



Integrating Early Detection and Treatment of Child Wasting into Routine Primary Health Care Services

A RESOURCE GUIDE TO
SUPPORT NATIONAL PLANNING

© United Nations Children’s Fund (UNICEF)

October 2021

Permission is required to reproduce any part of this publication. Permissions will be fully granted to educational or non-profit organizations.

Please contact:

nutrition@unicef.org and Mary D’Alimonte mdalimonte@R4D.org

UNICEF

Nutrition Section, Programme Division

3 United Nations Plaza New York, NY 10017, USA

Website: www.unicef.org

Results for Development (R4D) is a leading non-profit global development partner. We collaborate with change agents—government officials, civil society leaders and social innovators—supporting them as they navigate complex change processes to achieve large-scale, equitable outcomes in health, education and nutrition. We work with country leaders to diagnose challenges, co-create, innovate, implement solutions, and engage in continuous learning. We also strengthen global, regional and country ecosystems to provide evidence, networks and expertise. R4D helps country leaders solve their immediate challenges today, while also strengthening systems and institutions to address tomorrow’s challenges. Then we share what we learn so others around the world can achieve results for development, too.

www.R4D.org

Suggested citation: United Nations Children’s Fund. (UNICEF). Integrating Early Detection and Treatment of Child Wasting into Routine Primary Health Care Services: A Resource Guide to Support National Planning. UNICEF, UNICEF, New York

Photo credits: Cover photo © Bourama Coulibaly; page 9: © Moohialdin Alzekri; page 15: © Vincent Tremeau; page 21: © UNICEF / Frank Dejongh; page 61: © Abdulhakim Abaidi

Integrating Early Detection and Treatment of Child Wasting into Routine Primary Health Care Services

A RESOURCE GUIDE TO
SUPPORT NATIONAL PLANNING

Acknowledgments

This resource guide was developed by UNICEF and Results for Development (R4D), with funding from the Children's Investment Fund Foundation and the Eleanor Crook Foundation.

The team from UNICEF was led by Saul Guerrero Oteyza and Minh Tram Le, with guidance and feedback from Victor Aguayo (UNICEF). The team is grateful to all UNICEF colleagues who contributed to the development of the guide, participated in consultation meetings, and reviewed drafts, including Louise Mwirgi, Andreas Hasman, Shahira Malm, Grainne Moloney, and Annette Imohe (UNICEF HQ-Nutrition Programme Group); Anne Detjen, Claudia Vivas, Rory Nefdt, Maureen Kerubo Momanyi, and Megan Christensen (UNICEF HQ-Health Programme Group); Mamadou Diallo, Ryan McWhorter, and Manuel Celestino Lavayen (UNICEF Supply Division); Mueni Mutunga (UNICEF EAPRO, Nutrition); Lani Trenouth and Alison Donnelly (UNICEF ROSA/Nutrition); Sophie Woodhead and Emna Kayouli (UNICEF WCARO, Nutrition); Tewolde Daniel, Mara Nyawo and Albert Nettey (UNICEF ESARO).

The team from R4D, led by Mary D'Alimonte, included Felicity Nelson, Brooke Detwiler, Kate Sadler (consultant), and Paul Wilson (R4D Senior Fellow), with special thanks to Helen Saxenian for taking on an interim project management role as maternity cover during the project. Albertha Nyaku and Augustin Flory (R4D Senior Fellow) provided guidance and feedback. The R4D team is grateful to their colleagues who reviewed chapters of the guide, including Jack Clift (RUTF Supply and Sustainable Financing), Chia-Ying Lin, and Rachel Huynh (RUTF Supply), and Cheryl Cashin (Sustainable Financing). Additionally, Wossen Negash has been leading this work in Ethiopia, working with the government to apply the framework and develop a wasting integration plan.

The guide was developed through consultation with global and country actors. The authors are grateful to members of the advisory group for providing advice and feedback throughout the process and reviewing drafts, including Frezer Abebe, Ethiopia Federal Ministry of Health; Kaosar Afsana, James P Grant School of Public Health, BRAC University; Sufia Askari, Children's Investment Fund Foundation; Imelda Awino, Action Against Hunger; Nicki Connell and Emily Mates, Emergency Nutrition Network; Hedwig Deconinck, Ghent University; Tsinuel Girma, Jimma University; Elaine Gray, United States Agency for International Development; Janet Guta, Malawi Ministry of Health; Caroline Kathiari, Kenya Ministry of Health; Sylvester Kathumba, Malawi Ministry of Health; Chytanya Kompala, Eleanor Crook Foundation; Abigail Perry, UK Foreign, Commonwealth and Development Office; Rahul Rawat, Bill & Melinda Gates Foundation; Ali Subandoro, Global Financing Facility; Luz Tagunicar, Philippines Department of Health; Zita Weise Prinzo, World Health Organization; Marie-Sophie Whitney, European Union; and Amanda Yourchuck, USAID Advancing Nutrition.

The team would like to offer a special thanks to Frezer Abebe (Ethiopia Federal Ministry of Health) for her contributions on the scale up of wasting services in Ethiopia (Box LG.1.) and Dr. Khawaja Masuood Ahmed (Pakistan Ministry of National Health Service) for his contributions on the integration of wasting services into routine PHC services in Pakistan (Box LG.2.). Additionally, we'd like to thank Peter Hailey (Centre for Humanitarian Change) for sharing his insight and experience with the team, Lucy Lafferty (Concern Worldwide) for her review of the Box on the CMAM Surge Approach, and Marie McGrath (ENN) for her review. This document was designed by Rebecca Richards-Diop and Jessica Stone-Weaver ([RRD Design](#)) and edited by Ina Chang.

Foreword

Good health starts with good nutrition. Children who eat healthy, micronutrient-rich diets are less likely to contract infectious diseases and are more likely to thrive. Since 2000, the world has reduced the proportion of children under 5 suffering from undernutrition by one third and the number of undernourished children by 55 million. However, despite ample progress in reducing undernutrition globally over the last two decades, the problem persists today, with about **200 million children** affected by stunting and wasting globally. Undernutrition is limiting the capacity of hundreds of millions of children to grow and develop to their full potential, putting millions at risk of disease and death.

UNICEF's vision is a world where all children, adolescents and women realize their right to nutrition, as articulated in UNICEF Nutrition Strategy 2020–2030. Part of this vision is to promote and support programmes for the prevention, early detection, and treatment of children with wasting. In partnership with other United Nations agencies working on nutrition – Food and Agriculture Organization (FAO), United Nations High Commissioner for Refugees (UNHCR), World Food Programme (WFP), and World Health Organization (WHO) – we are supporting the implementation of the first-ever Global Action Plan on Child Wasting, a framework for action to prevent and treat child wasting and support the achievement of the Sustainable Development Goals (SDGs).

Both the prevention and treatment of malnutrition are necessary to achieve the SDG targets on child survival and nutrition. The Global Action Plan aims to reduce the incidence of low birthweight, improve infant and young child feeding, enhance child health, and strengthen the early detection and treatment of child wasting. We need to scale up efforts to prevent wasting from happening in the first place – while improving our ability to screen, refer and treat children with wasting by integrating these services within routine services for children. Accelerated action is critical given that health systems around the world are providing services to only one in three children with wasting.

This resource guide aims to support countries in better integrating the early detection and treatment of child wasting into routine primary health care services. Its intended audience includes, first and foremost, national policymakers and health and nutrition programme staff who are involved in planning, financing, and implementing services to support children with wasting. The guide may also be relevant to actors at the subnational level.

The guide draws on the substantial experience accumulated by a broad range of countries over the last 20 years in integrating the care of children with wasting into routine services for children. Developed through a consultative process with global and country actors, the guide aims to provide relevant guidance at all stages of the integration process and to be useful to countries that have made substantial progress in this area as well as those that are just beginning the integration journey. It is also intended to be useful to countries that are looking to integrate wasting services into all components of their health system as well as those that are focused on integration into individual components of the health system.

We wish to express our thanks to Results for Development for its collaboration in developing this resource. Our hope is that this guide will prove useful to country teams as they make progress towards their nutrition goals and commit to documenting, learning from and sharing their experiences.

Victor Aguayo
Director, Nutrition and Child Development
UNICEF Programme Group

Contents

INTRODUCTION	7
PART 1. FRAMEWORK FOR INTEGRATION	9
PART 2. PROCESS TO DEVELOP AN INTEGRATION PLAN	15
PART 3. INTEGRATION ACROSS HEALTH SYSTEM COMPONENTS	21
Leadership and Governance	23
Service Delivery	27
Health Workforce	34
Information Systems	37
Sustainable Financing	42
RUTF Supply	49
Emergency Preparedness and Resilience	55
Annex 1: Consultation Process and Stakeholders	62
Annex 2: Summary of Wasting Integration Literature	63
Annex 3: Survey of Major Constraints Across Health System Components	65
Annex 4: Integration Action Reference Tables	69

This PDF is navigable!

Click anywhere on the navigation pane to quickly get to each chapter of the guide. Click on the document title in the footer to jump back to this table of contents.

- 1
- 2
- 3
-
-
-
-
-
-
-
- A1
- A2
- A3
- A4

Introduction

It has been 20 years since the community-based management of acute malnutrition (CMAM) approach was shown to be cost-effective in treating child wasting.¹ While the approach was first introduced in emergency contexts, countries began quickly integrating services for the treatment of child wasting within their national health systems following two major milestones: the 2007 United Nations Joint Statement recommending the CMAM approach and the World Health Organization (WHO) issuing treatment protocol guidelines for severe acute malnutrition in the same year.^{2,3} This proved to be transformative. Today, 82 countries have functioning inpatient and outpatient treatment of child wasting, and 79 countries have early detection at the community level.⁴ The number of children with severe wasting who are accessing treatment has risen significantly, from 1.1 million in 2009 to 5.7 million in 2019, saving many lives.⁵

Despite this progress, many countries are not on track to reach the 2030 Sustainable Development Goal (SDG) target for wasting: to reduce the prevalence of child wasting to less than 3%. About 50% of children under age 5 live in countries that are not on track to reach the target (and 29% are in countries that have made no progress or have a worsening situation)⁶; in 2020, an estimated 45.4 million children experienced wasting, 13.6 million with a severe form. Only one in three children who suffer from wasting receive treatment,^{4,6} and the situation may become even worse due to the COVID-19 pandemic—*The Lancet* estimated that the prevalence of wasting could have increased by 14% in 2020 when compared with projections for the year without COVID-19 (due to predicted losses in GNI per capita), and health system disruptions have limited access to and the availability of essential health services.⁷

The [Global Action Plan for Child Wasting \(GAP\)](#) is a framework for accelerating the prevention and management of child wasting to achieve the SDGs through four objectives: 1) to reduce the incidence of low birth weight, 2) to improve child health, 3) to improve infant and young child feeding, and 4) to improve treatment of child wasting.

Under objective 4, the GAP calls for countries to increase the coverage of treatment services for children with wasting by 50% by 2025, by strengthening health systems and integrating treatment into primary health care (PHC) services. However, national policymakers and programme planners face key operational questions related to this objective: What does integration look like in my context? Is the health system ready for further integration, and what are the potential benefits and challenges? How should we approach implementation, and do opportunities exist to leverage broader health system strengthening efforts to scale up and sustain essential nutrition services?

This guide is intended to support health sector decision-makers (national policymakers and programme planners) in further integrating wasting services into national health systems alongside system strengthening efforts. It focuses on the integration of early detection and treatment of wasting—hereafter referred to as *wasting services*—into routine PHC services as a starting point.

Services to prevent child wasting are required alongside early detection and treatment across the food system, health, social protection, and water, sanitation and hygiene (WASH) systems. The approach to integration in this guide can be adapted to include prevention, although this requires consensus on the package of preventive services and assessment of feasibility, risks, and benefits for each sector. Similarly, many countries are considering or testing programme adaptations to simplify wasting service delivery, which, if proven feasible, should be considered with an integration lens.

This guide offers an easy-to-follow process for governments to identify integration actions that can help them achieve programme goals for wasting services within routine PHC services while moving their country toward universal health coverage (UHC).



PART **1.**

Part 1 presents a framework for integration of wasting services into routine PHC services based on a set of guiding principles and reviews the evidence of integration ([Annex 2](#)).

PART **2.**

Part 2 offers a six-step process to develop an integration plan that aims to achieve programme goals for wasting services within routine PHC services.

PART **3.**

Part 3 discusses integration across the various health system components, with one chapter per component that provides resources and reference materials to help country teams develop their integration plan. Each chapter describes common constraints to achieving programme goals for wasting services and presents integration actions that could help address those constraints. These chapters can be read sequentially or according to their relevance to the specific country context. A summary of all the constraints across these chapters can be found in [Annex 3](#), and further details on each integration action (including country examples) can be found in [Annex 4](#).

1

2

3



A1

A2

A3

A4

Box 1. Key Definitions for Wasting and Wasting Services Used in this Document

Wasting:⁸

There are many technical definitions and classifications involved in child wasting and many anthropometric ways of assessing and diagnosing it. Over time, the terminology has become very technical and specialized, with multiple classifications (global acute malnutrition, severe acute malnutrition, moderate acute malnutrition, marasmus, kwashiorkor) and diagnostic tools (weight-for-height, MUAC, oedema) used to describe wasting at population and child level. The global effort to prevent and treat this condition at scale would benefit from clearer terminology, and the Sustainable Development Goals provide us with an opportune agreed term: wasting. Although the technical definition of wasting may differ from the technical definition of acute malnutrition, for the purposes of this document and in all future references by UNICEF, wasting will be used to encompass prevention and treatment of all forms of acute malnutrition (wasting and kwashiorkor) including those diagnosed using WHZ (<2WHZ), oedema and/or MUAC (<125mm).

Services to prevent and manage child wasting across sectors:

Services to prevent child wasting (across sectors): services to improve maternal health and nutrition to reduce the incidence of low birth weight; primary health care services and water, sanitation and hygiene services to improve child health; and services to improve breastfeeding practices and children's diets in the first years of life. Delivery of these services is multi-sectoral across the food system, health, social protection, and WASH systems.

Services for the early detection and treatment of child wasting (health sector): *nutritional assessment or screening* for early identification of cases (via use of MUAC or weight-for-height measurement), *referral* to appropriate point of care within the health system (including inpatient or outpatient treatment and linkage to other child health services needed, e.g., WASH, immunizations, IYCF) or to complementary services outside of the health system (e.g., supplementary feeding programmes), *treatment* with the appropriate protocol, and follow-up to ensure recovery (GAP objective 4). Delivery of these services is within the health sector and can be delivered in the community via outreach efforts or delivered within health facilities.

The Resource Guide to Support National Planning focuses on the integration of early detection and treatment of child wasting into routine primary health services. In this document, the term “wasting service” is used to refer to services for the early detection and treatment of child wasting, as defined above. The term “community management of acute malnutrition (CMAM)” is used to refer to the community-based wasting programmes that were historically delivered by NGOs vertically in emergencies. Over time, efforts have been made to integrate wasting services offered through CMAM programmes into national health systems. For the purpose of the guide, we will use the term “wasting services” as outlined above, but some countries still use the CMAM or IMAM in their national policies and planning documents.

Note: The supplies needed for the treatment of severe wasting include RUTF, therapeutic milks (F75/F100), a special form of oral rehydration solution (ReSoMal), antibiotics, Vitamin A and deworming tablets. The guide will focus on RUTF, which is the most important commodity for wasting programmes, functionally and by volume and cost. If the supply chain can adequately manage RUTF, it likely has the capacity to manage other wasting commodities as well. All wasting commodities are important, however, and efforts to integrate RUTF supply should go hand-in-hand with—and contribute to—broader supply chain strengthening



PART 1.

FRAMEWORK FOR INTEGRATION

This Part of the guide introduces a framework for integrating wasting services into routine PHC. It begins by defining integration along two dimensions, then discusses the rationale for pursuing integration (including possible risks and benefits) and ends with considerations of how integration can look different across health system components. Several guiding principles, developed in consultation with global and country level actors, helped develop this framework and are followed throughout the rest of the guide.

For reasons described above, this guide focuses on the integration of the early detection and treatment of child wasting into routine PHC services. Interventions to prevent wasting are also needed alongside these wasting services across the food, health, social protection, and water, sanitation, and hygiene systems to achieve all of the GAP objectives (see Figure SD.1). **All services required to prevent and manage child wasting across multiple sectors should be considered with an integration lens** to help achieve programme goals for increasing coverage and sustainability. The approach offered in this guide can be adapted to include prevention, but this requires consensus on the package of preventive services and assessment of feasibility, risks, and benefits for each sector.

What We Mean by Integration: Two Dimensions

Figure 1 describes how this guide defines integration. It has two dimensions: 1) embedding vertical services into broader child health programmes and systems and 2) increasing responsibility on the part of national governments while reducing reliance on external support. Each dimension covers a spectrum, and countries may fall anywhere between the two extremes. Where countries are in their integration journey and in the scale-up of wasting programmes varies significantly by region (Box 1). Because **integration is context dependent and can take various forms**, country integration plans will differ. The process described in Part 2 of this guide can help national decision-makers identify integration actions that are appropriate for their country context.

Integration of wasting services must be a health sector priority in order for it to work, and the process of integration must be led by the country government with support from partners.

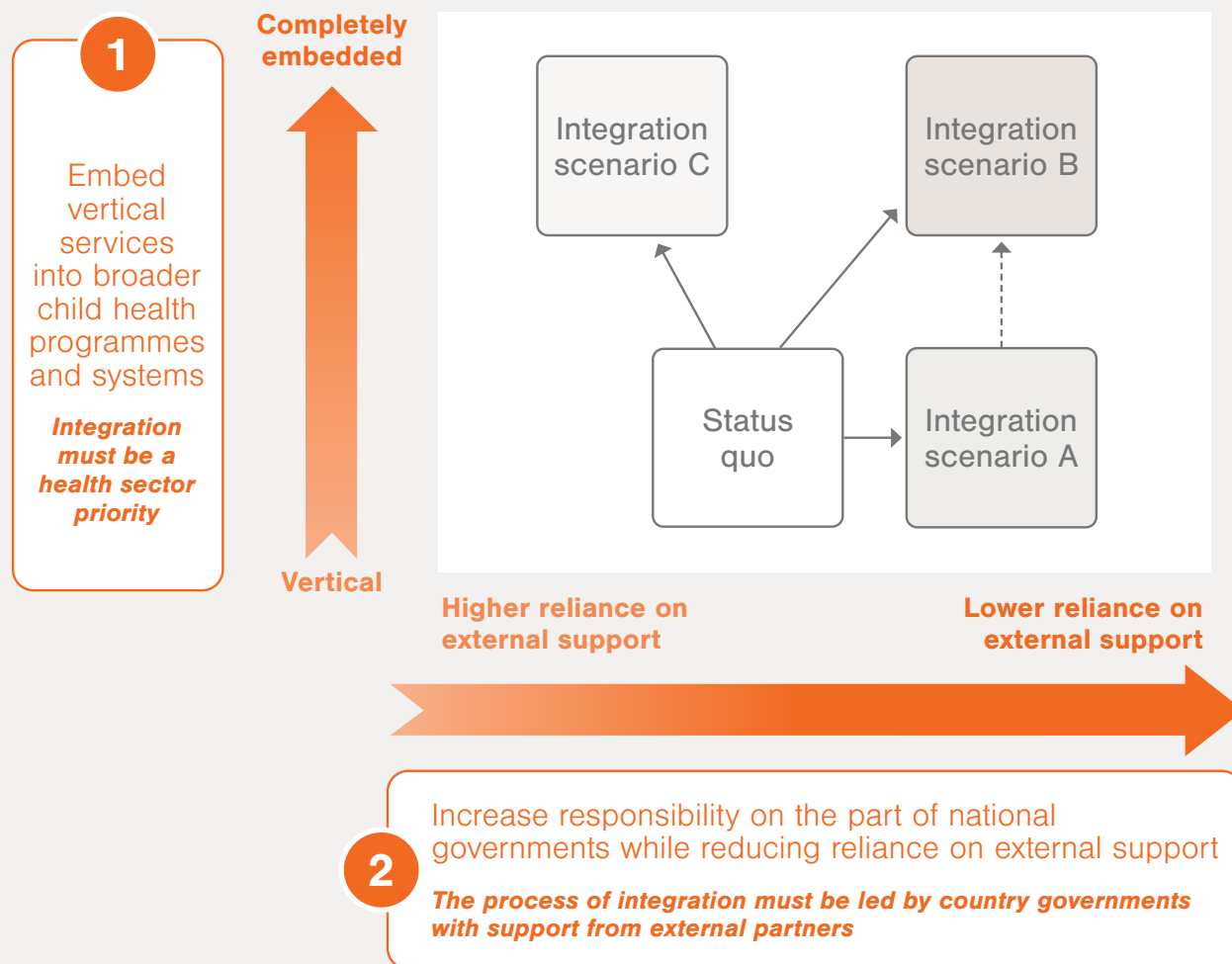
Government health and nutrition teams must own and lead the process. Support is needed from all partners, including donors to fund systems strengthening efforts, nongovernmental organizations (NGOs) to provide technical support during programme transitions, and research institutions to generate evidence to monitor the integration process.

Guiding Principles

- **All services required to prevent and manage child wasting across multiple sectors should be considered with an integration lens**
- **Integration is context dependent and can take various forms**
- **Integration of wasting services must be a health sector priority in order for it to work**
- **Integration must be led by the country government with support from partners**
- **Integration is not an end in itself; rather, it can be an important means to help achieve programme goals while moving toward UHC**
- **The feasibility, risks, and benefits of integration across all essential health and nutrition services must be considered**
- **Integration is not all or nothing but a process: many forms of partial integration are possible across the health system**



Figure 1.
Two Dimensions of Integration



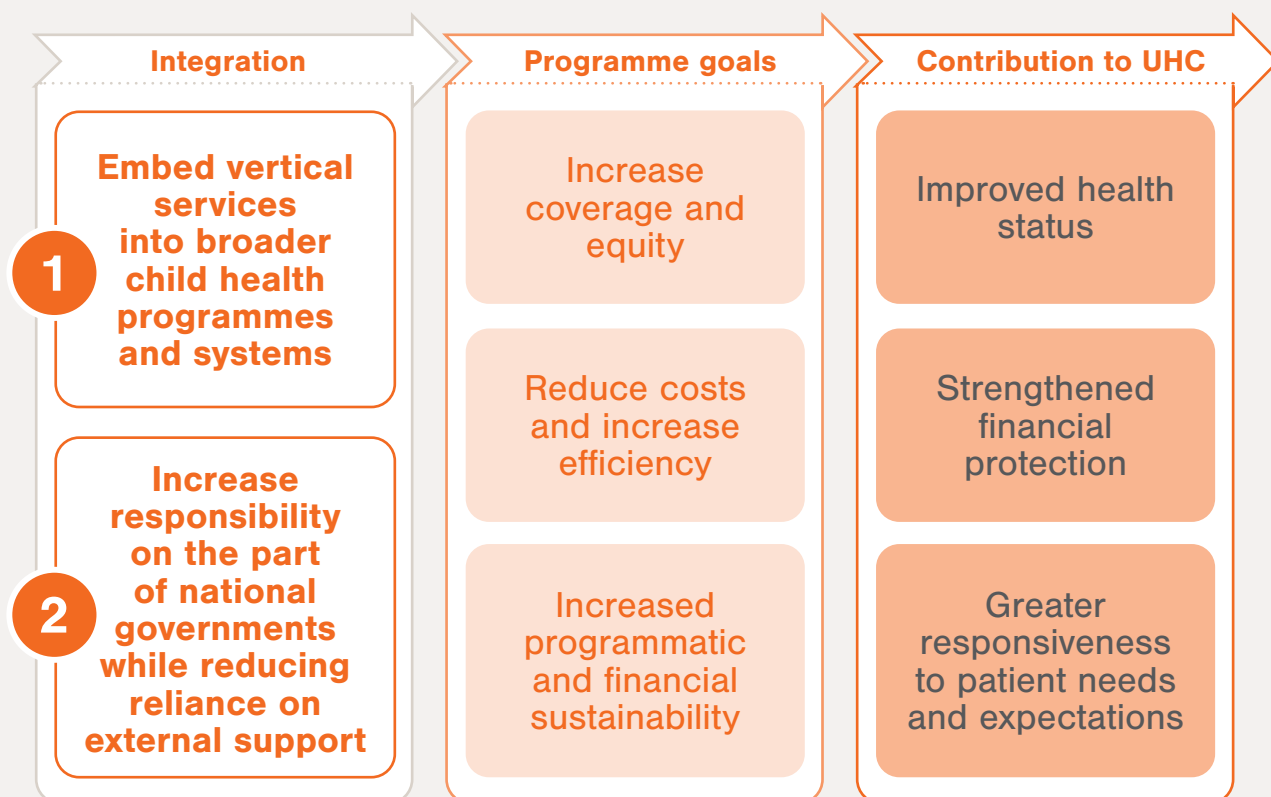
Why Pursue Integration?

Integration is not an end in itself; rather, it can be an important means to help achieve programme goals while moving toward UHC. Figure 2 shows three goals that countries commonly have for wasting services: to increase the coverage and equity of services (for screening and treatment), reduce costs and increase efficiency of programmes, and increase programmatic and financial sustainability.

The evidence on whether integration can help achieve these goals is mixed and limited (see Annex 2 for a summary of the literature). In some cases, integrating wasting treatment into routine services has improved reach, wasting outcomes, and quality of services, but in other cases the results have been less successful. Often, case studies have been based on small-scale projects implemented and/or supported heavily by NGOs.^{9,10} Overall, the results cannot be generalized and the findings are difficult to compare due to variation in study design and country context. This is consistent with findings from other studies on the integration of vertical services into PHC (e.g., HIV, immunization, etc.).¹¹

The feasibility, risks, and benefits of integration across all essential health and nutrition services must be considered because integrating too quickly or where there is low capacity can overwhelm the health system and reduce the quality of essential health and nutrition services.¹²⁻¹⁴ Most studies that have evaluated integration have focused on wasting outcomes alone and have not considered the impact on other health outcomes (see Annex 2). Assessment of risks and benefits—to the delivery of wasting services and to PHC services—is necessary when deciding whether to pursue further integration and in what form.

Figure 2.
Rationale for Pursuing Integration



Adapted from Sparkes et al., 2017.¹⁵

Note: Increasing treatment coverage² (proportion of identified cases that receive treatment) is often considered the main goal for integration. Other types of coverage are important in pursuit of this, including geographic coverage (proportion of health facilities providing treatment services, or, proportion of subnational administrative units, e.g., districts providing treatment as a share of all units). While screening coverage is also important (e.g., the proportion of children in contact with the health system screened for wasting or the proportion of children who are screened that are identified as wasted), there is no standard measure of this, and data is often not collected or accessible (See [Information Systems](#)).

Integration Across the Health System

Integration is not all or nothing but a process: Many forms of partial integration are possible across the health system. Countries are at different stages of embedding wasting services into the health system and assuming responsibility for the delivery of services while reducing reliance on external support. In many cases, the current state of integration differs across health system components, which include leadership and governance, service delivery, health workforce, information systems, sustainable financing, and supply chain for ready-to-use therapeutic food (RUTF). Countries also differ in the extent of integration within the emergency preparedness and resilience of wasting services, a theme that cuts across health system components. As countries transition away from a reliance on humanitarian support (which is often shorter term and less predictable and focuses less on system strengthening than longer-term development support), it is critical that their health system build the capacity to respond to surges in child wasting across all components of the health system.

Depending on programme goals and priorities, countries might choose to focus on some components of the health system more than others. Further integration can take place across the entire health system or within components sequentially. Some countries may decide to focus on one or several components while developing their integration plan.



Box 2. Regional Variation and Progress of Wasting Programmes

Where countries are in their integration journey and in the scale-up of wasting services varies significantly by region (See Table 1). In many African countries, wasting services were historically delivered by NGOs in humanitarian contexts, while today both outpatient and inpatient treatment are well established and integrated into routine health services. Many countries have embedded wasting treatment into health facilities at reasonable scale, but some have seen the rate of admissions plateau or slow down, in part due to lack of demand for services or weak community outreach.¹⁵ The focus has largely shifted to improving treatment coverage, quality of services, and sustainability.

In Asian countries, the management of wasting began with fewer vertical, NGO-run wasting programmes than in Africa, where the services were first introduced. Many initial pilot projects were government led, and many countries have been working to scale up outpatient services (with notable exceptions that include Afghanistan, Nepal, the Philippines, and Vietnam, which have already achieved relatively high geographic coverage of wasting services).¹⁶ In South Asia, which is home to more than half of all children with wasting, the response by national governments has varied considerably; currently, less than 5% of children with severe wasting are receiving treatment. Several Asian countries, including India and Bangladesh, do not use the recommended outpatient treatment model for wasting that uses RUTF.¹⁷

Table 1.
Regional Overview of Wasting Services (2015)

Region	Proportion of Health Facilities that Deliver Wasting Services ⁴
West and Central Africa	57.0%
East and Southern Africa	69.8%
South Asia	13.8%
East Asia and the Pacific	9.8%

Regional Considerations for Management of Acute Malnutrition in Infants

Globally, 4.7 million infants under age 6 months have severe wasting, and the burden is particularly severe in South Asian countries, where the risk of wasting is highest at birth. Most national guidelines still recommend inpatient care for all wasted infants under six months. An integrated care pathway model (MAMI Care Pathway Package) has been developed as a way to improve early identification, treatment and coverage.²¹ It has been implemented at small scale in some countries, including Ethiopia, Bangladesh, India and Rwanda in both humanitarian and development contexts. Research is underway in Ethiopia to test the efficacy of the MAMI Care Pathway within existing health facilities (see Additional Resources below) and similar research is planned in India. Given the burden of wasting in infants under 6 months, countries may want to consider piloting integrated community-based treatment that include integrating screening into neonatal/child health programmes (such as immunization) and development of referral pathways within maternal nutrition and health services (see [Service Delivery](#) chapter).

