



MAINSTREAMING COMMUNITY MANAGEMENT OF ACUTE MALNUTRITION INTO HEALTH SYSTEMS

A DOSSIER ON EXPERIENCES FROM
SOUTH ASIAN COUNTRIES

DISCLAIMER:

Sincere efforts have been made to include all relevant information from reliable sources. However as the information is largely compiled from secondary sources and therefore dependence on the information available in public domain has been high. The reliability of information is solely dependent on the source. The Coalition for Food & Nutrition Security, New Delhi accepts no responsibility for any error.

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CONTRIBUTORS

Conceptualized and Led by:

Ms. Meeta Mathur, Senior Technical Advisor,
The Coalition for Food & Nutrition Security (CFNS)

Data Collection supported by:

Mr. Richard Samuel and Ms. Nimi Elizabeth Thomas, Master of Public Health, student at Indian Institute of Public Health Gandhi Nagar during their internship with CFNS

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This dossier provides information on the policies and strategies related to SAM management and wasting trends across South Asian countries. Level of integration into health system and protocols and experiences of CMAM implementation in Bangladesh, Nepal and Sri Lanka have also been presented in detail.

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FOREWORD

Some of the South Asian countries have gone ahead integrating community based SAM management into their health system. These countries share a common context in many ways with India and can offer learnings on integration and scale up of community based management of wasting.

The Coalition for Food and Nutrition Security (CFNS) a multiple stakeholder alliance of diverse organizations and individuals in the food and nutrition space, serving as a knowledge management repository and dissemination platform. The Coalition aims to understand the status and progress of the interventions of community based programs for managing children with acute malnutrition. In this attempt CFNS has documented the experiences emerged from various community based models of managing acute malnutrition implemented across India in a national dossier titled- “Models on community based care of children with acute malnutrition”. The first dossier captured the variations and similarities between CMAM pilots/interventions and how they are catering to the problem of acute malnutrition in India. Motivated by the overwhelming response received on the national dossier, CFNS proposed a second dossier on experiences from South Asian countries on CMAM.

The Coalition has undertaken this exercise to compile the experiences of mainstreaming CMAM in Health Systems from South Asian countries in form of a dossier; so as to draw meaningful conclusions and recommend the best way possible to integrate CMAM into the Indian health system to effect CMAM programming.

The dossier is the outcome of a collective effort to bring evidence and learnings from different countries through various stakeholders. Many people have contributed in this exercise, in visible and less visible ways, and it is impossible to mention them all.

On behalf of CFNS, I would like to thank all those who have shared the information and provided inputs in the dossier. It is valuable, and we have tried to make the best possible use of it.

I hope this document will be instrumental in guiding the strategies on SAM management in India. I wish the document a huge success.

A handwritten signature in dark ink, appearing to read 'R. Panda'.

Dr. Ramesh Chandra Panda
Chairman, Governing Board, CFNS

South Asia presents a paradox, the ‘South Asia enigma’, describing the persistence of high levels of child under nutrition despite economic growth in the region. The epicenter of the global wasting lies in South Asia with the prevalence of child wasting of 14.5% and severe wasting 4.5%. This accounts for over half of the global burden (UNICEF, WHO and World Bank, 2020).

Acute Malnutrition is an important public health concern, as it is associated with significant short-and long-term morbidity and mortality. Children with severe acute malnutrition require immediate attention along with proper nutritional rehabilitation not only to decrease mortality but also to achieve full potential after recovery. Evidence shows that, about 80% of children with SAM without medical complications can be treated at home/ community level through community-based program for acute malnutrition and only a small proportion (10-15%) of children with SAM who have medical complications require facility-based treatment. This approach globally known as community management of acute malnutrition (CMAM) has an advantage to reach out to larger number of children in need for the treatment, providing timely and appropriate care. However, the community-based care for acute malnutrition has largely been implemented in humanitarian contexts. CMAM has not yet been scaled up and mainstreamed as a routine part of the government system in many countries including India.

