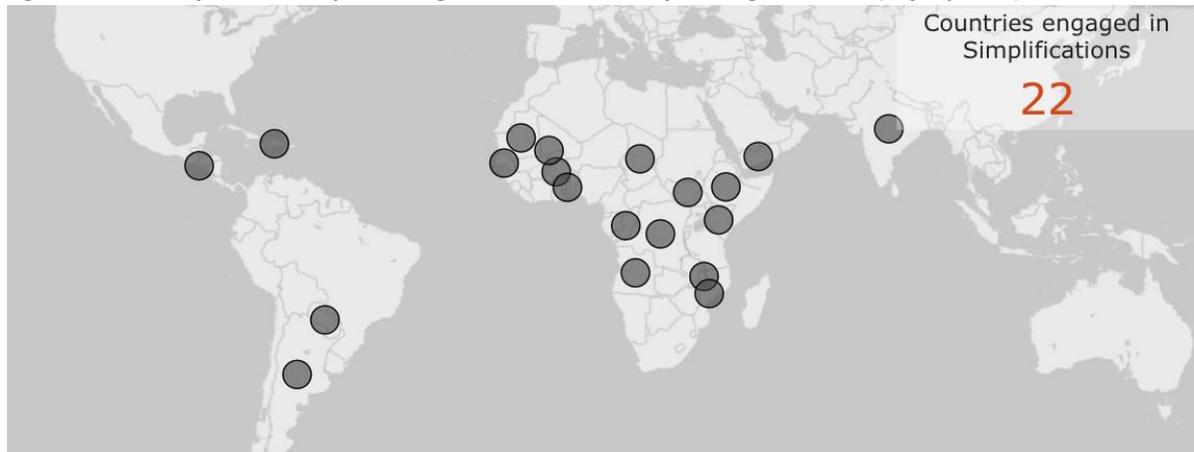
What Do We Know?				What Don't We Know?
Effectiveness	Operational Considerations	Cost Considerations	Strengths and Challenges	
<p>Nine studies cited in a systematic literature review found that CHW-led treatment outcomes for SAM exceeded Sphere standards; of these, three studies assessed program coverage and all showed an increase (87)</p> <p>A randomized control study in Mali and a non-inferiority quasi-experimental study in Tanzania found improved cure rates, higher coverage, and reduced default rates compared to facility-based SAM treatment (88,89)</p> <p>One cRCT in Pakistan found no differences in SAM recovery, relapse, default, or mortality; compliance with RUTF dosage was higher in the facility-based treatment arm (90)</p> <p>A prospective study found that CHW-led SAM treatment decreased defaulter rates due to improved access, reduced travel requirements, and proximity of CHWs (91)</p> <p>Operational findings from pilot studies and early research trials indicate this approach may improve early detection of SAM and relieve pressure on health facilities (92)</p> <p>Quality of care studies demonstrate non-inferior (92) or appropriate (93,94) service provision at the community level by CHWs, enhanced by refresher trainings and regular supervision; however, one study showed unsatisfactory results (95)</p> <p>One study found that SAM children treated by supervised CHWs had better outcomes than those treated by unsupervised CHWs (96)</p>	<p>Supplies and Logistics Requires strengthening "last mile" delivery systems (e.g., monitoring supply transportation from health facilities to households) (15)</p> <p>CHW supply management (e.g., storage quality, CHW security) can be challenging (97)</p> <p>Providing transportation for CHWs (e.g., bicycles, motorbikes) enables easier fulfillment of responsibilities and wider coverage (98)</p> <p>Training Required training varies based on alignment of CHWs' existing capacity and education levels with job requirements</p> <p>Development of adapted tools is necessary to facilitate participation by low-literate CHWs (99-102); simplified protocols enable easier uptake (103)</p> <p>Frequent refresher trainings and supervision visits enhance quality of care (93,94)</p> <p>Staffing Adding SAM treatment to ICCM increases CHWs' workloads, suggesting the need for incentives or additional staff (15,103,104)</p> <p>Ensuring quality of care through close supervision and frequent refresher trainings may increase staff workloads</p>	<p>Most cost-effectiveness studies to date indicate reduced costs associated with CHW-led treatment compared to facility-based outpatient treatment (87,89,105), though cost savings are dependent on scale (103,106), demand for additional CHWs, quality of care, and caseload (107,108)</p> <p>One cost-effectiveness study found that for households receiving CHW-led treatment, the time receiving treatment was halved and households spent 3x less money than in the facility-based arm (107)</p> <p>Delivering treatment at household or community level shifts transportation and time costs from caregivers to CHWs (15,93,105)</p>	<p>Strengths Can increase service coverage, particularly in areas with few health facilities</p> <p>Close relationships between CHWs and communities facilitate trust and health seeking behavior (15)</p> <p>Reduces caregivers' time and costs (15)</p> <p>Integrating acute malnutrition with treatment of other childhood diseases can decrease mortality (109)</p> <p>Challenges Training, supervision, weak community health systems, and supply chain management remain big challenges to CHW-led treatment (103)</p> <p>Some national policies prohibit CHW administration of medications (e.g., antibiotics, deworming medication, etc.), which would limit ability to administer SAM treatment</p> <p>Integrating CHW-led acute malnutrition treatment into existing health structures requires collaboration between siloed health and nutrition governing bodies (87,110)</p>	<p>What is the impact of CHW treatment of acute malnutrition on program outcomes at scale contexts? (17,18)</p> <p>What level of incentives is optimal to motivate and retain CHWs delivering AM treatment services?</p> <p>What is the optimal level of supervision required to ensure appropriate quality of care in different contexts?</p> <p>How can this approach be adapted to contexts with different health system capacities and CHW profiles? (17,111)</p> <p>What is the optimal combination of CHW-led treatment with other modifications (simplified dosage, MUAC-only admissions, combined protocols, etc.)?</p> <p>How do caregivers, CHWs, and clinic staff perceive and accept the shift in responsibilities from clinic staff to CHWs?</p>

Source: Action Against Hunger (2021). [State of the Evidence 2021](#). Modifications Aiming to Optimize Acute Malnutrition Treatment in Children Under Five.

Where has this been implemented?

20 countries reported to have implemented CHW-led treatment of wasting (Figure 7). This is also predominantly in the African continent. Available evidence is largely based on the following countries: Angola, Bangladesh, Ethiopia, India, Malawi, Kenya, Nigeria, Mali, Pakistan, South Sudan and Togo. The RISE project¹¹⁰ conducted a feasibility and acceptability assessment of the CHW-led treatment of wasting in Malawi and Nigeria.

Figure 7: Number of countries implementing CHW-led treatment of wasting worldwide (self-reported)



Source: <https://www.simplifiedapproaches.org/> as of January 2022

Guidance and toolkits

Non-COVID-19 specific guidance is not limited; however, there are several country-specific case studies and operational key lessons. Action Against Hunger developed an online train the trainers module and monitoring tools for community health workers on community-based treatment in Spanish.

Guidance and toolkit	Description & how can this be used?
Summary of Evidence on SAM Treatment Provided by Lay Community Health Workers outside Health facilities (Action Against Hunger 2021)	A mapping of evidence on a decentralised model of treatment according to country and organisations.
Simplified Tools for Community-Level Treatment of Acute Malnutrition (International Rescue Committee 2017)	Adaptations to the CHW-led treatment of wasting include simplification of protocols to accommodate for low-literate providers.
Linking Nutrition & (integrated) Community Case Management: A Review of Operational Experiences (Lynette Friedman & Cathy Wolfheim December 2014)	Discusses four typologies linking nutrition and community case management at different levels of integration. Typology 1 advises on feeding the sick child within existing iCCM services and gradually increases integration to treatment of uncomplicated severe wasting at the community level. Provides case study examples.
Learning Paper Series: Integrating Severe Acute Malnutrition into the Management of Childhood Diseases at Community Level in South Sudan (Malaria Consortium 2013)	Detailed case study and key lessons from South Sudan on integrating severe wasting treatment into the existing community package of treatment.

¹¹⁰ [Community health worker-led treatment for uncomplicated wasting: insights from the RISE study. Field Exchange Digest 64](#)

<i>Tools</i>	
Training of Trainers on CMAM protocol of CHWs, Adaptation to COVID19 and combined protocol (Action Against Hunger June 2020) <i>Spanish</i>	Online training module for trainers.
Monitoring Tools for CHWs Treating Acute Malnutrition. (Action Against Hunger 2020) <i>Spanish</i>	PDFs of digital monitoring tool.

COVID-19 related guidance, adaptations or lessons

Guidance

COVID-19 specific guidance by GNC, UNICEF and WHO largely focuses on increasing early detection of wasting through nutrition screening by CHWs in the community. IRC endorses the use of mobile health teams and CHWs to manage and treat wasting at the community level. The GNC and UNICEF encourage treatment at the community level through community-based platforms temporarily only with partial or full population mobility restrictions.