Additional Resources



Read more about the current state of wasting:

- » [Scale-up of severe wasting management within the health system: A stakeholder perspective on current progress, 2021](#)
- » [Community-based management of acute malnutrition \(CMAM\) Conference 2021](#)
- » [Wasting in the wider context of undernutrition - An ENN Position Paper, 2020](#)

Read more about wasting in South Asia: [Field Exchange 63: Child wasting in South Asia, 2020](#)

Read more about Nepal's scale-up of integrated management of acute malnutrition (IMAM): [Experiences of the Integrated Management of Acute Malnutrition \(IMAM\) programme in Nepal: from pilot to scale up, 2020](#)

Read more about Kenya's transition to routine nutrition programming: [Transitioning nutrition programming from humanitarian aid to health system strengthening in Kenya, 2021](#)

Read more about MAMI: [MAMI Global Network](#) and [MAMI Care Pathway Package](#)

Read about Ethiopia's experience researching the MAMI care pathway: [Stronger evidence towards future scale up: Cluster Randomised Trial in Ethiopia, 2021](#)

References

1. Keats EC, Das JK, Salam RA, et al. Effective interventions to address maternal and child malnutrition: an update of the evidence. *The Lancet Child & Adolescent Health*. 2021;5(5):367-384. doi:10.1016/S2352-4642(20)30274-1
2. World Health Organization, World Food Programme, United Nations System Standing Committee on Nutrition, United Nations Children's Fund. *Joint Statement on the Community-Based Management of Severe Acute Malnutrition*.; 2007. Accessed January 22, 2021. https://sites.unicef.org/nutrition/files/Community_Based_Management_of_Sever_Acute_Malnutrition.pdf
3. *Guideline: Updates on the Management of Severe Acute Malnutrition in Infants and Children*. WHO; 2013:115. Accessed June 18, 2021. <https://www.who.int/publications-detail-redirect/9789241506328>
4. UNICEF. *NutriDash Interactive Report 2019*. Accessed January 22, 2021. <https://www.unicefnutridash.org/surveyreports>
5. The State of Acute Malnutrition. Global: where are we in treating children with SAM. The State of Acute Malnutrition. Accessed June 18, 2021. <https://www.acutemalnutrition.org/en/countries>
6. UNICEF/WHO/The World Bank Group joint child malnutrition estimates: levels and trends in child malnutrition: key findings of the 2021 edition. Accessed June 14, 2021. <https://www.who.int/publications-detail-redirect/9789240025257>
7. Headey D, Heidkamp R, Osendarp S, et al. Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality. *The Lancet*. 2020;396(10250):519-521. doi:10.1016/S0140-6736(20)31647-0
8. UNICEF. *Nutrition Strategy 2020-2030*.; 2020. Accessed August 9, 2021. <https://www.unicef.org/media/92031/file/UNICEF%20Nutrition%20Strategy%202020-2030.pdf>
9. Charle-Cuellar P, Lopez-Ejeda N, Bunkembo M, Souleymane AOD and HT. Management of severe acute malnutrition by community health workers: Early results of Action Against Hunger research. *Field Exchange issue 60*. Published online January 7, 2019:61. doi:10.1111/mcn.12738
10. Salam RA, Das JK, Bhutta ZA. Integrating nutrition into health systems: What the evidence advocates. *Matern Child Nutr*. 2019;15(Suppl 1). doi:10.1111/mcn.12738
11. Chaitkin M, Blanchet N, Su Y, et al. *Integrating Vertical Programs into Primary Health Care: A Decision-Making Approach for Policymakers*. Results for Development; 2019:29.
12. Tadesse E, Worku A, Berhane Y, Ekström E. An integrated community based outpatient therapeutic feeding programme for severe acute malnutrition in rural Southern Ethiopia: Recovery, fatality, and nutritional status after discharge. *Matern Child Nutr*. 2017;14(2). doi:10.1111/mcn.12519
13. Miller NP, Amouzou A, Tafesse M, et al. Integrated Community Case Management of Childhood Illness in Ethiopia: Implementation Strength and Quality of Care. *Am J Trop Med Hyg*. 2014;91(2):424-434. doi:10.4269/ajtmh.13-0751
14. Aguayo VM, Agarwal V, Agnani M, et al. Integrated program achieves good survival but moderate recovery rates among children with severe acute malnutrition in India. *The American Journal of Clinical Nutrition*. 2013;98(5):1335-1342. doi:10.3945/ajcn.112.054080
15. Dent N, Bruneau S. *Increasing Scale Up and Coverage of Severe Acute Malnutrition: Africa Regional Trends and Country Scoping: 2012-17*. United Nations Children's Fund; 2017:28.
16. Sethuraman K, Doledec D, Begum F, Manir MZ. *Managing Acute Malnutrition: A Review of the Evidence and Country Experiences in South Asia and a Recommended Approach for Bangladesh*. Published online 2014:75.
17. Wagt A de, Rogers E, Kumar P, Daniel A, Guerrero HT and S. Continuum of care for children with wasting in India: Opportunities for an integrated approach. *Field Exchange issue 60*. Published online January 7, 2019:82. doi:10.1111/mcn.12738





PART **2.**

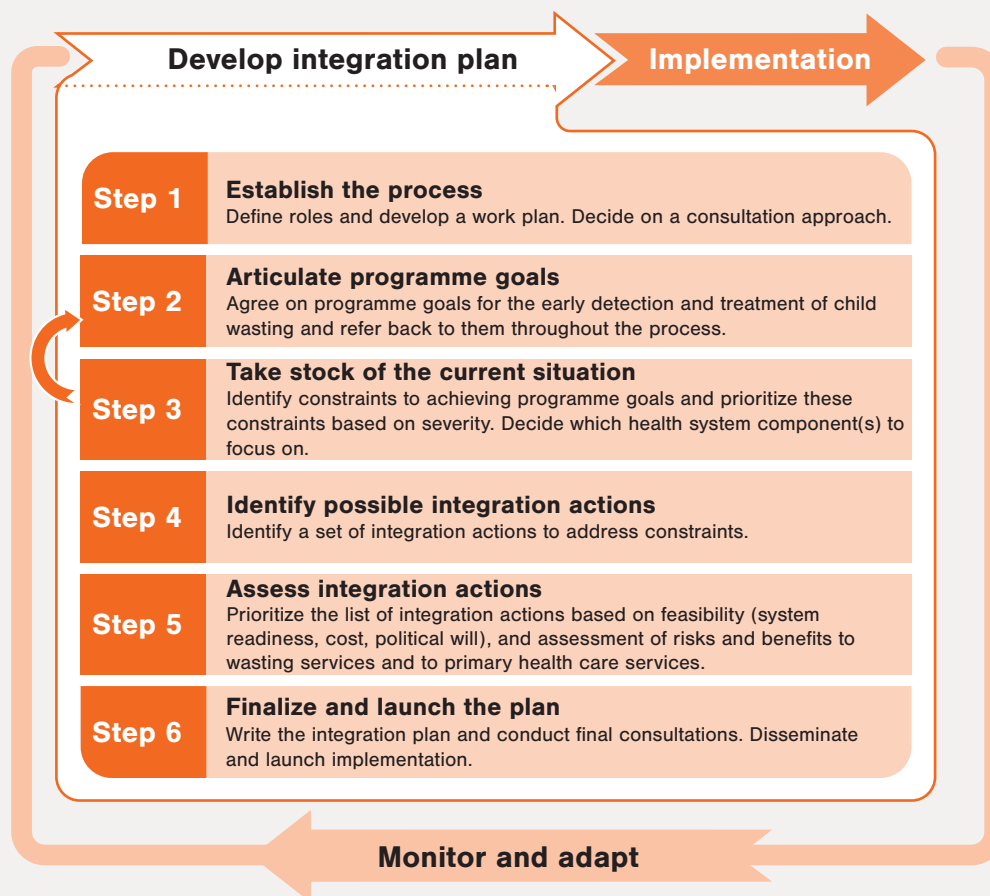
PROCESS TO
DEVELOP AN
INTEGRATION PLAN

This Part of the guide offers a six-step process for government health and nutrition teams to identify integration actions that can help achieve programme goals for wasting services within routine PHC. It discusses each step of the process and offers tools and resources along the way. While this guide focuses on the national level, the process can be adapted to subnational levels as well.

An integration plan can provide a common vision to achieve programme goals for wasting services through integration, led by government health and nutrition teams. As shown in [Figure 3](#), the process of developing an integration plan should be iterative: Plans are set, implementation begins, progress is monitored, and plans are adapted as needed based on lessons learned and successes. The cycle and timing by which plans are adapted will differ by country.

After completing these steps, teams will have defined priority integration actions (based on assessment of feasibility, risks, and benefits) for their government and its partners to support. The process is meant to be flexible and useful to countries at different stages of integration—including countries that have already made great progress as well as those that are focusing more narrowly on one health system component. [Part 3](#) provides resources to aid country teams along the process.

Figure 3.
Six-Step Process to Develop an Integration Plan



A1

A2

A3

A4



Step 1

Establish the process

Step 1 includes forming the internal team from the Ministry of Health (MOH), including health and nutrition staff. The internal team should be led by a designated point person who is responsible for overall execution of the work plan and coordination with senior leadership from the MOH and stakeholders. External consultants may be enlisted if funding is available, and such roles should be defined by the point person. At the start, the team should develop a work plan, modifying the process shown here to fit their need and setting a timeline. The team should create a process for obtaining MOH approval—for example, through approval of the work plan, routine check-ins with senior leadership, and agreement on who must be consulted before the plan is finalized.

Consultation with key stakeholders across government and external partners is important to ensure that a diversity of perspectives is considered and to begin conversations early on how partners can support the integration plan. The approach to consultation may vary, depending on existing processes. For example, countries may choose to leverage existing standing committees for wasting services or child health and nutrition, development partner forums, or other relevant programmes. Other countries may choose to establish a new committee or working group to support the process, inviting key stakeholders to participate in routine meetings over a designated period.

Actions

completed in this step:

- ✓ **Define roles for the internal team and develop a work plan**
- ✓ **Obtain MOH senior leadership approval for the work plan and review process**
- ✓ **Determine an approach to consultation and begin to engage with stakeholders**

Step 2

Articulate Programme Goals

It is important to define programme goals for wasting services at the beginning of the process, to ensure that all stakeholders are aligned. These goals will be referred to throughout the process. As mentioned in [Part 1 \(Figure 2\)](#), high-level programme goals may include increasing the coverage and equity of wasting services, reducing costs and increasing efficiency of programmes, and increasing programmatic and financial sustainability. Teams can use [Figure 2](#) as a starting point for discussions on which goals are important in their country context and to make the goals more specific.

At this point, the discussion about programme goals may shed light on one or more health system components to focus on. Country teams may want to return to a discussion of priorities later, based on the findings in step 3.

Actions

completed in this step:

- ✓ **Agree on programme goals for wasting services (and refer back to them throughout the process)**



Step 3

Take Stock of the Current Situation

In this step, the team takes stock of the major constraints to achieving the programme goals identified in step 2 and classifies the constraints based on severity (e.g., minor, moderate, serious, or critical). As a starting point, the team can refer to [Part 3](#) of this guide, which summarizes common constraints across each health system component.

Teams can use the survey provided in [Annex 3](#) (available in an online version upon request) to complete this step; the results can enrich discussions on which health system components to focus on, based on where the major constraints lie. The team may choose to administer the survey to a selected group of stakeholders or more broadly. It may also decide to gather stakeholders in a workshop to discuss the survey results and enrich the findings through qualitative discussion. This discussion may lead to a greater focus on one or more health system components.

Actions completed in this step:

- ✓ **Identify constraints to achieving programme goals and the reasons for the constraints**
- ✓ **Classify the constraints based on severity**
- ✓ **Decide which health system component to focus on (or revisit this later)**

Step 4

Identify Possible Integration Actions

This step involves identifying integration actions that could help address the constraints identified in step 3. As a starting point the team can refer to [Part 3](#) of this guide, which, for each chapter of the health system, presents integration actions that could help address common constraints. These actions may not be relevant or feasible in all cases and should be carefully considered (see step 5). If the team is using the survey in [Annex 3](#) to take stock of major constraints, it can then refer to the integration actions in Part 4 that correspond to the constraints in their context.

[Annex 4](#) describes the potential integration actions in more detail, with country examples and notes on potential benefits and considerations.

Actions completed in this step:

- ✓ **Identify a set of integration actions to address constraints**



Step 5

Assess Integration Actions

This step involves assessing which integration actions make sense within the country context and on what timeline, based on feasibility (system readiness, cost, political will) and the risks and benefits to wasting services and PHC more broadly (see [Box 3](#)). The team may decide to consider integration actions individually and then as a bundle of actions across health sector components. Based on this assessment and consultation with key stakeholders, the team may establish priorities among the list of integration actions produced in step 4, perhaps deeming some integration actions worth pursuing and others not.

Actions completed in this step:

- ✔ **Develop a prioritized list of integration actions based on feasibility, risks, and benefits**

Box 3. Assessing Integration Actions: Key Questions

Feasibility:

- » Is there sufficient political will for the integration action?
- » Is the health system ready to absorb additional responsibilities?
- » Is the integration action affordable?
- » Are sufficient funding and other resources available to cover transition costs as well as ongoing costs?

Risks:

- » **To wasting programmes:** What is the risk that the integration action will harm the delivery of wasting services (e.g., by increasing RUTF stockouts or reducing quality)?
- » **To the health system as a whole:** Will the change affect the delivery and quality of other essential health services?

Benefits:

- » **To wasting programmes:** Will the early detection and treatment of child wasting improve in terms of service quality, coverage gains, efficiency, and/or sustainability?
- » **To the health system as a whole:** Will broader child health outcomes improve? Will the action bring cost savings to the health system as a whole?

While tools exist to help answer some of these questions, many of the questions will need to be answered qualitatively through stakeholder consultation.

Additional Resources



Read about helpful nutrition modeling tools for decision-makers:

[Nutrition Modeling Consortium](#) | [The New York Academy of Sciences \(nyas.org\)](#)



Step 6

Finalize and Launch the Plan

After completing steps 1 through 5 in a consultative manner, the team can pull together all of the information and create the integration plan. This should include three key sections that describe what the plan covers and why: 1) programme goals for wasting services, 2) key constraints across the health system, and 3) priority integration actions to address constraints and their rationale (based on assessment of feasibility, risks, and benefits). Countries may decide to publish their integration plan as a standalone product while also embedding priority recommendations within national nutrition strategies and other plans.

It is important for countries and key stakeholders to discuss and formalize implementation of the plan, including the timeline, roles and responsibilities of all partners, costs of the plan, and sources of funding.

Actions completed in this step:

- ✓ **Put together all information and create the integration plan**
- ✓ **Conduct final consultations with partners (in addition to consultations in previous steps)**
- ✓ **Facilitate senior leadership discussion and signoff (in addition to discussion and signoff in previous steps)**
- ✓ **Publish and launch the plan**
- ✓ **Decide on the next milestone to monitor progress after implementation begins**

Monitoring and Adapting

As described in [Figure 3](#), the process is not over after step 6. After implementation begins, mechanisms must be in place to monitor and adapt the plan as needed, holding stakeholders accountable for their designated roles.

Additional Resources



Read more about health system strengthening: [The UNICEF Health Systems Strengthening Approach](#) and [The ACF Guide - Health System Strengthening: From Diagnosis to Planning Guide, 2017](#)

Read about making specific, measurable, achievable, relevant, and time-bound (SMART) commitments to mainstream essential nutrition actions in UHC from WHO: [Mobilizing ambitious and impactful commitments for mainstreaming nutrition in health systems: nutrition in universal health coverage – global nutrition summit, 2020](#)

Read more about strengthening meaningful government engagement with populations, communities, and civil society for national health policy-making: [Voice, agency, empowerment - handbook on social participation for universal health coverage, 2021](#)



PART **3.**

INTEGRATION ACROSS
HEALTH SYSTEM
COMPONENTS

This Part of the guide offers guidance to country teams on developing an integration plan and includes a chapter for each component of the health system. With the guiding principles of the framework in mind, each chapter reviews common constraints to achieving programme goals for the early detection and treatment of child wasting and presents integration actions that could help address those constraints.

Many forms of integration are possible across the various components of the health system: leadership and governance, service delivery, health workforce, information systems, sustainable financing, and supply chain for ready-to-use therapeutic foods (RUTF). Countries are at different stages of embedding wasting services into their health system and assuming responsibility for the delivery of services while reducing reliance on external support, and in many cases the state of integration differs across health system components. Countries also differ in the extent of integration within the emergency preparedness and resilience of wasting services, a theme that cuts across health system components.

The guidance offered in this Part of the guide is a starting point for country teams in developing an integration plan—the list of constraints is not exhaustive and does not differentiate between minor and critical constraints, and not all integration actions presented here will be relevant or feasible in all cases. Health sector decision-makers will need to decide which actions—or a bundle of actions across health sector components—are relevant by going through the six steps delineated in [Part 2](#). Integrating too quickly or where there is low capacity risks overwhelming the health system and affecting the quality of essential health and nutrition services, so it is important to prioritize integration actions based on feasibility (system readiness, cost, political will) and assessment of risks and benefits to wasting services and to PHC.

Integration is not all or nothing; it is a process: Many kinds of partial integration may be appropriate, and further integration can take place across the health system or sequentially within components. For this reason, some countries may decide to focus on one or several health system components when developing an integration plan. As such, the chapters in this part of the guide can be read sequentially or in order of greatest relevance. Emergency preparedness and resilience is a theme that cuts across each health system chapter, and the final chapter of Part 3 summarizes all of the relevant content from the preceding chapters.





Leadership and Governance

1

Strong leadership is critical to integrating wasting services into routine PHC services and is the foundation for providing sustainable, high-quality services at scale. Country governments demonstrate leadership for nutrition by making policy and financial commitments and by following through with action, including establishing accountability measures and coordination mechanisms that facilitate continuous programming, monitoring, evaluation, and learning across partners. Some countries have demonstrated exceptional leadership in scaling up wasting services as part of an essential package of health services in pursuit of universal health coverage. Ethiopia, for example, has integrated wasting services into its Health Extension Programme since 2008, and the government has made strong political commitment to ending child undernutrition by 2030 through the Seqota Declaration ([Box LG.1](#)). In Pakistan, the government has been working to integrate wasting prevention and treatment services into the Universal Health Benefits Package since 2018 ([Box LG.2](#)).

2

3

Common Constraints to Achieving Programme Goals for Wasting

The following are common constraints to achieving programme goals for the early detection and treatment of child wasting within the leadership and governance component of the health system.

- » **Inadequate prioritization of and accountability for wasting services within the health sector.** A question commonly faced by nutrition teams within the MOH is how to elevate nutrition—and wasting in particular—within the broader health agenda. Child wasting may not be seen as a top priority among health officials and may therefore not be given its fair share of resources or prioritization in health sector strategies or domestic budgets despite its burden and impact on child health outcomes (including child mortality). Even when wasting targets are included in health sector plans or policies, wasting services may not be seen as an investment that contributes to broader health outcomes. Sometimes existing policies that support integration are not implemented. This contributes to an environment of siloed child health programming, resulting in missed opportunities for efficiency gains through a more coordinated response across services.

Contributing factors include misperceptions among health officials such as the assumption that child wasting is an emergency issue (even when wasting is endemic and occurs under predictable circumstances), limited incentives for health officials to elevate wasting as a domestic issue when funding is mostly provided externally, and lack of recognition that wasting impedes progress on broader development goals (by perpetuating the cycle of poverty and undernutrition in families, for example). Limited access to and use of health and nutrition data to inform evidence-based decision-making (including priority setting, policymaking, strategic planning, and implementation) perpetuates these misperceptions (see the [Information Systems chapter](#)).

Other contributing factors may include weak mechanisms for holding public officials accountable to community needs within local governance structures or limited pathways for communities to voice their needs to government officials who make programme decisions (such as through civil engagement in policy dialogue, programme planning, or community-level problem solving). Local governance structures may be ignored or underestimated for their value in solving critical community health concerns, which can leave local human and financial resources untapped even though they could be instrumental in improving wasting services and health outcomes.

- » **Uncertain sustainability of wasting services due to heavy reliance on external partners.** In many countries, external partners still play a significant role in implementing wasting services, including services delivered through broader PHC programmes, particularly for RUTF supply and distribution, training and capacity building, and community outreach. While coordination across partners is led by the government in most countries, this can be complex and challenging when wasting services are highly fragmented across programmes delivered by various partners and information systems do not allow for continuous communication (especially when information systems are not set up to manage data across partners; see the [Information Systems chapter](#)). Reliance on external partners and limited coordination across multiple partners puts wasting services at risk of interruption, such as when funding stops or during gaps in funding cycles (see the [Sustainable Financing chapter](#)). Additionally, plans to coordinate the transition of wasting services to the government are often missing. While development partners typically aim to support national strategies and plans, when a common vision for the transition is lacking, support and funding are often misaligned. In some cases, policies may exist that can support integration, but resources (including skills and budget) may be insufficient.



A1

A2

A3

A4


In addition, **from an emergency preparedness and resilience perspective**, national emergency response plans for events that could cause surges in child wasting (such as droughts or spikes in infectious diseases) often do not include adequately detailed arrangements for responding to these increases, such as by scaling up of wasting services to high-risk areas. This can lead to delayed or inadequate response to address the increased burden.

Potential Integration Actions to Help Address Constraints

Table LG.1 lists potential integration actions that can help address the constraints identified above within the leadership and governance component of the health system.

Note: The actions presented here are not recommended in all cases. Each action—or bundle of integration actions across health sector components—must be assessed based on feasibility (cost, political will, system readiness) and the risks and benefits to wasting services and to PHC. Health sector decision-makers must decide which actions are relevant by going through the six-step process described in Part 2.

Table LG. 1 Potential Integration Actions to Address Constraints, Leadership and Governance

CONSTRAINT	POTENTIAL INTEGRATION ACTIONS TO ADDRESS CONSTRAINTS	
Inadequate prioritization of and accountability for wasting services within the health sector	LG.1.	Ensure adequate consideration of wasting services within health sector strategies and plans (operational and financial) including expected impact on health outcomes
	LG.2.	Ensure adequate consideration of wasting services within health workforce capacity development strategies and plans
	LG.3.	Include wasting indicators within health sector monitoring and evaluation frameworks and develop a coordination group for nutrition information
	LG.4.	Ensure adequate consideration of wasting services within annual budgeting processes, including RUTF and operational costs
	LG.5.	Include wasting services in an essential package of health services as part of the approach to UHC
	LG.6.	Engage civil society and local governments in the implementation of and advocacy for wasting services and mobilize communities to ensure that services respond to local demand, to promote accountability, and to leverage local resources
Uncertain sustainability of wasting services	LG.7.	Develop multi-stakeholder plans to transition the implementation of wasting services from external partners to the health sector, when capacities exist
	LG.8.EP.	Ensure adequate consideration of wasting services within national and subnational emergency response plans (e.g., for droughts, climate change mitigation, etc.) 

 *Emergency preparedness and resilience integration actions*

These actions could bring important benefits, including:

- » **Increased coverage and equity of wasting services**, through the elevated prioritization of wasting within government plans, strategies, and budgets (commensurate with the burden and other factors), ensuring that opportunities to improve implementation of services are identified and scaled up.
- » **Increased efficiency**, through enhanced coordination among development partners on the integration strategy.
- » **Increased sustainability**, by developing transition and sustainability plans that development partners help support and by elevating wasting as a health sector priority and creating wasting “champions” within leadership at all levels of government.

Key considerations: Integrating too quickly or where there is low capacity risks overwhelming the health system and affecting the quality of essential health and nutrition services. Health sector leaders often have competing priorities and limited capacity and/or resources to respond to all health needs, making prioritization decisions difficult. In some cases, wasting services may not be seen as a top priority. In many cases, health system strengthening efforts will be needed alongside integration and scale-up efforts across all health system components.

For more information on these integration actions, See [Annex 4](#), which provides country examples and further discussion of potential benefits and considerations of feasibility and risks for each action.



Box LG. 1 Scaling Up Wasting Services in Ethiopia

Contributed by Frezer Abebe, Ethiopia FMOH

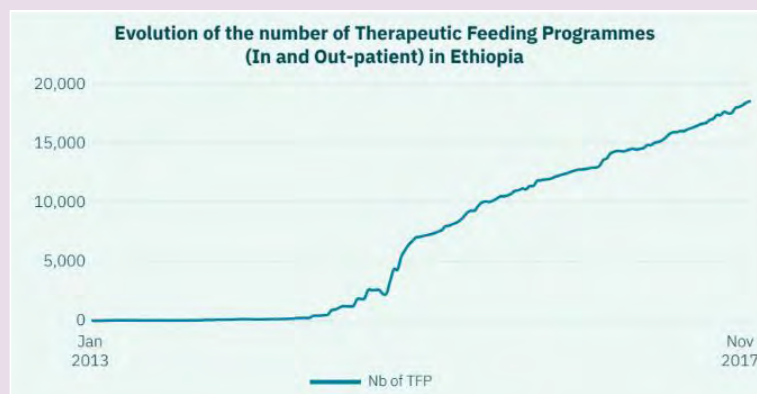
Despite improvements in the nutritional status of Ethiopian children over the past decade, the prevalence of stunting in children under age 5 has held steady over the past four years, at 38% (5.2 million) in 2016 and 37% (5.5 million) in 2019. The prevalence of wasting, meanwhile, has decreased, from 10% (1.3 million) in 2016 to 7% (1 million) in 2019, after 12 years of stagnancy. Almost half (45%) of the deaths of children under age 5 are associated with undernutrition. Rates of exclusive breastfeeding have increased steadily (from 57% in 2016 to 59% in 2019 among children up to age 5 months), but only 14% of children ages 6 to 23 months have been fed the minimum number of food groups, with no change over the past four years. The availability and/or access to diversified food, the cost of food, inappropriate social behavioral norms, and recurrent emergencies are the main obstacles.¹

While the burden of wasting remains high in Ethiopia—with 7% of children under age 5 suffering from wasting and 1% suffering from severe wasting—significant progress has been made to ensure access to and availability of treatment due to strong government leadership and supportive legal frameworks.¹ The Federal Ministry of Health (FMOH) has been instrumental in scaling up wasting services. In 2005, the Community-Based Management of Acute Malnutrition (CMAM) programme, which started as an emergency response intervention that relied on technical and financial support from external partners, transitioned to the government-led National CMAM Programme; and by 2008, wasting treatment was integrated into the health system, embedded within the Health Extension Programme.^{2,3} As part of the 2015 Seqota Declaration, the Ethiopian government expressed strong political commitment to ending child undernutrition by 2030.

Treatment services for severe child wasting have a geographic coverage of ~95% in Ethiopia, with more than 19,000 health centers and health posts offering care—a substantial increase since 2013 (see Figure LG.1), and an increasing number of children have received treatment even in hard-to-reach areas (such as the Somali and Afar regions).^{4,5} Even during emergencies, the system has proven resilient, treating as many as 438,000 children with severe wasting without disrupting routine services.

However, moderate wasting service coverage remains much lower, at ~25%. In 2019, the government issued new guidance to combine the management of severe and moderate wasting within one protocol. The FMOH, in collaboration with the National Disaster Risk Management Commission and its development partners, UNICEF, and the UN World Food Programme (WFP), recently signed a memorandum of understanding to integrate the management of moderate acute malnutrition into the routine health system.

Figure LG.1.
Increase in Sites Offering Services for Severe Wasting in Ethiopia (2003–2017)⁴



Next steps and remaining priorities:

- » **Additional work to promote sustainable financing and supply chain integration for severe wasting services within the health system.** Currently, supplies for wasting are not fully integrated into the National Health supply chain system and procurement is heavily funded by UN partners. Discussions have increased on how to better integrate nutrition commodities within Ethiopian Pharmaceutical Supply Agency (EPSA) systems and how to increase sustainable investments in products including RUTFs.
- » **Continued integration and scale-up of services for moderate wasting within the health system.** Implementation of the combined protocol for severe and moderate wasting, if supported with high-impact, evidence-based interventions, can expand the coverage of all forms of wasting treatment and increase access. Further, using reduced dosage and one product to treat both severe and moderate wasting could be more efficient and reduce costs while also better serving families.
- » **Further investigation and action to address community-level challenges for the management of wasting.** This includes addressing gaps in resources, limited supervision of health workers, poor referral systems, staff turnover, low coverage of screening, and poor compliance among recipients in terms of inpatient care seeking and inappropriate use of commodities.



Box LG. 2 Integration of Wasting Services into Pakistan's Routine PHC Services

Contribution by Dr. Khawaja Masuood Ahmed, National Coordinator Nutrition and Fortification, Ministry of National Health Services, Pakistan

In 2018, Pakistan fully endorsed the Astana Declaration on public health care revitalization, and the government and its nutrition partners, including the World Bank, UNICEF, WHO, and WFP, seized the opportunity to advocate for integrating wasting treatment and prevention services within the country's essential package of health services. Through revised provincial nutrition projects, the government scaled up wasting services in more than 50 districts across four provinces. However, overall treatment coverage remained at less than 10% as of 2019.⁶

Since 2018, Pakistan has been working to fully integrate wasting services into the routine package of services delivered at the PHC level, in the form of the “minimum essential nutrition package.” Wasting treatment and key preventive services—infant and young child feeding (IYCF) counseling, vitamin A supplementation, deworming, and multiple micronutrient supplementation (MMS) for children and pregnant and lactating women—will become part of the Universal Health Benefit Package that is delivered routinely through the government health system by the existing health workforce, which includes, among others, lady health workers (LHWs) at the community-level. Nutrition supplies will be integrated into the health commodities logistics management system, nutrition indicators will be incorporated into the health management information system (HMIS-DHIS2), and oversight of nutrition services will be enhanced to support programme sustainability.⁷ The process of integration is being guided by the Disease Control Priorities Approach (DCP3), with support from a technical working group led by the MOH in partnership with WHO and UNICEF. The Pakistan Multi-sectoral Nutrition Strategy (PMNS) 2018–2025 prioritizes the integration of wasting services, as well as the embedding of wasting treatment into broader stunting reduction strategies as a part of nutrition-specific interventions.^{6,7}

Recently, a large-scale National Nutrition Programme called “Tackling Malnutrition Induced Stunting in Pakistan” (2020–2025), developed by the Nutrition Wing of MOH with federal support of more than US\$1 billion over 5 years, has been approved. This programme will be implemented through the existing health care delivery system in 67 districts with a high burden of stunting and wasting, out of 154 districts; it will cover about 70 million people (30% of the country's population). With continued provincial nutrition programming, this national nutrition programme can grow in coverage reaching an aspirational 50% of the country's population.

While the policy commitments to integrate and improve wasting services are promising, priority actions are needed to ensure implementation:^{6,7}

- » **Strengthened in-service training of existing health workers.** Current strategies include focusing on district managers for the first round of training, and then nutrition assistants and LHWs (see the [Health Workforce](#) chapter).
- » **Costing and resource allocation for delivering wasting services through PHC.** The Ministry of National Health Services, Regulation and Coordination, with technical support from UNICEF, is undertaking a cost-effectiveness analysis for the proposed minimum essential nutrition package as well as developing a nutrition investment case for each of the four provinces to help inform national planning and advocacy efforts (using [Optima Nutrition Learning Tool](#))
- » **Improvement in national regulatory conditions for local production of RUTF.** Local production of ready-to-use supplementary food (RUSF) and RUTF has started in Pakistan with a variable capacity, and for RUSF and RUTF the government has implemented a tax exemption for imported raw materials, which aims to increase cost-effectiveness and pipeline sustainability.

References

1. Ethiopia Public Health Institute (EPHI), ICF. *Ethiopia Mini Demographic and Health Survey 2019: Key Indicators*; 2019. Accessed June 7, 2021. https://www.moh.gov.et/eicc/sites/default/files/2019-08/Complete_KIR_EMDHS-%20Final.pdf
2. *Concern Worldwide's Learning from 15 Years of Community Management of Acute Malnutrition Programming*. Concern World Wide; 2015.
3. Lemma DF, Daniel DT, Mates DHF and E. CMAM rollout in Ethiopia: the 'way in' to scale up nutrition. *Field Exchange 43: Government experiences of CMAM scale up*. Published online January 7, 2012:15.
4. Abebe F. Scaling up management of wasting in Ethiopia: a case study. Presented at the: CMAM Virtual Conference; March 24, 2021.
5. Lemma F. CMAM Ethiopia. Presented at the: CMAM Virtual Conference; March 22, 2021.
6. Achakzai DBK, Ategbo EA, Kingori JW, Shuja S, Ihtesham WMK and Y. Integration of essential nutrition interventions into primary healthcare in Pakistan to prevent and treat wasting: A story of change. *Field Exchange 63*. Published online September 14, 2020:13.
7. Ahmed KM. Scaling up management of wasting in Pakistan: a case study. Presented at the: CMAM Virtual Conference; March 2021.



Service Delivery

Since the early 2000s, when the CMAM approach was proven to be a cost-effective treatment for child wasting, countries have gradually begun to integrate wasting services into health programmes and many now include wasting services within their essential package of health services. While significant progress has been made in scaling up wasting services globally, countries differ widely in their integration journeys and there are important regional differences (see [Part 2](#)). Despite global progress, still only an estimated one in three children who suffer from wasting receive treatment.¹⁻³

[Figure SD.1](#) describes the services needed for the prevention, early detection, and treatment of child wasting. It describes the process by which a child with severe or moderate wasting may receive care,⁴ presenting a holistic view on how services across the PHC system could play a role in identifying child wasting across essential contact points between the child and health system—whether through community outreach or when a caregiver intentionally seeks care. This could help ensure that no child with wasting is missed, cases are identified as early as possible, and children with wasting receive the best possible care. It is especially important to assess the nutritional status of children with comorbidities as early as possible (e.g., when seeking services for other conditions) because this affects the severity of complications and the appropriate care regime recommended. [Box SD.1](#) discusses some example programmes that could be part of this holistic view of case identification across health services to ensure that no opportunities are missed.