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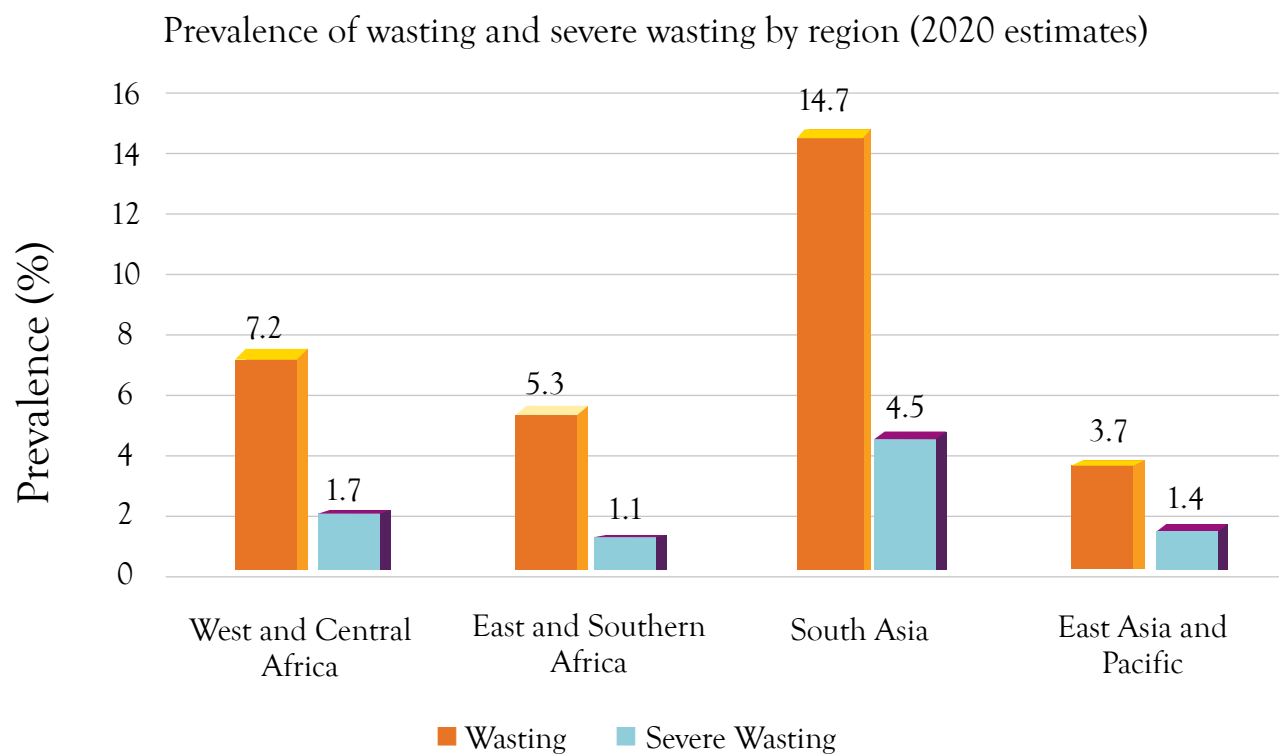
Photo: European Union

Background

Wasting is a global problem and the recent Joint Malnutrition Estimates by United Nations Children's Fund (UNICEF), World Health Organization (WHO) and World Bank Group confirm that the wasting rates are stagnant. The Sub-Saharan Africa has the second highest wasting rates, followed by East Asian countries. The epicenter of the global wasting lies in South Asia with the prevalence of child wasting of 14.5% and severe wasting 4.5%, translating into 25 million & 7.1 million children being wasted and severely wasted in South Asia. This accounts for over half of the global burden (UNICEF, WHO and World Bank, 2020)^[1]

South Asia also bears the highest prevalence globally with 35% of stunted children and wasting prevalence above the 15% threshold along with micronutrient deficiencies^{[2],[3]}, all which establish child undernutrition as a critical public health problem' in the region. Collectively India, Bangladesh, and Pakistan have the highest global levels of disability-adjusted life years (DALYs) attributable to child undernutrition^[4]. The three micronutrient deficiencies of iron deficiency anaemia, vitamin A, and zinc, each has a global significance in South Asia^{[5],[6]}.

South Asia presents a paradox, also commonly known as the 'South Asia enigma', a term used to describe the persistence of high levels of child undernutrition despite economic growth in the region. This indicates that only economic indicators are not sufficient to explain this phenomenon but there are several other social and cultural reasons that have led to such high levels of child malnutrition. The results from a multiple regression analysis indicate that both economic and cultural variables play a crucial role in nutrition outcomes, alongside factors such as feeding practices and demographics.



The South Asia context for wasting has several unique characteristics, compared to sub-Saharan Africa where the prevalence is also high. Contrary to countries in other regions, the prevalence of wasting is highest at birth in South Asia, which suggests that poor maternal nutrition is a key driver and should be considered in preventive efforts. Most infants in South Asia experience their first wasting episode by three months of age, and a higher proportion of children have prolonged episodes of wasting, referred to as 'persistent wasting', than in sub-Saharan Africa. There are also questions concerning the mortality risks of severe wasting and child survival benefits of treatment in South Asian countries. The 'very high' prevalence of wasting (14.8%) and severe wasting (4.5%) in South Asia exceeds all other regions, yet the mortality due to wasting is relatively low. However, these comparisons need careful interpretation and more research is needed to understand the relationship between mortality and wasting in South Asia.