Experiences and lessons learned

When health facilities were inaccessible due to lockdowns, alternative service provision including treatment at the household level and phone follow-ups were observed allowing for the continuation of treatment.¹¹¹ When lockdowns lifted, the decision for CHW-led care reverted.¹¹² Challenges included limited transportation and logistical challenges with carrying scales, height boards, and therapeutic/ supplementary foods for home visits.

In Nepal, since existing CHWs had increased responsibilities during COVID-19, scaling up CHW-led wasting treatment was conducted by program staff who would usually be treating at the facility.¹¹³

Guidance and toolkit	Guidance and comments
Programmatic Adaptation Support in the Context of COVID-19 (GNC 2020)	To reduce mass gatherings, initiate efforts to build capacity of community health workers (CHWs) to deliver all treatment for uncomplicated wasting in the community via CHWs or other community-based platforms using a limited/ no touch simplified treatment approach.
Prevention, early detection and treatment of wasting in children 0–59 months through national health systems in the context of COVID-19 implementation guidance (UNICEF and WHO 2020)	In the community, explore strategies to enhance participation and involvement in the early detection of child wasting. Continue community screening for wasting by involving mothers or caregivers in measuring MUAC and checking for bilateral pitting oedema, as guided by the community health workforce and following strict IPC protocols.
Management of Child Wasting in the context of COVID-19 Brief No. 1 (UNICEF, GNC March 2020)	When no population mobility restriction, initiate on-the-job training for Community Health Workers (CHWs) to treat uncomplicated wasting including introduction to simplified treatment protocols and approaches, if feasible. With partial or full population mobility restrictions, deliver all treatment for uncomplicated wasting in the community via CHWs or other community-based platforms using a limited/ no touch simplified treatment approach.
Community-based health care, including outreach and campaigns, in	Has a specific chapter on nutrition. <ul style="list-style-type: none"> • Continue community screening for wasting by involving mothers or

¹¹¹ [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review](#)

¹¹² [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review](#)

¹¹³ [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review](#)

<p>the context of the COVID-19 pandemic (IFRC, WHO, UNICEF 2020)</p>	<p>caregivers in measuring MUAC and checking for bilateral pitting oedema, as guided by the community health workforce.</p> <ul style="list-style-type: none"> • Continue screening sick children for wasting according to the modified protocol described in the section on community case management of acute illness in childhood in the context of COVID-19 and provide support and resources to the community health workforce to continue offering treatment for uncomplicated wasting, if this has been adopted into national protocols. • Provide treatment for wasting; initiate discussions with ministries of health and national coordination platforms or nutrition clusters about context-specific adaptations of treatment protocols that might be necessary. Where modified approaches are applied, the treatment of uncomplicated wasting may be provided according to a simplified protocol (for example, using anthropometric criteria and modified dose and distribution schedules for ready-to-use therapeutic food) based on guidance from UNICEF, GNC March 2020.
<p>Continuing Care During COVID-19 Adopting-Life Saving Approaches to Treat Acute Malnutrition (IRC July 2020)</p>	<p>In places where health services are disrupted and restrictions to mobility have interrupted continuity of care, the IRC encourages governments to allow, and support, the scale up of community-based management of acute malnutrition through CHWs.</p> <p>In some cases, the IRC also encourages mobile health teams deploy to communities to work alongside CHWs to help reduce the frequency of follow-up visits to facilities.</p>
<p>Simplified Protocol for Acute Malnutrition: COVID-19 (IRC 2020)</p>	<p>In the context of COVID-19, delivery of a simplified acute malnutrition treatment protocol by community health workers could relieve the burden on health facilities and reduce risk of viral transmission between patients. (Based on the combined protocol in the CompAS trial)</p> <p><i>Also outlines the breakdown of the CompAS protocol and provides evidence to support the simplified, combined treatment protocol.</i></p>
<p><i>Tools:</i></p>	
<p>Toolkit for CHW Community-Based Treatment of Uncomplicated Wasting for Children 6-59 Months in the Context of COVID-19 (International Rescue Committee and UNICEF, June 2020)</p>	<p>Extensive modules on how to implement CHW community-based treatment of uncomplicated wasting. Provides modules on Family MUAC. Includes simplified register and MUAC tapes.</p>
<p>Training of Trainers on CMAM protocol of CHWs, Adaptation to COVID-19 and combined protocol. (Action Against Hunger, June 2020)</p>	<p>Online training of trainers module for community health workers on the Burkina Faso national IMAM protocol.</p>

Annex 1c: Reduced Frequency of Follow-up Visits

Objective of approach

- To increase coverage with reduced workload per child.
- To increase adherence to protocol if the child needs to travel from far to the health centre.
- In the context of COVID-19, may reduce overcrowding and direct contact with patients to protect health care workers.
- May reduce risk of caregivers and staff in insecure contexts by minimising travel.

Evidence base for utilising this approach

Evidence Summary: While implementation of reduced frequency of follow-up visits may be wide, documentation and collated evidence regarding the approach is limited. Some documentation includes a peer-reviewed publication summarizing results from a nonrandomized pilot intervention study (27) and operational evidence from MSF in Northeast Nigeria (28). Initial findings indicate adequate MUAC and weight gain, as well as more flexible programming options (e.g., enabling service providers in emergency contexts to offer services as security and access allow). Further research is needed on impacts of reduced frequency of visits in comparison with most commonly practiced frequency of follow-up visits on program outcomes; adherence and household use of RUTF; and cost-effectiveness.

What Do We Know?				What Don't We Know?
Effectiveness	Operational Considerations	Cost Considerations	Strengths and Challenges	
<p>May improve access to services and uptake by reducing demand on caregivers' time and resources (15)</p> <p>Results from a pilot study tracking weight and MUAC gain through the first month of programming using a reduced frequency of therapeutic food distribution found that weight and MUAC gain were satisfactory, though weekly clinic visits for anthropometric monitoring may have biased these results (27)</p> <p>Most participants in the pilot study correctly allocated the monthly ration early in treatment (27)</p> <p>Operational findings indicated that reduced frequency of visits could enable treatment of more children given the reduced level of site/clinic-level resources needed to treat each child (28). This may also include opportunities for increased outreach and screening services if less staff time is required at site/clinic level (15)</p>	<p>Supplies and Logistics Potential increases in sharing and selling of therapeutic/supplementary foods due to increased size of rations distributed (15)</p> <p>Partially shifts responsibility for supply management and dosing regimen adherence to caregivers (15)</p> <p>Staffing May reduce clinic staff's workload as daily caseloads decline (15)</p> <p>Alters staff responsibilities if staff are providing support at household level between visits (15)</p> <p>May require more sensitization and support to caregivers during visits on how to monitor child's status between visits (e.g., complications, weight loss, appetite, etc.), increasing workload</p>	<p>Has the potential to reduce both burden and cost for caregivers and program implementers alike (15)</p> <p>Reduced frequency of visits may allow for increased coverage (improving program access, reducing caregiver opportunity costs, etc.) and cost efficiencies at scale (27)</p> <p>Costs may increase if reduced frequency of visits is associated with increased LOS from challenges with dosing regimen adherence or deterioration between visits</p>	<p>Strengths Reduces caregiver financial and time costs for participation in the program (15)</p> <p>Enables continued service provision in unstable or insecure contexts (28)</p> <p>Challenges Concerns exist if rapid deterioration of enrolled children occurs and may not be identified quickly with reduced frequency of follow-up visits (15)</p> <p>Larger ration sizes may trigger increased sharing, potentially increasing LOS and non-response rates</p> <p>Caregivers may struggle to store larger rations of RUTF/RUSF properly and safely at home</p>	<p>What is the impact of reduced frequency of follow-up visits on recovery and other program outcomes?</p> <p>What is the comparative effectiveness and cost-effectiveness between standard visits, reduced frequency of follow-up clinic visits, and reduced frequency visits with CHW/CHV home visits between clinic visits? (15)</p> <p>What is the optimal frequency of follow-up visits in the context of combined SAM/MAM protocols, from both clinical and operational perspectives? (28)</p> <p>What challenges do caregivers have in supply management and storage at home (e.g., pressure from family or community members to share the ration, insufficient storage space, potential safety risks, increased sales and sharing of commodities, etc.) and how can these be mitigated? (15)</p>

Source: Action Against Hunger (2021). [State of the Evidence 2021](#). Modifications Aiming to Optimize Acute Malnutrition Treatment in Children Under Five.

Where has this been implemented?

Reduced frequency of visits is the third most implemented of simplified approaches with 29 countries reporting using reduced frequency of visits as of January 2022 (Figure 8). Available evidence is limited to a few programmes. Projects using reduced frequency from weekly to biweekly visits for all children include UNICEF-WFP in Central African Republic, UNICEF in Nigeria and Project Peanut Butter in Sierra Leone.¹¹⁴ Project Peanut Butter included the reduction of the RUTF ration and moved to a monthly ration but kept weekly visits. In Niger, Médecins Sans Frontiers (MSF) along with the Ministry of Health followed the same protocol as Project Peanut Butter with monthly rations and weekly visits but also included random home visits to examine whether RUTF was consumed at the recommended dose.¹¹⁵

Figure 8: Number of countries implementing reduced frequency of follow-ups worldwide (self-reported)



Source: <https://www.simplifiedapproaches.org/> as of January 2022

Guidance

There is little non-Covid-19 specific guidance for reduced frequency of follow-up visits. Available guidance has been developed for the compAS study for the combined protocol.