Common Constraints to Achieving Programme Goals for Wasting

The following are common constraints to achieving programme goals for the early detection and treatment of child wasting within the service delivery component of the health system.

- » **Limited success of community outreach efforts to identify child wasting.** Despite efforts to increase the number of children treated for wasting, many countries still face challenges with early detection because of limited success of community outreach efforts (see [Figure SD.1](#)). This can be due to several reasons, such as the health sector's inability to reach some communities in need due to distance and limited resources or community health workers (CHWs) not screening for wasting during ongoing household visits or community activities (for reasons discussed in the [Health Workforce chapter](#)).

Demand for wasting services at the community level is also generally low due to the poor quality of care received in the past, limited availability of services, or limited awareness of the severity of wasting or of the services offered. Low demand from caregivers is further exacerbated when health services are siloed or delivered in separate locations, which limits opportunities for co-delivery of services, increases the burden on patients and caregivers, and limits the number of cases identified.

- » **Low treatment coverage at the facility level.** In some countries, lack of access to services due to low geographic coverage remains a primary constraint, especially for hard-to-reach, high-burden, and emergency-prone populations. Some facilities may not provide treatment services because of limited resources and staff, lack of trained personnel, or RUTF supply issues (see the [RUTF Supply chapter](#)).

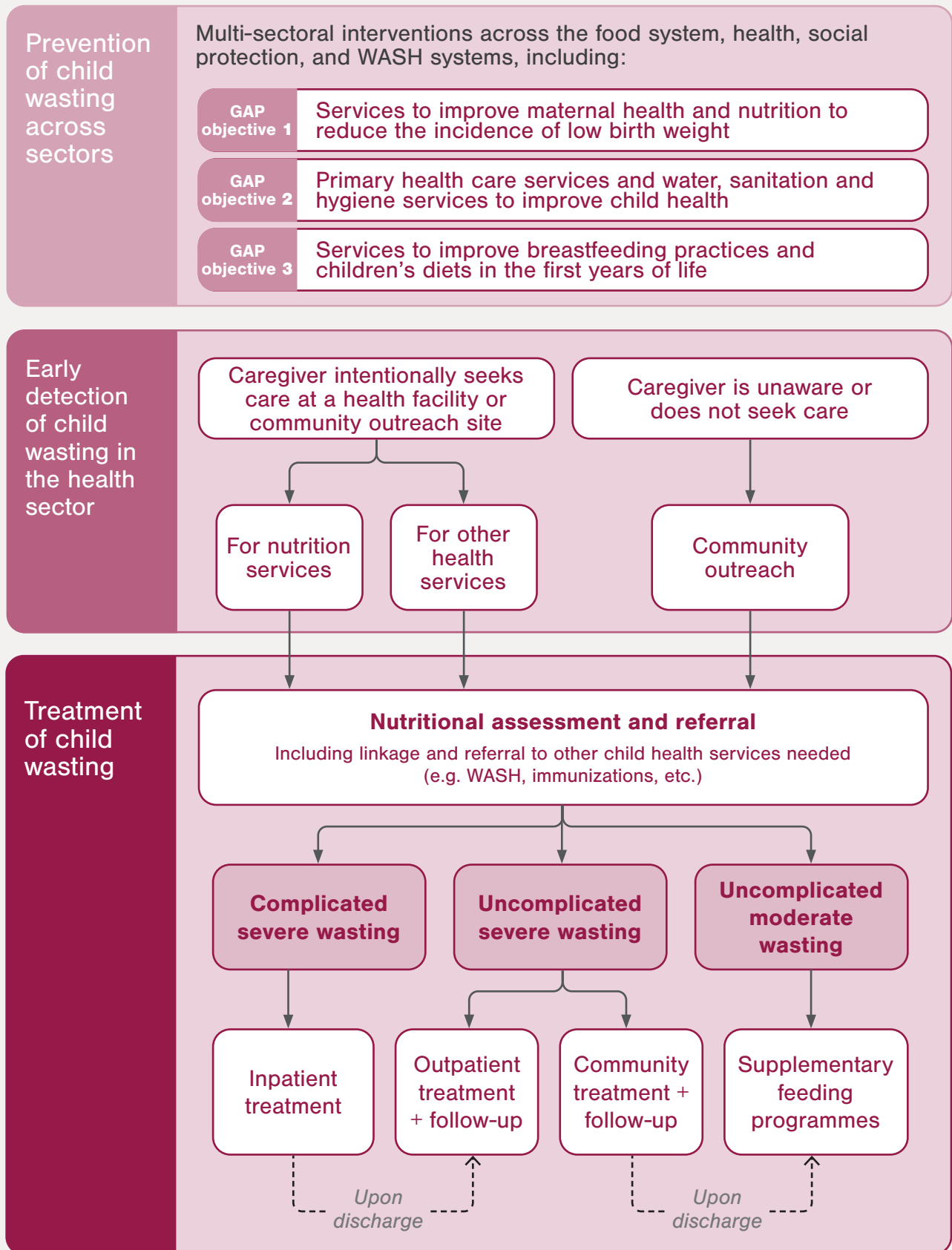
Many countries, particularly in Africa, have reached reasonable scale in terms of the number of health facilities offering wasting services, but the rate of admissions has plateaued despite the remaining large burden (see [Box 2](#) on regional differences in the delivery of wasting services).⁵ This is often due to a low level of community outreach and low demand for services. As illustrated in [Figure SD.1](#), when cases are not identified, the appropriate care regimen cannot be provided.

For countries with low treatment coverage, screening for wasting is often low within broader child health programmes. This means children are not systematically screened for wasting when seeking care for other conditions (see the [Health Workforce chapter](#) for a discussion of contributing factors), so some children who need care are missed and left untreated. This is particularly worrisome for children with comorbidities, who are at high risk of complications and mortality. While limited formal guidance is available on screening for wasting at health facilities, there is a great opportunity to identify and treat child wasting earlier through screening at strategic contacts points between the health system and children under five.



Figure SD.1.

Services required to prevent and manage child wasting across sectors



Children who are identified as having wasting, whether at a facility or in the community, may not always receive appropriate care due to weak referral links or weak coordination within and between levels of care. This might be because of weak capacity to monitor child wasting, poor communication with caregivers on the importance of early identification and treatment of wasting, or poor access to wasting services.

- » **Limited ability to respond to surges in child wasting due to predictable and unpredictable circumstances.** Even where wasting services are considered more integrated, emergencies and stressors that cause increases in child wasting can quickly overwhelm the routine health system’s capacity to deliver critical wasting services, thereby requiring additional support from humanitarian partners. Contingency planning at the district and health facility levels is often lacking. This means that rather than redirecting internal resources to address an increased demand for wasting services, local actors look for external humanitarian assistance. This assistance is often less timely and does not reinforce resilience within the health system.


Major constraints across other health system building blocks can also affect the success of service delivery because programmes require strong information systems, a strong health workforce, an adequate and predictable supply of RUTF, sustainable financing, and robust leadership and governance structures. See the respective chapters for a discussion of common constraints across components.

Potential Integration Actions to Address Constraints

Table SD.1 lists potential integration actions that can help address the constraints identified above within the service delivery component of the health system. Many countries are considering or testing programme adaptations to simplify delivery of wasting services, with the goal of increasing access to and the effectiveness of those services. While the evidence is mixed at this point, if these adaptations prove successful, they should be considered alongside national integration strategies. See [Box SD.2](#) for an overview of simplified approaches to wasting services.

Note: The actions presented here are not recommended in all cases. Each action—or bundle of integration actions across health sector components—must be assessed based on feasibility (cost, political will, system readiness) and the risks and benefits to wasting services and to PHC. Health sector decision-makers must decide which actions are relevant by going through the six-step process described in [Part 2](#).

Table SD.1. Potential Integration Actions to Address Constraints, Service Delivery

CONSTRAINT	POTENTIAL INTEGRATION ACTIONS TO ADDRESS CONSTRAINTS	
Limited success of community outreach efforts to identify child wasting	SD.1.	Include nutritional screening in additional community health programmes, e.g., iCCM, growth monitoring, or mobile health outreach programmes
	SD.2.	Include caregiver/family education on the identification of wasting, risks, and where to go for help in additional health programmes, e.g., maternal health services, family planning, and growth monitoring
Low treatment coverage at the facility level	SD.3.	Increase geographic coverage by providing wasting treatment (outpatient and/or inpatient) in additional facilities when deemed cost-effective based on burden and other factors
	SD.4.	Include nutritional screening in additional facility-level health programmes, e.g., immunization, HIV, and other infectious disease programmes
	SD.5.	Strengthen coordination and referral links within and between all levels of care across health and nutrition services
Limited ability to respond to surges in child wasting	SD.6.EP.	Develop protocols and build the capacity of health facilities to respond to predictable and unpredictable surges in child wasting (e.g., the CMAM Surge Approach). 

 *Emergency preparedness and resilience integration actions*

These actions could bring important benefits, including:

- » **Increased coverage and equity of wasting services**, by increasing opportunities to identify child wasting and provide treatment while allowing children to receive comprehensive health care at one time and place—thus ensuring a greater ability to meet the broader health needs of children most in need.
- » **Increased efficiency and reduced costs**, by providing multiple services through the same child health programmes, which will help reduce duplication of services and could lead to earlier detection of cases and, in turn, fewer severe and complicated cases.
- » **Increased sustainability**, through reduced dependence on external partners and greater capacity of the national health system to manage wasting services.

Key considerations: Integrating too quickly or where there is low capacity runs the risk of overwhelming the health system and reducing the quality of essential health and nutrition services. A focus on wasting services might mean that resources are shifted away from other aspects of the health system (such as staff time and commodities). Where the quality of wasting services is low, health system strengthening might be necessary before further integration.

For more information on these integration actions, See [Annex 4](#), which provides country examples and further discussion of potential benefits and considerations of feasibility and risks for each action.





Box SD.1. Programmes That Might Provide Additional Opportunities to Screen for and Identify Child Wasting

As illustrated in [Figure SD.1](#), early detection of child wasting can happen through various pathways and programmes, including when caregivers intentionally seek nutrition or health services or through community outreach. Here are some examples of each:

Nutrition services:

- » **Infant and Young Child Feeding (IYCF) programmes.** Ethiopia integrated IYCF and CMAM programmes in 2001 with support from the Alive and Thrive Project.⁶
- » **Growth monitoring programmes.** In Syria, the MOH and WHO established a nutrition surveillance system in 2014 and integrated it into existing growth monitoring programmes across 115 facilities. By 2018, the programme had expanded to 802 facilities, and 928,000 children had been screened, with 0.6% found to have severe wasting. Coverage was increased in conflict zones using mobile health units. Overall, global acute malnutrition nationwide declined from 5.3% in 2015 to 2.4% in 2018.⁷

Health services:

- » **HIV programmes.** In 2009, a national university in Zambia began piloting the integration of community HIV and wasting screening efforts using the existing community health workforce. Over the course of three years, 68,707 children were screened, of which 1,195 had severe wasting and 10.3% were HIV positive. The overall cure rate improved from 47% in the first year to 75% in the third year, but the programme had an overall high default rate of 31%.⁸
- » **Immunization programmes.** Immunization programmes are a key contact point for early identification of small and nutritionally at risk (including wasted) infants under six months. In Nigeria's Borno state, wasting screening was integrated into polio campaigns to improve coverage despite the ongoing conflict. Nutrition screening was conducted after vaccinations to reduce the disruption to immunization, and children identified with wasting were referred to outpatient programmes that were co-developed with the polio campaigns. The referral relied primarily on volunteer community mobilizers and caregivers. The combined initiative resulted in 3.13 million children being vaccinated, about half of whom were also screened for wasting. Of the screened children, 3.7% had severe wasting; about half of those were successfully referred and treated.⁹
- » **Maternal health programmes.** Maternal health, including mental health, is an important determinant of young infant outcomes. Wasting has been linked to low birth weight and poor maternal nutrition, so targeting maternal health programmes (e.g., prenatal, postnatal, and family planning) for education and identification of wasting could improve early detection, lead to important behavior change, and reduce the risk of relapse. This integration option is particularly important in countries with a burden of acute infant wasting (<6 months old), given that the recommended treatment includes exclusive breastfeeding. In Ethiopia, Ghana, Kenya, Malawi, Mozambique, and Sierra Leone, child wasting services have been closely linked to existing maternal health services.¹⁰ Developing linkages between infant wasting treatment services with maternal health services is a key component of supporting the mother-infant dyad in MAMI care (see [Box 2](#)).

Community programmes:

- » **Mobile health programmes.** As part of the national Global Financing Facility investment case from 2017–2022, the government of Mozambique expanded the scope of activities of CHWs known as elementary polyvalent agents and set up mobile health teams in all non-urban districts. Under the expansion, mobile teams are responsible for providing a “limited” package of integrated maternal and child health services, including wasting screening, Vitamin A supplementation, vaccination, and deworming for children under age 5. Key nutrition personnel have also been trained, and the Nutrition Intervention Package has been rolled out in the eight highest-burden provinces, resulting in 3,609,078 additional children receiving basic nutrition services between 2017 and 2018.¹¹



Box SD. 2. Simplified Approaches to Wasting Services

Since the WHO treatment guidelines for wasting were issued in 2007, a series of pilot studies have adapted the CMAM treatment model to improve coverage and reduce costs associated with wasting services, particularly in emergency contexts or fragile settings with weak health systems.¹² While more evidence is needed, some of these approaches, described below, have shown promising early results and are being explored in some countries. For countries that have already begun implementing some of these approaches or plan to in the near future, integration of these services into the broader health system should be considered.¹³ Below are examples of some of the current simplified approaches to wasting services being explored in country:

- » **Treatment of wasting at the community level.** Some countries, including Angola, Bangladesh, Ethiopia, India, Malawi, Mali, Niger, Pakistan, Senegal, South Sudan, and Togo, have piloted treatment by CHWs (in addition to their established roles in screening and counseling), but this approach is not yet widely accepted and is highly dependent on the level of training and supervision available to CHWs.^{14,15} This strategy was modeled on the Community Case Management (CCM) or Integrated Community Case Management (iCCM) approach used in many countries to treat pneumonia, malaria, and diarrhea. Wasting screening was added to the WHO iCCM guidelines in 2014, but some countries have had reservations about adding the treatment component due to concerns about overburdening CHWs and the qualification of CHWs to manage RUTF and antibiotic disbursement (see the [Health Workforce chapter](#)).¹⁵
- » **Combined treatment of moderate and severe wasting under one protocol.** While the combined protocol has typically been accepted in emergency settings, there is also a push to streamline service delivery through the detection and treatment of moderate and severe wasting at one delivery point and using a single product. The exact dosing and treatment length using one product are not well understood, and more evidence is needed. Given the large burden of moderate wasting, this approach could overwhelm systems that have limited resources (especially their supply chain), so rollout would require careful planning. The significant increase in the number of children treated through this approach has implications for the product(s) required for treatment. The capacity of the supply chain and health system to absorb the increase in admissions must be carefully considered before the combined approach is scaled up (see the [RUTF Supply chapter](#)). Trials are ongoing in Burkina Faso, Chad, Democratic Republic of the Congo, Kenya, Mali, Niger, Sierra Leone, Somalia, and South Sudan.
- » **Family MUAC screening.** This screening approach entails training caregivers to measure mid-upper-arm circumference (MUAC) using a MUAC tape to screen their own children for wasting can increase early detection and reduce the burden on CHWs. This approach is often included in the combined protocol and is particularly effective for hard-to-reach populations. It is being scaled up in 26 countries worldwide.
- » **Reduced-dose RUTF.** Reducing the dose of RUTF that a child with severe wasting receives could potentially reduce the overall cost of treatment and streamline dosing for health workers. While the potential cost savings may be attractive, the potential quality consequences must be considered. Only a few small-scale pilots have been conducted, with mixed results, but overall there are reservations about this approach due to the risk of inadequately treating child wasting.^{16,17}

Additional Resources



Read more about simplified approaches to wasting treatment:

[Simplified approaches to the treatment of wasting, 2020](#) and [Simplified Approaches Dashboard](#)

References

1. World Health Organization. Global Action Plan on Child Wasting: A Framework for Action to Accelerate Progress in Preventing and Managing Child Wasting and the Achievement of the Sustainable Development Goals. WHO Nutrition and Food Safety; 2020. <https://www.who.int/publications/m/item/global-action-plan-on-child-wasting-a-framework-for-action>
2. UNICEF/WHO/The World Bank Group joint child malnutrition estimates: levels and trends in child malnutrition: key findings of the 2021 edition. Accessed June 14, 2021. <https://www.who.int/publications-detail-redirect/9789240025257>
3. UNICEF. NutriDash Interactive Report 2019. Accessed January 22, 2021. <https://www.unicefnutridash.org/surveyreports>
4. King S, Sawadogo-Lewis T, Black R, Robertson T. Making the health system work for the delivery of nutrition interventions. *Maternal & Child Nutrition*. 2020;17(1). Accessed June 9, 2021. <https://onlinelibrary.wiley.com/doi/full/10.1111/mcn.13056>
5. Dent N, Bruneau S. Increasing Scale Up and Coverage of Severe Acute Malnutrition: Africa Regional Trends and Country Scoping: 2012-17. United Nations Children's Fund; 2017:28.
6. Network (ENN) EN. Planned study on feasibility and efficacy of IYCF in CMAM integration in Ethiopia. *Field Exchange* 41. Published online January 8, 2011:30.
7. Bozo M, Mohammad HK and M. Scale-up of malnutrition screening by the World Health Organization in Syria. *Field Exchange* 61. Published online July 11, 2019:57. doi:fe.61.405
8. Amadi B, Imikendu M, Sakala M, Banda R, Kelly P. Integration of HIV Care into Community Management of Acute Childhood Malnutrition Permits Good Outcomes: Retrospective Analysis of Three Years of a Programme in Lusaka. *PLoS One*. 2016;11(3). doi:10.1371/journal.pone.0149218
9. Chamla D. Lessons from integration of mass nutrition screening during combined BOPV/IPV campaign in armed conflict settings, Borno State, Nigeria. *Global Journal of Pure and Applied Sciences*. 2018;24. doi:10.4314/gjpas.v24i1.9
10. Kouam CE, Delisle H, Ebbing HJ, et al. Perspectives for integration into the local health system of community-based management of acute malnutrition in children under 5 years: a qualitative study in Bangladesh. *Nutr J*. 2014;13:22. doi:10.1186/1475-2891-13-22
11. Government of the Republic of Mozambique. Mozambique Global Financing Facility Investment Case.; 2017. Accessed April 20, 2021. https://www.globalfinancingfacility.org/sites/gff_new/files/Mozambique-Investment_Case-EN.pdf
12. Malnutrition TS of A. Simplified Approaches Across The Continuum Of Care: An Introduction - State of Acute Malnutrition. The State of Acute Malnutrition. Accessed January 22, 2021. <https://www.acutemalnutrition.org/en/Simplified-Approaches-Introduction>
13. Tools for CHW Community-Based Treatment of Uncomplicated Wasting in the Context of Covid-19. State of Acute Malnutrition; 2020. Accessed January 25, 2021. <https://www.acutemalnutrition.org/en/Simplified-Tools-Covid>
14. López-Ejeda N, Charle-Cuellar P, Alé FGB, Álvarez JL, Vargas A, Guerrero S. Bringing severe acute malnutrition treatment close to households through community health workers can lead to early admissions and improved discharge outcomes. *PLOS ONE*. 2020;15(2):e0227939. doi:10.1371/journal.pone.0227939
15. Alvarez Morán JL, Alé GBF, Charle P, Sessions N, Doumbia S, Guerrero S. The effectiveness of treatment for Severe Acute Malnutrition (SAM) delivered by community health workers compared to a traditional facility based model. *BMC Health Services Research*. 2018;18(1):207. doi:10.1186/s12913-018-2987-z
16. Kangas ST, Salpéteur C, Nikiéma V, et al. Impact of reduced dose of ready-to-use therapeutic foods in children with uncomplicated severe acute malnutrition: A randomised non-inferiority trial in Burkina Faso. *PLoS Med*. 2019;16(8):e1002887. doi:10.1371/journal.pmed.1002887
17. James PT, Van den Briel N, Rozet A, Israël A-D, Fenn B, Navarro-Colorado C. Low-dose RUTF protocol and improved service delivery lead to good programme outcomes in the treatment of uncomplicated SAM: a programme report from Myanmar. *Matern Child Nutr*. 2015;11(4):859-869. doi:10.1111/mcn.12192

1

2

3



A1

A2

A3

A4



Health Workforce

As countries have gradually transitioned wasting services into routine PHC, government staff have increasingly assumed responsibility for the provision of these services. This means wasting services at the health facility and community levels are now commonly delivered by government health staff alongside other health services as part of an essential package of services and are generally considered well integrated into the health workforce component of health systems. Only in rare circumstances, such as during emergencies, are they provided by staff employed by external partners. However, governments still often rely on UN agencies and NGOs for some aspects of health workforce management, including recruitment and supervision, pre-service and in-service training, and provision of incentives.

Figure SD.1 (see the [Service Delivery](#) chapter) describes the services needed for the prevention, early detection, and treatment of child wasting. The types of providers offering these services include health facility staff (including doctors, nurses, and nutritionists) and community health workers (CHWs) (including staff who are often supported by community volunteers). In general, staffing can be fluid between health facilities and communities and task shifting may occur (such as when health facility staff support community outreach). A critical concept for integration is that all children who have contact with the health system should be screened for wasting and referred to treatment as necessary—especially within populations that are at high risk of wasting. This means that in high-risk areas, all health workers who come in contact with children, whether or not nutrition is their main domain, should use screening tools such as MUAC tapes to assess each child they see.ⁱ

Common Constraints to Achieving Programme Goals for Wasting

The following are common constraints to achieving programme goals for the early detection and treatment of child wasting within the health workforce component of the health system.

- » **Missed programme opportunities for efficiency gains due to siloed management of health services.** In many countries, the MOH organizational structure includes a nutrition team that operates separately from other health teams or departments, which hinders broader joint programming efforts and leads to missed opportunities for efficiency gains. Siloes at a management or departmental level can contribute to siloed programming at the community level.
- » **Limited capacity of health staff to deliver wasting services.** General health staff are often not consistently screening for wasting and thus not providing appropriate referrals for treatment. A recent Sustaining Health Outcomes through the Private Sector (SHOPS) Plus analysisⁱ assessing integrated management of childhood illness (IMCI) guideline adherence within public and private health facilities across seven countries found that only ~5% of children between ages 2 and 59 months were correctly checked for acute malnutrition.ⁱⁱ Health staff often lack the time or bandwidth to conduct a nutritional assessment in addition to other health services. Therefore, employing an adequate number of workers to address all health concerns is a top priority to ensure that critical health services are delivered at high quality (see the considerations section below). But other factors may also contribute to low rates of screening for wasting by health staff.

First, screening may not be part of the predefined task lists or job descriptions of health staff, and health workers may not be adequately trained in the delivery of wasting services.ⁱⁱⁱ Often, routine pre-service and in-service health trainings and curricula lack a nutrition component (that covers the importance of wasting, how to identify wasting, where to refer, and so forth). The lack of training, in conjunction with the minimal time health workers have per beneficiary, causes wasting services to be underprioritized.³⁻⁵

ⁱ Decision-makers in geographic areas with low wasting prevalence may not find this more beneficial than ensuring that health workers have enough time to address other conditions.

ⁱⁱ Overall, the SHOPS analysis found that only 0.0–0.1% children ages 2 to 59 months received all IMCI screening questions and checks.¹

ⁱⁱⁱ According to UNICEF's NutriDash 2.0, only 25 of 96 countries reporting have pre-service national curriculum for community-based integrated management of severe wasting for health professionals (doctors and nurses).² Refresher or in-service trainings for facility staff are important but are ad hoc and usually only happen with the support of UNICEF and/or an NGO.



Next, health workers may not be adequately motivated to prioritize nutritional screening because of weak management structures (including lack of supportive supervision to complete all tasks) or weak accountability mechanisms (including lack of performance evaluation based on task completion or quality of screening). In addition, health workers may have limited professional development and career opportunities and/or feel that they receive poor compensation, which weakens their motivation to promote the delivery of wasting services. CHWs in particular are overloaded, underpaid, and under-mentored, which limits their capacity to deliver health services in general. Meanwhile, there may be missed opportunities to leverage existing health workforce management systems to properly motivate and train this workforce.

Many wasting services also continue to rely on external partners for capacity-building activities. This support is often short term and stops without partner funding.


Many health facilities lack plans for adjusting staff deployment in emergency situations when staff may be overwhelmed, including options for staff rearrangement, reassignment, or temporary deployment. Systems to incentivize temporary staff deployment to high-risk areas are also often lacking. Emergency situations typically cause a general workforce shortage across the health system (leading to higher workloads, absenteeism due to security or safety issues, displacement of health workers, lack of incentives, and so forth), leading to delayed responses and increased dependence on external partners to support the delivery of wasting services even during localized or smaller-scale emergencies.

Potential Integration Actions to Address Constraints

Table HW.1 lists potential integration actions that can help address the constraints identified above within the within the workforce component of the health system.

Note: The actions presented here are not recommended in all cases. Each action—or bundle of integration actions across health sector components—must be assessed based on feasibility (cost, political will, system readiness) and the risks and benefits to wasting services and to PHC. Health sector decision-makers must decide which actions are relevant by going through the six-step process described in Part 2.

Table HW.1. Potential Integration Actions to Address Constraints, Health Workforce

CONSTRAINT	POTENTIAL INTEGRATION ACTIONS TO ADDRESS CONSTRAINTS	
Missed programme opportunities due to siloed management of health services	HW.1.	Ensure that nutrition representatives are included in health prioritization discussions during annual and routine planning (at all levels of government: national, subnational, and local)
	HW.2.	Add wasting services to the job descriptions and task lists of health workers at the facility and community levels
Limited capacity of health staff to deliver wasting services	HW.3.	Incorporate wasting services in national pre-service trainings and academic curricula for health workers (e.g. medical and nursing schools, community extension workers' curricula)
	HW.4.	Incorporate wasting services into in-service trainings for health workers at the facility and community levels
	HW.5.	Ensure that management teams are trained to support health workers who deliver wasting services at the facility and community levels (e.g., training in routine performance monitoring, supportive supervision, task-sharing guidelines for wasting and health services, and standard operating procedures)
	HW.6.	Transition training and capacity-building efforts for wasting services from external partners to national health sector training plans, with support from academic institutions for pre-service training
	HW.7.EP.	Develop emergency response plans to ensure adequate workforce coverage to deliver wasting services during emergencies (e.g., through temporary staff deployment and re-arrangement) 

 *Emergency preparedness and resilience integration actions*

These actions could bring important benefits, including:

- » **Increased coverage and equity for wasting services**, by ensuring that all health staff who come in contact with sick children are trained and prioritize wasting services.
- » **Increased efficiency**, by leveraging the existing workforce and creating an enabling environment in the health sector for the delivery of wasting services and reducing reliance on NGO staff and parallel coordination systems.
- » **Increased sustainability**, by strengthening health sector ownership and leadership over capacity-building activities and health workforce planning during emergencies.

Key considerations: Integrating too quickly or where there is low capacity risks overwhelming the existing health workforce and reducing the quality of essential health and nutrition services. All levels of the health workforce face capacity constraints—including at the facility and community levels and frontline workers and their managers—and adding responsibilities to an already overburdened workforce could lead to a reduction in other services or reduced service quality. Health system strengthening might be necessary before further integration in some cases—for example, to increase the number and capacity of health workers to deliver all essential health services as a top priority before optimizing wasting service delivery. Additionally, some geographic areas may not prioritize wasting services compared to other services if the burden of wasting is comparatively low.

For more information on these integration actions, See [Annex 4](#), which provides country examples and further discussion of potential benefits and considerations of feasibility and risks for each action.

References

1. Bradley SEK, Shiras T, Johns B. How well do public and private health facilities adhere to Integrated Management of Childhood Illnesses (IMCI) guidelines? Presented at the: February 2, 2021; USAID.
2. UNICEF - NutriDash 2.0. Accessed January 27, 2021. <https://www.unicefnutridash.org/surveyreports>
3. Gera T, Shah D, Garner P, Richardson M, Sachdev HS. Integrated management of childhood illness (IMCI) strategy for children under five. *Cochrane Database of Systematic Reviews*. 2016;(6). doi:10.1002/14651858.CD010123.pub2
4. Rasanathan K, Muñiz M, Bakshi S, et al. Community case management of childhood illness in sub-Saharan Africa – findings from a cross-sectional survey on policy and implementation. *J Glob Health*. 2014;4(2). doi:10.7189/jogh.04.020401
5. Key challenges of health care workers in implementing the integrated management of childhood illnesses (IMCI) program: a scoping review - PubMed. Accessed June 9, 2021. <https://pubmed.ncbi.nlm.nih.gov/32114968/>





Information Systems

The availability of and access to wasting data has evolved over the past 20 years. While monitoring of wasting programmes was initially managed within vertical, NGO-delivered systems, governments have taken a lead role as services have been incorporated into routine PHC. External partners still play a part in supporting the collection, analysis, and reporting of wasting data in many places, but only in rare cases (such as during emergencies or crises) do they manage information systems for wasting programmes. (See [Box IS.1](#) for a description of the types of wasting data and key sources.)

Globally, there is a focus on integrating wasting indicators into broader government-run health information systems to improve real-time access to wasting data alongside other child health information. This shift has been essential to advancing integrated child health programme monitoring and evidence-based decision-making at the national and subnational levels. Efforts are also underway to strengthen linkages between health information systems and early warning systems, to better predict emergency situations that may increase child wasting and could otherwise overwhelm the health system. This is particularly relevant in light of the COVID-19 pandemic, which was projected to increase the prevalence of wasting among children under age 5 by about 14%^{iv} (6 to 7 million additional cases) due to disruptions in the economy, food systems, and access to health care.¹ The actual impact of the pandemic on wasting and health outcomes is yet to be quantified because household survey data collection on child height and weight was paused due to social distancing policies and health concerns.²

Common Constraints to Achieving Programme Goals for Wasting

The following are common constraints to achieving programme goals for the early detection and treatment of child wasting within the information systems component of the health system.

- » **Limited availability of high-quality wasting data to routinely monitor burden, coverage, and performance.** Decision-makers often make important decisions about child health programme planning without access to timely information that could help inform these decisions and ultimately improve joint planning for health and nutrition (at both the national and subnational levels). This may be due to several factors, including that many countries do not collect monitoring data on the delivery and performance of wasting services (e.g., new admissions, in treatment, recovered, defaulted, non-recovered/non-response; see [Box IS.1](#)) within national health information systems for routine use, or they may collect an incomplete set of indicators and/or be missing data for key vulnerable populations (e.g., children older than 6 months).^v Notably, there is no standard way to track community coverage of screening, which creates uncertainty around the amount of community outreach for wasting services to promote early detection. This information gap is a barrier to finding solutions to improve early identification of cases.

In addition, some data points, such as the prevalence of wasting, which feeds into calculations of children in need of treatment, are collected via population-based health and nutrition surveys that are often conducted annually but sometimes with a several year gap in between. Long intervals between surveys mean less timely and accurate decision-making for programme planning. These surveys also mask subnational variations and seasonal differences because they are often completed during the time of year when access to services is easiest and not when wasting levels are peaking; this leads to underestimation of resources to meet needs.