Evidence also suggests that the underlying determinants of wasting and stunting in South Asia are similar^[7]. While this study identified country specific predictors of child wasting, several commonalities such as Low maternal BMI, short stature and maternal literacy, prevalence of wasting higher among boys than girls and child age, wasting prevalence higher in younger children and socioeconomic inequalities are found to be common predictors of

wasting and are apparent across the South Asian region.

The reduction in childhood wasting in South Asian countries has been very slow. In fact, the Global Nutrition Report 2020 found that there is "no progress or a worsening situation" in Afghanistan, India, Sri Lanka, the Maldives and Pakistan. No country is on track to achieve the World Health Assembly target to maintain wasting below 5% by 2025 or below 3% by 2030 (Development Initiatives, 2020). Contrary if the trends of wasting reduction till 2017 continue, India will have 10.4% excess prevalence of children with wasting, compared to revised WHO/UNICEF target of reducing wasting to 3% by 2030.

There has been virtually no progress in reducing the prevalence of child wasting in South Asia in the last 10 years, and less than 5% of severely wasted children in South Asia are accessing treatment—one of the lowest coverage levels of any child health or nutrition intervention in the region^[8]. And yet the situation is failing to incite action towards the scale and quality of response needed from national governments and the development and humanitarian community. Though nutrition has gained the due attention over the decade and is currently high on political agenda in South Asian countries including India, prioritizing multisector programming to address malnutrition as part of the national nutrition plan to meet global nutrition targets. However,

treatment of wasting is not yet part of national guidelines and care for children with SAM remains to be mainstreamed in India's response to address all forms of malnutrition.

Community based Management of Acute Malnutrition (CMAM^{[9],[10]}) is the globally recommended approach for SAM management. Many CMAM programs have been piloted across the countries however, CMAM has not yet been mainstreamed as routine part of the government system in many Asian countries and India being one of them. Given the scale of the SAM burden in India, CMAM is the best alternative to treat many children. However, CMAM needs to be contextualized into an India-specific approach. There is an ongoing debate on the type of energy-dense nutritious food to be used for the treatment of children with SAM in India and that Indian SAM child needs different treatment than globally recommended^[11]. Several pilot in India across varied settings have been conducted to assess the effectiveness of CMAM. Though these pilots have been successful in demonstrating the possibility of integrating CMAM in the existing health system but given the contentions around several aspects of CMAM, like cost-effectiveness, treatment protocol (screening, therapeutic food etc.) still the guidelines on mainstreaming CMAM into health system in India is pending.



Introduction

The Coalition for Food & Nutrition Security (CFNS) has attempted compiling information on different community based programs that managed children with acute malnutrition and have documented the experiences emerged from various community based models of managing acute malnutrition implemented across the country in a national dossier titled- “Models on community based care of children with acute malnutrition”. The aim of the dossier was to understand the status and progress of the pilots/ interventions of community based programs for managing children with acute malnutrition, the variations and similarities between these pilots/interventions and how they

are catering to the problem of acute malnutrition in India. Motivated by the interest shown by stakeholders on the national dossier, CFNS is proposing a dossier on experiences from South Asian countries on CMAM.

This dossier aims to compile the experiences of mainstreaming CMAM in Health Systems from South Asian countries-Nepal, Bangladesh and Sri Lanka that have a more or less similar context to India and has nationalised guidelines for management of wasting; so as to draw meaningful conclusions and recommend the best way possible to integrate CMAM into the Indian health system to effect CMAM programming.

The Objectives of preparing the dossier were

1. To map South Asian countries on policies and strategies for severely wasted children.
- 1) To perform in-depth review of the existing framework and strategies pertaining to CMAM in selected South Asian countries.
- 2) To summarize the learnings and experiences around integration of CMAM from selected South Asian countries and suggest ways for integrating CMAM into health system in India.



Photo : Save The Child

Methodology

The methodology involved short listing the south Asian countries that would be referred for bringing experiences of integration of IMAM/CMAM into health system. The objectives and methodology of the dossier was presented to the Technical Advisory Committee (TAC) on CMAM constituted by CFNS. After much deliberations the TAC members concluded that for the dossier experiences from countries like Nepal, Bangladesh and Sri- Lanka should be considered.