Guidance	Comments
Simplified Protocol for Acute Malnutrition (Nutrition Cluster April 2020)	Developed for the Combined Protocol tested in the compAS study. In addition to other simplified approaches such as expanded discharge, it suggests the following treatment frequency: <ul style="list-style-type: none"> • MUAC <115mm: Weekly • MUAC 115-<125mm: Biweekly (includes expanded protocol)

COVID-19 Adaptations: Guidance and Experiences

Covid-19 Guidance:

Available COVID-guidance from WHO, UNICEF, GNC and GOAL suggests temporarily reducing the frequency of follow-up visits for severe and moderate wasting treatment from weekly to biweekly/ monthly. However, if the child shows signs of danger, it is recommended they be followed up sooner. In extreme scenarios only, such as suspension of services or travel bans lasting eight weeks, distribution of OTP rations can be provided for up to eight weeks.

Experiences:

¹¹⁴ [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review](#)

¹¹⁵ [Isanaka et al 2017. Outpatient treatment of severe acute malnutrition: response to treatment with a reduced schedule of therapeutic food distribution. The American Journal of Clinical Nutrition, Volume 105, Issue 5, May 2017, Pages 1191–1197](#)

Reduced frequency from weekly to biweekly or monthly follow-ups where caregivers return to the clinic has successfully reduced crowding at clinics and reduced caregivers' time commitment.¹¹⁶ In programmes where CHWs conducted home visits between the extended follow-up periods they observed less selling and sharing of nutrition products.¹¹⁷ There was mixed feedback on the workload of health care workers where some staff experienced reduced workload from seeing less children while others spent more time on admin and logistics planning accommodating the change. In Bangladesh, Cox's Bazaar, reduced frequency was coupled with increased rations.¹¹⁸ This emphasised the importance of pre-positioning stock to prepare for potential breaks in the supply chain due to lockdowns.

COVID-19 Guidance	Comments
<p>Prevention, Early Detection and Treatment of Wasting in Children 0-59 months through National Health System in the context of COVID-19 (UNICEF, WHO 2020)</p>	<p>Severe wasting: Reduce the frequency of follow-up visits to biweekly/ monthly for children with uncomplicated severe wasting by increasing the take home ration of RUTF and other nutrition commodities. If all services are temporarily suspended, distribute RUTF/ nutrition commodities for up to eight weeks. Whenever possible, establish links between these distributions to households and existing food security and social protection systems. For nutritionally at-risk infants under six months, prioritise infants at greatest risk (e.g. low birth weight) for closer follow up.</p> <p>Moderate wasting: In contexts where national policies recommend nutrition counselling as the only approach for the management of moderate wasting, reduce the frequency of follow-up visits to biweekly/ monthly. In contexts where moderate wasting is addressed through food supplementation services, consider reducing visit frequency (e.g. once per month) to monthly, applying recommended IPC measures and avoiding any mass gatherings.</p>
<p>Management of Child Wasting in the context of COVID-19 Brief No. 1 (UNICEF, GNC March 2020)</p>	<p>With a partial or full population mobility restriction: Reduce the frequency of follow-up visits to once per month for children with uncomplicated severe or moderate wasting by increasing the take home ration of RUF and other nutrition commodities. If all services are temporarily suspended, distribute RUFs/ nutrition commodities for up-to eight weeks. Whenever possible, establish links between these households and existing social protection systems.</p>

¹¹⁶ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹¹⁷ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹¹⁸ [Adaptations to CMAM programming in Cox's Bazaar in the context of the COVID-19 pandemic. Field Exchange 63](#)

<p>Adapting Community-based Management of Acute Malnutrition in the context of COVID-19 (GOAL April 2020)</p>	<p>Reduce the frequency of follow-up visits. The objective is to minimise crowding in health facilities and unnecessary interactions while transiting to/ from the health centre. This can be achieved by the following:</p> <ul style="list-style-type: none"> • OTP - double RUTF rations and increase the time between appointments if the child is in stable condition. In most cases, this will mean moving to four-week rations for all children who are on the road to recovery. Any child who displays danger signs may need to return sooner. Health staff will need to review each SAM case and decide the date of the next appointment after weighing a) the risk to the child's health and survival from SAM or other illnesses, b) the risk of spreading COVID-19 to the family and wider community, and c) any expected interruptions to service/ movement due to government lockdown measures. • SFP - move to four-week rations/ visits. As above, any child who shows danger signs should be asked to return sooner. • Explore the possibility to communicate and follow-up at the community level in a way that respects physical distancing and all other infection and prevention control measures. • We do not recommend moving to eight-week OTP rations except in extreme conditions, for example, if clinic closure or a widely enforced travel ban is expected to last for eight weeks. Do so very cautiously, however, and identify and invite any child who needs to return sooner to do so if possible.
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Annex 1d: MUAC and/or oedema only

Objective of approach

- Target children with wasting who are at highest risk of mortality.
- Enables streamlined operations.

Evidence base for utilising this approach

What do we know?			What do we not know?
Effectiveness	Considerations	Strengths and Challenges	
<p><u>Evidence Summary:</u></p> <ul style="list-style-type: none"> • MUAC and oedema only programming may better identify children at highest risk of near-term mortality. The adoption of MUAC- and oedema-only programming is based on a large body of evidence that indicates MUAC better identifies children at highest risk of near-term mortality than WHZ in both clinic and outpatient settings (29–42); though long-standing debate continues as some evidence is presented that promotes continued use of WHZ (43,44). Because WHZ and MUAC often identify distinct groups of children, a shift to MUAC- and oedema- only programs leave some concerned that children with low WHZ children will be underserved (35,43–49). A 2020 evidence review identified 23 recent or ongoing projects, dating back to 2007, using MUAC- and oedema-only admission (50). • The evidence-base supporting the use of MUAC and oedema-only programming is comprised largely of retrospective analyses of program data (51–53), operational reports (54,55), and larger-scale trials (12,56). • There is limited evidence on cost-effectiveness, though initial findings indicate costs implications vary upon depending on context (56). Recent studies find that WAZ, MUAC, and oedema (independently) best predict near-term mortality (58–60). 	<p><u>Supplies and Logistics</u></p> <p>MUAC- and oedema-only programming reduces equipment and job aides (scales, height boards, WHZ look-up charts), often not present in resource limited settings (66)</p> <p>Larger caseloads associated with expanded MUAC admission thresholds require increased resources (15,53)</p>	<p><u>Strengths</u></p> <p>MUAC- and oedema-only programming enables simplified and streamlined operations (28,54)</p> <p>MUAC- and oedema-only programming promotes coherence between community-level screening and admissions, enabling earlier identification and alleviating confusion between caregivers and staff</p>	<p>What are the optimal admission and discharge criteria that best predict mortality risk and long-term negative outcomes? How do we balance this with limited resources and unmet need? (18)</p> <p>What is the impact of MUAC and oedema-only admission on coverage?</p>



<p>default and LOS do not differ by MUAC/WHZ status at discharge (51,52)</p>	<p><u>Training</u></p>	<p>(53,54,67)</p>	<p>What are the program design and? (17)</p>
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<p>WHZ and MUAC often identify distinct groups of children as malnourished due to varying body shapes across different populations globally (35,43,44,46– 49,63)</p> <p>Low WAZ + MUAC identifies children at highest risk of immediate death, while adding WHZ as an independent indicator does not increase sensitivity (59,64)</p>	<p>MUAC- and oedema-only programming is simpler and faster to train (54) MUAC- and oedema-only programming facilitates low-literate populations’ engagement in screening and referrals</p> <p><u>Staffing</u> MUAC- and oedema-only programming facilitates better patient flow, reduces staff workload, decreases caregivers’ time at sites, and improves community understanding of program admission and discharge criteria (15,54)</p>	<p>MUAC- and oedema-only programming facilitates streamlined adoption of other simplified approaches (e.g., Family MUAC, modified dosage, combined treatment of SAM and MAM, treatment by CHWs) (56,66)</p> <p><u>Challenges</u> GAM prevalence rates used to set international nutrition and program targets are based on WHZ; use of MUAC- and oedema-only programming may complicate resource allocation</p>	<p>outcome implications associated with using WAZ or WaST</p>
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Source: Action Against Hunger (2021). [State of the Evidence 2021](#). *Modifications Aiming to Optimize Acute Malnutrition Treatment in Children Under Five*.

Where has this been implemented?