Another major reason for limited data availability or quality issues (e.g., misreporting) could be the lack of technical expertise within or miscommunication between data teams and programme teams. For example, limited communication between data specialists within health management information system (HMIS) teams that manage data systems and nutrition unit staff who manage programmes and reporting could contribute to mistakes in the configuration and interpretation of wasting indicators within routine systems.³

^{iv} This analysis is based on losses in gross national income (GNI) per capita when comparing projections for child wasting in 2020 with and without COVID-19

^v For example, in UNICEF's Eastern and Southern Africa region, nine of 21 countries have reported parallel systems for nutrition information and only six countries include any data on wasting in their existing district health information system (DHIS). Similarly, few countries in Asia are collecting wasting indicators within their broader health information system.³

- » **Limited access to and use of wasting data in health sector decision-making.** A major constraint on strengthening and scaling up wasting services is the lack of access to data—particularly data in user-friendly forms—to inform evidence-based choices by programme planners, budget holders, and other decision-makers. This not only restricts planning but can also perpetuate misconceptions—such as that wasting is only an emergency issue even where wasting is endemic and not necessarily caused by unpredictable circumstances. Also, without data that attribute deaths to wasting, health officials may not see this as a major risk factor for mortality. Further, data and knowledge gaps may limit the extent to which wasting services are included within broader health programmes because this information does not reach decision-makers.

There may be several reasons for this lack of access to important wasting data by decision-makers. First, wasting data (across sources) are often not compiled, analyzed, or interpreted *alongside other health data*, which means that the information stays within the nutrition community. This could be at the facility level, where wasting data is used to monitor performance and admissions but not to inform or strengthen other health services (e.g., strengthening nutritional screening or integrating it into sick child visits or identifying high-risk cases of comorbidities). This is a missed opportunity for facility-level monitoring.

Next, wasting and health data are rarely compiled and displayed in a user-friendly format (such as within data visualization tools) to support broader child health planning and programming at higher administrative levels and to target resources to areas most in need. In some cases, the data appear highly technical, without clear policy or programme planning relevance and applications. Accessible data that is easy to interpret is critical to strengthening the message to decision-makers to prioritize wasting services across health agendas and to ensure their fair share of resources and additional commitments.

From an emergency perspective, it is difficult to predict surges in child wasting without information systems that can provide that information. Multiple early warning systems and surveillance mechanisms may be used to monitor signs of a wasting emergency, but these are often disjointed and can lead to duplicative efforts or delayed responses. Moreover, these systems often work at an aggregated level (e.g., a subnational level), so they may miss smaller, more localized increases in child wasting that can still overwhelm local health facilities. Existing early warning systems rely on prevalence data from surveys, absolute admissions, or child wasting rates. While effective early warning systems for food security, agriculture, and diseases exist, they do not routinely look at wasting co-morbidities (e.g., diarrhea, acute respiratory infections, and malaria) alongside wasting prevalence data, thus possibly delaying early detection of a nutritional emergency. (See the [Emergency Preparedness and Resilience chapter](#) for a related discussion on the CMAM Surge approach and tools to monitor surges in child wasting).

1

2

3



A1

A2

A3


A4

Potential Integration Actions to Address Constraints

Table IS.1 lists potential integration actions that can help address the constraints identified above within the within the information systems component of the health system.

Note: The actions presented here are not recommended in all cases. Each action—or bundle of integration actions across health sector components—must be assessed based on feasibility (cost, political will, system readiness) and the risks and benefits to wasting services and to PHC. Health sector decision-makers must decide which actions are relevant by going through the six-step process described in Part 2.

Table IS.1. Potential Integration Actions to Address Constraints, Information Systems

CONSTRAINT	POTENTIAL INTEGRATION ACTIONS TO ADDRESS CONSTRAINTS	
Limited data availability to monitor and adapt programmes	IS.1.	Collect priority wasting indicators <i>for treatment</i> within existing government-managed health information systems (e.g. DHIS), including integrated data collection tools. Consider the following core set: new admissions, in-treatment, died, recovered, defaulted, non-recovered/non-response, relapse, early discharge, and late discharge
	IS.2.	Collect priority wasting indicators <i>for screening</i> within existing government-managed health information systems, including integrated data collection tools
	IS.3.	Train data personnel on nutrition, and/or, where appropriate, embed nutrition data experts in national or subnational HMIS and statistics departments to help liaise with and train programme teams (nutrition and health), troubleshoot data quality queries, and participate in relevant data/indicator review processes
Limited access to and use of wasting data in health sector decision-making	IS.4.	Compile, analyze, and communicate wasting and health data together in a user-friendly format across facility and community sources (e.g., using data visualization tools such as dashboards or scorecards to interpret trends in service delivery and burden)
	IS.5.	Ensure that wasting data is routinely available to decision-makers who are planning the delivery of health and wasting services at all levels of government (national, subnational, and local)
	IS.6.	Build evidence for the prioritization of wasting services and ensure that it is available to health sector decision-makers at key milestones to advocate for wasting services
	IS.7.EP.	Strengthen linkages between early warning systems and health information systems to help predict and more quickly detect surges in child wasting and mount a rapid emergency response 

 *Emergency preparedness and resilience integration actions*

These actions could bring important benefits, including:

- » **Increased coverage and equity of wasting services**, by improving the communication and use of critical wasting data in the context of other health conditions to improve services and advance the prioritization of wasting so it receives its fair share of resources.
- » **Reduced duplication and increased efficiency**, by integrating wasting indicators within health information systems to leverage existing capacities for real-time access to data, visualization tools, and reporting, and by using data to identify joint programming opportunities for wasting alongside other health services.
- » **Increased sustainability**, by strengthening health sector ownership of wasting data and buy-in for priorities, leading to more comprehensive health responses that consider wasting.

Key considerations: Integrating too quickly or where there is low capacity risks overwhelming the health information system and reducing the quality of the data generated. Modifying the existing health information system to integrate wasting data is a complex process that often takes years and requires careful consideration of needs and functionality (including which wasting indicators to add, based on readiness). In some cases, wasting data collected and reported via parallel structures may be higher in quality than what can be collected through existing government systems. In such cases, health system strengthening is necessary before further integration—for example, to increase the capacity and capabilities of the existing information system to collect and report additional indicators without reducing the quality of existing data. In particular, efforts must be made to improve data quality at the source because individuals who enter the data may lack the time and resources to enter it correctly, or there may be issues with digitizing the data properly or consistently.

For more information on these integration actions, See [Annex 4](#), which provides country examples and further discussion of potential benefits and considerations of feasibility and risks for each action.



Box IS.1. Key Sources of Wasting Data

Although the focus on integrating wasting information mostly relates to adding programme indicators into routine health systems, many sources of wasting data must be available and made accessible for use in health planning and prioritization.

- » **Information systems that routinely monitor wasting service delivery and performance.** These systems collect data on anthropometry, admissions, and performance (including indicators for newly admitted, in treatment, died, recovered, defaulted, non-recovered/non-response, relapsed, and discharged) at programme sites and health facilities where wasting services are provided (including hospitals and stabilization centers that deliver inpatient treatment for wasting with complications and health centers that provide outpatient therapeutic treatment and targeted supplementary feeding programmes for wasting with no complications). Wasting indicators are increasingly being added to broader health information systems, which means that wasting service performance data are integrated with other child health data. However, governments may still maintain separate routine information systems for wasting data. Data from screening through community outreach may be collected but are rarely complete or aggregated with health facility data. Certain indicators (e.g., new admissions) can be used as proxies for monitoring coverage.⁴
- » **Population-based health and nutrition surveys.** These are used to examine the prevalence of wasting at the national or subnational level. Many countries conduct national Demographic Health Survey (DHS)⁵ or Multiple Indicator Cluster Survey (MICS)⁶ every three to five years, collecting and reporting nutrition data alongside health data. Some countries conduct national and/or subnational nutrition surveys annually or biannually to track wasting prevalence more frequently, using Standardized Monitoring and Assessment of Relief and Transitions (SMART)^{vi} or similar methodologies. Subnational surveys are also implemented by governments and partners to examine baseline levels of wasting and changes over time in specific intervention target areas.⁴ Data on prevalence, along with population data, are used to estimate the burden of wasting and predict treatment needs over time.
- » **Wasting treatment coverage surveys.** These use methods that include Centric Systematic Area Sampling (CSAS), Semi-Quantitative Evaluation of Access and Coverage (SQUEAC), Simplified LQAS Evaluation of Access and Coverage (SLEAC), and Simple Spatial Sampling Method (S3M)^{vii} to understand gaps in CMAM programming, bottlenecks, and barriers to accessing treatment.⁵ Sometimes they compile wasting data from other sources, such as population-based surveys for prevalence or routine information systems for monitoring wasting service delivery and performance. While the surveys can provide helpful information, they tend to be resource-intensive, complex, and difficult to conduct beyond the regional or local level.⁷
- » **Early warning systems.** These can provide important, accurate, and timely data regarding a country's food security and nutritional situation to help predict when an emergency might occur so decision-makers (e.g., within the government and the Global Nutrition Cluster) can initiate a rapid and informed response to address increases in wasting. While these systems should be government-led and build on existing information systems, they usually require support from external partners. Many early warning systems that are relevant to wasting exist, including the Integrated Food Security Phase Classification, Early Action Early Warning systems, CMAM Surge dashboards, and other country-specific surveillance systems for wasting (which are relatively rare and costly).

Read more about nutrition information systems: Nutrition Information System Country Guide (forthcoming November 2021)

Read more about nutrition information in routine reporting systems: [UNICEF's Eastern and Southern Africa Region landscape analysis of nutrition information in routine systems, 2020](#)

Read more about standardizing routine data indicators for wasting: UNICEF's Routine Data for Nutrition: Development of a Core Standardized Set of Nutrition Data Indicator (forthcoming November 2021)

Read more about early warning information systems: [Early Warning Hub tool](#)

Read more about possible integration into the WHO Early Warning Alert and Response Network (EWARN): [Early warning alert and response network in emergencies: evaluation protocol, 2018](#)

Additional Resources



^{vi} SMART surveys use simplified and standardized methods to measure the severity and magnitude of a public health situation, including but not limited to a population's nutritional status.

^{vii} CSAS was developed in 2002 for community therapeutic care (CTC) research using a two-stage sampling design for overall and local coverage estimates as well as a ranked list of barriers. Although for a time it was used for programme monitoring, it ultimately was determined too resource intensive and its methods were adapted. S3M was derived from the CSAS method that provides better spatial resolution over wide areas with lower sampling costs. SQUEAC is a semi-quantitative method that provides in-depth analysis of barriers and boosters to coverage. SLEAC is a rapid, low-resource survey method that classifies coverage at the service delivery unit level (such as the district) as low, moderate, or high.

References

1. Headey D, Heidkamp R, Osendarp S, et al. Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality. *The Lancet*. 2020;396(10250):519-521. doi:10.1016/S0140-6736(20)31647-0
2. UNICEF/WHO/The World Bank Group joint child malnutrition estimates: levels and trends in child malnutrition: key findings of the 2021 edition. Accessed June 14, 2021. <https://www.who.int/publications-detail-redirect/9789240025257>
3. *NUTRITION INFORMATION IN ROUTINE REPORTING SYSTEMS: A Landscape Analysis for UNICEF's Eastern and Southern Africa Region*. UNICEF; 2020.
4. Routine Data for Nutrition: Development of a Core Standardized Set of Nutrition Data Indicators - SAM/MAM Programmes. Published online (unpublished).
5. *The DHS Program - Research and Further Analysis*.; 2020. Accessed January 14, 2021. <https://dhsprogram.com/research/index.cfm>
6. Multiple Indicator Cluster Survey (MICS). UNICEF. Accessed January 14, 2021. https://www.unicef.org/statistics/index_24302.html
7. *Management of Severe Acute Malnutrition: Working Towards Results at Scale*. UNICEF; 2015.

1

2

3



A1

A2

A3

A4



Sustainable Financing

Despite progress in scaling up wasting services over the past 20 years, only one in three children with wasting receive treatment largely because current financing is insufficient to meet the need—both for RUTF and for operational costs.¹ The shift to more integrated and sustainable financing for wasting services will look different depending on the country context, programme goals and priorities, major programme constraints, and feasibility. For instance, variation in financial systems, budgetary processes, and levels of decentralization will affect which integration actions make the most sense in which contexts. Integration must also be considered in the context of the broader movement toward universal coverage of essential health services and the accompanying changes in health financing. In particular, social health insurance is playing a larger role in health financing in many countries and represents a more holistic and sustainable option for funding wasting services as part of broader UHC initiatives.

There is wide variation in how wasting programmes are currently funded. [Figure SF.1](#) shows possible sources of financing for wasting programmes in relative order of integration (with simplifications). Humanitarian aid is generally seen as less sustainable than development aid because it is usually shorter-term and less predictable, and it is often channeled to implementing partners rather than governments (which often corresponds with funding being channeled to siloed wasting programmes versus integrated programmes). Development aid may have longer-term emphasis on system strengthening, though this is still variable in practice, and it can be channeled either directly to government systems (e.g., on-budget) or to external partners (e.g., off-budget to NGOs or UN agencies). Development aid can also be earmarked for wasting services only or come in the form of budget support, where country governments take the lead in deciding how it is used.

Domestic financing can be viewed as the most integrated and sustainable form of funding. However, many countries are a long way from financing wasting services exclusively from domestic sources due to limited fiscal space, competing priorities, and other factors that influence budget holders' decisions on where to direct funds. As illustrated in [Figure SF.1](#), there are many intermediate forms of financing that countries and their partners can use to make financing for wasting services more integrated, and financial sustainability does not have to mean transitioning to complete reliance on domestic resources if other sources of financing are reasonably assured and predictable (see [Box SF.1](#)).

Additional Resources



Read more about domestic resource mobilization: [USAID Domestic Resource Mobilization tools and resources, 2019](#) and [On the Journey to Self-Reliance: Transitioning Nutrition Financing from USAID to Domestic Resources, 2020](#)

Read more about the financing landscape for wasting services: [World Bank Investment Framework for Nutrition, 2017](#) and [Tracking aid for the WHA nutrition targets: Progress toward the global nutrition goals between 2015 to 2019, 2021](#)

Read more about the cost-effectiveness of wasting services: [Cost-efficiency and Cost-effectiveness of the Management of Wasting in Children: A review of the evidence, approaches, and lessons, 2021](#)

1

2

3



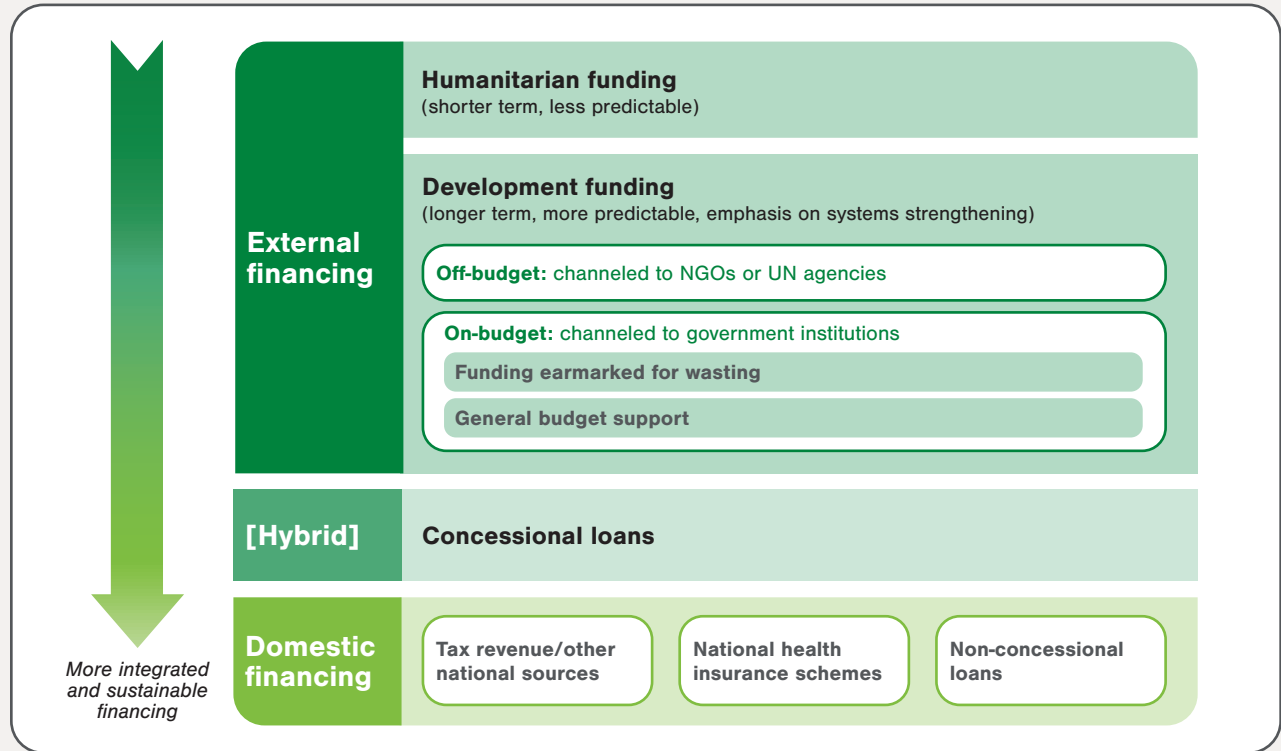
A1

A2

A3

A4

Figure SF.1.
Sources of Financing and Relative Level of Integration



Common Constraints to Achieving Programme Goals for Wasting

The following are common constraints to achieving programme goals for the early detection and treatment of child wasting within the sustainable financing component of the health system.

- » **Insufficient funding to meet the need.** Wasting treatment has been shown to be cost-effective and can provide a strong return on investment.^{2,3} The global Investment Framework for Nutrition has estimated that scaling up treatment to 90% coverage would cost US\$910 million annually, which over 10 years would save 860,000 lives.⁴ Each dollar invested would result in US\$4 in economic benefits.⁴ While financing data for wasting services are limited, existing information on nutrition-specific funding (which includes wasting services) suggests that progress to reach global financing goals has been slow and the financing gap remains large. For countries, domestic financing for nutritional deficiencies based on System of Health Accounts data generally plateaued between 2015 and 2017, although many countries have seen decreases.⁵ For donors, while overall donor disbursements to nutrition-specific interventions increased between 2015 and 2019, the financing gap is about US\$900 million and increasing.⁶

With many countries facing massive gaps in wasting treatment coverage, funding from both domestic and external sources is insufficient to meet the need for scaling up services.¹ Many countries rely heavily on external funding to support major programme costs (such as RUTF and transportation costs, training and management, community outreach, and measurement and evaluation), and limited fiscal space makes large increases in domestic funding challenging in the short run. At the same time, domestic contributions to the broader health system (including for the health workforce and facilities) represent significant investments to ensure integrated delivery of services, even if these expenditures are not tied specifically to wasting services.

Additional Resources



Read more about tools for costing wasting programmes: [OneHealth costing tool](#) and [FANTA CMAM Costing Tool](#)

Read more about lessons learned from South Africa on [HIV Financing Integration: Policy Scenarios and Feasibility Analysis \(R4D, 2017\)](#)

- » **Unsustainable reliance on external funding, typically in the form of humanitarian support.** Many countries rely heavily on donor financing to fund wasting services, including both RUTF and operational costs. Donor disbursements to wasting services have increased significantly, from US\$258 million in 2015 to US\$507 million in 2019. In 2019, more than half of this funding (54%) came in the form of humanitarian support which, as mentioned earlier, is often short-term, off-budget, and difficult to predict. Additionally, in 2019, only 18% of all donor disbursements to wasting services were channeled directly to public-sector institutions, with the vast majority channeled to multilateral organizations (45%), NGOs (26%), and other institutions (11%).⁶ While in some cases it is not possible to channel external aid directly to country governments (e.g., due to donor policies or risk of corruption), the lack of government insight into and control over financing flows leads to reduced country ownership of programmes and coordination challenges across donors (see [Leadership & Governance](#) for prioritization of wasting within UHC decisions). It also is not conducive to strengthening public financial management systems in general. Due to the reliance on external support, many wasting services are not considered financially sustainable and are at risk of programme interruption when external support stops or slows. Countries that are growing economically and are transitioning health financing away from donor support are at particularly high risk of programme interruption because they face hard decisions on which competing health priorities to fund alongside donor funding cliffs.⁷

In anticipation of surges in child wasting (whether they are predictable due to seasonality or unpredictable due to emergency crises), financial planning at the local, subnational, and national levels for surges in child wasting is critical to mitigate programme disruption and build health system resilience. This will eventually allow countries to further transition away from reliance on external humanitarian aid. It is important for countries to outline specific financing needs related to the delivery of wasting services within emergency response plans across levels of government. However, this rarely happens because it is often difficult to anticipate the extent of surges in child wasting and associated funding requirements without adequate information systems that provide this data. Lessons learned on flexible and rapid budgeting within emergency response planning can be drawn from the COVID-19 pandemic (see [Box SF.2](#). below).

- » **Fragmented funding channels that lead to inefficiencies in how funding is used.** In many countries, the financing landscape is fragmented, with several donors and implementing partners operating in a single geography, often without systems in place to track funding or coordinate programmes. Without these data, and when most funding is off-budget (i.e., channeled directly to NGOs without a way to track funding), governments do not have a comprehensive view of resources committed or disbursed for wasting services. This may lead to inefficient use of resources because without these data it is difficult to coordinate partners or target domestic resources to areas most in need.

Annual planning and budgeting processes may not have the data required to adequately assess the need (e.g., based on wasting burden, coverage gaps, RUTF need, and financing gaps), and data gaps could make key planning processes difficult or inefficient (e.g., unit cost, cost vs. benefits, return on investment data for cost estimation and prioritization exercises). Wasting burden can also vary considerably from season to season or year to year, even in places where much of the wasting burden can be considered endemic. This means that funding requirements can vary as well. While this makes financial planning more challenging, planning for surges in child wasting is critical to mitigate the disruption of services, build health system resilience, and, eventually, transition away from reliance on external humanitarian aid. This planning should include both relatively predictable surges and unpredictable emergencies that may require broader national emergency response support (see [Box SF.2](#)). Accurately costing wasting services requires strong information systems to inform national planning and resource allocation (see the [Information Systems](#) and [Leadership and Governance](#) chapters).

Additionally, in many countries, wasting and nutrition services are often planned, budgeted for, and funded separately from other child health programmes, which leads to an inefficient system that also misses potentially important opportunities for joint planning across health services and programmes (e.g., to fund the inclusion of screening within additional community health programmes and immunization programmes; see the [Service Delivery](#) chapter for example integration actions that could be identified or considered via joint planning).

Despite the general recognition that wasting services are essential for children under age 5 and strong evidence on the cost-effectiveness of wasting services (and other nutrition services), these services may not be included in UHC financing strategies. Funding for wasting may be excluded from purchasing mechanisms and strategies that are used for other essential health services. This could mean that wasting services are not defined or included within existing benefit packages or may not be adequately incentivized within health system purchasing mechanisms.





Potential Integration Actions to Address Constraints

Table SF.1 lists potential integration actions that can help address the constraints identified above within the within the sustainable financing component of the health system.

Note: The actions presented here are not recommended in all cases. Each action—or bundle of integration actions across health sector components—must be assessed based on feasibility (cost, political will, system readiness) and the risks and benefits to wasting services and to PHC. Health sector decision-makers must decide which actions are relevant by going through the six-step process described in Part 2.

Table SF.1. Potential Integration Actions to Address Constraints, Sustainable Financing

CONSTRAINT	POTENTIAL INTEGRATION ACTIONS TO ADDRESS CONSTRAINTS	
Insufficient funding	Revenue raising	SF.1. Increase domestic resource allocation to wasting services by ensuring adequate prioritization in health sector budgets commensurate with need (donors may provide incentives through co-financing agreements or matching schemes)
		SF.2. Mobilize new domestic resources for wasting services to gain a net increase in overall health sector funding (e.g., through tax reform or innovative financing mechanisms)
		SF.3. Increase donor funding for longer-term system strengthening, shifting away from shorter-term humanitarian funding for wasting services
		SF.4. Increase domestic contribution to wasting services by using concessional loans and grants (e.g., from the World Bank and regional development banks)
Unsustainable, fragmented, and inefficient funding	Pooling	SF.5. Shift from off-budget, external funding to donor funding channeled through government budgets and financial systems
	Public financial management	SF.6. Include costed plans for wasting services within the annual health planning and budgeting process
		SF.7. Track on- and off-budget funding for wasting services in accordance with targets established in national plans
		SF.8. EP. Ensure that costed emergency response plans for wasting services are included in subnational health plans and local budgets 
		SF.9. EP. Review processes for quickly reallocating funding to respond to surges in child wasting and develop an emergency funding plan 
	Strategic purchasing	SF.10. Clearly specify and define the provision of wasting services in the existing national insurance benefit package
		SF.11. Review provider payment mechanisms (e.g., fee-for service, capitation) to identify ways to incentivize provision of wasting services
		SF.12. Leverage performance-based financing to incentivize wasting services
		SF.13. Explore demand-side incentives (e.g., household conditional cash transfers and vouchers) to incentivize wasting services

 *Emergency preparedness and resilience integration actions*

Note: While the specific programme costs of integrating wasting treatment into routine health services will vary by context, a key assumption is that costing and budgeting for integrated actions will happen within relevant programme budgets and not necessarily as a separate “wasting budget” or “nutrition budget.”

These actions could bring important benefits, including:

- » **Increased coverage and equity of wasting services**, through increased domestic and development funding directed toward scaling up wasting services to help close the coverage gap and improve the quality of services.
- » **Increased efficiency and reduced costs**, by shifting to longer-term and more predictable funding sources and thereby increasing the ability to make multi-year plans and by pooling wasting funding to reduce fragmentation and identify programme synergies.
- » **Increased sustainability**, by shifting away from shorter-term, off-budget donor aid and increasing domestic contribution to wasting services, and by strengthening public financial management for wasting services.

Key considerations: Integrating too quickly or where there is low capacity runs the risk of overwhelming the public financial management system and negatively impacting the availability of financing for essential health and nutrition services. Country governments have limited fiscal space alongside competing health priorities, meaning that increasing domestic funding to wasting services could likely result in reduced funding to another health service. Health system strengthening might be necessary prior to further integration in some cases, for example, to strengthen the capacity of government systems to manage external funding.

For more information on these integration actions, See [Annex 4](#), which provides country examples and further discussion of potential benefits and considerations of feasibility and risks for each action.



Key Financing Definitions⁸

- » **Revenue raising:** collection of funding from all domestic and external sources
- » **Pooling:** accumulation and management of all revenues to distribute risk across members of the health system
- » **Public financial management:** costing, budgeting, resource allocation, and resource tracking
- » **Strategic purchasing:** linking the transfer of funds to providers based on performance and/or population data
- » **Supply-side incentives:**⁹ encouraging health care providers to deliver care and improve quality of care at the facility level (e.g., performance-based financing)
- » **Demand-side incentives:** encouraging patients to seek care (e.g., through conditional cash transfers)

Additional Resources



Read more about health financing: [WHO Health financing webpage](#)

Box SF.1. Financial Sustainability and the Gavi Model

In general terms, sustainability can be defined as the ability to continue a programme as long as it is needed. Adequate funding over the long term, or financial sustainability, is one part of this; lasting political commitment, public acceptance, and adequate supplies of other resources are also necessary. Financial sustainability does not have to include transitioning to complete reliance on domestic resources, as long as the other sources of financing are reasonably assured and predictable. Gavi, which has a particularly well-developed policy on financial sustainability and transitioning to domestic resources, accepts that the poorest countries will continue to need Gavi support for many years. It ties phase-out of assistance to countries' ability to pay more as their economy grows. From this perspective, moving to longer-term, more predictable sources of international financing for wasting treatment can be considered a step toward greater sustainability, alongside greater domestic contribution.

Gavi also offers a compelling model for transparent, predictable international subsidizing of a vital health commodity. Since Gavi is the main channel for subsidizing vaccines, and since all countries below the specified income threshold are eligible, countries can know what they would have to pay to introduce a vaccine and how their obligation would change as their economy and capacity to pay grow. Similarly, vaccine manufacturers can have confidence that Gavi support will keep markets for their products stable.



Box SF.2. How Lessons Learned from COVID-19 Can Inform Financial Planning for Wasting During Emergencies

Emergencies often require significant funding to adequately respond to the increased needs of the population. The COVID-19 pandemic demonstrated the need for flexibility within national budgets to effectively respond to emergencies. While the burden of wasting is considered endemic in many high-burden countries, national planning and budgeting processes should still factor in frequent surges in child wasting in emergency-prone contexts.

Key lessons learned from COVID-19 include:

- » **What immediate spending actions can be taken with existing budgets?** Governments should start by using existing budgetary flexibility and exceptional spending procedures to fund first measures. In countries with a high wasting burden that are prone to emergencies and/or seasonal surges, the government could consider building wasting-specific actions into existing national emergency response plans to enable flexible budget allocations.
- » **How can new funding be secured for emergencies through revision of financial laws?** In many contexts, revising financial laws and developing supplementary budgets can involve a lengthy process, so mechanisms should be in place to accelerate this process during emergencies and allocate new funding based on need. Earmarking is a common and effective way to direct funds toward identified priorities—such as to wasting services—but safeguards should be in place to ensure that earmarking does not compromise the delivery of other essential health services. In the case of wasting services, which rely heavily on external funding sources, donors should build flexibility into their award processes so they can shift resources to complement national emergency response plans. Measures should be taken to maintain flexibility in how funds are allocated based on changing needs at the local level.
- » **What can be done to accelerate budget execution and release of funds to the front lines?** In emergencies, central governments should consider delegating health care spending authority to subnational governments and purchasers to increase budget allocations according to need. While emergency allocations should be flexible enough to direct funds to frontline service providers quickly and give them a level of autonomy, it is essential to establish accountability measures and invest in tracking of emergency expenditure from both domestic and external sources to inform decision-making. In the past, when wasting programmes were run exclusively as emergency programmes, funding and data were managed externally. As wasting services become more integrated into the routine health system, governments and partners should avoid creating parallel systems and instead work to complement and strengthen existing systems. Given the reliance on donor funding for wasting services, governments and partners should prioritize coordination and transparency of emergency funding for wasting services to facilitate a smooth transition post-emergency and encourage re-establishing of service delivery through the routine health system.