A template for collecting CMAM related information from each of the selected

countries was developed and vetted by the TAC members. This was followed by a desk review first to map policies and strategies for severely wasted children in all South Asian countries and second gathering information on the socio demography and nutritional situation, nutrition governance, financing in selected countries. Thirdly the details of IMAM/CMAM programs in each of the country (Nepal, Bangladesh and Sri Lanka) was collected, and synthesized on the following parameters:

1. Level of integration into health system at national level



2. Scale of the intervention
3. Inclusiveness of the intervention, intervention linkages and convergence with the core components of the CMAM strategy
4. Treatment protocols followed
5. Human resource involved
6. Operational structure to manage the intervention
7. Governance structure
8. Management of Information System (MIS)
9. Innovation associated with the

interventions

10. Integration of prevention strategies / nutrition sensitive interventions

The desk review focused on reviewing the available guidelines, articles, documents, and country websites to gather available information from all the secondary sources and documenting the information in the template. Further to get missing information and an insight into the IMAM program in each of the country stakeholder meetings

were done with UNICEF regional office, UNICEF country office for Nepal, Bangladesh and Sri-Lanka. Support of Action Against Hunger Nepal and Bangladesh offices was also sought to review the country information and in seeking support for missing information. FHI 360 also supported with providing details of IMAM program in Nepal through meeting.

The learnings and experiences from different IMAM/ CMAM strategies from the selected countries were synthesised in terms of the impact



Photo : MaxPixel

of the intervention in efficient management of the severe acute malnourished children, probable sustainability of the interventions, and scalability of the intervention to other settings. Based on the synthesis appropriate learnings from each of the country were highlighted and recommendations made to mainstream/integrate community

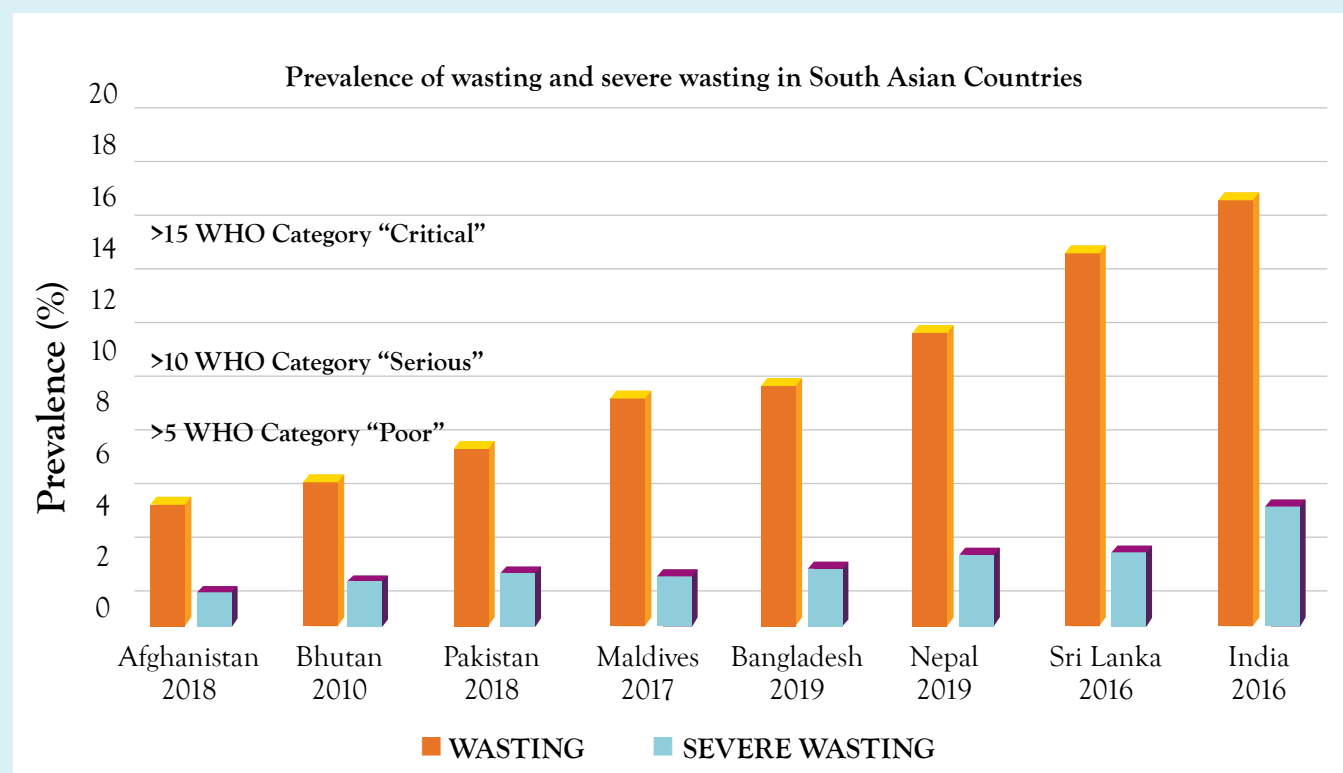
based management of SAM in the health system