MUAC-only admissions is one of the first simplifications tested and is often used in combination with the CHW-led management of wasting in the community with 60% of the CHW-led protocols being MUAC-only.¹¹⁹ UNICEF’s rapid review identified 23 projects which included MUAC-only admissions, with one of the first projects dating back to 2007. MUAC-only approaches are often implemented or tested under emergency areas only including ACF in Gao (Northern Mali), N’Guigmi (the Niger, Lake Chad region) and in Neima (Mauritania, at the border with Mali); ALIMA in Barsalogo (Northern Burkina Faso); UNICEF in Rann (Northern Nigeria); IRC in Nata (Mali); and Malaria Consortium in South Sudan.

Guidance

There is little guidance on the use of MUAC-only admissions. While most implementation contexts have been in emergency areas, CORTASAM recommends the use of MUAC as the primary tool for detection, diagnosis and discharge.

Guidance	Comments
The Council of Research and Technical Advice on Acute Malnutrition. Recommendations on the use of Mid-Upper-Arm-Circumference (MUAC) in the community: A statement from the Council of Research and Technical Advice on Acute Malnutrition (CORTASAM) (No Wasted Lives; 2018)	Based on the systematic review on the use of MUAC to detect, diagnose, and treat SAM children, published in Global Health: Science and Practice, recommends the use of MUAC as the primary tool for detection, diagnosis and discharge.

COVID-19 Adaptations: Guidance and Experiences

COVID-19 Guidance

There is extensive guidance to support the temporary shift to MUAC-only from WHZ to reduce exposure to COVID-19 especially when essential personal protection equipment (PPE) and disinfecting solutions cannot be secured. UNICEF and WHO discourage the use of infant scales with or without IPC measures but weights using digital scales with the caregiver holding the child is encouraged in both scenarios where IPC measures are secured. GNC also provides guidance on monitoring children's progress in wasting treatment in the transition period between shifting to MUAC only measurements. The MAMI Global Network have also provided guidance on using MUAC only for children under six months of age despite a lack of internationally validated thresholds.

COVID-19 Experiences

The MUAC-only approach reduced the contact between staff and children.¹²⁰ Experiences with the MUAC-only approach were often coupled with the expanded admission and discharge criteria simplified approach.^{121; 122} Staff who implemented MUAC and oedema-only admissions/ discharge during COVID-19 expressed concern over not admitting children with low WHZ but this was offset by increasing MUAC thresholds.¹²³ In Cox’s Bazar, Bangladesh, they adopted the MUAC-only approach along with expanded admissions after an analysis of the SMART survey showed the number of children missed when not using WHZ. Initially, the number of admissions to OTPs and TSFPs decreased but increased after increasing the MUAC cut-offs.

COVID-19 Guidance	Guidance and Comments
Prevention, Early Detection and Treatment of Wasting in Children 0-59 months through National	<ul style="list-style-type: none"> • Weight using infant scales should not be used with or without IPC measures, but weight using digital scales can be used in both contexts. • Height should only be measured when IPC protocols are in place and PPE

¹¹⁹ [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review](#)

¹²⁰ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹²¹ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹²² [Adaptations to CMAM programming in Cox’s Bazar in the context of the COVID-19 pandemic. Field Exchange 63](#)

¹²³ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

<p>Health System in the context of COVID-19 (UNICEF WHO 2020)</p>	<p>available.</p> <p><i>Adaptations should be temporary measures only. If access to essential PPE and disinfecting solutions cannot be secured:</i></p> <ul style="list-style-type: none"> • Reduce exposure by shifting to MUAC and bilateral pitting oedema only for anthropometric measurements in infants and children (with IPC measures in place) for admission, follow-up and discharge. • For infants under 6 months of age, the following MUAC thresholds may be used to identify nutritionally at-risk infants: <110mm for infants 0-6 weeks (i.e. before first vaccination) <115mm for infants 7 weeks- 6 months.
<p>Programmatic Adaptation Support in the Context of COVID-19 (GNC 2020)</p>	<ul style="list-style-type: none"> • During the transition of MUAC-only programming from WHZ+MUAC, it is recommended to provide a ration for a longer period of time to all those SAM children who were enrolled in the program at the moment when the lockdown was announced, including those that were detected by weight for height less than -3 with a MUAC > 125mm. A ration of at least a month is recommended (where stocks allow). • It might not be possible to monitor the children's progress to treatment in the same way as before since the children might no longer be coming to the centres, however, it is possible to put in place other mechanisms to check on the child's wellbeing and health such as by the health centre calling the mother and Family MUAC.
<p>Management of child Wasting in the context of COVID-19 Brief No. 1 (UNICEF GNC March 2020)</p>	<ul style="list-style-type: none"> • Reduce exposure by shifting to MUAC-only for anthropometric measurements in children and encouraging caregivers to carry out MUAC and oedema assessments under the supervision of a health practitioner. In the event of partial or full population mobility restrictions, CHWs should adopt the MUAC and oedema only approach.
<p>Adapting Community-based Management of Acute Malnutrition in the context of COVID-19 (Concern Worldwide April 2020)</p>	<ul style="list-style-type: none"> • Introduce simplified treatment protocols for SAM and, where relevant, MAM. These evidence-based simplified protocols can help achieve all of the above and allow less qualified staff to administer rations if nurses are absent or overstretched due to illness. The main simplified protocols are MUAC and oedema only for admission and discharge. This means suspending WHZ if being used.
<p>Statement on MAMI in the Context of COVID-19 (ENN 2020)</p>	<ul style="list-style-type: none"> • Infants u6m not included in routine nutrition screening: Mid upper arm circumference (MUAC) is used in many contexts to screen for at-risk children over 6 months of age in the community and is recommended in contexts where weight for age (WAZ) or weight for length (WLZ) is routinely used but is not feasible due to COVID-19 service adaptations. Although there is not yet an internationally validated MUAC threshold for infants u6m, research indicates that MUAC is also a good marker of risk in this age group and may be used as a programme adaptation.
<p>WFP's additional recommendations for the management of maternal and child malnutrition prevention and treatment in the context of COVID-19 (WFP 2020)</p>	<ul style="list-style-type: none"> • Recommend using MUAC-only to promote no-touch/ low-touch programming, with appropriate protective measures observed including washing of the tape, use of gloves and mask by measurer, and accepted hygiene standards maintained. Consider expanding the MUAC cut-off from 12.5 to 13.0cm to reduce potential exclusion of malnourished children. MUAC cut-offs for PLW vary in different countries. PLW should continue to be enrolled based on the national MUAC threshold.

Annex 1e: Expanded admissions criteria

Objective of approach

- Prevent cases of moderate wasting from deteriorating especially when referrals between OTP and SFP are not streamlined.
- Simplify and streamline the admission process for treatment programs; facilitate CHW-led acute malnutrition treatment; align community-based screening methods with program admission criteria; reduce contact in the context of COVID-19 protocols by suspending weight and height measurements.

Evidence base for utilising this approach

Evidence Summary: Evidence regarding expanded MUAC threshold in the context of MUAC- and oedema-only programming comes mostly from retrospective analyses of patient data (29,53,57). There is limited evidence on cost-effectiveness, though initial findings indicate costs implications vary upon depending on context (56). Recent studies find that WAZ, MUAC, and oedema (independently) best predict near-term mortality (58–60).

What do we know?			What do we not know?
Effectiveness	Considerations	Strengths and Challenges	
<p>Simulations predict that changing admission criteria from MUAC < 115mm and/or oedema and/or WHZ < -3 to MUAC < 125mm and/or oedema (without WHZ) would increase program caseload by 2.29 times (assuming 100% coverage); a change to MUAC < 115mm and WAZ < -3 would do so by 2.26 times (65)</p> <p>Increasing MUAC admission thresholds captures additional at-risk children, but not all of whom would have been admitted otherwise based on</p>	<p><u>Supplies and logistics</u> Larger caseloads associated with expanded MUAC admission thresholds require increased resources (15,53)</p> <p><u>Staffing</u> Increased MUAC thresholds raise demands on staff time and workload in areas with a high burden of acute malnutrition (15)</p> <p><u>Cost</u> If OTP admission thresholds are increased to include MAM treatment, overall costs increase, but cost-effectiveness may decrease if cases are identified earlier in the progression of</p>	<p><u>Strengths</u> MUAC- and oedema-only programming enables simplified and streamlined operations (28,54)</p> <p>MUAC- and oedema-only programming promotes coherence between community-level screening and admissions, enabling earlier identification and alleviating confusion between caregivers and staff (53,54,67)</p> <p>MUAC- and oedema-only programming facilitates streamlined adoption of other simplified approaches (e.g., Family MUAC, modified dosage, combined treatment of SAM and MAM, treatment by CHWs) (56,66)</p> <p><u>Challenges</u> Need to preposition or plan to procure sufficient resources before increasing admission thresholds to balance resources with increased caseloads (15)</p>	<p>What are the optimal admission and discharge criteria that best predict mortality risk and long-term negative outcomes? How do we balance this with limited resources and unmet need? (18)</p> <p>What are the optimal admission and discharge thresholds in different contexts to optimize full and sustained recovery (17,68– 70)?</p> <p>How does body composition and immune function relate to full and sustained recovery from AM? Are there feasible indicators beyond anthropometrics could be helpful in optimizing admission/discharge criteria?</p> <p>What is the impact of MUAC and oedema-only admission on coverage?</p>