Additional Resources



Read more about financing considerations during emergencies: [How to budget for COVID-19 response?, 2020](#)

Read more about COVID-19 and impacts on nutritional programmes generally: [COVID-19 and nutrition programming, 2021](#) and [Nutrition Information Management, Surveillance and Monitoring in the Context of COVID-19, 2020](#)

References

1. World Health Organization. Global Action Plan on Child Wasting: A Framework for Action to Accelerate Progress in Preventing and Managing Child Wasting and the Achievement of the Sustainable Development Goals. WHO Nutrition and Food Safety; 2020. <https://www.who.int/publications/m/item/global-action-plan-on-child-wasting-a-framework-for-action>
2. Keats EC, Das JK, Salam RA, et al. Effective interventions to address maternal and child malnutrition: an update of the evidence. *The Lancet Child & Adolescent Health*. 2021;5(5):367-384. doi:10.1016/S2352-4642(20)30274-1
3. Chui J, Donnelly A, Cichon B, Mayberry A, Keane E. The Cost-Efficiency and Cost-Effectiveness of the Management of Wasting in Children: A Review of the Evidence, Approaches, and Lessons. Save the Children UK, ACF; 2020. Accessed October 20, 2020. <https://resourcecentre.savethechildren.net/library/cost-efficiency-and-cost-effectiveness-management-wasting-children-review-evidence>
4. Shekar M, Kakietek J, Dayton Eberwein J, Walters D. An Investment Framework for Nutrition: Reaching the Global Targets for Stunting, Anemia, Breastfeeding and Wasting. World Bank Group; 2017. doi:10.1596/25292
5. D'Alimonte M, Clift J. As the pandemic shrinks fiscal space, will governments prioritize nutrition funding? *Results for Development*. Published July 28, 2020. Accessed June 10, 2021. <https://r4d.org/blog/as-the-pandemic-shrinks-fiscal-space-will-governments-prioritize-nutrition-funding/>
6. Results for Development. Tracking Aid for the WHA Nutrition Targets: Progress toward the Global Nutrition Goals between 2015-2019.; 2021.
7. Glassman A, Keller JM, Datema B, Kaufman J. Takeaways from Emerging Research and Policy Implications for Aid Transition in Health and Development.; 2019:11.
8. Mathauer I, Dale E, Meessen B. Strategic Purchasing for UHC: Key Policy Issues and Questions
9. Wagstaff A. Financial incentives in health: the magic bullet we were hoping for? *World Bank Blogs*. Accessed June 16, 2021. <https://blogs.worldbank.org/developmenttalk/financial-incentives-health-magic-bullet-we-were-hoping>
10. Barroy H, Wang D, Prescetto C, Kutzin J. How to Budget for COVID-19 Response?; 2020. Accessed June 11, 2021. <https://www.who.int/publications/m/item/how-to-budget-for-covid-19-response>

1

2

3



A1

A2

A3

A4



RUTF Supply

Note: The supplies needed for treating severe wasting include RUTF, therapeutic milks (F75/F100), a special form of oral rehydration solution (ReSoMal), antibiotics, Vitamin A, and deworming tablets. This guide focuses on RUTF, which is the most important commodity for wasting programmes, functionally and by volume and cost. If the supply chain can adequately manage RUTF, it likely has the capacity to manage other wasting commodities as well. All wasting commodities are important, however, and efforts to integrate RUTF supply should go hand in hand with—and contribute to—broader supply chain strengthening.¹

Many countries have made significant progress in integrating wasting services into routine PHC services. But wide variation exists in how supply chains function and are configured, with many partially integrated configurations such as when the national medicines supply agency assumes responsibility for some segments of the supply chain while UNICEF and NGOs retain a large role in other segments (see [Figure RS.1](#)). In many countries, the supply chain for RUTF was initially established by UNICEF and international NGOs, often in the context of humanitarian emergencies. Such supply chains were typically separate from (or ran parallel to) national supply chains for medicines and health products. In some countries, the supply chain is still largely managed by UNICEF country offices and other partners, but in other countries responsibility for various elements has been partially or completely assumed by the government. Where this transfer has taken place, RUTF is generally handled along with medicines and other health products by the national medical stores or equivalent agency.

Other health commodity supply chains that started with parallel distribution during emergency contexts have been integrated into national medicines supply chains over time. Lessons from the integration of supply chains for Global Fund to Fight AIDS, Tuberculosis and Malaria commodities, family planning commodities, and vaccine supply chains show that when the capacity of the national supply chain is insufficient, pursuing partial integration and optimization within the existing supply chain configuration may be the best option to ensure the timely delivery of essential products (see [Box RS.1](#)).^{1,2,3}

The approach to shifting to more integrated supply chains will look different depending on the country context, programme goals and priorities, major programme constraints, and feasibility. In addition to the limitations of the broader national system (e.g., limited human capacity, infrastructure, and transportation to hard-to-reach regions), some challenges are unique to specialized nutrition products to treat wasting, including the bulk and volume of the commodity, difficulty predicting the need due to seasonal and emergency surges, and misuse of the product.⁴ It is important to stress that integration of the RUTF supply chain may not mean that all activities are carried out by the government. In some circumstances, the government may choose to outsource some functions (e.g., storage and distribution) to the private sector but still oversee and/or manage these operations and continue to consider them part of the national supply chain. Countries that are considering programme adaptations to simplify wasting service delivery (for example, by reducing the dosage of RUTF in the treatment protocol or by using one product for wasting; see [Box SD.2](#)), should consider the impact of changing requirements for RUTF supply when developing integration plans.

Additional Resources



Read more about how RUTF stockouts can constrain wasting programmes: [Ready-to-use Therapeutic Food \(RUTF\) Scoping Study, 2020](#)

1

2

3



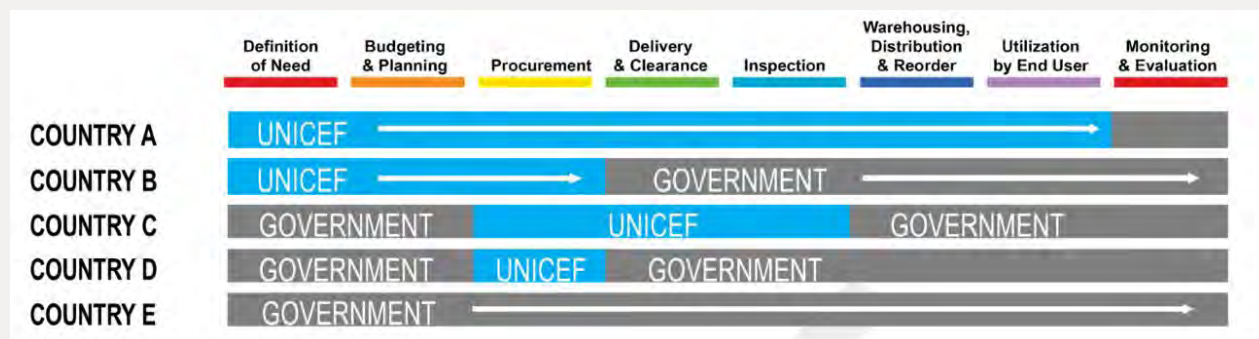
A1

A2

A3

A4

Figure RS.1.
Example Configurations of Supply Chain Integration



Source: *Nutritional Supply Chain Integration Workshop: Experiences from East and Southern Africa*, UNICEF ESARO (Nettey & Moloney, 2019)

Common Constraints to Achieving Programme Goals for Wasting

The following are common constraints to achieving programme goals for the early detection and treatment of child wasting within the RUTF supply component of the health system. Stockouts of RUTF are a critical constraint that significantly limits treatment coverage in several countries. For example, the percentage of health facilities with stockouts were as high as 82% in Chad (2018) and 85% in Tanzania (2014).^{5,6} Factors that contribute to stockouts include under-prioritization of RUTF as an essential commodity, inefficient RUTF supply chains and weak last-mile distribution, and limited ability to predict and plan RUTF needs at the subnational and health facility levels. The occurrence and magnitude of stockouts at health facilities are critical measures of supply chain performance, but in most places these data are not collected routinely.

Stockouts can have several causes, including:

- » **Under-prioritization of RUTF as an essential commodity.** RUTF is often seen as an external product and is not considered an essential commodity for child health programmes. As such, it is often excluded from national budgeting and planning processes for essential health commodities, thereby limiting coordination and resulting in costly and duplicative structures that hinder long-term sustainability. Fragmented ownership of RUTF in the supply chain can reinforce a sense that the products are “external” and result in RUTF being under-prioritized within domestic budgets and routine programmes, often remaining highly dependent on external funding to pay for RUTF (see the [Sustainable Financing](#) chapter).
- » **Inefficient RUTF supply chain and weak last-mile distribution.** The existence of parallel processes for RUTF at various points in the supply chain can create inefficiencies and duplication of effort. While these parallel processes are sometimes justified, such as when the national supply chain has limited capacity, especially during emergencies, this is not ideal in the long term for commodities that need to be supplied routinely as part of the national package of essential services. Given the fragmented ownership of RUTF across different levels and supply chain functions, many countries face storage and distribution challenges at the subnational level, especially last-mile distribution to health facilities. In emergency contexts with vertical programming, these functions are often managed by external partners and there is limited budgeting, planning, and coordination for transport at the subnational level.
- » **Limited ability to predict and plan for RUTF needs at the subnational and health facility levels.** The need for RUTF is often not adequately defined or forecasted at the subnational level (e.g., based on wasting burden) due to reasons that may include data gaps and capacity constraints. As a result, high-need areas may not receive their required share of RUTF or lower-need areas may receive more than they need, contributing to inefficiencies and waste (when products expire). Depending on how supply chain functions are structured (see [Figure RS.1](#)), fragmented ownership of RUTF can lead to weak accountability for RUTF management and an unclear process for addressing stockouts at the facility level. This can be further exacerbated at the health facility level, where RUTF is often managed by nutrition staff that operate parallel to existing staff that are trained to manage logistics, inventory, and stock (e.g., pharmacists and logistics managers).

In addition, data chains for monitoring RUTF stock may be weak and may operate outside of the national logistics management information systems (LMIS), which can hinder coordination between facility-level data and central-level planning and distribution. These data gaps limit the accuracy of forecasts of how much RUTF is needed and where, especially during emergencies.

- » **Inadequate planning for and pre-positioning^{viii} of RUTF stock in anticipation of surges, whether during predictable seasonal peaks or full-blown emergencies.** Broader emergency response plans rarely give sufficient consideration to RUTF or commodities for managing wasting in emergencies. At the same time, supply management systems rarely facilitate the sharing of RUTF and other supplies between health facilities to help prevent stockouts, and they rarely have mechanisms for tracking shared or loaned supplies. This lack of flexibility within the supply chain is often due to donor and project reporting requirements. Challenges with supply monitoring may become increasingly complex in the context of the combined treatment of severe and moderate wasting under one protocol (see [Box SD.2](#)) in the absence of adequate planning (such as for assessment of RUTF and RUSF stock for use in the event of a stockout

Additional Resources



Read more about implementing End User Monitoring for RUTF: [Routine Monitoring of the Availability and Use of RUTF at the Last Mile, 2018](#)


Read more about cost savings from pre-positioning buffer stock: [An analysis of dry season pre-positioning of critical supplies in South Sudan, 2018](#)

Potential Integration Actions to Address Constraints

Table RS.1 lists potential integration actions that can help address the constraints identified above within the within the RUTF supply component of the health system.

Note: The actions presented here are not recommended in all cases. Each action—or bundle of integration actions across health sector components—must be assessed based on feasibility (cost, political will, system readiness) and the risks and benefits to wasting services and to PHC. Health sector decision-makers must decide which actions are relevant by going through the six-step process described in Part 2.

Table RS.1. Potential Integration Actions to Address Constraints, RUTF Supply

CONSTRAINT		POTENTIAL INTEGRATION ACTIONS TO ADDRESS CONSTRAINTS	
Limited availability of RUTF (stockouts)	Under-prioritization of RUTF as an essential commodity	RS.1.	Include RUTF in national prioritization processes for essential commodities (e.g., national essential medicines list)
		RS.2.	Include RUTF in existing national and subnational budgeting and planning processes for essential commodities
		RS.3.	Include RUTF in national procurement management processes alongside other essential commodities, including services contracted by the government
	Inefficient RUTF supply chain and weak last-mile distribution	RS.4.	Transfer the management of RUTF storage and distribution to the national supply chain according to readiness at each level of the system (national, subnational, local), including services contracted by the government
		RS.5.	Use RUTF inventory and consumption data to plan for needs (demand forecasting) and coordinate the distribution of RUTF to health facilities with existing schedules for other essential commodities when appropriate
		RS.6.	Budget for last-mile distribution in subnational plans, including transportation costs and buffer stock positioning
	Limited ability to predict and plan for RUTF needs at subnational and health facility levels	RS.7.	Include RUTF in the national logistics management information system (LMIS) that is used to forecast and communicate commodity needs across all levels of the supply chain
		RS.8.	Ensure that RUTF stock is managed by staff who are trained in logistics and inventory management at the subnational level (e.g., pharmacists, logistics managers, etc.)
		RS.9.EP.	Develop emergency response plans to ensure the availability of RUTF during surges in child wasting (e.g., buffer stock and funds designated for emergency transport) 

 *Emergency preparedness and resilience integration actions*

^{viii} Pre-positioning inventory is the process of strategically stockpiling essential commodities in key locations *before* an emergency to increase the responsiveness, especially for emergency-prone and hard-to-reach contexts (e.g., procuring and distributing several months' supply of RUTF in a regional hub prior to rainy season). While this process requires coordination and additional funding upfront to procure the commodities, this can offset the high cost of procuring *during* an emergency, when there are often price spikes throughout the global market and supply chain. Pre-positioning is an important consideration for the supply chain to mitigate stockouts and increase the availability of RUTF. Due to the short shelf life and high cost of RUTF, it is important that pre-positioning of buffer stock is determined by health facility data to target the contexts with the greatest need and reduce waste or leakage of RUTF.⁷

These actions could bring important benefits, including:

- » **Increased coverage and equity of wasting services**, through increased funding for RUTF and reduction in stockouts.
- » **Increased efficiency and reduced costs**, through integration of RUTF into the national medicines supply chain, which could reduce costs for the health system as a whole and increase efficiency by reducing duplicative structures.
- » **Increased sustainability**, by transferring the RUTF supply chain to the national supply chain either partially or fully, which can increase government ownership and prioritization of RUTF as an essential commodity, leading to funding in domestic budgets and other, more sustainable funding sources.

Key considerations: Integrating too quickly or where there is low capacity runs the risk of overwhelming the national supply chain and reducing the ability to deliver RUTF and other essential commodities, making them less available. Due to the unique management requirements of RUTF (including volume, bulk, and pests), national supply chains may need to invest in new storage facilities and distribution mechanisms, which can have high startup and maintenance costs. In some cases, it may be more cost-effective for the government to contract with the private sector for some or all functions, depending on capacity. When the risk of disruption is too great, it might be necessary to first optimize the RUTF supply chain in its current configuration while strengthening the national system.

For more information on these integration actions, See [Annex 4](#), which provides country examples and further discussion of potential benefits and considerations of feasibility and risks for each action.



Box RS.1. Integration of Parallel Supply Chains for Global Fund Products

Parallel supply chains have often been created to respond to emergencies and to support new health programmes when existing supply chains have insufficient capacity or function poorly. This was often the case with family planning programmes and, more recently, HIV and malaria programmes when these were scaled up with external funding in the first decade of the 21st century. More recently, however, many countries have strengthened their national supply chains and have integrated some of these parallel systems. In the case of HIV and malaria programmes, this integration has been supported by the Global Fund.

The Global Fund has developed a set of minimum standards to determine whether a supply chain has sufficient capacity to manage Global Fund supplies. If a country does not meet the standards, it is eligible to receive Global Fund support for supply chain strengthening; once the standards are met, the supply chain is typically integrated.¹ For example, since 2015 the Global Fund and the UK Department for International Development (DFID) have invested US\$20 million to support supply chain integration for vertical programmes in Nigeria.⁸ The Global Fund also supports supply chain strengthening in eight countries through Project Last Mile, a partnership with the Bill & Melinda Gates Foundation, USAID, and the Coca-Cola Foundation.⁹

The following are examples of partial integration across supply chain elements for Global Fund products:¹

- » **Kenya and Ethiopia:** Global Fund products are procured by the national central medical stores (CMS).
- » **Madagascar and Malawi:** Storage and distribution of Global Fund products are managed by the national CMS.
- » **Democratic Republic of the Congo:** Global Fund programmes use provincial storage facilities that are part of the regular supply chain.
- » **Rwanda:** The government has refused parallel supply chains from the start, and the national supply chain has been used for all Global Fund products.

The experience with integration of Global Fund products in particular countries could yield useful lessons for integration of RUTF supply chains in those same countries.



Box RS.2. UNICEF Supply Chain Maturity Model

UNICEF's Supply Chain Maturity Model helps countries assess the readiness of their national supply chain using a participatory process. [Figure RS.2](#) below provides an overview of the five stages of supply chain maturity. Countries can determine which stage they are in using a detailed scorecard for each element of the system. They can then use this assessment to inform supply chain integration planning and determine which areas of the supply chain are ready to manage RUTF and which need further strengthening.

As of June 2021, the tool had been used by 21 countries.

Figure RS.2.
UNICEF Supply Chain Maturity Model

Five stages of supply chain maturity				
Level 1: Ad-hoc	Level 2: Roadmap	Level 3: Improved	Level 4: Optimized	Level 5: Sustainable
Supply chain is at basic level of operation and performance	Projects to address identified gaps and weaknesses are planned, deployed and controlled	Improved strategic and tactical efficiencies are observed across all areas of the SC with an emphasis on capacity development	Organisation is managing an evidence-driven supply chain aligned to the target and achievements of the government in the areas of health, nutrition, and education	Organisation is capable of maintaining achieved levels of performance through technical and financial independence resulting in universal coverage, access, and high levels of equity for all.

Example scorecard:

Enablers	People and Practices	1	2	3	4	5
	Data for Management	1	2	3	4	5
	System Design	1	2	3	4	5
	Financing & Domestic Resource Mobilization	1	2	3	4	5
	Policies & Regulatory Framework	1	2	3	4	5
Operations	Definition of Need	1	2	3	4	5
	Budgeting & Planning	1	2	3	4	5
	Procurement	1	2	3	4	5
	Delivery & Clearance	1	2	3	4	5
	Inspection	1	2	3	4	5
	Warehousing, Distribution & Reorder	1	2	3	4	5
	Utilization by End User	1	2	3	4	5
Monitoring & Evaluation	1	2	3	4	5	

Source: UNICEF Supply Division's Public Supply Chain Maturity Model

Additional Resources



Read more about UNICEF's supply chain resources: [UNICEF Supply Chain Maturity Model](#)

References

1. Vreeke E, Jille-Traas I, Verhage R. *Unicef Nutritional Supply Chain Integration Study Volumes I-III*. hera; 2015.
2. Yadav P, Lydon P, Oswald J, Dicko M, Zaffran M. Integration of vaccine supply chains with other health commodity supply chains: a framework for decision making. *Vaccine*. 2014;32(50):6725-6732. doi:10.1016/j.vaccine.2014.10.001
3. Sanchez A, Abramson W, Olson N, Quesada N. *Decentralizing and Integrating Contraceptive Logistics Systems in Latin America and the Caribbean*. United States Agency for International Development; 2006. Accessed January 22, 2021. https://pdf.usaid.gov/pdf_docs/PNAD1195.pdf
4. Mates E, Sadler K. Ready-to-use Therapeutic Food Scoping Study. Published online June 24, 2020. Accessed October 23, 2020. www.enonline.net/rutfscoopingstudy
5. UNICEF. *WCARO Bottleneck Analysis Synthesis*.; 2018.
6. UNICEF. *Bottleneck Analysis to Improve Effective Coverage of Severe Acute Malnutrition Mangement Service: A Compendium of Experiences and Learning*.
7. UNICEF. *Saving Money Is Saving Lives: An Analysis of Dry Season Prepositioning of Critical Supplies in South Sudan*.; 2018. Accessed September 24, 2021. <https://www.unicef.org/southsudan/media/626/file/UNICEF-South-Sudan-2018-Prepositioning-Analysis.pdf>
8. Federal Ministry of Health. About Nigeria Supply Chain Integration Project (NSCIP). National Supply Chain Integration Programme (NPSCIP). Accessed January 22, 2021. <https://nscip.gov.ng/about-nscip/>
9. PLM – Project Last Mile – We improve the availability of life-saving medicines and demand for health services in Africa by sharing the expertise and network of the Coca-Cola system. Published October 23, 2020. Accessed October 23, 2020. <https://www.projectlastmile.com/>

1

2

3



A1

A2

A3

A4



Emergency Preparedness and Resilience

1

2

3

Emergency situations can lead to major increases in child wasting while simultaneously overwhelming the health system and limiting access to essential services. At the same time, many communities experience seasonal peaks in child wasting due to seasonal food insecurity (e.g., due to seasonal droughts). While these surges are more predictable, the impact on health outcomes can still be devastating if the local health system is not ready to respond to the increased need.

Even where the delivery of wasting services is well integrated into routine PHC services, health facilities and local governments are often unable to respond to even mild surges in child wasting during both predictable and unpredictable emergencies, quickly becoming overwhelmed and resorting to humanitarian assistance.^{ix} The resilience of the health system even during emergencies is crucial to successful integration of wasting services because it contributes to the continuity of service delivery and reduces dependence on external partners. This resilience begins at the level of local government and health facilities and must be supported at the national and subnational levels with adequate emergency response planning.^x

Several countries have focused on building the capacity of health facility staff and local health management teams to anticipate, detect, and plan for surges in child wasting using the CMAM Surge approach, with technical support from Concern Worldwide and other external partners (see [Box EP.1](#)). In Kenya, successful piloting of the CMAM Surge approach in 2012 led to its formal adoption within national guidelines in 2015 through strong government leadership.¹ The approach is being scaled up and is already implemented in two-thirds of health facilities in Kenya. It is increasingly included in County Nutrition Action Plans and National Drought Management Authority (NDMA) county contingency plans.

At the national level, it is important to have policies and plans in place to mitigate any negative impact of emergency situations, especially large-scale ones caused by droughts or pandemics like COVID-19—which was projected to increase the prevalence of wasting in 2020 by 14% globally.² To prevent interruption of services, it is critical to plan for surges in child wasting before an emergency causes a surge through emergency response plans that include financing considerations. Even when implementation planning happens at a devolved level (subnational or local), it is important to have broader policy frameworks in place to help direct and coordinate actions.



A1

A2

A3

A4

Additional Resources



Read more about Kenya's approach to managing surges in child wasting: [Implementing the IMAM Surge approach - experiences from Kenya, 2021](#)

Read more about maintaining routine and essential health services during emergencies: [Maintenance of routine and essential health services during emergencies \(WHO\)](#)

Read more about the use of essential packages of health services in protracted emergencies: [Working Paper on the Use of Essential Packages of Health Services in Protracted Emergencies, 2018](#)

Read more about Sudan's scale-up of community-based management of acute malnutrition (CMAM) in protracted emergencies: [Scaling up CMAM in protracted emergencies and low resource settings: experiences from Sudan, 2017](#)

^{ix} Nutritional emergencies require distinct responses based on the situation's severity and the capacity of the health system. With sufficient staff and resources, local health teams and facilities are often best positioned to manage localized increases in child wasting. However, some emergencies will always require external support or activation by the Nutrition Cluster.

^x For the purposes of this guide, an "emergency response plan" is a national or subnational plan that anticipates or responds to emergencies and may include contingency planning, drought disaster and risk management, and climate change mitigation measures.

Common Constraints to Achieving Programme Goals for Wasting

The following are common constraints to achieving programme goals for the early detection and treatment of wasting related to emergency preparedness and health system resilience. These constraints span all health system components. (See the respective chapters for more details).

» **Leadership and governance:** *uncertain sustainability of wasting services.*

National emergency response plans for events that could cause surges in child wasting (such as droughts or spikes in infectious diseases) often do not include adequately detailed arrangements for responding to these increases (such as by scaling up wasting services in high-risk areas). This can lead to delayed or inadequate responses.

» **Service delivery:** *limited ability to respond to surges in child wasting in predictable and unpredictable circumstances.*

Even where wasting services are considered more integrated, emergencies and stressors that cause increases in child wasting can quickly overwhelm the routine health system's capacity to deliver critical services for wasting, requiring additional support from humanitarian partners. Emergency planning at the district and health facility levels is often lacking. This means that rather than redirecting internal resources to address an increased demand for wasting services, local actors look for external humanitarian assistance. This assistance is often less timely and does not reinforce resilience within the health system.

» **Health workforce:** *limited capacity of health staff to deliver wasting services.*

Plans for reinforcing and optimizing human resources during emergency situations, including through staff rearrangement, reassignment, or temporary deployment, are often lacking, as are systems for incentivizing temporary staff deployment to high-risk areas. Emergency situations—even localized or smaller-scale ones—often lead to workforce shortages across the health system due to higher workloads, absenteeism related to security or safety issues, displacement of health workers, lack of incentives, and so forth. This leads to delayed responses and increased dependence on external partners to support the delivery of wasting services.

» **Information systems:** *limited access to and use of wasting data in health sector decision-making.*

Surges in child wasting are difficult to predict without information systems that are set up to provide that information. Multiple early warning systems and surveillance mechanisms may be used to monitor signs of a wasting emergency, but these are often disjointed and can lead to duplicated efforts or delayed responses. Moreover, these systems often work at an aggregated level (e.g., subnational), so they may miss more localized, smaller increases in child wasting that can still overwhelm local health facilities, and they rely on prevalence data from surveys, absolute admissions, or child wasting rates. While effective early warning systems for food security, agriculture, and diseases exist, they do not routinely look at wasting co-morbidities (e.g., diarrhea, acute respiratory infections, and malaria) alongside wasting prevalence data, thus possibly delaying early detection of a nutritional emergency.

» **Sustainable finance:** *unsustainable reliance on external funding, typically in the form of humanitarian support.*

Planning for surges in child wasting is critical to mitigate the disruption of services, build resilience within the health system, and, eventually, transition away from reliance on external humanitarian aid. This planning should encompass both relatively predictable surges and unpredictable emergencies, which may require broader national emergency response planning and support (See [Box SF.2](#)). Accurately costing wasting services requires strong information systems to inform national planning and resource allocation (see the [Information Systems](#) and [Leadership and Governance](#) chapters).

» **RUTF supply:** *limited ability to predict and plan for RUTF needs.*

Districts and health facilities have limited ability to predict and plan for RUTF needs during surges in child wasting—whether due to predictable seasonal peaks or full-blown emergencies, and broader emergency response plans rarely give sufficient consideration to RUTF or commodities for managing wasting. At the same time, supply management systems rarely facilitate the sharing of RUTF and other supplies between health facilities to help prevent stockouts, and they rarely have mechanisms for tracking shared or loaned supplies. This lack of flexibility within the supply chain is often due to donor and project reporting requirements. Challenges with supply monitoring may become increasingly complex in the context of the combined treatment of severe and moderate wasting under one protocol (see [Box SD.2](#)) in the absence of adequate planning (such as for assessment of RUTF and RUSF stock for use in the event of a stockout).

















Potential Integration Actions to Address Constraints

Table EP.1 lists potential integration actions that can help address the constraints summarized above across health system components related to emergency preparedness and resilience.

Note: The actions presented here are not recommended in all cases. Each action—or bundle of integration actions across health sector components—must be assessed based on feasibility (cost, political will, system readiness) and the risks and benefits to wasting services and to PHC. Health sector decision-makers must decide which actions are relevant by going through the six-step process described in Part 2.

Table EP.1. Potential Integration Actions to Help Address Constraints, Emergency Preparedness & Resilience

HEALTH SYSTEM COMPONENT	CONSTRAINT CATEGORY	POTENTIAL INTEGRATION ACTIONS TO ADDRESS CONSTRAINTS	
 Leadership and Governance	Uncertain sustainability of wasting services	LG.8.EP.	Ensure adequate consideration of wasting services within national and subnational emergency response (e.g., for droughts, climate change mitigation, etc.) 
 Service Delivery	Limited ability to respond to surges in child wasting	SD.6.EP.	Develop protocols and build the capacity of health facilities to respond to predictable and unpredictable surges in child wasting (e.g., the CMAM Surge Approach). 
 Health Workforce	Limited capacity of health staff to deliver wasting services	HW.7.EP.	Develop emergency response plans to ensure adequate workforce coverage to deliver wasting services during emergencies (e.g., through temporary staff deployment and rearrangement) 
 Information Systems	Limited access to and use of wasting data in health sector decision-making	IS.7.EP.	Strengthen linkages between early warning systems and health information systems to help predict and more quickly detect surges in child wasting and mount a rapid emergency response 
 Sustainable Financing	Unsustainable, fragmented, and inefficient funding	SF.8.EP.	Ensure that costed emergency response plans for wasting services are included in subnational health plans and local budgets 
		SF.9.EP.	Review processes for quickly reallocating funding to respond to surges in child wasting and develop an emergency funding plan 
 RUTF Supply	Limited ability to predict and plan for RUTF needs at the subnational and health facility levels	RS.9.EP.	Develop emergency response plans to ensure the availability of RUTF during surges in child wasting (e.g., buffer stock and funds designated for emergency transport) 

 Emergency preparedness and resilience integration actions

These actions could bring important benefits, including:

- » **Increased coverage and equity of wasting services**, with improved continuity of services during emergencies.
- » **Increased efficiency and cost reduction**, by reducing fragmentation in services, especially for predictable surges in child wasting.
- » **Increased sustainability**, by strengthening government ownership through reduced need for vertical, partner-led humanitarian responses during emergencies and increasing consideration of wasting across the building blocks of broader emergency response plans.

Key considerations: Integrating too quickly or where there is low capacity runs the risk of overwhelming the emergency response system and reducing the ability to deliver health and nutrition services to those who urgently need it. System strengthening might be necessary before further integration across all relevant health system components—for example, to ensure that existing emergency response plans are strong and well-functioning before adding additional items (LG), to ensure that health facilities have the capacity to respond to surges in child wasting without hindering their ability to deliver other essential services (SD), to ensure adequate health workforce to support wasting services (HW), to strengthen existing information systems so that they report wasting information critical for emergency planning (IS), to strengthen public financial management systems so they can manage contingency funding (SF), and to strengthen national supply chains so they can adequately deploy RUTF and other essential commodities during emergencies (RS).

For more information on these integration actions, See [Annex 4](#), which provides country examples and further discussion of potential benefits and considerations of feasibility and risks for each action.



Box EP.1. The CMAM Surge Approach

First proposed in 2010 and developed by Concern Worldwide, the CMAM Surge approach aims to strengthen the capacity of health systems to anticipate, detect, and respond to increases in child wasting, using the routine CMAM programme as an entry point. (See [Figure EP.1](#) for the foundational theory of the Surge Approach).^{3,4} A key element of the approach is to start planning at the local level, with health facilities and health management teams first assessing their internal capacity to respond when child wasting rises to a certain threshold so they only resort to additional support from higher levels of the health system (e.g., nationally or subnationally) and especially external partners when necessary.

As of 2020, the CMAM Surge approach has been planned or implemented in the following countries: **Mauritania, Mali, Burkina Faso, Niger, Chad, Ethiopia, Uganda, Kenya, Pakistan, Sudan, DRC, Senegal, Cameroon, Somalia, South Sudan, and Burundi.**⁵ CMAM Surge has been supported by multiple NGO and UN partners and funded by various donors.

How it works: Health facilities set thresholds (alert, serious, emergency) based on the historical wasting trends and system capacity and then routinely monitor child wasting rates to trigger predetermined actions when these thresholds are crossed. District health management teams use dashboards to assess trends across facilities, triggering a higher-level national response or even requesting humanitarian assistance only when necessary. The eight steps of the CMAM Surge approach support the setup, monitoring, and evaluation of this process, linking the local context, the health system, and needs to specific actions:⁶

1. Trend and situational analysis
2. Capacity review
3. Threshold setting
4. Defining and costing surge actions
5. Formalizing commitments
6. Monitoring thresholds
7. Scaling up and down
8. Ongoing review, monitoring, and adaption of Surge activities

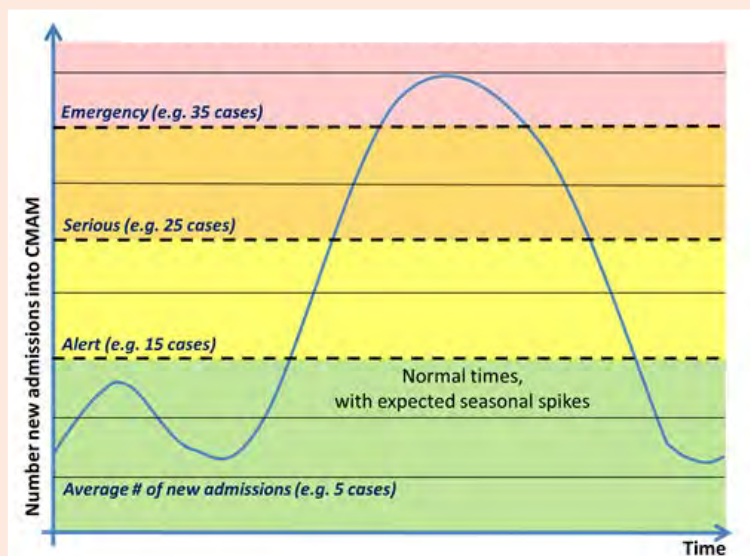
CMAM Surge Dashboard: District Health Management Teams use a Microsoft Excel matrix to monitor the emergency thresholds of each health facility (normal, alert, serious, emergency). While this dashboard represents a promising start for monitoring surges in child wasting and managing a response, it is still in development. Additional testing, assessment, and user research are needed to ensure that it responds to key data needs, can be integrated into broader health information systems, and can be linked to other early warning systems (e.g., for food security, agriculture, and disease outbreaks) to better predict surges in child wasting beyond population-based prevalence estimates and absolute rates (see the [Information Systems Chapter](#)).