Limitations

The information has been compiled from secondary sources and therefore dependence on the information available in public domain has been high. Secondly information has

also been collected from informal channels in the network. As such, critical information may have been missed and also most updated/latest information may not have been accessible. Also the reliability of information was solely dependent on the source and no means of verification was possible.

Wasting Prevalence in South Asian Countries^[12]:



Wasting Management in South Asian Countries

Several countries in the South Asian region have experienced positive developments in the care of children with severe wasting through introduction and leveraging of community based and primary health care platforms to treat

uncomplicated cases of severe wasting to compliment inpatient care of complicated cases. A few South Asian countries, have specific national policies aimed at addressing wasting comprehensively. In this dossier the country's policies and

strategies to address severe wasting are mapped and experiences in scaling up the care for children with wasting; and challenges, constraints and lessons from Bangladesh, Nepal, and Sri Lanka are shared.

Mapping of South Asian countries on policies and strategies for severely wasted children. (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Srilanka)

	AFG	BGD	BHU	IND	MAL	NPL	PAK	SLK
Integration into the health system								
Management of wasting in national health policy		Only Facility based						
Costed plan for care of wasting		GAP costing is done		In few states		Under MSP		
National guidelines for care of wasting		Only Facility based	Only facility based	Only facility based				
National guidelines for care of wasting include infants < 6 months of age								
National guidelines for care of wasting include prevention of wasting								
Pre-service training curriculum on management of wasting								
RUTF on essential medicine list								
Alternate Food/ Special food for SAM management on essential commodity list								
Performance indicator on treatment services in routine information System								
Wasting Management services								
Inpatient care of severe wasting								
Outpatient care of severe wasting								
Community-based case management of severe wasting								
RUTF used for outpatient treatment								
Alternate Food/ Special food used for outpatient treatment of SAM								
Management of 'at risk' infants <6 months of age at community level								
Outpatient management of moderate wasting with supplementary food				THR under SNP, ICDS				

AFG = Afghanistan; BGD = Bangladesh; BHU = Bhutan; IND = India; MAL = Maldives; NPL = Nepal; PAK = Pakistan; SLK = Sri Lanka.

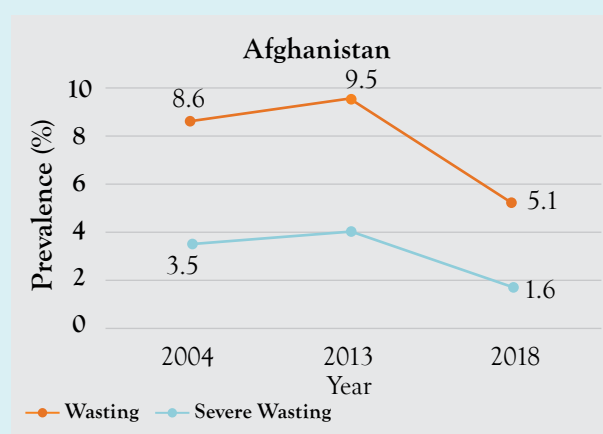
Key

Yes	
No	
Partially	
Data/Information not available	

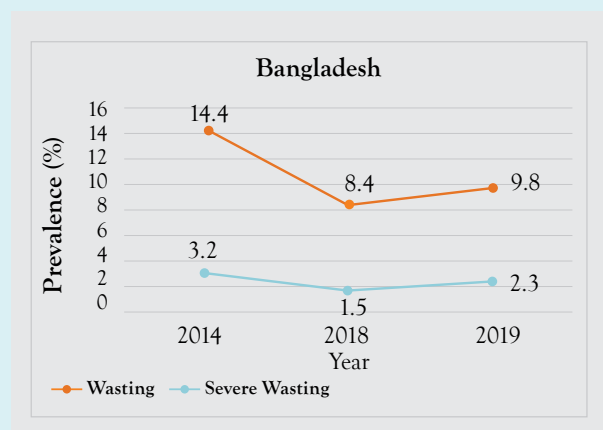
Summary of Programmatic Responses to Wasting in South Asian Countries:

The following section gives an overview of the country specific programmatic response to wasting and severe wasting trends of South Asian countries. The wasting trends have been plotted based on the wasting estimates from Joint Malnutrition Estimates from 2021 edition^[12].