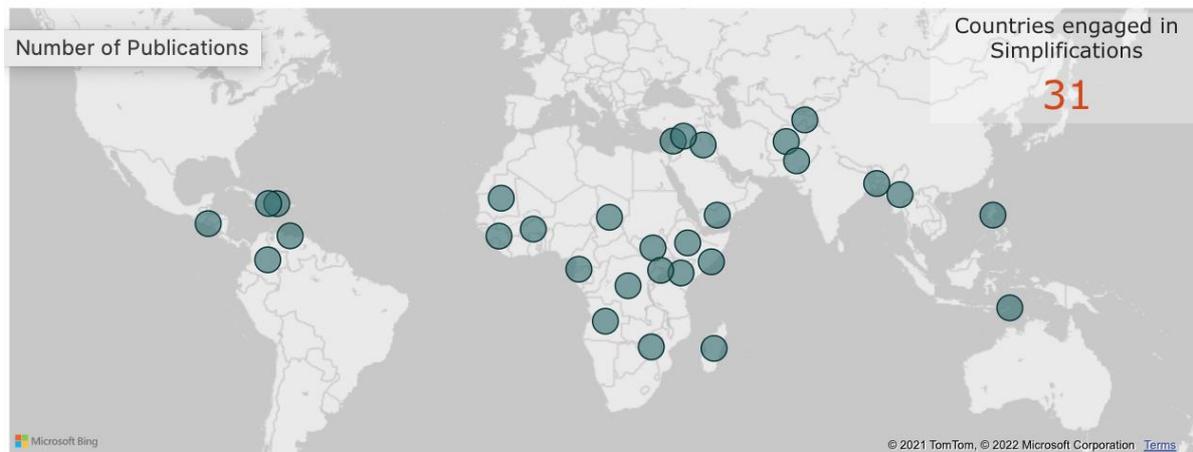
	the disease and sustainably treated with shorter LOS (15)	GAM prevalence rates used to set international nutrition and program targets are based on WHZ; use of MUAC- and oedema-only programming may complicate resource allocation	What are the program design and outcome implications associated with using WAZ or WaST? (17)
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Source: Action Against Hunger (2021). [State of the Evidence 2021](#). Modifications Aiming to Optimize Acute Malnutrition Treatment in Children Under Five.

Where has this been implemented?

As of January 2022, 31 countries have reported using a combined protocol which may or may not include expanded admissions (figure 9). Details of the combined protocol are not provided.

Figure 9: Number of countries implementing combined protocol worldwide (self-reported)



Source: <https://www.simplifiedapproaches.org/> as of January 2022

Guidance

Prior to COVID-19, expanded admissions was temporarily recommended in the absence of an SFP and/ or OTP for acute crises only. It was put in place to do something rather than nothing.

Guidance	Guidance and Comments
Options for Exceptional Community Based Management of Acute Malnutrition Programming in Emergencies (Interagency Nutrition Meeting 2014)	<p>Provides temporary options for treating wasting in the absence of an SFP and/ or OTP and is meant for acute crises only (rapid onset or protracted crises with significant unexpected spike in caseload). Provides guidance for agencies to “do something” rather than “do nothing”.</p> <p>Key recommendations:</p> <ul style="list-style-type: none"> ● In the absence of a Supplementary Feeding Program (SFP) or an adequate supply of Ready-to-use Supplementary food (RUSF), children with moderate wasting can be treated with RUTF in the OTP. <ul style="list-style-type: none"> ○ Admission criteria into the OTP is expanded to <125mm. ○ Discharge criteria from the OTP is ≥125mm on two consecutive visits with a 3-week minimum stay. ○ Children <115mm are treated with 2 RUTF sachets/day, and children 115<125mm are treated with 1 RUTF sachet/day. <p>The recommendation is coupled with modifications to RUTF/ RUSF dosage/ single treatment product depending on the resources available.</p>

COVID-19 Adaptations

COVID-19 Guidance

Guidance for expanded admissions during COVID-19 should be considered. However, the cut-offs are not standardised for OTPs or TSFPs.

COVID-19 Experiences

Modifications to admission and discharge criteria successfully reduce contact between staff and children. Expanded MUAC thresholds can lead to increased caseloads and a need to sensitise communities on new thresholds.¹²⁴ Decision-makers used SMART surveys to determine suitable MUAC cut-offs to prevent children who would be admitted under WHZ to be excluded.^{125; 126} In Cox’s Bazar, after increasing the MUAC cut-offs to <135 mm for referral to TSFP and seeing a sharp increase in MAM cases, the cut-off was reduced to <130 mm, showing the importance of monitoring and evaluation to determine the most suitable cut-off for the context.¹²⁷

COVID-19 Guidance	Guidance and Comments
Programmatic Adaptation Support in the Context of COVID-19 (GNC 2020)	<p>Under 6 months:</p> <ul style="list-style-type: none"> Despite no internationally validated thresholds for MUAC to identify at risk infants under 6 months, to prevent U6M missed with shift to MUAC-only, where weight for length (WFL) and weight for age (WFA) assessment is not possible, MUAC criteria may also be expanded to infants under 6 months of age to monitor growth at home and to identify at risk infants. A threshold of <110mm may be used for infants 0-6 weeks (i.e. before first vaccination) and < 115mm for infants 6 weeks- 6 months. MUAC should only be expanded to this age group where there is a clear and appropriate pathway of care in the community to manage cases identified. A pathway of care requires clinical, feeding and maternal assessment and support (see C-MAMI Tool). Feeding support options to explore include breastfeeding peer support counsellors, IYCF programmes, phone counselling and use of video content (see Global Media Health Tools). It is unlikely that existing IMAM programmes targeting children 6 months of age and older have the required capacity and skillset to manage at-risk infants under 6 months. RUTF is not recommended for use in infants under 6 months of age. Inpatient care should generally be reserved for complicated cases as per national guidelines. Low birth weight infants are at higher risk. <p>6-59 months:</p> <ul style="list-style-type: none"> To reduce mass gatherings and limit unnecessary interaction with health caregivers using simplified admission criteria (e.g. MUAC and oedema and consider using expanded admission criteria (<120mm or <125mm MUAC and/or oedema)
Prevention, Early Detection and Treatment of Wasting in Children 0-59 months through National Health System in the context of COVID-19 (UNICEF, WHO 2020)	<ul style="list-style-type: none"> Temporary adaptations: Services for children 6-59m can consider expanded admission thresholds (e.g., <120mm or <125mm) to maximise the inclusion of potentially vulnerable children, especially in contexts with no services for the management of moderate wasting.
Management of child Wasting in the context of COVID-19 Brief No. 1 (UNICEF, GNC March 2020)	<ul style="list-style-type: none"> With partial or full population mobility restrictions only, whenever possible, deliver all treatment for uncomplicated wasting in the community via Community Health Workers (CHWs) or other community-based platforms using a limited/ no touch simplified treatment approach. Programmatic modifications should consider using expanded admission criteria (<120mm or <125mm MUAC and/or oedema).
WFP’s additional recommendations for the management of maternal	<ul style="list-style-type: none"> (TSFP) Recommend using MUAC-only to promote no-touch/ low-touch programming. Consider expanding the MUAC cut-off from 12.5 to 13.0cm to reduce potential exclusion of malnourished children. MUAC cut-offs for PLW vary in different countries. PLWs should continue to be enrolled based on the national

¹²⁴ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

¹²⁵ [Adaptations to CMAM programming in Cox’s Bazar in the context of the COVID-19 pandemic. Field Exchange 63](#)

¹²⁶ [Action Against Hunger 2022 Adaptations to the Management of Acute Malnutrition in the Context of COVID-19](#)

¹²⁷ [Adaptations to CMAM programming in Cox’s Bazar in the context of the COVID-19 pandemic. Field Exchange 63](#)

and child malnutrition prevention and treatment in the context of COVID-19 (WFP 2020)	MUAC threshold.
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Annex 1f: Use of single treatment product

Objective of approach

Combined treatment of SAM and MAM (ACF)

- Primary Objective: Simplify and optimise acute malnutrition treatment systems to streamline operations and improve cost-effectiveness and coverage.
- Secondary Objectives: Enable continued treatment in the context of limited resources; expanded admission criteria broadens treatment availability when either OTP or TSFP services are unavailable.