Additional Resources



Read more about the CMAM Surge approach: [The 'CMAM Surge' approach: setting the scene, 2021](#) and [The CMAM Surge Approach](#)
Read more about the Health Surge Approach: [Expanding CMAM Surge beyond nutrition – towards a broader Health Surge approach, 2021](#)

Figure EP.1.
Theory of the Surge Approach



References

1. Implementing the IMAM Surge approach - experiences from Kenya. Emergency Nutrition Network. Accessed April 15, 2021. <https://www.enonline.net/fex/64/imamsurgekenya>
2. Headey D, et al. Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality. *The Lancet*. 2020;396(10250):519-521. doi:10.1016/S0140-6736(20)31647-0
3. Suggested New Design Framework for CMAM Programming. Emergency Nutrition Network. Accessed April 21, 2021. <https://www.enonline.net/fex/39/suggested>
4. The CMAM Surge Approach. Concern Worldwide. Accessed April 21, 2021. <https://www.concern.net/insights/cmam-surge-approach>
5. Fortnam M, Hailey P, Balfour N, Sheen K, Lea R. *Innovation History of the CMAM Surge Approach*. Centre for Humanitarian Change and Oxford Policy Management; 2021. Accessed October 12, 2021. <https://www.opml.co.uk/files/Publications/A2241-maintains/cmam-surge-final-draft-2106.pdf?noredirect=1>
6. *Global CMAM Surge Approach: Operational Guide*. Concern Worldwide Accessed April 23, 2021. <https://www.concern.net/insights/cmam-surge-approach>

1

2

3



A1

A2

A3

A4



A.

ANNEXES

Annex 1: Consultation Process and Stakeholders

UNICEF contributors

UNICEF Division	Contributor
UNICEF HQ, Nutrition Programme Group	Victor Aguayo, Saul Guerrero Oteyza, Minh Tram Le, Grainne Moloney, Louise Mwirgi, Andreas Hasman, Shahira Malm, Annette Imohe
UNICEF HQ, Health Programme Group	Anne Detjen, Claudia Vivas, Rory Nefdt, Maureen Kerubo Momanyi, Megan Christensen
UNICEF Supply Division	Mamadou Diallo, Ryan McWhorter, Manuel Celestino Lavayen
UNICEF EAPRO, Nutrition	Mueni Mutunga
UNICEF ROSA, Nutrition	Lani Trenouth, Alison Donnelly
UNICEF WCARO, Nutrition	Sophie Woodhead, Emna Kayouli
UNICEF ESARO	Tewolde Daniel, Mara Nyawo, Albert Nettey

External advisory group members

EAG member	Organization
Frezer Abebe	Federal Ministry of Health, Ethiopia
Kaosar Afsana	James P Grant School of Public Health, BRAC University, Bangladesh
Sufia Askari	Children's Investment Fund Foundation
Imelda Awino	Action Against Hunger
Nicki Connell	Emergency Nutrition Network
Hedwig Deconinck	Ghent University
Tsinuel Girma	Jimma University, Ethiopia
Elaine Gray	United States Agency for International Development
Janet Guta	Ministry of Health, Malawi
Caroline Kathiari	Ministry of Health, Kenya
Sylvester Kathumba	Ministry of Health, Malawi
Chytanya Kompala	Eleanor Crook Foundation
Emily Mates	Emergency Nutrition Network
Abigail Perry	UK Foreign Commonwealth Development Office
Rahul Rawat	Bill & Melinda Gates Foundation
Ali Subandoro	Global Financing Facility
Luz Tagunicar	Department of Health, Philippines
Zita Weise Prinzo	World Health Organization
Marie-Sophie Whitney	European Union
Amanda Yourchuck	USAID Advancing Nutrition

Annex 2: Summary of Wasting Integration Literature

A2. Table 1.

Studies that measure the impact of wasting integration, by potential platform

Title	Author, Year	Country	Study Design	Scale
Multi-country Reviews				
Understanding pathways of integrating severe acute malnutrition interventions into national health systems in low-income countries	Deconinck, 2017	Multi-country	Systematic literature review	N= 11 peer-reviewed papers, 39 grey literature docs
Linking Nutrition & (integrated) Community Case Management	Friedman et al., 2014	Multi-country	Desk review & key informant interviews	N=187 documents, 22 interviews
Integrating nutrition into health systems: What the evidence advocates	Salam et al., 2018	Multi-country	Systematic literature review & mapping	N=45 studies, 10 studies on SAM/MAM integration
Can community health workers manage uncomplicated severe acute malnutrition? A review of operational experiences in delivering severe acute malnutrition treatment through community health platforms	Lopez-Ejeda et al., 2018	Multi-country	Systematic review	N= 18 studies
Community-based management of acute malnutrition (CMAM) in sub-Saharan Africa: Case studies from Ghana, Malawi, and Zambia	Maleta et al., 2014	Multi-country	Desk review	N=unspecified quantity of documents across three countries
Integrating SAM case management into PHC				
Integrated programme achieves good survival but moderate recovery rates among children with severe acute malnutrition in India	Aguayo et al., 2013	India	Effectiveness study	N=2684 children entered the facility-based phase, N=2151 admitted then to the community-based phase, 199 Nutrition Rehabilitation Centers in 1 state
An assessment of the integrated nutrition programme for malnourished children aged six months to five years at primary healthcare facilities in Mangaung, Free State, South Africa	Brits et al., 2017	South Africa	Retrospective, descriptive cohort study	N=730 children entered the Integrated Nutrition Programme at community health center, 1 district
An integrated community-based outpatient therapeutic feeding programme for severe acute malnutrition in rural Southern Ethiopia: Recovery, fatality, and nutritional status after discharge	Tadesse et al., 2017	Ethiopia	Cohort study	N= 1048 children with acute malnutrition followed from admission in community-based therapeutic programmes
Sustainability and scaling-up analysis of community-based management of acute malnutrition: Lessons learned from Burkina Faso	Somasse et al., 2013	Burkina Faso	Mixed methods	N=9 provinces in Burkina Faso, 180 villages total
Community management of acute malnutrition (CMAM) programme in Pakistan effectively treats children with uncomplicated severe wasting	Aguayo et al., 2018	Pakistan	Effectiveness study	N=32,458 children admitted to CMAM programme N=492 children referred to district hospital due to need for highly specialized care
Integrating SAM into ICCM				
Quality of care for severe acute malnutrition delivered by community health workers in southern Bangladesh	Puett et al., 2013	Bangladesh	Mixed methods	N=55 case management observations of CHWs
Does greater workload lead to reduced quality of preventive and curative care among community health workers in Bangladesh?	Puett et al., 2012	Bangladesh	Mixed methods: surveys	N= 338 CHWs assessed
Community Case Management of Severe Acute Malnutrition in Southern Bangladesh	Sadler et al., 2011	Bangladesh	Prospective cohort study	N= 724 children identified with SAM, 1 district
'Sometimes they fail to keep their faith in us': community health worker perceptions of structural barriers to quality of care and community utilisation of services in Bangladesh	Puett et al., 2015	Bangladesh	Qualitative study	N=83 CHWs from 10 focus groups
Cost-effectiveness of the treatment of uncomplicated severe acute malnutrition by community health workers compared to treatment provided at an outpatient facility in rural Mali	Rogers et al., 2019	Pakistan	Activity-based cost model	N=829 children admitted into the study; N=144 Lady Health Workers (LHWs); 1 province
Integrated Community Case Management of Childhood Illness in Ethiopia: Implementation Strength and Quality of Care	Miller et al., 2014	Ethiopia	Cross-sectional survey	N=104 health posts from intervention areas, 46 health posts from comparison areas in 2 zones
Integrating HIV in SAM case management				
Integration of HIV Care into Community Management of Acute Childhood Malnutrition Permits Good Outcomes: Retrospective Analysis of Three Years of a Programme in Lusaka	Amadi et al., 2016	Zambia	Retrospective cohort study	N=1796 children identified with SAM or MAM whose parents consented to HIV testing, 1 programme area

A2. Table 2.
Studies that measure the state of integration


Title	Author, Year	Country	Study Design	No. Indicators Measured	Scale of Integration
Integration of severe acute malnutrition (SAM) management into health systems in Mali and Burkina Faso: Lessons learned	Sadler et al., 2019	Burkina Faso, Mali	Qualitative methods at the national and sub-nation level	18	3-point scale: well-integrated; integration in progress; little progress to date
Integrating acute malnutrition interventions into national health systems: lessons from Niger	Deconinck et al., 2016	Niger	Qualitative methods at the national, district, and community level	41	3-point scale: full integration, partial, none
Understanding pathways of integrating severe acute malnutrition interventions into national health systems in low-income countries	Deconinck, 2017	Burkina Faso, Nepal	Qualitative methods at the national, district, and community level	28	3-point scale: full-integration, partial, none
Perspectives for integration into the local health system of community-based management of acute malnutrition in children under 5 years: a qualitative study in Bangladesh	Kouam et al., 2014	Bangladesh	Document review, key informant interviews, and direct observation	16	N/A
Integrating nutrition into health systems: What the evidence advocates	Salam et al., 2018	India, Zambia, South Africa, Niger, Bangladesh [4], Ethiopia	Systematic literature review & mapping of 45 studies, 10 reviewing SAM/MAM integration	18	3-point scale: full integration, partial, none
Exploring the health system for sustainable and integrated acute malnutrition services applying a systems lens: the case of Afghanistan	Safi S. et al., 2018	Afghanistan	Document review, key informant interviews, and group discussions	32	3-point scale: full integration, partial, none

In addition to the peer-reviewed studies that measure the impact and state of integration outlined below, this guide was informed by grey literature documenting country experiences of integration and scale-up of the early detection and treatment of child wasting, notably several case studies documented in ENN’s Field Exchange (see issues below) and resources:

<p>Additional Resources</p> <p>➔</p>	<p>FEX 43: Framework for integration of management of SAM into national health systems (2012) FEX 60: Special issue on the continuum of care for acute malnutrition (2019) FEX 63: Special issues on Wasting in South Asia (2020) Scale-up of severe wasting management within the health system: A stakeholder perspective on current progress (2021)</p>
---	---

Annex 3: Survey of Major Constraints Across Health System Components

An online version of this survey is available upon request.

Constraint category	Contributing factors of the constraint category	Rate on a scale of 1-5 1. Not a constraint 2. Minor constraint 3. Moderate constraint 4. Serious constraint 5. Critical constraint
 Leadership & Governance		
Inadequate prioritization of and accountability for wasting services within the health sector	Child wasting is not seen as a top priority among health officials and not given its fair share of resources commensurate with burden	
	Child wasting services are not adequately prioritized in health sector strategies or articulated as an investment that contributes to broader health outcomes within sectoral strategies	
	Misconceptions among health officials e.g., that child wasting is only an emergency issue	
	Limited incentives for health officials to elevate wasting services as a domestic issue when mainly funded externally	
	Lack of recognition that wasting impedes progress on broader development goals (e.g., by perpetuating the cycle of poverty and undernutrition in families)	
	Weak accountability mechanisms to hold public officials accountable to community needs within local governance structures for the delivery of wasting services	
	Limited pathways for communities to voice needs to government officials who make programme decisions about wasting services	
	Insufficient use of local governance structures for solving critical community health concerns, leaving local human or financial resources untapped for improving wasting services	
Uncertain sustainability of wasting services	Heavy reliance on external partners for implementing wasting services (e.g., RUTF supply and distribution, training and capacity building, and community outreach, etc.) with risk of service interruption	
	Coordination across multiple partners is complex, inefficient, or challenging	
	Wasting services are fragmented across programmes and partners and inefficient (e.g., NGO-delivered programmes still operate in parallel to other essential child health services)	
	No coordinated transition and sustainability plan to transfer the implementation of wasting services from external partners to the government over time	
	National emergency response plans do not include detailed arrangements for responding to surges in child wasting, causing delays or inadequate response to address increased burden	⚠️

1

2

3








A1

A2

A3

A4

Constraint category	Contributing factors of the constraint category	Rate on a scale of 1-5 1. Not a constraint 2. Minor constraint 3. Moderate constraint 4. Serious constraint 5. Critical constraint
 Service Delivery		
Limited success of community outreach efforts to identify child wasting	High burden areas are not reached by community outreach programmes	
	Weak community outreach efforts that inadequately identify and refer children with wasting	
	Limited educational services to enable mothers and caregivers to identify child wasting and understand the importance of receiving care	
	Low demand for wasting services among communities in need	
Low treatment coverage at the facility level	High burden areas have low rates of health facilities offering wasting treatment services, making access and availability to services limited	
	There are often missed opportunities to screen and identify child wasting when children seek care at health facilities for other services	
	Weak referral links and coordination within and between levels of care	
Limited ability to respond to surges in child wasting	Health facilities have limited capacity to manage seasonal or predictable surges in child wasting 	
	Health facilities have limited capacity to manage surges in child wasting during emergencies that are less predictable 	
 Health Workforce		
Missed programme opportunities due to siloed management of health services	The MOH nutrition team operates separately from other health teams or departments, preventing joint programming and efficiency gains	
Limited capacity of health staff to deliver wasting services	The quantity of health workers is insufficient to adequately meet coverage needs (at the community and/or facility level)	
	Health workers lack the time or bandwidth to conduct nutritional assessments in addition to other health services (at the community and/or facility level)	
	General health workers do not screen or refer child wasting because these tasks are not part of their pre-defined task lists or job descriptions (at the community and/or facility level)	
	General health staff miss opportunities to screen or refer child wasting due to insufficient pre-service and/or in-service trainings (at the community and/or facility level)	
	General health staff at the community and facility levels lack the resources to provide wasting services (e.g., MUAC tapes)	
	Poor motivation for health workers to prioritize nutritional screening among other competing health priorities (e.g., because of insufficient management and supportive supervision, weak accountability mechanisms, and/or limited systems for incentives, compensation, career opportunities, etc.)	
	Heavy reliance on external partners for training and other capacity building activities	
	Lack of health facility planning for adjusting staff deployment during emergency situations in support of wasting service delivery (e.g., staff rearrangement, reassignment, or temporary deployment) 	

1

2

3







A1

A2

A3

A4

Constraint category	Contributing factors of the constraint category	Rate on a scale of 1-5 1. Not a constraint 2. Minor constraint 3. Moderate constraint 4. Serious constraint 5. Critical constraint
 Information Systems		
Limited data availability to monitor and adapt programmes	Wasting indicators are not collected within the national health information system for routine use, or an incomplete set of indicators are collected	
	No standard way to track community coverage of screening (a key information gap)	
	Lack of timely access to critical wasting data due to reliance on population-based health and nutrition surveys that are not conducted annually or conducted at a time that misses seasonal peaks	
	Lack of technical expertise or miscommunication between data and programme teams causing limited data availability and quality issues (e.g., misreporting)	
Limited access to and use of wasting data in health sector decision-making	Decision-makers do not have access to user-friendly wasting data needed to make evidence-based decisions (e.g., for priority setting, policy making, strategic planning, and implementation) which restricts broader child health planning and/or perpetuates misconceptions (e.g., wasting is not a major risk factor to mortality)	
	Wasting and health data is rarely compiled and displayed in a user-friendly format together (e.g., with data visualization tools) to support decision-making	
	Wasting data (across sources) is not compiled, analyzed, and interpreted alongside health data, causing missed opportunities for broader child health planning and programming at the facility level as well as at higher administrative levels (local, subnational, or national levels)	
	Limited evidence to support the prioritization of wasting services within broader health agenda-setting	
	Multiple early warning systems and surveillance mechanisms are used to monitor signs of a wasting emergency which are disjointed and not linked to other sector early warning systems (e.g., food security, agriculture, and diseases), leading to duplicated efforts or a delayed response	
 Sustainable Financing		
Insufficient funding	Insufficient funding for RUTF (all sources, domestic and external)	
	Insufficient funding for wasting services (all sources, domestic and external)	
Unsustainable, fragmented, and inefficient funding	Low domestic contribution to wasting services and/or heavy reliance on donor funding for routine delivery of wasting services	
	A majority of funding for wasting services comes from humanitarian sources, which is often short-term, off-budget, and difficult to plan for across years	
	Wasting services are often excluded from national health planning and budgeting processes	
	Weak capacity for public financial management systems to track off-budget, external funding for wasting services	
	Wasting services and RUTF are not included in emergency response planning at the national or subnational level	
Wasting services are often excluded from existing national insurance benefits packages and existing provider payment mechanisms used for other essential health services		

1

2

3






A1

A2

A3

A4

Constraint category	Contributing factors of the constraint category	Rate on a scale of 1-5 1. Not a constraint 2. Minor constraint 3. Moderate constraint 4. Serious constraint 5. Critical constraint
 RUTF Supply		
Under-prioritization of RUTF as an essential commodity	RUTF is often seen as an external product and is not prioritized as an essential commodity for child health programmes	
	RUTF is often excluded from national budgeting and planning processes for essential medicines and many countries are dependent on donor funding	
	RUTF is procured outside of the existing national processes for other essential medicines	
Inefficient RUTF supply chain and weak last-mile distribution	Inefficient and parallel storage and distribution of RUTF, separate from existing processes within the national supply chain resulting in inefficiencies and duplication of efforts	
	Distribution of RUTF is not coordinated with facility level consumption and stock data	
	Last-mile distribution is often not budgeted or planned for at the sub-national level, leading to RUTF stockouts	
Limited ability to predict and plan for RUTF needs at subnational and health facility levels	RUTF is often managed outside of national logistics management information systems (LMIS), meaning data essential for planning is unavailable	
	At the health facility level, RUTF is often managed by nutrition staff that operate parallel to existing staff trained to manage logistics, inventory, and stock	
	Inadequate pre-positioning of buffer stock at strategic locations to mitigate disruption to the supply chain and unexpected surges demand for RUTF	

 *Emergency preparedness and resilience constraints*

1

2

3



A1

A2

A3

A4

Annex 4: Integration Action Reference Tables

This Annex contains further information on the integration actions presented in [Part 3](#) by chapter of health system component, including country examples, potential benefits, and considerations of feasibility and risks. This content serves as reference material when going through the process outlined in [Part 2](#).

- A4. Table 1. Leadership and Governance 70**
- A4. Table 2. Service Delivery 73**
- A4. Table 3. Health Workforce 76**
- A4. Table 4. Information Systems 80**
- A4. Table 5. Sustainable Financing 84**
- A4. Table 6. RUTF Supply 89**

1

2

3



A1

A2

A3

A4

A4. Table 1.
Leadership and Governance

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>LG.1. Ensure adequate consideration of wasting services within health sector strategies and plans (operational and financial) including expected impact on health outcomes</p>	<p>Malawi: The early 2000s food crisis elevated wasting and CMAM programming as a multi-sectoral priority among country-level decision-makers. In 2006, the MOH adopted the CMAM approach as a national strategy for the management of severe acute malnutrition (SAM) among children >5 with interim guidelines. CMAM was then gradually introduced into national nutrition policy, multi-sector development policies (e.g., the Malawi Growth and Development Strategy), and other key health policies and strategies, such as those for the Integrated Management of Childhood Illnesses (IMCI), Essential Nutrition Actions (ENA), Accelerated Child Survival & Development (ACSD), and Infant and Young Child Feeding (IYCF). By 2011, CMAM was integrated in all 28 districts of Malawi and over 70% of health facilities – with reports of positive health outcomes (e.g., low default/death rates and high recovery rates). Strong government leadership was cited as a key enabling factor.^{1,2}</p> <p>See SF.6 to learn more about Nepal where provincial and local governments incorporated nutrition programmes, including wasting services, within annual budgeting processes.³</p>	<ul style="list-style-type: none"> – Increased coverage and equity for wasting services by elevating their prioritization within government plans, strategies, and budgets, ensuring opportunities to optimize the implementation of services are identified and scaled (commensurate with the burden and other factors) – Stronger coordination across partners by establishing a clearer vision on how wasting services are delivered alongside other health services – Increased efficiency through stronger coordination and reduced risk of duplicated efforts 	<ul style="list-style-type: none"> – The capacity and readiness of existing leadership and governance structures within the health sector must be able to effectively manage wasting services without negatively impacting the quality of other essential health and nutrition services – The extent to which wasting services are included within health strategies and plans depends on its level of prioritization relative to other health goals (e.g., based on its share of the health burden or impact on health outcomes) and political will. Health sector leadership officials often face competing priorities and limited capacity and/or resources to respond to all health needs, making prioritization decisions difficult – Policies, plans, and strategies must be clear to guide actions in practice, outlining plans for achieving wasting targets, key responsibilities of various stakeholders, and funding – Many countries already include wasting targets and services within health sector strategies, although the extent to which they are operationalized as part of integrated child health programming is variable
<p>LG.2. Ensure adequate consideration of wasting services within health workforce capacity development strategies and plans</p>			
<p>LG.3. Include wasting indicators within health sector monitoring and evaluation frameworks and develop a coordination group for nutrition information</p>			
<p>LG.4. Ensure adequate consideration of wasting services within annual budgeting processes, including RUTF and operational costs</p>			
<p>LG.5. Include wasting services in an essential package of health services as part of the approach to UHC</p>	<p>Pakistan: In 2018, the Government of Pakistan fully endorsed the Astana Declaration on public healthcare revitalization and undertook to revisit the primary healthcare approach to reaching universal health coverage. Nutrition partners seized this opportunity to advocate to the government for the mainstreaming of wasting treatment and prevention services through the inclusion of selected nutrition-specific interventions into the routine package of</p>	<ul style="list-style-type: none"> – See benefits under LG.1 – Increased funding opportunities through the inclusion of wasting services as part of the essential package of health services, which can in turn translate to increased coverage 	<ul style="list-style-type: none"> – This requires strong government leadership and political will, and often coordinated assistance from civil society driving an advocacy campaign to elevate wasting as a health priority – Again, health sector leadership often needs to make difficult

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
	<p>services delivered at primary healthcare level. As a result, it was agreed that a ‘minimum essential nutrition package’ became part of the Universal Health Benefits Package, delivered routinely through the government health system by the existing health workforce.⁴</p>	<ul style="list-style-type: none"> – Increased commitments and priority setting for wasting services alongside country-level momentum for UHC 	<p>decisions about which services take priority under constrained resources and in some cases wasting may not be the priority</p> <ul style="list-style-type: none"> – Readiness consideration: would adding wasting services overwhelm the existing health service package? Are adequate data and information available to make such decisions (See Information Systems)?
<p>LG.6. Engage civil society and local governments in the implementation of and advocacy for wasting services and mobilize communities to ensure that services respond to local demand, to promote accountability, and to leverage local resources</p>	<p>Kenya: a social accountability programme (Citizen Voice Action (CVA)), led by World Vision in collaboration with MOH officials, was used to increase awareness about citizens’ rights to quality healthcare under the law, rank current government performance, and work with stakeholders using advocacy tools to influence decision-makers. By employing the approach in Turkana county, budget allocation was increased to the public health sector allowing for the recruitment of more skilled health workers, which improved malnutrition resourcing and service uptake. In Baringo county, a community proposal was funded towards the construction of a dispensary for improved community outreach services and the CVA programme generally increased community care seeking for wasting and immunization services.⁵</p> <p>DRC: In the DRC, wasting has yet to be integrated into routine child health services, and nutritional programming is heavily dependent on short-term humanitarian aid. Led by external partners (DFID-DRC and MQSUN+), in 2019, a real-time learning review (RLR) was conducted to advance the country’s nutritional response by working with stakeholders to identify strengths and weaknesses for the management of acute malnutrition. During the RLR, it was clear that without sufficient funding for SAM services, community actors stepped up to provide solutions. For instance, health committees alongside community leaders and community-based groups organized access to kitchen gardens to promote food diversity and nutrient access for malnourished children and families. Assessing how local communities have problem solved for gaps in funding for severe wasting can inform appropriate, context-driven initiatives, especially when funding is limited.⁶</p> <p>Niger: In a 2021 evaluation of the management of severe acute malnutrition from 2010-2019, initiatives at the community level were important to promote quality services</p>	<ul style="list-style-type: none"> – Increased programmatic and financial sustainability by increasing local government engagement and civil society buy-in and advocacy for wasting services – Increased coverage, accessibility, and equity for wasting services through the consideration of local demands and by ensuring quality services through accountability mechanisms – Elevated prioritization for wasting services within broader child health agendas and programming through increased pressure locally – Local resources are optimized by engaging with local governments and community stakeholders to improve health programmes, and demand for services increases with increased community engagement 	<ul style="list-style-type: none"> – Do community members and civil society prioritize wasting or do they see other health conditions as a more pertinent priority for which they want to advocate upstream? – Do civil society initiatives or accountability mechanisms at the community level for health services exist, and could they provide a platform to advocate for wasting services?

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
	<p>and community care seeking. For instance, health committees organized payment for consultations to have funding to transport referrals, provided local accountability to promote quality services, and advanced community awareness to increase demand for services and reduce late referrals. Further, local groups, including traditional healers, religious leaders, etc. supported community outreach for wasting including awareness raising, early detection and referral, follow-up, and prevention.⁷</p>		
<p>LG.7. Develop multi-stakeholder plans to transition the implementation of wasting services from external partners to the health sector, when capacities exist</p>	<p>Ethiopia: began integration in 2005 to transition small scale pilots into routine services provided by the national health system. By 2011, 90% of health posts in the country provided CMAM services.⁸</p>	<ul style="list-style-type: none"> – Reduced risk of wasting service interruption by developing a long-term transition plan for if/when external aid for wasting services reduces and partners are no longer able to support on core service delivery functions – Increased national ownership and oversight of wasting services through government-led multi-stakeholder efforts – Increased sustainability of wasting services through transition plans to increase the capacity of the national health system 	<ul style="list-style-type: none"> – Capacity and readiness of the national health system will determine the timeline of transition—some countries may not be ready for a full transition and may seek partial transition – To be most effective, a transition plan requires a high level of coordination across stakeholders which may be costly, although there may be existing mechanisms and processes that could be leveraged to develop such plans
<p>LG.8.EP. Ensure adequate consideration of wasting services within national and subnational emergency response plans (e.g., for droughts, climate change mitigation, etc.)</p>	<p>Kenya: National Drought Management Authority (NDMA) county-level drought contingency plans are critical for preparing and responding to droughts. Some counties have particularly well-developed plans that provide plenty of details for delivering wasting services during emergencies. For instance, Wajir County developed a quite comprehensive plan in 2014 with ample considerations for wasting, including indicators, thresholds, amounts of RUSF and RUTF that might be needed, a budget for the therapeutic foods, and procurement plans. Remaining concerns about the plan include some of the budget allocations and a lack of transparency.⁹</p>	<ul style="list-style-type: none"> – Shortened time to mount an effective response when predictable or unpredictable events that cause surges in child wasting occur, thereby also ensuring sustained coverage and equity – Builds the resilience of health systems to maintain wasting service provision during emergencies 	<ul style="list-style-type: none"> – Capacity consideration: How well are these existing emergency response plans at the national and subnational level functioning? How are they funded? – For an emergency response plan to be useful in practice, it must detail what activities are to be performed under what circumstances, who would do it, and how it would be paid for (e.g., for wasting, it should specify the indicators and thresholds that to trigger emergency responses, quantities of RUSF and RUTF, where supplies would come from, and funding).