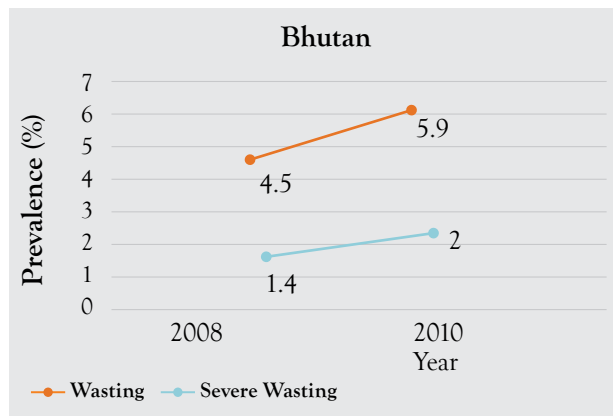
Afghanistan: Child wasting is a priority in the National Public Nutrition Strategy and the Afghanistan Food Security Nutrition agenda. The community-based programme for the management of child wasting is part of the Basic Package of Health Services (BPHS) and Essential Package of Hospital Services (EPHS). While ready-to-use therapeutic food (RUTF) procurement remains reliant on humanitarian funding, the treatment of severe wasting is otherwise well integrated into the health system, and this has enabled significant scale-up of services.



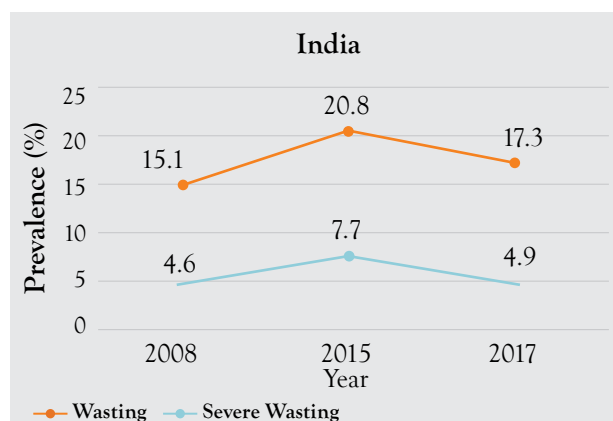
Bangladesh: Bangladesh has national guidelines for both facility and community-based management of severe wasting. However, only inpatient services are provided at facility level as treatment with commercial RUTF is not permitted (except for the Rohingya response in Cox's Bazaar) and no alternative has been identified. As a result, the coverage of treatment services remains persistently low. Researchers in Bangladesh are seeking to test the effectiveness of locally prepared RUTF recipes that comply with World Health Organization (WHO) specifications.



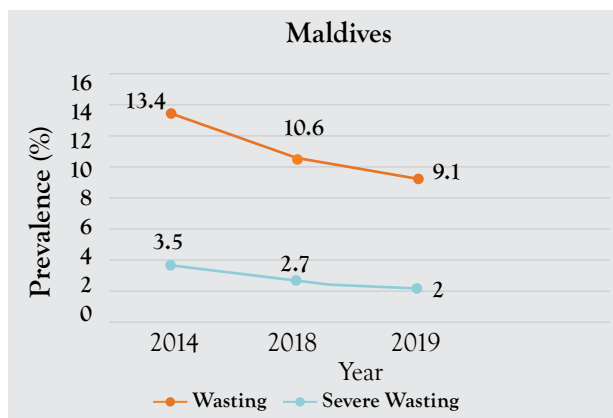
Bhutan: Nutritional Therapeutic Care is delivered through the Nutritional Rehabilitation Units (NRUs). The NRUs have been established in regional referral hospitals and district Hospitals. Those districts that do not have NRUs, the children with SAM are referred to nearby higher centers. Children with SAM when stabilized referred to their respective district hospitals for outpatient care as follow up treatment. Identification and management of SAM included in the capacity building of in-service Health workers and in pre-service curriculum for Community Health Workers (HAs) and Nurses. Reporting of cases of Acute Malnutrition is through the Ministry of Health’s “HMIS” system.