Evidence base for utilising this approach

<p><u>Evidence Summary:</u> Use of single treatment product is often combined with</p>		
<p>What do we know?</p>		
<p>Effectiveness</p>	<p>Considerations</p>	<p>Strengths and Challenges</p>
<p><i>Combined protocol</i> Studies show that recovery rates for children treated in combined protocols were non-inferior to standard protocols (12,56,74), with no differences in LOS, average weight, and MUAC gain (56) In two studies where coverage was measured, coverage was not lower with the combined protocol than standard protocols (56,74)⁴ When using one product (RUTF) in a combined treatment approach, weight gain was higher and default rates lower among children in the MAM phase who were treated with two RUTF sachets/day when compared to those treated with FBF. Admitting children for treatment at a less severe stage (e.g., MAM phase) may have prevented deterioration to SAM within the covered population (76) Retrospective patient data analyses indicates that the EAC approach captures additional at-risk children in the absence of either OTP or TSFP (71,78)</p>	<p>Strengths Simplifies operations (procurement, logistics, training) with similar or improved program outcomes (56) Facilitates streamlined adoption of other simplified approaches (56,66) Accepted well by staff/communities (66) Improves continuity of care (28,56,77), which may enable earlier identification and treatment (12,74) EAC enables MAM treatment in contexts without TSFP (28,78) Challenges Likely to expand caseloads in contexts without current TSFP, increasing demands on scarce resources, especially product (28,77) Concerns exist that treating both MAM and SAM in the context of limited resources may divert resources away from more vulnerable SAM children</p>	<p><i>Combined protocol</i></p> <ul style="list-style-type: none"> • What are the impacts on coverage and caseloads when offering previously unavailable services for MAM? • To what extent does combined treatment prevent deterioration from MAM to SAM? What are programmatic and supply chain cost savings from a combined treatment approach? (15) • In treating MAM children in a combined protocol, what is the cost and cost effectiveness of using one product (RUTF), which is more costly per unit than other MAM products (e.g., RUSF, FBF)? • Would cost savings in streamlined logistical operations balance these increased costs? • What impact does treatment of MAM caseloads in a combined treatment program have on health system capacity? • How can separate UN agencies collaborate to support combined treatment?

Source: Action Against Hunger (2021). [State of the Evidence 2021](#). Modifications Aiming to Optimize Acute Malnutrition Treatment in Children Under Five.

Where has this been implemented?

UNICEF's rapid evidence review on the treatment of wasting using simplified approaches found that out of 33 individual products, 20 used one product (RUTF) for treatment. This included the ComPAS study conducted in South Sudan and Kenya. The OptiMA study in Burkina Faso also used the single product approach. During COVID-19, an online survey conducted in November 2020 showed that 9 out of 36 countries adopted the use of a single product to treat both severe and moderate wasting.¹²⁸

Guidance

Guidance	Guidance and Comments
Moderate Acute Malnutrition: A Decision tool for Emergencies. (GNC 2017)	Alternative foods should only be used on an interim basis if the primary option is not immediately available. In absence of SFP or an adequate supply of RUSF, children with moderate wasting can be temporarily treated with RUTF in the OTP provided there are sufficient and qualified staff and supplies to handle the extra patient load. <ul style="list-style-type: none"> • Children with MUAC <115mm are treated with 2 RUTF sachets/day • Children with MUAC 115 to <125mm are treated with 1 RUTF sachet/day

COVID-19 Adaptations

See Annex 1G for more details

COVID-19 Guidance	Guidance and Comments
Simplified Protocol for Acute Malnutrition: COVID-19 (IRC 2020)	Modifications based on the ComPAS study. In the context of COVID-19 when resources are spread thin, the following can be used. <ul style="list-style-type: none"> • Severe wasting: <115mm and/or oedema (+/++): Two 92g sachets RUTF/day (1000 kcal/day) • Moderate wasting: 115-<125mm: One 92g sachet RUTF/day (500 kcal/day)
Wasting and COVID-19 Programme Adaptations Information Note 1 (UNICEF GNC March 2020)	Temporary use of different specialised products in the event of supply breaks: <ul style="list-style-type: none"> • Where RUTF is not available to treat uncomplicated severe wasting, the MAM Decision tool for emergencies recommends use of RUSF as a temporary, lifesaving measure in exceptional circumstances until standard treatment with RUTF can resume.
WFP's additional recommendations for the management of maternal and child malnutrition prevention and treatment in the context of COVID-19 (WFP 2020)	Recommend close coordination and collaboration with MOH, UNICEF/ cluster/ sector leads to ensure a shared approach to coverage of difficult to reach populations. This could include implementing expanded criteria for admission and discharge for the treatment of child wasting; the use of RUSF in case of unavailability of RUTF the use of RUTF in case of unavailability of RUSF/ FBF.

¹²⁸ [Adaptations to community-based acute malnutrition treatment during the COVID-19 pandemic. Field Exchange 64](#)

Annex 1g: Reduced dosage

Objective of approach

- Useful in settings with RUTF shortfalls. Could be effective to treat more children with the same amount of product, improve cost-effectiveness and increase treatment coverage.
- Optimise dosing for recovery to optimise cost-effectiveness of treatment; improve programme coverage, impact and efficiency (ACF).

Evidence base for utilising this approach

Evidence Summary: The evidence base comprises of results from a few studies with varying degrees of rigor and various operational data, including: a cRCT in Sierra Leone (74), the multi-country “ComPAS” study⁵ (56,75), the single-arm “OptiMA” study⁶ (12), the randomized non-inferiority “MANGO” trial⁶ (80,81), a prospective cohort study by IRC in Somalia (77), and other operational reports and findings (28,79,82). A 2020 evidence review found 22 recent or ongoing projects integrating modified dosage (50). Existing evidence largely finds that overall program recovery rates using modified dosage were non-inferior to overall program recovery rates using weight-based dosage. However, some secondary outcomes and sub-analyses found differences across groups. ComPAS also found that, overall, less RUTF and lower total cost per child recovered with reduced dosage (56).

What Do We Know?				What Don't We Know?
Effectiveness	Operational Considerations	Cost Considerations	Strengths and Challenges	
<p>All studies with randomized controls saw non-inferior recovery rates in reduced dosage arm (56,74,75,80,81)</p> <p>In a South Sudan and Kenya trial (ComPAS), no differences were observed in LOS, average weight gain, average MUAC gain (56) and relapse rates (75)</p> <p>In a Burkina Faso trial (MANGO), slower weight and height gain velocity was observed in the reduced dosage group, though no difference in LOS (80); trivial differences in body composition (81); daily energy intake was lower in reduced dosage group (83)</p> <p>Mixed results related to average weight gain across two studies—ComPAS (56) and MANGO (80)—may be due to different dosing regimens, with relatively smaller rations in MANGO (80), which saw slower weight gain in the reduced dosage arm, and relatively larger rations in ComPAS (56), which saw non-inferior weight gain in reduced dosage arm</p> <p>While some studies have produced insightful operational findings, without a control arm, conclusions cannot be drawn about the effectiveness of reduced dosage (12,28)</p>	<p>Supplies and Logistics Reduced dosage alleviates simplifies supply management; reduces burden on caregivers to transport and store supplies (15,80)</p> <p>Simplified, universal dosage enables greater efficiency in preparing rations ahead of distribution (15,28)</p> <p>Reduced dosage has been successfully used to continue treatment in the context of RUTF supply shortages (79,82)</p> <p>Training Training is easily implemented (15,28)</p> <p>Staffing Some modified dosage schedules reduce and streamline staff workloads (15,79)</p>	<p>Cost savings of reduced dosage are influenced by high recovery rates and lower LOS; SAM:MAM caseload ratios; and supply chain management (56)</p> <p>Children consume fewer sachets of RUTF under reduced dosage protocols, reducing costs of nutrition commodities and improving cost-effectiveness (12,56,74,84)</p> <p>Modified dosage in combination with a combined SAM and MAM treatment protocol may provide improved cost-effectiveness ratios, but incur overall higher costs due to the inclusion of MAM children in treatment</p>	<p>Strengths Simplifies treatment and could enable treatment of more children given improved cost-effectiveness</p> <p>Enables continued service delivery in the context of constrained RUTF supplies</p> <p>Challenges Reduced dosage for larger children may impact time to recovery and therefore LOS (15)</p>	<p>What is the optimal dosage to ensure effective treatment outcomes, particularly among extremely vulnerable children (very low weight, MUAC < 115mm, lower SES, etc.)? (12,18,85) What is the impact of reduced dosage on larger children (by weight)? (15)</p> <p>To what extent does modified dosage improve coverage by freeing up resources to allow treatment of more children?</p> <p>How does modified dosage impact longer-term outcomes (e.g. relapse) and other health outcomes (linear growth, body composition)? (17)</p> <p>What are the effectiveness and cost-effectiveness of combining modified dosage with other simplified approaches, such as CHW-led treatment and combined protocols? (17)</p> <p>What impact does modified dosage have on intra-household sharing, particularly among households with low socioeconomic status? (17)</p> <p>What is the cost-effectiveness of modified dosage of separate products for SAM and MAM treatment (e.g., RUTF and RUSF) versus modified dosage for a single product under unified treatment?</p>

Source: Action Against Hunger (2021). [State of the Evidence 2021](#). Modifications Aiming to Optimize Acute Malnutrition Treatment in Children Under Five.