A4. Table 2.
Service Delivery

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>SD.1. Include nutritional screening in additional community health programmes, e.g., iCCM or mobile health programmes</p>	<p>Rwanda: In 2009, CMAM was integrated into national IMCI-specific health system strengthening efforts at the health facility level. CHWs were trained in early detection and screening services for wasting.¹⁰</p> <p>Bangladesh: Screening for wasting services was integrated into the existing iCCM programme. Results from the assessment of 338 CHWs delivering iCCM+ wasting treatment found that integration of wasting did not affect the quality of other curative and preventative interventions provided by the CHWs, but did require more time.¹¹</p>	<ul style="list-style-type: none"> – Increased number of children with wasting identified and referred to the appropriate level of care as screening coverage increases – Potential to improve health outcomes through earlier identification of child wasting which lowers the risk of complications 	<ul style="list-style-type: none"> – Increasing the task list or expectations of CHWs may inhibit their ability to provide another service or could be too overwhelming to the point of negatively impacting the quality of services overall – In order to manage the additional workload for wasting services, more CHWs may be needed and costs for additional recruitment, training, and supervision should be budgeted for – Sufficient monitoring and accountability measures are needed to ensure wasting services do not get underprioritized or dropped
<p>SD.2. Include caregiver/family education on the identification of wasting, risks, and where to go for help in additional health services and programmes, e.g., nutrition counseling services, maternal health services, family planning, growth monitoring (see Box SD.2)</p>	<p>Ethiopia: In 2011, with the support of the Alive and Thrive Project, Infant and Young Child Feeding (IYCF) was integrated into CMAM programmes in Ethiopia.¹²</p>	<ul style="list-style-type: none"> – Increased demand for wasting services and improved health seeking behavior by including caregiver education and sensitization efforts as a key component of health programmes, which in turn can increase screening coverage and treatment coverage – Potential to improve health outcomes through the earlier identification of child wasting which lowers the risk of complications 	<ul style="list-style-type: none"> – While increasing knowledge and awareness may help increase demand, the overall access, availability, and quality of services may still prevent caregivers from seeking care – (See considerations under SD.1 and Box SD.2 for further information on Family MUAC and others simplified approaches)
<p>SD.3. Increase geographic coverage by providing wasting treatment (outpatient and/or inpatient) in additional facilities when deemed cost-effective based on burden and other factors</p>	<p>Mozambique: In 2017, wasting treatment was included in five-year national GFF investment case. The distance barrier to health facilities in rural districts and a dispersed population are key challenges to service delivery, to address this, the investment case focused on expanding the scope of activities of Elementary Polyvalent Agents (EPAs) and setting up mobile teams in all non-urban districts—including wasting screening and referral. Additionally, key nutrition personnel were trained, and the Nutrition Intervention Package was rolled out in the eight highest-burden provinces</p>	<ul style="list-style-type: none"> – Increased proximity to services for children and caregivers, which could lead to increased demand for services – Increased geographic coverage of wasting services which can increase the number of children treated that might 	<ul style="list-style-type: none"> – Scaling up services can be resource intensive and should be prioritized according to burden and other factors—not all health facilities need to offer treatment services if they are not geographically centered in a high burden area or if this action would not improve proximity to services – When scaling services, it is important to consider whether the benefit of integrating treatment into additional health facilities is

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
	<p>resulting in 3,609,078 additional children receiving basic nutrition services between 2017-2018.¹³</p>	<p>have been otherwise missed</p>	<p>higher than the cost (financial cost and cost to other resources, e.g., the health workforce)</p> <ul style="list-style-type: none"> – The necessary health workforce capacity and needs should be considered during the scaling process, as increasing geographic coverage comes with a need for more training and development of health workers (see Health Workforce chapter)
<p>SD.4. Include nutritional screening in additional facility-level health programmes, e.g., immunization, HIV, and other infectious disease programmes</p>	<p>Mali: In 2011, Wasting screening and referral was added to long standing National Child Nutrition Week (SIAN) led by the MoH since 2003. Prior to the addition of wasting screening, SIAN focused on Vitamin A supplementation for children and early post-partum women and deworming of children achieving about 80% coverage and some regions successfully integrated immunization and bed net distribution. The results from two districts showed that a total of 1278 children 6-59 months were reached through SIAN and 52% were screened for wasting, which was greater than the 22% of children previously being reached at the community-level.¹⁴</p> <p>Nigeria (Borno state): wasting screening was integrated into polio immunization campaign using Volunteer Community Mobilizers (VCMs.) Of the children vaccinated, 48.5% were screened for malnutrition, with 3.7% (13,050) found to be wasted. Of the identified children, only 47.5% were successfully admitted to treatment. Overall the study concluded that the mismatch between the number of health workers and health camps and limited number of functional OTP sites (closed due to conflict) negatively impacted the programmes capacity to identify and treat the targeted number of children with wasting as part of the immunization campaign.¹⁵</p> <p>Zambia: In 2009, the Department of Pediatrics at the UTH in Lusaka piloted the integration of HIV testing and CMAM in two areas with a high double burden of HIV and malnutrition. In the programme 10% of children screened were HIV positive and were successfully referred to start ARV therapy ultimately improving survival outcomes when children adhered to both treatment protocols.¹⁶</p>	<ul style="list-style-type: none"> – Increased screening coverage which can increase the number of children with wasting identified and referred to the appropriate level of care – Earlier identification of child wasting lowers the risk of complications and could result in improved health outcomes 	<ul style="list-style-type: none"> – Health programmes may not see the need to provide additional services if already operating successfully and the addition of wasting services should be assessed carefully so as not to jeopardize the quality of other essential services (e.g., a reduction in number of immunizations administered with the increased task load of health workers) – In order to manage the additional workload for wasting services, more facility health workers may be needed and costs for additional recruitment, training, and supervision should be budgeted for (see Health Workforce chapter) – Sufficient monitoring and accountability measures are needed to ensure wasting services do not get underprioritized or dropped

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>SD.5. Strengthen coordination and referral links within and between all levels of care across health and nutrition services</p>	<p>A 2019 mapping of continuity of care across East Africa (Burundi, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Uganda) found that while a majority of inpatient and outpatient treatment facilities had referral protocols in place, there were several barriers (e.g., distance between two facilities, limited number of inpatient facilities, weak follow up, etc.). The study also noted limited capacity of health facilities to successfully capture data on individual children and follow them from treatment to discharge.</p>	<ul style="list-style-type: none"> – Increased number of children identified with wasting referred to the appropriate level of care and receiving treatment – Strengthened capacity between levels of treatment to coordinate and share data for child wasting – Potential to identify further barriers to accessing wasting services and areas with high treatment dropout rates 	<ul style="list-style-type: none"> – Strengthening referral links could require strengthening the information systems across levels of care to ensure that patient tracking data is adequately recorded and used for wasting services (see more in Information Systems chapter) – Facilities with a high number of missed referrals or treatment dropout may need to expand community outreach and potentially increase the number of community health workers in that area
<p>SD.6.EP. Develop protocols and build the capacity of health facilities to respond to predictable and unpredictable surges in child wasting (e.g., the CMAM Surge Approach)</p>	<p>Mali: Between 2017-2019, CMAM Surge was scaled up to 17 districts across 6 regions with 238 health facilities using Surge response plans. Although the scale-up was heavily supported by implementing partners, MoH focal points at the national, regional, and local level were identified and instrumental in generating government buy-in that lead to the formal national development and adoption of the CMAM Surge monitoring as part of the national CMAM approach. Next steps include increasing government ownership by handing over the management of the national taskforce to MoH leaders and increasing government financial and in-kind contributions.¹⁷</p> <p>Kenya: After the successful pilot of CMAM Surge in 2012, Kenya worked to scale-up the approach, with key successes derived from strong government leadership. In 2015, the national government adopted the approach and released national guidelines on the Surge Approach for IMAM. The approach is now implemented in roughly two thirds of health facilities in 10 priority counties and CMAM Surge activities are to some extent included in County Nutrition Action Plans (CNAPs). There has also been substantial work to link the approach to the National Drought Management Authority (NDMA) county-level drought contingency plans with varying degrees of success (esp. in terms of funding).^{18,19}</p>	<ul style="list-style-type: none"> – Greater continuity of care and access to services during emergencies and shocks, including an expedited response to smaller-scale surges in wasting cases – Increased sustainability through strengthening national ownership and increasing the range of circumstances in which integrated programmes can manage without resorting to vertical, partner-led responses – Efficiency gains through the harmonization of indicators, thresholds, and response plans between CMAM Surge and other contingency planning mechanisms, and the incorporation of additional government resources, including contingency funding, into response plans 	<ul style="list-style-type: none"> – System readiness to introduce the approach: wasting services must already be integrated within health facilities and overseen by districts. As with routine wasting service delivery, the success of the surge approach in some ways depends on the community component of wasting programmes to adequately screen and refer cases to health facilities. – Local governments must lead these efforts to ensure sustainability and appropriate coordination of external support – Costs to introduce the approach must be considered at facility and district level (e.g., training personnel on the approach, improving information systems). – Ongoing costs to sustain the approach must be funded in the longer term (e.g., refresher training, supervision, staff time) – National guidance and protocols are needed to address how to run the programme in a standardized way, which requires time and consideration to formally adapt to county context and then ensure they are being implemented in practice. – This model could be expanded to other health services, to optimize the use of resources and improve the overall resilience of the health system to cope with seasonal and other surges of infectious disease (e.g., consider Health Surge)

A4. Table 3.
Health Workforce

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>HW.1. Ensure that nutrition representatives are included in health prioritization discussions during annual and routine planning (at all levels of government: national, subnational, and local)</p>	<p>Kenya: Since 2010, donor-funded Nutrition Support Officers embedded within MoH structures at the national and county level have been providing instrumental technical assistance to the government. By facilitating relationships with key government officials, they have positively influenced resource allocation and effective response for nutrition.</p> <p>See Burkina Faso example HW.5</p>	<ul style="list-style-type: none"> – Elevated prioritization of wasting within government plans, strategies, and budgets (commensurate with the burden and other factors) by promoting discussion of nutrition issues, burden, and opportunities within broader child health meetings by having nutrition focal points join general health planning meetings and strategy discussions – Strengthened programme planning between traditionally siloed wasting and health programmes which helps promote sustainability for these services and improved efficiencies across child health services 	<ul style="list-style-type: none"> – Additional staff requires funding and training – This model has been used in some countries and still ends up being operationalized as “too vertical,” especially when leadership does not explicitly promote or direct integrated programming between teams or divisions – Additional nutritional training for health decision-makers could similarly help improve wasting service prioritization during child health planning
<p>HW.2. Add wasting services to the job descriptions and task lists of health workers at the facility and community levels</p>	<p>Pakistan: shifted away from using a short-term, specialized nutrition workforce for the treatment of wasting during emergencies (reliant on external funding) to employ routine health workers for a more sustainable delivery of wasting services. Next steps in capacity building activities are being planned, including leveraging the community health cadres, Lady Health Workers (LHWs), to deliver CMAM and nutrition services. This has now been integrated into the federal PC-1 and thereby expands the coverage of nutrition interventions by LHWs from 60 to 80%.⁴</p> <p>Malawi: As part of the CTC Advisory Service (CAS) and multi-year scale up of CMAM, the national government developed national CMAM guidelines and incorporated CMAM in national policies. This was the critical first step to adding the screening and referral of child wasting into the job description of community-level health workers, Health Surveillance Assistants (HSAs). Job aids were</p>	<ul style="list-style-type: none"> – Increased quantity of health workers responsible for delivering wasting services, improving access to services and increasing care seeking (e.g., by eliminating the time required to travel to facilities) – Increased screening and treatment coverage by ensuring all health workers who come in contact with sick children are screening for child wasting and referring appropriately to treatment – Increased efficiency by leveraging the existing workforce in the health sector for the delivery of wasting services and relying less on NGO staff 	<ul style="list-style-type: none"> – Health workers at both the facility and community levels are often already overwhelmed with long task lists and introducing additional services may overburden them and thereby negatively impact the quality of all health services. To be most effective, hiring additional health workers may be needed to cover additional duties, which comes at a cost. – Additional training is required to ensure proper delivery of wasting services (see HW.3 and HW.4), which comes at a cost – A proper enabling environment for health workers (e.g., sufficient monitoring, supervision motivation, and accountability measures) is needed to ensure wasting services do not get underprioritized and are delivered in a high-quality manner (see HW.5)

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
	<p>subsequently developed to outline expectations of CMAM for both community and facility based workers (e.g., clinicians, nurses, HSAs, community volunteers).^{2,20}</p>		<ul style="list-style-type: none"> - Prior to adding wasting services into the task lists or job descriptions of community or facility level staff, country governments must have established policies, guidelines, protocols, and operational plans in place to ensure standardized care subnationally and locally - Feasibility consideration on resources: Health workers require sufficient resources to successfully deliver wasting services (e.g., MUAC tapes or RUTFs) and feel disempowered when these are unavailable to perform a task
<p>HW.3. Incorporate wasting services in national pre-service trainings and academic curricula for health workers (e.g., medical and nursing schools, community extension workers' curricula)</p>	<p>Ethiopia: has an advanced pre-service training package for both health facility and community-level staff that includes CMAM. The first step was including CMAM into national protocols and guidelines, which in turn allowed for the inclusion of wasting services within existing health training opportunities. UNICEF also worked directly with the FMoH to develop guides, job aids, and intensive trainings for health extension workers (HEWs); and they partnered with training institutions for the pre-service training of medical doctors and health officers on CMAM. By adding CMAM protocols into existing training packages and leveraging support from UNICEF and other implementing partners, the majority of health personnel are now trained to deliver wasting services.²¹⁻²³</p>	<ul style="list-style-type: none"> - Increased quality and coverage of wasting services by ensuring all health workers are properly trained to deliver wasting services and view them as a priority 	<ul style="list-style-type: none"> - Potential to overwhelm existing in-service and pre-service training processes delivered within the health system - Readiness consideration: Are the existing trainings offered by the health system for other health conditions effective? Do they have the capacity to add modules for wasting? - Integrating training has both transition and long terms costs (e.g., time to develop modules, trainers, and resources)
<p>HW.4. Incorporate wasting services into in-service trainings for health workers at the facility and community levels</p>			
<p>HW.5. Ensure that management</p>	<p>Burkina Faso: Regional and district Focal Points for nutrition with technical expertise in SAM treatment were strategically placed to</p>	<ul style="list-style-type: none"> - Increased quality of wasting services by ensuring staff are properly 	<ul style="list-style-type: none"> - Supervisors, like health workers, also have long task lists and may feel overburdened

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>teams are trained to support health workers who deliver wasting services at the facility and community levels (e.g., training in routine performance monitoring, supportive supervision, task-sharing guidelines for wasting and health services, and standard operating procedures)</p>	<p>improve the supervision for nutrition and mentor health workers in SAM treatment. These focal points helped to bridge the supervisory gap within the health system for nutritional services by providing the necessary technical expertise previously missing.²⁴</p> <p>Malawi/Ethiopia: The supervision and planning of health activities of CMAM services is monitored by district and MOH staff. In Ethiopia, zonal and woreda health offices conduct supportive supervision of CMAM along with other health services.⁸ In Malawi, CMAM services are fully managed and supervised by the district health offices and MOH staff.²⁵</p>	<p>supervised and routinely monitored through better integrated supportive supervision</p> <ul style="list-style-type: none"> – Improved coverage of wasting and health services as with better supervision the health workforce feels better supported, encouraging staff attrition. Health facility management of the community component is particularly important for supporting community health worker service delivery and encouraging staff attrition 	<p>by monitoring and/or may lack the resources to successfully manage another health activity</p> <ul style="list-style-type: none"> – Supervisors must be trained in wasting services, which has cost and time implications if they are not already
<p>HW.6. Transition training and capacity-building efforts for wasting services from external partners to national health sector training plans, with support from academic institutions for pre-service training</p>	<p>Mozambique: Community Health Team (CHT) programme in Tete Province, combined several Médecins Sans Frontières (MSF) and MOH community programmes, using volunteers to deliver health services as a bundle, including the screening for malnutrition among children under 5. While MSF used to be responsible for programme management, the responsibility was eventually transferred to the MOH. This programme illustrates how previously NGO managed CHWs programmes can be integrated to provide general child health services under the supervision of the MOH and increase accessibility to rural populations.²⁶</p> <p>West Africa: emergency nutrition donors such as ECHO have required (for several years) a capacity-assessment and building approach for any emergency SAM treatment programme they fund. This means that NGOs often get funded to support only the aspects of wasting treatment delivery that need capacity strengthening within health system and they (the NGOs) are evaluated by ECHO against impacts of capacity building efforts.</p>	<ul style="list-style-type: none"> – Increased efficiency of wasting services by leveraging existing components of workforce management within the health system for wasting (e.g., incentives, professional development, trainings, supervision) – Increased sustainability by strengthening government oversight of capacity building activities that have continued to be supported by external partners 	<ul style="list-style-type: none"> – The government health system must be strong enough to assume additional responsibilities from external partners in regards to workforce management in the long term – It is important to consider the long term costs the health system will incur and whether this is feasible—without sustainable financing solutions and strong political will for governments to absorb this aspect of the programme, it will likely not be transitioned – To be most effective, a transition plan must be in place for a gradual transition from external partners to government – Academic and training institutions (e.g., medical schools) must be willing to make curriculum changes

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
	<p>Mali: In 2015, the Ministry of Health (MOH) in collaboration with AMCP/ALIMA and UNICEF created a Units of Recovery and Intensive Nutrition Education (URENI) teaching hospital in Dioila, Mali that offered a 3-week refresher training course for healthcare providers in complicated SAM treatment. Refresher trainings were also offered to nutrition focal points (NFPs) who are employed by the MOH and manage the monitoring of integrated management of acute malnutrition (PECIMA) at the regional level. Ultimately, the on-job trainings increased the number of health professionals with the capacity to deliver quality inpatient treatment for SAM treatment across a number of health facilities. However, the approach needs improved financial sustainability and health worker coverage.^{7,8}</p>		
<p>HW.7.EP. Develop emergency response plans to ensure adequate workforce coverage to deliver wasting services during emergencies (e.g., through temporary staff deployment and re-arrangement)</p>	<p>Kenya: As part of the CMAM Surge approach (described above in SD.6), CMAM Surge dashboards with data related to child wasting were used to advocate for the strategic addition of staff within health facilities that had higher rates of child wasting, which in turn helped with the continuity of services during predictable peaks. In Laisamis sub-county, staff at the facility level used the data to restructure leave plans and call staff back from leave to ensure enough screening services where able to be delivered during emergencies.¹⁹</p>	<ul style="list-style-type: none"> – Decreased reliance on external partners to deliver wasting services in emergency settings as planning within facilities and locally to better leverage existing health workforce capacities – Improved response time as local actors, who are more proximate to the event, are utilized 	<ul style="list-style-type: none"> – Emergency response plans must go beyond appropriate health workforce capacities and include discussions on supply chain management, funding, etc. (see respective sections) – Emergency response planning generally may need to be strengthened within health systems

A4. Table 4.
Information Systems

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>IS.1. Collect priority wasting indicators for <i>treatment</i> within existing government-managed health information systems (e.g., DHIS), including integrated data collection tools. <i>Consider the following core set: new admissions, in-treatment, died, recovered, defaulted, non-recovered/nonresponse, relapse, early discharge, and late discharge</i></p>	<p>Kenya: continued to promote the integration of appropriate nutrition indicators into their national DHIS-2 (KHIS), exemplified by the following key principle within their National Nutrition Monitoring and Evaluation Framework: “Integration of nutrition data elements and indicators in the existing information systems, such as the DHIS (no parallel/ vertical systems).” In 2013, Kenya’s government-led Nutrition Information Technical Working Group (NITWG) in collaboration with the CDC reviewed key nutrition indicators, including those for the management of wasting, collected within the DHIS. Ultimately, two nutrition indicators, stunting and exclusive breastfeeding, were removed as they could not be reported accurately within the platform but inclusion of wasting indicators remained.²⁷</p> <p>Philippines: In 2020, five wasting indicators were added into the national health information systems announced within a government memo. As next steps, staff are being trained to ensure quality data collection— noting some work set back due to COVID-19.</p> <p>Somalia: 2016 in-depth revision led to the inclusion of nutrition/SAM indicators into the national HMIS and strategic next steps to implement at scale through IMAM guidelines and tool revisions.²⁸</p>	<ul style="list-style-type: none"> – More efficient and effective collection of critical wasting data alongside other health conditions – Ensures routine collection of wasting data and consideration by the health sector – Ensures timely access to wasting data when leveraging existing capabilities within routine health information systems (e.g., DHIS-2) 	<ul style="list-style-type: none"> – The health information system must have the capacity to collect additional indicators for wasting in a high-quality manner without harming the quality of existing health indicators collected – Configuring the entire data process of a health information system to include indicators for wasting is a complex task that requires reworking data elements, reporting tools, etc. which is often a multi-year process – Appropriate infrastructure (e.g., software, hardware) is needed to support data collection and processing – Adequate quantity of staff and trainings are needed to ensure accurate data collection, processing, and reporting by staff, and new personnel are often required to properly configure a new indicator and manage the system in the long term – Advocacy and health sector buy-in are required to get nutrition indicators included in health information systems, which is often a challenge as nutrition leads are excluded from key conversations (see IS.3)
<p>IS.2. Collect priority wasting indicators for <i>screening</i> within existing government-managed health information systems, including integrated data collection tools</p>	<p><i>Most countries do not systematically collect, aggregate, and report screening data for wasting treatment programmes within routine systems. Although some, e.g., Kenya, have started capturing data for MUAC screening.</i>³⁰</p>	<ul style="list-style-type: none"> – See benefits under IS.1 	<ul style="list-style-type: none"> – See considerations under IS.1 – Even when screening data is collected, it is comprised of a mix of both facility and community-level data that is often ad hoc and have quality issues (especially when collected within communities)
<p>IS.3. Train data personnel on nutrition and/or, where appropriate, embed nutrition data experts in national or subnational HMIS and statistics departments to help</p>	<p>Ethiopia, Kenya, Malawi, and Uganda: UNICEF supports at least one staff member, seconded to the MOH, for technical assistance to improve routine reporting of nutrition data. This has been labeled as a “promising practice” for other UNICEF country offices</p>	<ul style="list-style-type: none"> – Improved quality of wasting data collected by ensuring technical oversight in data processes exist to appropriately troubleshoot issues around configuration, reporting, data delays, etc. and also to bridge 	<ul style="list-style-type: none"> – Cost to hire and train an embedded expert in the long term could be significant – In some countries, UNICEF or other development partners have seconded staff to the MOH to provide data support to health information teams

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
liaise with and train programme teams (nutrition and health), troubleshoot data quality queries, and participate in relevant data/indicator review processes	to build country-level capacities for the best use of nutrition data.	<p>the communication divide between data and programmatic experts that can often lead to data errors</p> <ul style="list-style-type: none"> – Better quality data is critical for ensuring decision-makers can make informed choices surrounding wasting programme needs and burden – Improved interpretation of wasting data with the health sector by ensuring technical experts can translate data findings into programmatic action that can thereby improve coverage and equity for wasting services – Increased health sector buy-in with technical experts advocating for wasting indicators as a priority 	which is a form of partial integration when this role is not funded through domestic budgets. This model has been used in some countries and may end up being operationalized as “too vertical.”
<p>IS.4. Compile, analyze, and communicate wasting and health data together in a user-friendly format across facility and community sources (e.g., using data visualization tools such as dashboards or scorecards to interpret trends in service delivery and burden)</p>	<p>Rwanda: district mayors implement the District Plan to Eliminate Malnutrition (DPEM), a multi-sectoral plan that considers interventions relating to the screening and treatment of acute malnutrition. These plans are monitored through a system called Devinfo that pools nutrition and child health indicators from various data sources (HMIS, community-based nutrition programme health facility records, and system for information on community sanitation, and rapid SMS messages from CHWs) to synthesize and generate highly visual reports on a quarterly basis. Nutrition data specifically, including child malnutrition, is analyzed and disseminated by district hospitals on a monthly basis for comprehensive programme monitoring.³¹</p> <p>South Africa: DHIS-2 has a Child Health and Nutrition Dashboard that can be configured to show data at the national and district level; labeled as a “promising practice.” The ease of information availability has in turn improved the regular monitoring and use of both health and nutrition data.³⁰</p> <p>Ethiopia: at the woreda (district) level, an information system called ‘woreda net’ compiles data across multiple sectors and programmes, including for</p>	<ul style="list-style-type: none"> – Improved end-user ability to assess wasting service delivery and performance data (e.g., recovery and discharge rates) and/or track wasting burden in context of other health conditions (which impacts resource availability and allocation within facilities) – Increased efficiencies when wasting and health data are viewed together for broader child health programming and when existing dashboards, visualization tools, reporting mechanisms etc. within the routine health information system or existing health reporting mechanisms are leveraged 	<ul style="list-style-type: none"> – Any tools or reporting mechanisms for the compilation, analysis, and communication of wasting and health data must be in response to the needs of end users (e.g., programme planners and decision makers) and ideally leverage existing capacities within the broader health information systems (e.g., using existing DHIS tools) which may require external technical support for set-up – Existing data visualization tools and reporting mechanisms must have the capacity to include additional indicators to display wasting and health data together – Training and sensitization for staff are required to explain how to use the tools and interpret the data for wasting. Programme staff must also be trained how to access and use the reported information and liaison with data staff to properly interpret the data for M&E

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
	<p>CMAM. Both nutrition and health data are collected and used by local health offices for local child health programming. A key success of the system has relied on trained technicians employed by the MOH at the district level.³¹ However, data within this system must be validated before dissemination which leads to a two month delay in availability.</p>		<ul style="list-style-type: none"> – There are certain upkeep costs and time allocation required for maintenance of such tools
<p>IS.5. Ensure that wasting data is routinely available to decision-makers who are planning the delivery of health and wasting services at all levels of government (national, subnational, and local)</p>	<p>Kenya: monthly review of facility and sentinel site data that is compared to 5-year averages by the National Drought Management Authority (NDMA). Bi-annual assessments with SMART survey data are based on seasonality (long/short rain). This information is shared at the national level- used by MOH and a special programme team to define who is in most need of most support, what interventions are there, and options to change programming to meet existing needs.³²</p> <p>See Ethiopia & Rwanda examples above</p>	<ul style="list-style-type: none"> – Increased sustainability and strengthened health sector ownership over wasting data, leading to more comprehensive health responses and child health programming that includes wasting services – Increased efficiency by using data to identify integrated child health programming opportunities – Improved treatment coverage with more routine use of wasting data to monitor service delivery and performance by health sector leadership 	<ul style="list-style-type: none"> – Routine activities for broader child health monitoring and surveillance must be effectively responding to existing programme needs; consider whether adding considerations for wasting will overburden processes and lead to insufficient monitoring – Programme staff must be trained how to access and use the reported wasting information and liaison with data staff; proper interpretation is critical in order for them to effectively communicate wasting needs during health sector meetings on broader child health programming
<p>IS.6. Build evidence for the prioritization of wasting services and ensure that it is available to health sector decision-makers at key milestones to advocate for wasting services Generating and using evidence at all levels (national, sub-national, local) to suit the need. In some cases, this could include government commissioning new research initiatives to support prioritization and planning decisions to fill information gaps. For example: a) on the impact wasting has on health outcomes to assess relative level of priority to wasting</p>	<p>Mauritania: Presentation of raised GAM rates in a national SMART survey were used to engage key decision makers and encourage further commitments for severe acute malnutrition (SAM). This was accompanied by an advocacy letter used to raise awareness of the SAM situation to higher government levels.</p> <p>Cameroun: The Nutrition technical group was used to undertake a comprehensive analysis of SAM data. This highlighted admissions trends, performance, and evolution of SAM in the country.</p> <p>Tanzania: Bi-annual SMART surveys are conducted with an accompanying advocacy piece to ensure the nation is on track to meet targets in Joint Multi-Sector Nutrition Action Plans (5-year plan). While the actual plan focuses on stunting, wasting indicators are still included.²⁸</p>	<ul style="list-style-type: none"> – Increased sustainability of wasting services through better evidence on the impact of wasting on health outcomes which can help to change perceptions on the relative importance of wasting as a health priority and increase health sector buy-in. – Improved evidence on opportunities for broader child health programming 	<ul style="list-style-type: none"> – Research initiatives may be expensive and dependent on external technical assistance and funding – Evidence that is generated must be communicated effectively to health sector leadership at the right times (e.g., prior to decision-making meetings) – In some cases, decision-makers involved may be similar to those explained in IS.5, which is important to keep in mind, especially when determining entry points for advocacy – Under constrained resources, decisions must be made on which health priority to invest time and resources into. In some areas, wasting may come out as a top priority for investments; in other areas it may not be a top priority

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>response (e.g., wasting as cause of death or underlying cause of death); b) compare coverage of wasting services with other health services to assess opportunities to integrate services.</p>			
<p>IS.7.EP. Strengthen linkages between early warning systems and health information systems to help predict and more quickly detect surges in child wasting and mount a rapid emergency response</p>	<p>Zimbabwe: In response to heavy floods and rain in 2013-2014 in the Tsholotsho District, the District Food and Nutrition Security Committee (DFNSC) facilitated a multi-sectoral and integrated approach to address resulting food and nutrition insecurity. The DFNSC used various data sources collected from the affected areas (such as surveillance mechanisms monitoring crop production, malnutrition screening via an exercise, and a SMART survey) to agree on an appropriate response. They also established guidelines for an integrated information system on food and nutrition security and vulnerability. This integrated system now allows them to combine surveillance systems from different sectors (e.g., health and agriculture) into one to know the status of the district's food security and nutritional wellbeing.³¹</p> <p>Kenya: As part of their overall effort to build resiliency with the CMAM Surge approach, Kenya uses CMAM Surge dashboards to monitor emergency thresholds (normal, alert, serious, emergency) across health facilities. These proved useful during the 2019 drought in the arid and semi-arid lands (ASAL) when county teams were able to use the dashboards to detect an emerging nutritional emergency more quickly than existing warning systems. As a result, the county and sub-county teams were able to initiate a more rapid response. As these dashboards remain independent from other country-level information systems, additional work is needed to add this real-time data into the early warning bulletin produced by the National Drought Management Authority (NDMA).^{19,33}</p>	<ul style="list-style-type: none"> – Improved timeliness and data quality across systems in a way that quickens the response time to emergencies where increases in child wasting occur – Improved efficiencies by ensuring systems are compatible and thereby avoid the duplication of data entry into multiple systems 	<ul style="list-style-type: none"> – Linking systems together can be very complex and resource intensive – both in terms of time, money, and resources. It would require dedicated staff to support and maintain. – It is important quality data is being fed into these systems

A4. Table 5.
Sustainable Financing

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>SF.1. Increase domestic resource allocation to wasting services by ensuring adequate prioritization in health sector budgets commensurate with need (donors may provide incentives through co-financing agreements or matching schemes) (see LG.1)</p>	<p>Philippines: Developed national IMAM protocols which integrate wasting services into existing IMCI and IYCF programmes. In 2016, 17 high-burden provinces were targeted in the Department of Health Investment Plan with \$3.3 M allocated to fund wasting services, including 100% of supplies and some training costs. The national nutrition plan (PPAN 2017-2022) seeks to scale to 90% coverage.</p> <p>In 2017, wasting treatment was explicitly included in national guidelines for primary healthcare services, with the goal to finance all costs for inpatient and outpatient treatment through Local Government Units under the broader PhilHealth national insurance scheme.^{34–36} (see SF.8)</p>	<ul style="list-style-type: none"> – Increased financial and programmatic sustainability through increased funding for wasting services from domestic budgets – Increased national ownership, prioritization, and commitment for wasting services through increasing domestic funding 	<ul style="list-style-type: none"> – In many countries with high wasting burdens, there is limited fiscal space to increase funding to wasting all at once and many countries may not be able to fully finance wasting programmes—there is likely a long period of transition when donor support will still be required – Domestic funding is susceptible to budget cuts and may also put programmes at risk of interruption, similar to donor funding cuts
<p>SF.2. Mobilize new domestic resources for wasting to gain a net increase in overall health sector funding (e.g., through tax reform or innovative financing mechanisms)</p>	<p>Co-financing mechanisms to incentivize additional domestic contributions has been tested across different health services. For example, matched funding mechanisms between donors and several states in Nigeria.</p> <p>UNICEF Supply Division, with support from FCDO, is in the first year of a five-year project for innovative co-financing mechanism for RUTF. The project aims to increase the technical capacity of countries to budget and plan for RUTF, through the inclusion of nutrition commodities in UNICEF SD's Vaccine Independence Initiative and national GFF investment case, as well as having a 1:1 match with governments purchasing RUTF. Malawi became the first country to pilot this mechanism in early 2021, and Ethiopia is forthcoming.</p>	<ul style="list-style-type: none"> – Increased financial and programmatic sustainability through increased funding for wasting services from domestic budgets – Increased domestic funding could reinforce national ownership, prioritization, and commitment to wasting programmes 	<ul style="list-style-type: none"> – Some initiatives to incentivize domestic contribution to wasting have been piloted, including co-financing or matching arrangements, but results have been mixed and more evidence on such mechanisms is needed
<p>SF.3. Increase donor funding for longer-term systems strengthening, shifting from shorter-term humanitarian funding for wasting services</p>	<p>Burkina Faso: In 2014, the government worked with the EU to develop a 6-year development strategy using \$623M of funding available through the European Development Fund's National Indicative Programme (NIP). The government decided to allocate 30% of the total budget support to nutrition and food security, including allocations for wasting treatment at regional and district-level, 20% contribution to the total RUTF procurement, all health workforce expenses (except CHWs), and medicines. The government also contributed 25% of the monthly funds for CHW networks, with the remaining funding coming from the Global Fund. There are currently efforts underway to</p>	<ul style="list-style-type: none"> – Increased financial and programmatic sustainability for countries with a more endemic burden aiming to treat wasting through routine health systems – On-budget, longer-term development funding can facilitate multi-year planning and strengthen the overall health system 	<ul style="list-style-type: none"> – The transition from humanitarian to development funding is highly dependent on the stability of the country and the capacity of the national government to shift from emergency response to multi-year planning, and the transition may occur over several years in incremental shifts. In some contexts, humanitarian aid may be the only available form of funding available

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
	<p>establish the commitment to CHW networks at the district-level to ensure sustainability beyond the end of external financing.^{24,37,38} (see Nepal example below in SF.6)</p>	<ul style="list-style-type: none"> – Increased domestic funding could reinforce national ownership, prioritization, and commitment to wasting programmes 	<ul style="list-style-type: none"> – Often, donor funding streams for development and humanitarian aid are distinct, meaning an increase in development aid may not mean a decrease in humanitarian aid. Rather, shifting from humanitarian funding means the relative contribution from development sources increases alongside total funding available overall, as countries transition to a routine programme response versus an emergency response – In order for external funds to be channeled through government budgets, strengthening public financial management systems may be required (see SF.5 below)
<p>SF.4. Increase domestic contribution to wasting services by utilizing concessional loans and grants (e.g., IDA/IBRD, Regional Development Banks) <i>Note SF.5 is always the case for World Bank investments: funds are channeled through government financial institutions</i></p>	<p>Several countries have used World Bank financing to support wasting initiatives with a focus on systems strengthening, including DRC, Kenya, Malawi, Mozambique, Rwanda, and Pakistan. In Pakistan, World Bank funds went to three provincial governments. Although funds for RUTF went directly to procurement through UNICEF Supply Division, the remaining resources flowed through provincial departments of health to support service delivery.</p>	<ul style="list-style-type: none"> – Increased financial and programmatic sustainability through increased funding for wasting services from donors – World Bank programming usually has a focus on systems strengthening more broadly – Built-in accountability mechanism: World Bank financing through the Programme-for-Results instrument sometimes includes disbursement-linked indicators (DLI) where a portion of funding is disbursed if results are achieved 	<ul style="list-style-type: none"> – Even when terms are concessional, loans must be paid, and wasting services are not likely to generate a revenue stream for governments. Countries must weigh whether borrowing is an appropriate way to financing their programmes – Countries would have to go through the same prioritization process they would for domestic funding from tax revenue to determine whether World Bank funded should be directed to wasting—in both cases it is country governments deciding how funds should be used – Investment planning and development takes time, though operate under predictable schedules
<p>SF.5. Shift from off-budget, external aid funding to increase donor funding channeled through government budgets and financial systems</p>	<p>Pakistan. In Pakistan, World Bank funds went to three provincial governments. Although funds for RUTF went directly to procurement through UNICEF Supply Division, the remaining resources flowed through provincial departments of health to support service delivery. (see full Pakistan Case study Box LG.2)</p>	<ul style="list-style-type: none"> – Increased financial and programmatic sustainability due to on-budget, longer term development funding – Reduced fragmentation and increased efficiency through pooling funds 	<ul style="list-style-type: none"> – The benefits are dependent on the strength and capacity of government financial management systems and donors may be unwilling to channel funds through government systems with limited transparency and accountability mechanisms