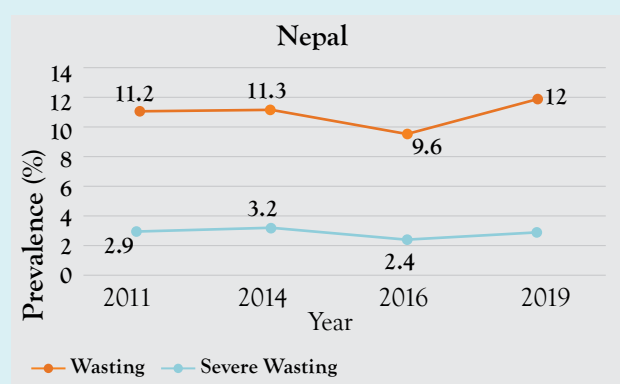
India: In India the inpatient management of child wasting is provided in nutrition rehabilitation centres (NRCs), following the 2013 guideline on facility-based management of severe acute malnutrition. There are upcoming evidence or newer insights on the aetiology of wasting in India and how best to manage severe wasting National Guidelines on community management of acute malnutrition and introduction and scale-up of services to manage severe wasting at community level is pending. However, a few states are piloting and a few expanding or planning to expand the management of wasted children at community level, using different approaches and strategies.



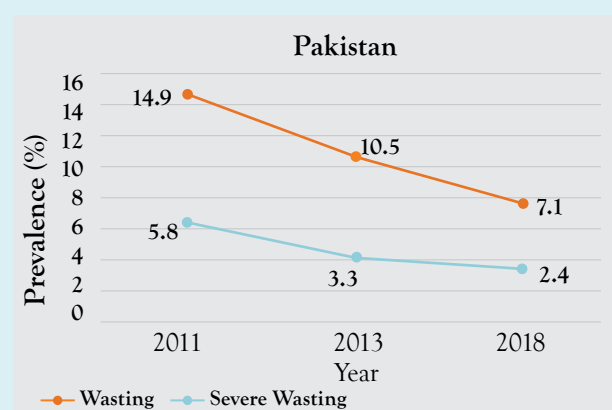
Maldives: Maldives do not have a CMAM program in the country. Given the small number of cases, Maldives also does not have a national wasting and severe wasting management and treatment Program. There is also no national guideline. However, there is a National Guideline on Optimal Feeding of Infants and Young, which supports Infant and Young Child Feeding. There are two main tertiary hospitals in the country with dieticians, and if there is a severe case, they manage it at site with the paediatrician. According to them, the WHO standards are applied.



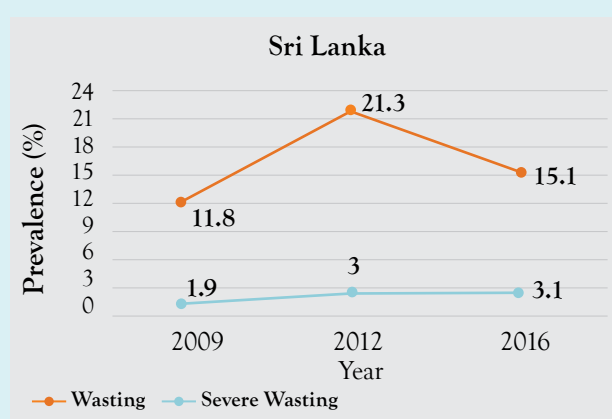
Nepal: The piloting of the CMAM program started in 2008, which the country gradually scaled up in different phases. It was reflected in first (2013–17) and second (2018–22) Multi-Sectoral Nutrition Plans. The scale up of the IMAM program in Nepal is a positive example of how the management of child wasting has been transformed from a humanitarian to a development programme, integrated into health services, but with the capacity to expand in the event of emergencies. The IMAM program is owned and led by the government, with technical support provided by the national coordination group on nutrition composed of UN agencies and non- governmental organisations.



Pakistan: The country introduced the CMAM approach during the 2005 emergency response to the Azad Kashmir earthquake. Since then, Pakistan has been working to expand from a humanitarian-focused programme to development programming for the prevention and treatment of child wasting. This involves integrating services into the health system, a process that is still underway, and ensuring appropriate linkages with national initiatives to reduce stunting.



Sri Lanka: Sri Lanka has a national guideline for the management of severe wasting that includes community-based screening and referral for outpatient care in health facilities and follow up is done in the community. The outpatient treatment of severe wasting has only been decentralised to the district-hospital level. Paediatricians, hospital nutrition clinics, where doctors with MSc Nutrition (future Consultants in Clinical Nutrition – this is a new speciality and still there are few numbers) also manage SAM, are authorised to prescribe therapeutic food, which restricts access, particularly for severely wasted children living far from district hospitals.