Where has this been implemented?

The following programmes have used modified dosage in research studies.

Programme	Countries	Dosing Regimen
Low-Dose RUTF Protocol 2009-2010 by ACF	Myanmar (Rakhine State)	Stage 1 (usual protocol) Stage 2 (reduced protocol) <ul style="list-style-type: none"> RUTF dosed at 1 sachet per day (82g or 500kcal/day) regardless of weight until completion of treatment Encouraged home-cooked food in addition to RUTF -4 non-spicy family meals per day & prioritise RUTF Encouraged to continue breastfeeding at all times. Received care practice education session
OptiMA Optimizing Treatment for Acute Malnutrition 2017 by Alima	Burkina Faso	<ul style="list-style-type: none"> 175 kcal/kg/day RUTF for children with MUAC < 115mm (severe wasting) 125 kcal/kg/day RUTF for children with MUAC 115-120mm, 75 kcal/kg/day RUTF for children with MUAC 120-125mm
The Combined Protocol for Acute Malnutrition Study (CompAS)	South Sudan and Kenya, Mali, Somalia	<ul style="list-style-type: none"> 2 sachets of RUTF/day if their MUAC was <115mm, and 1 sachet of RUTF/ day if their MUAC was 115mm to <125mm
The Modelling an Alternative Nutrition Protocol Generalisable to Outpatient (MANGO) 2015-2019 by Action Against Hunger	Burkina Faso 2017	<ul style="list-style-type: none"> The standard weight-based RUTF dose for the first two weeks of treatment Followed by <ul style="list-style-type: none"> 1 sachet/day of RUTF for children < 7kg and 2 sachets/day of RUTF for children >7 kg

During COVID-19, in response to suspended weight measurements, implementers reported modifying dosage calculations for RUTF/ RUSF including universal dosage for all children with severe acute malnutrition.¹²⁹ This enabled streamline service provision where staff could prepare rations ahead of time, simplified stock management and forecasting. There were concerns expressed by caregivers with the reduced dosage, which may have stemmed from reduced household food insecurity.¹³⁰ In the same study where surveys were collected between July 2020 and January 2021 with a follow-up survey in May 2021, interviews reported to revert back to the standard protocol due to concerns over negative impacts of the reduced dosage approach.

Guidance

Guidance	Guidance and Comments
Simplified Protocol for Acute Malnutrition: COVID-19 (IRC 2020)	Protocol is based on the CompAS study. See above for dosage. Transition from 2 RUTF to 1 RUTF: Two consecutive weekly measurements at or above 115mm and no oedema. The CompAS study is combined with a reduced treatment frequency and expanded protocol.

COVID-19 Adaptations

Guidance

¹²⁹ [Action Against Hunger 2022 Adaptations to the Management of Acute Malnutrition in the Context of COVID-19](#)

¹³⁰ [Action Against Hunger 2022 Adaptations to the Management of Acute Malnutrition in the Context of COVID-19](#)

Similar to non-COVID-19 guidance, GNC, UNICEF, WHO and Concern Worldwide recommend 2 sachets of RUTF per day for severe wasting and 1 sachet per day for moderate wasting. Additional modifications include dosage according to MUAC measurements.

Experiences

Due to the suspension of weight measurements, reduced dosages were used during COVID-19.¹³¹ Modalities for modified dosages during COVID-19 varied with experiences in South Sudan using universal dosage for all children with severe wasting, in Bangladesh using weight-based calculations, and in Tanzania using case-specific dosage (according to age, appetite and progression).¹³² Caregivers expressed concerns over receiving less therapeutic food. Reduced dosage allowed staff to provide services reducing contact more quickly and easily with caregivers and children, improved stock management and simplified supply forecasting.¹³³ However, the continuation of this adaptation beyond COVID-19 may not be sustained due to staff and caregiver safety concerns.

COVID-19 Guidance	Guidance and Comments
Wasting and COVID-19 Programme Adaptations Information Note 1 (GNC 2020)	“Reducing the dosage provided. Trials of simplified protocols have used 2 sachets of RUTF per day for SAM and 1 sachet per day for MAM. There is currently mixed evidence on the impact on treatment outcomes, but this could be used as a temporary measure to make sure that stock last during a short stock-out”.
Adapting Community-based Management of Acute Malnutrition in the context of COVID-19 (Concern Worldwide April 2020)	Simplified RUTF dosage (based on MUAC): This means two sachets/ day for uncomplicated severe wasting and one sachet/ day for uncomplicated moderate wasting (see table below). Partially simplified RUTF dosage (based on simplified weight categories). Simplified weight categories means packing RUTF can be done more quickly, but it still requires taking weight which introduces transmission risk and takes time. Many countries have already moved to this (see table below).

¹³¹ [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review](#)

¹³² [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review](#)

¹³³ [UNICEF 2021 Treatment of Wasting Using Simplified Approaches. A Rapid Evidence Review](#)

	<p>For all children, we suggest the following Simplified RUTF ration dosage protocols. If the simplified RUTF dosage protocol cannot be used for some reason, use the following Partially Simplified RUTF dosage, which generalises the number of sachets by weight. See more on Simplified Protocols above in Section 2.</p> <p>➤ Simplified RUTF dosage based on MUAC (not weight) wherever possible</p> <table border="1" data-bbox="549 349 1299 456"> <thead> <tr> <th rowspan="2">MUAC</th> <th colspan="4">Total sachets of RUTF</th> </tr> <tr> <th>Per day</th> <th>Per week</th> <th>Per 2 weeks</th> <th>Per 4 weeks</th> </tr> </thead> <tbody> <tr> <td>MUAC <115mm</td> <td>2</td> <td>14</td> <td>28</td> <td>56</td> </tr> <tr> <td>MUAC 115 mm to <125mm</td> <td>1</td> <td>7</td> <td>14</td> <td>28</td> </tr> </tbody> </table> <p>➤ Partially simplified RUTF dosage based on simplified weight categories</p> <table border="1" data-bbox="549 495 1299 846"> <thead> <tr> <th rowspan="2">Child's Weight (kg)</th> <th rowspan="2">Simplified weight category (kg)</th> <th colspan="4">Total sachets of RUTF</th> </tr> <tr> <th>Per day</th> <th>Per week</th> <th>Per 2 weeks</th> <th>Per 4 weeks</th> </tr> </thead> <tbody> <tr> <td>3.5 – 4.4</td> <td rowspan="3">3.5 – 5.9</td> <td rowspan="3">2</td> <td rowspan="3">14</td> <td rowspan="3">28</td> <td rowspan="3">56</td> </tr> <tr> <td>4.5 – 4.9</td> </tr> <tr> <td>5.0 – 5.9</td> </tr> <tr> <td>6.0 – 6.9</td> <td rowspan="2">6.0 - 7.9</td> <td rowspan="2">3</td> <td rowspan="2">21</td> <td rowspan="2">42</td> <td rowspan="2">84</td> </tr> <tr> <td>7.0 – 7.9</td> </tr> <tr> <td>8.0 – 8.9</td> <td rowspan="3">8.0 – 11.9</td> <td rowspan="3">4</td> <td rowspan="3">28</td> <td rowspan="3">56</td> <td rowspan="3">112</td> </tr> <tr> <td>9.0 – 9.9</td> </tr> <tr> <td>10.0 – 11.9</td> </tr> <tr> <td>≥12.0</td> <td>≥12.0</td> <td>5</td> <td>35</td> <td>70</td> <td>140</td> </tr> </tbody> </table>	MUAC	Total sachets of RUTF				Per day	Per week	Per 2 weeks	Per 4 weeks	MUAC <115mm	2	14	28	56	MUAC 115 mm to <125mm	1	7	14	28	Child's Weight (kg)	Simplified weight category (kg)	Total sachets of RUTF				Per day	Per week	Per 2 weeks	Per 4 weeks	3.5 – 4.4	3.5 – 5.9	2	14	28	56	4.5 – 4.9	5.0 – 5.9	6.0 – 6.9	6.0 - 7.9	3	21	42	84	7.0 – 7.9	8.0 – 8.9	8.0 – 11.9	4	28	56	112	9.0 – 9.9	10.0 – 11.9	≥12.0	≥12.0	5	35	70	140
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<p>Prevention, Early Detection and Treatment of Wasting in Children 0-59 months through National Health System in the context of COVID-19 (UNICEF, WHO 2020)</p>	<p>Outpatient management of uncomplicated wasting: In the absence of weight measurements, ready-to-use therapeutic food (RUTF) dosage may need to be simplified using a ratio of two sachets/ day for uncomplicated severe wasting and one sachet/ day for uncomplicated moderate wasting as determined by MUAC or oedema status.</p>																																																										

Annex 2: Survey on Experience of Simplified Approaches to Wasting Treatment

Purpose:

The HARP Facility is documenting the implementation of simplified approaches (including Family MUAC) to wasting/ acute malnutrition treatment in Myanmar, with a focus on Rakhine State. The findings from the report will inform whether scale-up is appropriate in Rakhine State specifically. The modification of simplified approaches in Myanmar started in 2009 with a modified dosage of ready-to-use therapeutic food (RUTF) by Action Against Hunger (ACF). Since then, several adaptations have been trialled in Myanmar. With the onset of the COVID-19 pandemic, further guidance on simplified approaches has been provided in Myanmar, including on using Family MUAC. With decreasing resources and an increasing need for treatment services in Rakhine, there is a need to scale-up wasting treatment and simplified approaches may provide an opportunity to do this more cost-effectively and with a greater service coverage.