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>SF.6. Include costed plans for wasting services within the <u>annual</u> health planning and budgeting process <i>General process: Monitor implementation progress (previous year), plan wasting services for the year ahead (within relevant health programmes), estimate resource needs (costs) and compare this with financing available, determine the financing gap, engage with development partners for planning and to help fill gaps (see LG.1)</i></p>	<p>Nepal: The national five-year Multi-Sectoral Nutrition Action Plan (MSNP II, 2018-2022) serves as a roadmap for annual planning, where estimated costs to achieve the plan are detailed by sector and source of funds (government, development partners), and where the Ministry of Federal Affairs and Local Development aims to track funding available annually using a system of budget codes. Donors are encouraged to transition to on-budget funding to allow management at the national level. Development of the MSNP II was based on experience from the MSPN 1 (2013-2017) where resource tracking indicated a funding gap to nutrition and highlighted the need to strengthen off-budget resource tracking. ³⁹⁻⁴²</p>	<ul style="list-style-type: none"> – Increased government ownership and oversight of financing for wasting services by going through the full planning cycle, even when most of the funding is coming from donors – Increased financial and programmatic sustainability through strengthening the technical capacity for financial management of wasting services 	<ul style="list-style-type: none"> – The capacity of government budgetary and financial management systems may need to be strengthened before this option is feasible – Common practice across other health areas in annual planning in some ways sets the example for what can be done for wasting services – This assumes that planning, costing and budgeting for integrated actions happens within relevant programme budgets and not necessarily as one ‘wasting budget’ or even as a ‘nutrition budget’ (e.g., planning for the inclusion of wasting within immunization programmes would estimate additional costs to include wasting services within the immunization programme budget)—this must be led by relevant health partners
<p>SF.7. Track on- and off-budget funding for wasting in accordance with targets established in national plans <i>Use data to inform annual planning and multi-stakeholder coordination</i></p>	<p>Ethiopia: Since 2015, the Federal Ministry of Health (FMOH) has been tracking funding for nutrition across sectors and partners through a process embedded within the System of Health Accounts⁴³ and transitioning to annual health resource mapping processes). Data compiled through the annual health resource mapping initiative is used to inform annual planning and partner coordination, where funding to nutrition is one of many other health priorities tracked and monitored against spending targets.</p>	<ul style="list-style-type: none"> – Increased visibility and transparency for domestic and external funding for wasting – Increased national resource tracking capacity can help improve data-driven decision making and inform the annual budgeting processes to address funding gaps – Increased efficiency gains through stronger coordination of funding across partners and programmes 	<ul style="list-style-type: none"> – It is often difficult to track funding spent on wasting services specifically, as these expenditures are part of broader health and nutrition programmes. This may not be a major limitation if the objective is to track which programmes contain any wasting services/funding at least at the start – Technical assistance on how to cost programme needs and to develop resource tracking methods may be required
<p>SF.8.EP. Ensure costed emergency response plans for wasting services are included</p>	<p>Kenya: National Drought Management Authority (NDMA) county-level drought contingency plans are critical for preparing and responding to droughts. Some counties have particularly well-developed plans that detail necessary wasting response. For instance, Wajir County</p>	<ul style="list-style-type: none"> – Increased cost savings and potential efficiency gains through incorporating and routinely monitoring data 	<ul style="list-style-type: none"> – The ability of the government to develop accurate contingency plans is highly dependent on the strength and capacity of information systems

Public financial management

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>in subnational health plans and local budgets</p>	<p>developed a quite comprehensive plan in 2014 with ample considerations for wasting, including indicators, thresholds, amounts of RUSF and RUTF that might be needed, a budget for the therapeutic foods, and procurement plans.¹³ Remaining concerns about the plan include some of the budget allocations and a lack of transparency.⁷</p>	<p>from early warning systems and annual wasting trends can help governments plan and budget for emergencies to mitigate the disruption of essential wasting services and reduce the financial burden of seasonal surges</p> <ul style="list-style-type: none"> – Governments can use annual resource tracking data to assess geographic areas most in need of additional resources (i.e., high burden, low funding) and coordinate across donors and inform priority areas for domestic investments 	<p>and resource tracking tools for wasting data</p> <ul style="list-style-type: none"> – Given that the wasting burden is typically not uniform throughout a country, there should be a process of prioritization to target emergency-prone populations
<p>SF.9.EP. Review processes for quickly reallocating funding to respond to surges in in child wasting and develop an emergency funding plan</p>	<p>South Africa: the national budget structure releases funds through programmatic envelopes that are link to policy objectives and integrated service delivery rather than specific line items. During COVID-19, this budget structure enabled flexible reallocations nationally and sub-nationally to account for additional COVID-19 expenditures.⁴⁴ (see more in Box SF.2 on lessons learned from contingency planning during COVID)</p>	<ul style="list-style-type: none"> – Increased responsiveness of the health system to better respond to the needs of the population during an emergency through increased flexibility and autonomy of sub-national budgets 	<ul style="list-style-type: none"> – The pre-existing national budget structure will determine what mechanisms are available to reallocate funds during an emergency. – For countries that face a more predictable/seasonal surge in wasting caseloads, it may make sense to build in specific mechanisms across sub-national budgets
<p>SF.10. Clearly specify and define wasting services in existing national insurance benefits package</p> <p><i>Strategic purchasing</i></p>	<p>Pakistan: In 2018 the Government of Pakistan, agreed that a ‘minimum essential nutrition package’ that included wasting treatment and key prevention and promotion services (IYCF counselling, vitamin A supplementation, deworming and multiple micronutrient supplementation (MMS) for children and pregnant and lactating women) would become part of the Universal Health Benefits Package, delivered routinely through the government health system by the existing health workforce. The process of costing and the integrated benefits package is currently underway by the Ministry of National Health Services, Regulation and Coordination, with technical support from UNICEF. (see full Pakistan Case study Box LG.2) (see Philippines example above in SF.1)</p>	<ul style="list-style-type: none"> – Increased financial and programmatic sustainability by including wasting services in national financing mechanisms for essential services – Improved equity and efficiency of resource distribution by reducing fragmentation of funding pool 	<ul style="list-style-type: none"> – Not all countries have national insurance schemes with the capacity to absorb the costs of wasting services – Inclusion in the benefits package may not be adequate to ensure coverage and quality of wasting services, and should be incentivized with appropriate performance indicators used to increase accountability – The pooling system requires strong governance and coordination mechanisms to ensure effective and efficient use of funds

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>SF.11. Review provider payment mechanism (fee-for services, capitation payment) to identify ways to incentivize provision of wasting treatment</p> <p>SF.12. Leverage performance-based financing to incentivize wasting treatment</p> <p>SF.13. Explore demand-side incentives (i.e., household CCT and vouchers) to incentivize screening and treatment of wasting</p>	<p>Rwanda: In 2018, under the national Stunting Prevention and Reduction project, the Government of Rwanda, using World Bank funding, implemented a health facility a community-based results-based financing (cRBF) programme to incentivize the delivery of essential nutrition services. The facility-based incentives prioritized the delivery of a package of high-impact maternal and child health and nutrition services and support the strengthening of information systems to monitor performance. The cRBF model prioritized CHW household visits and community outreach. This included a training component and investment in the CHW cadre with a revised curriculum that emphasized sensitizing caregivers and communities, growth monitoring, household behavior change on complementary feeding, early childhood stimulation, and hygiene. Additionally, demand side incentives were used at the community level by implementing a household stipend for the nutrition and health services being prioritized.⁴⁵</p>	<ul style="list-style-type: none"> – Increased accountability using results-based financing incentives according to quality and performance indicators – Increased prioritization of wasting services at the facility-level – Potential to improve quality of wasting services 	<ul style="list-style-type: none"> – The benefits of performance-based financing are closely tied to the capacity and quality of the information system and wasting data collected (see Information Systems chapter) – Incentives should not detract from the quality and delivery of other essential health services in the benefits package, and it is essential that performance-based financing incentives are linked to the needs of the population, which may change over time – Fee for service programmes can over-incentivize curative services at the health facility level – Capitation payment can disincentivize increasing treatment coverage through community-based outreach and preventative services

A4. Table 6.
RUTF Supply

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>RS.1. Include RUTF in national prioritization processes for essential commodities (e.g., national essential medicines list)</p>	<p>Zimbabwe and Burkina Faso: The addition of RUTF to the essential medicines list (EML) was an important first step in broader multi-year plans to integrate the parallel RUTF supply chains. According to stakeholder interviews, adding RUTF to the EML led to an increase in levels of government funding dedicated to RUTF procurement and the process led to the creation of budget lines and plans to scale government funding in both countries.⁴⁶</p>	<ul style="list-style-type: none"> – Potential to increase domestic contribution through increased prioritization of RUTF in national policies – Increased sustainability of the RUTF pipeline through prioritization of RUTF as an essential commodity – Increased prioritization of RUTF in national policies could improve customs clearance and taxation barriers improving procurement and increasing product availability in-country 	<ul style="list-style-type: none"> – While inclusion of RUTF can be an important regulatory step to increase national ownership, this does not directly translate to RUTF being prioritized and included in national planning and budgeting processes for essential commodities (e.g., in DRC and Chad while RUTF was included on the essential medicines list, there was not an increase in domestic contribution and the overall availability of RUTF did not improve) – The inclusion of RUTF could lead to overly stringent regulation for RUTF as a medicine that could drive up costs unnecessarily
<p>RS.2. Include RUTF in existing national budgeting and planning processes for essential commodities</p>	<p>Uganda: Since 2018, RUTF has been included in national quantification processes for essential health commodities and the government is currently working to establish costed budgets at the health facility level to better capture commodity needs and inform national planning processes.</p>	<ul style="list-style-type: none"> – Increased pipeline sustainability through strengthening the national capacity to budget and plan for RUTF – Potential efficiency gains and increased sustainability through quantifying RUTF alongside other medicines for child health services – Potential to increase availability of RUTF in-country due to improved coordination and communication of funding needs among domestic and external stakeholders (see RS.6) 	<ul style="list-style-type: none"> – For some countries, a commodity must be listed on the essential medicines list to be included in the national forecasting processes and/or managed by the national medicines agency (see RS.1) – The capacity of government financial management systems and quantification should be considered before integration to ensure that RUTF supply is not interrupted – Information systems may not provide the required data for quantification in a timely manner (see Information Systems chapter) – When capacity is insufficient, technical assistance and support from partners during the transition should be planned.
<p>RS.3. Include RUTF in national procurement management processes alongside other essential commodities, including services contracted by the government</p>	<p>Many countries use UNICEF Procurement services, often financed using World Bank funds, including Burkina Faso, DRC, Kenya, Malawi, Mozambique, Pakistan, and Sudan</p>	<ul style="list-style-type: none"> – Increased RUTF pipeline sustainability through strengthening the national capacity to procure RUTF – Potential efficiency gains and increased sustainability through procurement of RUTF alongside other medicines for child health services – Potential to increase availability of RUTF in-country due to improved coordination and communication of procurement needs among domestic and external stakeholders 	<ul style="list-style-type: none"> – In some contexts, the transition costs to set up national procurement (e.g., establishing systems to pool funding from domestic and external sources) may outweigh the benefits and it may be more beneficial for the national procurement agency to outsource RUTF procurement to UNICEF Supply Division's Procurement Services – Even if RUTF procurement is outsourced, there is a need to increase national oversight and involvement of procurement to enable adequate planning and budgeting along with other essential commodities

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>RS.4. Transfer the management of RUTF storage and distribution to the national supply chain according to readiness at each level of the system (national, subnational, local), including services contracted by the government</p>	<p>Countries where storage and distribution of RUTF has been partially or fully integrated into the national medicines supply chain include Burundi, Chad, Eritrea, Madagascar, Mozambique, Sierra Leone, and Zambia.^{47,48}</p> <p>Kenya's integration process began in 2014 with the creation of a steering committee that developed a roadmap based on previous integration of GFATM products into the national supply chain. The transition was phased in with built-in adjustment periods after each step, beginning with a pilot in two counties and eventually scaling up to 23 counties.¹ In 2019, an analysis concluded that, in the two counties where integration was piloted, integration and other improvements put in place at the same time resulted in at least 14% and perhaps as much as 37% savings in transport, warehousing and staff costs, while at the same time reducing stockouts.⁴⁹</p> <p>In 2017, UNICEF and the Government of Malawi set out to replicate Kenya's success. A visit to Kenya and a meeting between Malawian and Kenyan officials helped to build high-level political commitment. After the workshop in Kenya, the Malawi MoH developed an integration roadmap with clear responsibilities for the MoH, UNICEF, and the Central Medical Stores Trust (CMST). A Nutrition Integration Steering Committee was set up to oversee the process and integration was completed in one year. MoH and UNICEF focused on securing more sustainable financing for supply chain strengthening as an entry point for integration, and developed a roadmap with two stages:</p> <p>Adding RUTF to the national LMIS, training HF workers, and transferring stock management to pharmacists</p> <p>Investing in CSMT's storage and distribution capacity, following a costed roadmap with financial support from FCDO and the World Bank</p>	<ul style="list-style-type: none"> - Increased availability of RUTF (reduced stockouts) through improved capacity to coordinate and plan the distribution of RUTF according to need national, sub-national, and local levels of the supply chain - Potential efficiency gains and cost savings from elimination of parallel storage and distribution structures - Increased long-term pipeline sustainability through increased ownership and oversight of the storage and distribution of RUTF by the national supply chain 	<ul style="list-style-type: none"> - While handing over storage and distribution is an opportunity to increase government ownership, it is not an all nothing process, and should be considered based on the capacity and readiness of the national supply chain - The unique storage requirements of RUTF (bulk, volume, pests) often requires new storage facilities and distribution vehicles to adequately manage RUTF, all of which can have high start-up and maintenance costs - In some cases, it may be more cost-effective for the government to contract with the private sector for this function at some or all levels of the supply chain depending on the capacity
<p>RS.5. Use RUTF inventory and consumption data to plan for needs (demand forecasting) and coordinate the distribution of RUTF to health facilities with existing schedules for other essential commodities when appropriate</p>	<p>In 2017, UNICEF and the Government of Malawi set out to replicate Kenya's success. A visit to Kenya and a meeting between Malawian and Kenyan officials helped to build high-level political commitment. After the workshop in Kenya, the Malawi MoH developed an integration roadmap with clear responsibilities for the MoH, UNICEF, and the Central Medical Stores Trust (CMST). A Nutrition Integration Steering Committee was set up to oversee the process and integration was completed in one year. MoH and UNICEF focused on securing more sustainable financing for supply chain strengthening as an entry point for integration, and developed a roadmap with two stages:</p> <p>Adding RUTF to the national LMIS, training HF workers, and transferring stock management to pharmacists</p> <p>Investing in CSMT's storage and distribution capacity, following a costed roadmap with financial support from FCDO and the World Bank</p>	<ul style="list-style-type: none"> - Increased availability of RUTF (reduced stockouts) through the improved coordination of RUTF distribution according to need captured at the health facility level - Increased long-term pipeline sustainability through strengthening RUTF data chains within existing national systems - Potential efficiency gains through streamlining the distribution of RUTF with other health commodities when feasible 	<ul style="list-style-type: none"> - In some cases, it may be more cost-effective for the government to contract with the private sector for this function at some or all levels of the supply chain depending on the capacity - While distribution of health commodities should be coordinated whenever possible, some commodities (like RUTF) have unique requirements that require natural segmentation of the distribution schedules. Bundling of commodity distribution should only be pursued when doing so is deemed effective and will not jeopardize availability of essential commodities.

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
<p>RS.6. Budget for last-mile distribution in subnational plans, including transportation costs and buffer stock positioning</p>	<p>Malawi: The 2017-2021 National CMAM Operational Plan, developed by the MoH with support from UNICEF and FANTA, included costing for transportation from the central district warehouse to each facility and included buffer stock estimates. The costing was done using the CMAM costing tool at the national and district level.⁵⁰</p>	<ul style="list-style-type: none"> – Increased availability of RUTF (reduced stockouts) through improved government capacity for financial planning of last-mile distribution of RUTF – Increased RUTF pipeline sustainability, especially for high-burden, hard to reach contexts, through strengthening budgeting for pre-positioning, buffer stock, and last mile-distribution 	<ul style="list-style-type: none"> – The addition of transportation costs to sub-national budgets may not translate to improved last-mile delivery if not accompanied by necessary planning and monitoring of facility level needs – The budgets should have some degree of flexibility to account for surges and seasonal challenges that could affect transport
<p>RS.7. Include RUTF in the national logistics management information system (LMIS) used to forecast and communicate commodity needs across all levels of the supply chain (see RS.2)</p>	<p>Tanzania: government began integration process by including RUTF in the existing “bottom-up” quantification processes through the LMIS from the health-facility level which allowed for the development of costed budgets. Additionally, RUTF management was transferred to pharmacies and staff trained in logistics and stock management which improved the monitoring and reduced stockouts at the facility level. The transition of RUTF to pharmacies also led to an important shift in community perception of RUTF as a medicine rather than a food, which led to the reduction of misuse and sharing of RUTFs at the community level.⁴⁶</p> <p>Madagascar: UNICEF has set up a SMS system for facilities to alert regional stock when stocks are low.</p>	<ul style="list-style-type: none"> – Increased availability of RUTF (reduced stockouts) due to improved ability to monitor RUTF through existing national LMIS – Increased long term pipeline sustainability through improved capacity to quantify RUTF needs at the health facility level using the existing national LMIS, which can ultimately be used to inform national forecasting processes – Potential efficiency gains and cost savings through improved national capacity to coordinate distribution according to need across all levels of the supply chain 	<ul style="list-style-type: none"> – The addition of RUTF to the national LMIS may be resource intensive during the transition, and there is a need to plan for adequate training and supervision of the process – RUTF availability is still constrained by funding availability, so the improved quantification of need may not immediately translate to reduced stockouts without also strengthening the financial planning for RUTF – The reduction of stockouts is highly dependent on the strength and readiness of the national supply chain, and when integration is not feasible further optimization should be considered
<p>RS.8. Ensure RUTF stock is managed by staff trained in logistics and inventory management at the sub-national level (e.g., pharmacists, logistics managers, etc.)</p>	<p>Madagascar: UNICEF has set up a SMS system for facilities to alert regional stock when stocks are low.</p>	<ul style="list-style-type: none"> – Increased availability of RUTF (reduced stockouts) through improved capacity of facility health workers to monitor and report RUTF inventory levels and health facility needs – Potential efficiency gains and cost savings through reduced leakage at lower levels of the supply chain 	<ul style="list-style-type: none"> – There could be high training and supervision costs associated with the transition of responsibility for managing RUTF (see Health Workforce chapter)
<p>RS.9.EP. Develop emergency response plans to ensure the availability of RUTF during surges in child wasting (e.g.,</p>	<p>Kenya: National Drought Management Authority (NDMA) county-level drought contingency plans are critical for preparing and responding to droughts. Some counties have particularly well-developed plans that detail necessary wasting response. For instance, Wajir County developed a quite comprehensive plan in 2014 with ample</p>	<ul style="list-style-type: none"> – Increased RUTF pipeline sustainability through strengthening the capacity of health facilities to plan and respond to surges in child wasting – Increased availability of RUTF (reduced stockouts) during surges due to inclusion of RUTF in 	<ul style="list-style-type: none"> – While there are high initial costs to procure buffer stock up front that may require greater coordination among domestic and external stakeholders these are largely outweighed by the long-term benefits of having pre-positioned RUTF stock for high-burden, hard to reach contexts

Integration Action	Country Examples	Potential Benefits to These Actions	Feasibility, Risks, and Other Considerations
buffer stock, funds designated for emergency transport)	considerations for wasting, including indicators, thresholds, amounts of RUSF and RUTF that might be needed, a budget for the therapeutic foods, and procurement plans. ⁹ Remaining concerns about the plan include some of the budget allocations and a lack of transparency. ¹⁹	emergency response planning at the national, sub-national, and local levels	– It is also important to note the high supervision cost to maintain and rotate the RUTF stock to avoid expiry/waste. The management of buffer stock should be a key element in training for the staff responsible for the management of RUTF

References

1. *Concern Worldwide's Learning from 15 Years of Community Management of Acute Malnutrition Programming*. Concern World Wide; 2015.
2. Kathumba MS. Creating an enabling policy environment for effective CMAM implementation in Malawi. *Field Exch 43 Gov Exp CMAM Scale Up*. Published online January 7, 2012:73.
3. Network (ENN) EN. Experiences of the Integrated Management of Acute Malnutrition (IMAM) programme in Nepal: from pilot to scale-up. *FEX 63 Dig*. Published online December 2, 2021. Accessed September 30, 2021. <https://www.enonline.net/fexdigest/63/www.enonline.net/fexdigest/63/imamprogrammenepal>
4. Achakzai DBK, Ategbro EA, Kingori JW, Shuja S, Ihtesham WMK and Y. Integration of essential nutrition interventions into primary healthcare in Pakistan to prevent and treat wasting: A story of change. *Field Exch 63*. Published online September 14, 2020:13.
5. Tanui GK, Muhinja TN and D. Impact of community-based advocacy in Kenya. *Field Exch 51*. Published online January 28, 2016:72.
6. *Final Report for Real-Time Learning Review on Nutrition Response in the Democratic Republic of the Congo*. MQSUN+; 2019.
7. Deconinck H, Kouam CE, Fotso JC, Elh M, Amadou A. *RAPPORT D'ÉVALUATION Évaluation Sommativ de La Prise En Charge de La Malnutrition Aiguë Sévère, NIGER (2010–2019)*.; 2021.
8. Friedman L, Wolfheim C. *Linking Nutrition & (Integrated) Community Case Management*.; 2014:58.
9. Wajir County, NDMA plan. Published online 2014.
10. Mugeni C, Levine AC, Munyaneza RM, et al. Nationwide implementation of integrated community case management of childhood illness in Rwanda. *Glob Health Sci Pract*. 2014;2(3):328-341. doi:10.9745/GHSP-D-14-00080
11. Puett C, Coates J, Alderman H, Sadruddin S, Sadler K. Does greater workload lead to reduced quality of preventive and curative care among community health workers in Bangladesh? *Food Nutr Bull*. 2012;33(4):273-287. doi:10.1177/156482651203300408
12. Network (ENN) EN. Planned study on feasibility and efficacy of IYCF in CMAM integration in Ethiopia. *Field Exch 41*. Published online January 8, 2011:30.
13. Government of the Republic of Mozambique. *Mozambique Global Financing Facility Investment Case*.; 2017. Accessed April 20, 2021. https://www.globalfinancingfacility.org/sites/gff_new/files/Mozambique-Investment_Case-EN.pdf
14. Nyirandutiye DH, Ag Iknane A, Fofana A, Brown KH. Screening for acute childhood malnutrition during the National Nutrition Week in mali increases treatment referrals. *PLoS One*. 2011;6(6):e14818. doi:10.1371/journal.pone.0014818
15. Chamla D. Lessons from integration of mass nutrition screening during combined BOPV/IPV campaign in armed conflict settings, Borno State, Nigeria. *Glob J Pure Appl Sci*. 2018;24. doi:10.4314/gjpas.v24i1.9
16. Amadi B, Imikendu M, Sakala M, Banda R, Kelly P. Integration of HIV Care into Community Management of Acute Childhood Malnutrition Permits Good Outcomes: Retrospective Analysis of Three Years of a Programme in Lusaka. *PLoS ONE*. 2016;11(3). doi:10.1371/journal.pone.0149218
17. Moyer D, Hoorelbeke AY and P. The role of coordination in CMAM Surge scale-up in West and Central Francophone Africa. *Field Exch 64*. Published online January 29, 2021:27.
18. Hailey P. *Independent Evaluation of the CMAM Model Surge Pilot*. Centre for Humanitarian Change; 2015. Accessed April 9, 2021. https://admin.concern.net/sites/default/files/media/migrated/evaluation_of_the_cmam_model_surge_pilot.pdf
19. Implementing the IMAM Surge approach - experiences from Kenya | ENN. Accessed April 15, 2021. <https://www.enonline.net/fex/64/imamsurgekenya>
20. *Community-Based Management of Acute Malnutrition: Job Aids for Community- and Facility-Based Service Providers*. Malawi Ministry of Health; 2017. Accessed January 29, 2021. <https://www.fantaproject.org/sites/default/files/resources/Malawi-CMAM-JobAids-Nov2017.pdf>
21. *Evaluation of Community Management of Acute Malnutrition (CMAM): Ethiopia Case Study*. UNICEF; 2012.
22. *International Workshop on the Integration of Community-Based Management of Acute Malnutrition - Workshop Report*.; 2008. Accessed January 29, 2021. <https://www.unhcr.org/4b75185f9.pdf>
23. Lemma DF, Daniel DT, Mates DHF and E. CMAM rollout in Ethiopia: the 'way in' to scale up nutrition. *Field Exch 43 Gov Exp CMAM Scale Up*. Published online January 7, 2012:15.
24. Sadler K, Desplats G, Rio D, et al. *Integration of Severe Acute Malnutrition (SAM) Management into Health Systems in Mali and Burkina Faso: Lessons Learned*. UNICEF West and Central Africa Regional Office and Emergency Nutrition Network; 2019.
25. Malawi National Community-Based Management of Acute Malnutrition (CMAM) Operational Plan 2017-2021. :78.
26. *Country Profile: Mozambique Community Health Programs*. Advancing Partners & Communities; 2013:25.
27. Maina-Gathigi L, Mwirigi L, Imelda V, et al. Information Systems: lessons from Kenya. *Field Exch 55*.:5.
28. Dent N, Bruneau S. *Increasing Scale Up and Coverage of Severe Acute Malnutrition: Africa Regional Trends and Country Scoping: 2012-17*. United Nations Children's Fund; 2017:28.
29. Aligning vertical interventions to health systems: a case study of the HIV monitoring and evaluation system in South Africa | Health Research Policy and Systems | Full Text. Accessed April 15, 2021. <https://health-policy-systems.biomedcentral.com/articles/10.1186/1478-4505-10-2>
30. *NUTRITION INFORMATION IN ROUTINE REPORTING SYSTEMS: A Landscape Analysis for UNICEF's Eastern and Southern Africa Region*. UNICEF; 2020.
31. *Scaling up Nutrition in Practice: Information Systems for Nutrition*. Scaling Up Nutrition; 2014:23. Accessed January 27, 2021. http://docs.scalingupnutrition.org/wp-content/uploads/2015/11/Green_External_InPractice_no02_ENG_20150920_web_spread.pdf
32. *THE 2019 LONG RAINS SEASON ASSESSMENT REPORT*. Kenya Food Security Steering Group (KFSSG); 2019:68. Accessed January 28, 2021. https://ratin.net/assets/uploads/files/98f9a-lra-2019-national-report_final.pdf
33. McCloskey E, Hailey AY and P. CMAM Surge: lessons learned on the journey so far. *Field Exch 64*. Published online January 29, 2021:41.
34. Garg A, Calibo A, Galera R, Bucu A, Paje R, Zeck W. Management of SAM in the Philippines: from emergency-focused modelling to national policy and government scale-up. *Emerg Nutr Netw*. (52):7.
35. Philippines Secretary of Health, UNICEF Philippines Country Office. *National Guidelines on the Management of Severe Acute Malnutrition for Children under Five Years*.; 2015.
36. Department of Health. *Philippine Plan for Action for Nutrition 2017-2022*. National Nutrition Council; 2017.
37. *Programme Indicatif National- Burkina Faso*. European Union; 2014. Accessed October 20, 2020. https://eeas.europa.eu/sites/eeas/files/pin_burkina_faso.pdf

38. *Burkina Faso SUN Country Profile*. Scaling Up Nutrition; 2016. Accessed April 20, 2021. <https://scalingupnutrition.org/sun-countries/burkina-faso/>
39. Dahal P, Chitekwe AS and S. A journey to multi-sector nutrition programming in Nepal: evolution, processes, and way forward. *Emerg Nutr Netw*. 2017;(54):77.
40. Joshi DGB, Chitekwe S. *A Road Map to Nepal's Multi Sector Nutrition Plan (MSNP) II 2018-2022*. Scaling Up Nutrition; 2018:10. <https://scalingupnutrition.org/wp-content/uploads/2019/07/A-Road-Map-to-MSNP-II-in-Nepal.pdf>
41. Wijeratna A, Kouam E. *Financing the Sustainable Scale-up of CMAM in High-Burden Countries: With Case Studies from Nepal & Kenya.*; 2017. doi:10.13140/RG.2.2.31906.27846
42. Government of Nepal. *Multi-Sector Nutrition Plan.*; 2018. Accessed April 22, 2021. <http://nnfsp.gov.np/PublicationFiles/b8aae359-15ea-40c4-aa13-b1076efb251b.pdf>
43. D'Alimonte M, O'Connell M, Heung S, et al. *Tracking Funding for Nutrition in Ethiopia Across Sectors*. Results for Development; 2017. Accessed April 20, 2021. <https://r4d.org/resources/tracking-funding-nutrition-ethiopia-across-sectors/>
44. Barroy H, Margini F, Kutzin J, Piatti-Funfkirchen M, Gurazada S, James C. If you're not ready, you need to adapt: lessons for managing public finances from the COVID-19 response. P4H. Published October 26, 2020. <https://p4h.world/index.php/en/blog-lessons-for-managing-public-finances-from-COVID-19-response>
45. World Bank. *Rwanda Stunting Prevention and Reduction Project Appraisal Document*. The World Bank Group
46. Chatelet A du, Webb M, Israel A-D. *Process and Impact of Integration Fo Ready-to-Use Therapeutic Foods in National Essential Medicines Lists*. World Health Organization; 2018. Accessed January 22, 2021. https://www.who.int/docs/default-source/nutritionlibrary/publications/nutrition-related-health-products-and-the-world-health-organization-model-list-of-essential-medicines-practical-considerations-and-feasibility/lem-du-chatelet-et-al-2019.pdf?sfvrsn=46b0880b_4
47. Vreeke E, Jille-Traas I, Verhage R. *Unicef Nutritional Supply Chain Integration Study Volumes I-III*. hera; 2015.
48. Nettey A, Moloney G. Nutritional Supply Chain Integration Workshop: Experiences from East and Southern Africa. Presented at the: 2019.
49. Eby E, Daniel T, Agutu O, Gonzalez Cortijo P, Moloney G. Integration of the UNICEF nutrition supply chain: a cost analysis in Kenya. *Health Policy Plan*. 2019;34(3):188-196. doi:10.1093/heapol/czz007
50. *National Community Based Mangement of Acute Malnutrition Operational Plan (2017-2021)*. Malawi Ministry of Health; 2016.

1

2

3



A1

A2

A3

A4