To facilitate this piece of work, we kindly ask for your help if you or your organisation have experience implementing simplified approaches in Myanmar. The objective of this survey is to document what and where simplified approaches have been implemented in Myanmar and document what has worked and not worked. There are a total of 11 questions and the survey should take about 10 minutes to complete.

Please note that the information will be treated confidentially and no individual names will be referred to in the report.

Thank you for your time and support!

(link to the COVID-19 guidance:

https://themimu.info/sites/themimu.info/files/documents/Guidance_Emergency_Nutrition_Response_during_COVID-19_Pandemic_in_Myanmar_Apr2020.pdf)

Simplified approaches definitions

- **Family MUAC:** caregivers are trained and equipped to screen their own children for malnutrition by measuring Mid-Upper Arm Circumference (MUAC) and assessing for oedematous malnutrition. Also known as mother-led MUAC.
- **CHW-led treatment of wasting:** Enabling and empowering community health workers (CHWs) to treat wasting without medical complications at community level. Also includes low-literacy health workers and use of mobile teams.
- **Reduced frequency of follow-up visits:** Reducing the frequency of follow-up visits for wasted children admitted into treatment from weekly to bi-weekly or monthly. Including reduced number of visits to health facilities during treatment and use of CHWs through existing interventions, such as mother support groups, to provide follow-up outside the health facility.
- **MUAC and/or oedema only:** Use of MUAC cut-off to admit all children for treatment
- **Expanded admission criteria:** increasing the MUAC cut-off to admit all children <125mm, so that children across the spectrum of wasting who are considered higher risk are eligible for treatment (discharge criteria based on MUAC >125mm).
- **Use of single treatment product:** Treating wasted children without complications with one product - ready-to use therapeutic food (RUTF) - across the entire spectrum of wasting.
- **Reduced dosage:** Normally used in combination with a single treatment product, but not necessarily, dosage of treatment product is most commonly reduced to 2 sachets/day for severe wasting and 1 sachet/day for moderate wasting, as determined by MUAC or oedema status.

Questionnaire

Background

- 1) The following information will remain anonymous and confidential, name will only be used by the HARP Facility to follow up on any clarifications if required
 - a) What is your **name and job title**?
 - b) What is the name of your organisation?
- 2) **What** simplified approaches have you implemented and **where** are/were they implemented? (*Please include township/ camps. Please indicate whether any of these are a combination of different approaches*)
- 3) **When** was each simplified approach implemented? (From when to when, or is it still ongoing?)

Programme Details

- 4) What were the **reasons for implementing** each of these simplified approaches?
- 5) If implementation of the simplified approach was stopped, **why was it stopped**?
- 6) Provide **details** of each simplified approach implemented. (*How was this done including who was doing what? If you used community-led treatment of wasting, did the community health workers/volunteers only do screening or did they also treat wasting/ acute malnutrition?*)

Results, outcomes and key lessons (qualitative or quantitative)

- 7) What were the **successes** achieved with the simplified approaches implemented? (*Consider any qualitative information, numbers of children screened against target/ prior to implementation of simplified approaches, feedback from the community*)
- 8) What were the **challenges, concerns, and lessons learned** in the implementation of simplified approaches? (*Was their community acceptance? Were the supply logistics affected? Any other operational or policy implications?*)

Conclusion and scale-up

- 9) What are your **plans** to implement simplified approaches in the future? Any plans to expand or pilot other simplified approaches?
- 10) Any **recommendations** for others who might want to consider implementing strategic approaches?
- 11) Do you know of **anyone else implementing** any simplified approaches and if so who? Do you recommend we reach out to anyone else with this survey?

Annex 3: Scaling up of the 7 “simplified approaches” in Rakhine State, using MSI scale-up framework

	Family MUAC	CHW-led treatment	Reduced frequency follow-ups	MUAC and oedema only admission & discharge	Expanded admission criteria	Single treatment product	Reduced dosage RUTF
Task 1: Create a Vision <i>What is being scaled up</i>	Yes. This is already being implemented.	Yes. Through mobile clinics or community volunteers. The discussion regarding low-literacy tools are not discussed yet.	Yes. The full extent of reduced frequency is not being implemented with need to follow-up in the community weekly.	Yes, the model is clear and simple	Myanmar has identified at-risk group but is not included in the COVID-19 guidance. Specific cut-offs are not introduced to avoid false positive cases.	This is fairly simple and clear – using RUTF for both treatment of moderate and severe wasting.	The optimal dosage is still being debated globally, but in Myanmar recent COVID-19 guidance provides concrete guidelines for reduced dosage.
Task 2: Assess Scalability <i>Determining the Viability of the Model for Scaling Up</i>	Yes, the model seems to work at scale, feasible with adequate training.	There is a need for CHW-led treatment approach given long distance to health centres and limited mobility amongst beneficiaries (need for TAs)	Not assessed.	MUAC-based admissions are being implemented in townships where weight measurements are not allowed. MUAC-based discharge has not been assessed and there are concerns over this approach.	Without knowing what an optimal expanded program looks like, there is little information on its viability at scale. Especially if it involves nutrition counselling	In Myanmar, single treatment product has been used in emergencies in areas without IMAM. Questions remain about the financing and availability of RUTF as well as the necessity for all cases at scale	Viability of scaling reduced dosage models are similar to those challenges faced by current model.
Task 3: Fill Information Gaps	None. Little concern from stakeholders	Has not been widely adopted and effectiveness evidence is not conducted in Myanmar. There are	Many evidence gaps still exist here; is it safe to see children less frequently? Which children is it appropriate for?	Questions regarding relapse following MUAC-only discharge, as well as the ethics of omitting children with	Some evidence has been generated already, and the WHO is making plans to look at risk in moderately wasted children, which will help	Globally, efforts are underway to fill some of these evidence gaps such as via finance modelling exercises	Many information gaps still exist here including the safety of reduced dosage for children, the impact of relapse rates, length of stay



		concerns over the capacity of CHWs to provide treatment.		low WHZ still need addressing.	fill further gaps and clarify what a future programme may look like and who it may include.		and the exact optimal reduced dosage to use. No documented impact in Myanmar.
Task 4: Prepare a Scaling Up Plan	Supplies need to be ensured in order to be scaled up. Organisations have plans to scale-up.	Few organisations are planning to scale-up.	Evidence on safety is needed before further steps can be considered	Little buy-in from implementors for this approach.	There is limited buy-in with concerns of false positives.	Once further piloting and evidence gaps have been addressed, a plan to source enough RUTF to implement this at scale will be needed, as well as buy-in and constituency from agencies and nations	There is anticipation of stock stuck at the port; therefore, there are plans to scale-up
Task 5: Legitimise Change	Good buy-in amongst all stakeholders.	There is buy-in from stakeholders recognising the context requires treatment in the community.		Debate about this change continues as international and national level			Buy-in for this change is not yet widely present.
Task 6: Build a Constituency	Trainings with mothers through mother support groups are being conducted.	These fundamental changes have yet to take place in even the most advanced contexts		Myanmar IMAM guidelines includes WHZ admissions. However, COVID-19 guidance supports the use of MUAC only admissions to shorten the exposure and transmission of COVID-19.			While little change in resources or organisational structures will be needed to scale reduced dosage, these cannot yet take place, most importantly changes to guidelines.
Task 7: Realign and Mobilize Resources	Current modalities appear to be feasible. Does not require change in IMAM protocols.						
Task 8: Modify Organizational Structures							



<p>Task 9: Coordinate Action</p>		<p>There is a key group of actors working in this area to coordinate action, maintain momentum and adapt their strategy where needed</p>		<p>For sustainable changes, the IMAM guidance will need to be updated. MUAC and/or oedema only is seen as a temporary measure only at the moment.</p>	<p>This needs to be coordinated with WFP who provide treatment for moderate wasting in Myanmar. Discussions have not been done yet.</p>	<p>Globally and in Myanmar, there has been some coordinated action and momentum over the past few years, with a focus on practicality and flexibility to use whatever product is more readily available rather than concrete guidelines.</p>	<p>Better coordinated action is needed to bring together the evidence so far on reduced dosage and lay out the next steps</p>
<p>Task 10: Adapt Strategy and Maintain Momentum</p>							