Conclusion

South Asia is home to the largest number of children under 5 years of age with severe acute malnutrition (SAM), which is a major impediment to optimal human capital development. A few countries, even in high prevalence areas, have specific national policies aimed at addressing it comprehensively. With the addition of community based management to the existing facility-based approach, much more can now be done to address this important cause of child mortality. Despite these positive changes, the geographic and case coverage of services for severely wasted children remains low in all countries in South Asia, programmes are not well adapted to reach the most vulnerable children, and prevention efforts are lagging behind.

South Asian countries where, despite the huge numbers of children suffering from the condition, the coverage of interventions is either absent on a national scale or poor. It is necessary to meet the nutritional needs of children with SAM and the countries need to find necessary ways so that such needs are met for all children. The continuum of care between treatment and preventive services has not been mainstreamed yet in many of the countries. Access to nutrition data especially on wasting and the utilization of data was noted as a major issue in the region.

Severe wasting is often not recognized as a disease, which limits its integration into the health

system. Treatment of severe wasting is often framed as a humanitarian intervention, but given the high burdens in development contexts, in South Asian countries the treatment of severe wasting should be considered a routine service. Programmes should be able to respond to risks and vulnerabilities, even seasonal fluctuations, so that they can scale up and scale down in response to needs. Many countries have policies and guidelines, but lack other necessary conditions for delivery at scale, including costed plans, adequate funding and inclusion of appropriate indicators in health management information systems (HMIS). Policies and guidelines on the care and treatment of severe wasting should align with latest WHO guidelines. While most countries have policies and guidelines on the care and treatment of severe wasting, some do not fully reflect WHO 2013 guidelines. More and more options of providing nutrient dense foods and commitment to exploring alternative recipes to meet nutritional needs of children with SAM are being developed and explored. Work is also underway to better understand how to integrate services into health systems, to integrate with early childhood development (ECD) and WASH, and to obtain more accurate data on incidence.

Countries in Asia have to recognize SAM as a major problem and mobilize internal resources for its management. Screening of children in the community for SAM and

appropriate referral and back referral require good health systems. Improving grassroots services will not only contribute to improving management of SAM, it will also improve infant and young child feeding and nutrition in general. The nutritional support can be provided by nutrient dense food produced locally from locally available food ingredients. Health facilities in all high-burden countries should be staffed and equipped to treat children with SAM. A continuous cascade of training of health staff on management of SAM can offset the damage that results from staff attrition or transfers. The basic nutrition interventions, which include breastfeeding, appropriate complementary feeding, micronutrient supplementation, and management of acute malnutrition, should be scaled up in South Asian countries that are plagued with the burden of malnutrition.



Photo : unicef

Good Practices for replication and scale up

The review of country response to managing wasting highlighted many good practices showcasing integration of wasting management into health systems across the South Asian countries that could be considered for replication in India. The integration of wasting management should be considered around the building blocks of Health System Strengthening.

1. Standardize the care of children suffering from wasting by issuing detailed comprehensive National Guidelines on integrated management of acute malnutrition (both facility and community level) (e.g. Nepal).
2. The design of policies and guidelines should be evidence based and aligned with WHO 2013 guidelines. Normative guidelines are based on evidence, which provides an opportunity for countries to generate evidence where changes to the guidelines may be indicated.
3. Comprehensive protocols to address, SAM, MAM, malnourished children under 6 months and PLW, address the problem of wasting holistically.
4. Multi-sectoral policies and plans can foster the commitment to invest in actions needed across multiple sectors to prevent and treat wasting and other forms of malnutrition (e.g. the Multi-sectoral Nutrition Plan of Nepal).
5. Scaling up services will require greater allocations, and it is imperative to have a strong understanding of the costs of treating severe wasting in the country context, and opportunities for improving the cost-effectiveness of services.
6. Costing the scale-up of services to treat severe wasting, which can provide important information to inform investment decisions. (e.g. Afghanistan)
7. Allocation of national resources for the care of severely wasted children, including for the procurement of therapeutic supplies (e.g. Afghanistan).
8. Universal health care coverage enables greater access to treatment by reducing financial barriers to treatment (e.g. Sri Lanka).
9. The identification and referral of severe wasted children is critical to achieving high coverage. Investment in community health workers and other outreach platforms to improve the detection of children with severe wasting at community level, can help early identification and improve program coverage (eg. Nepal). Furthermore, a strong level of accountability and ownership at the community level must be ensured.
10. The IMAM model should include care for SAM children with complications without complications, MAM and malnourished PLW. National IMAM guideline with a well-defined strategy and protocol for care of each of the malnourished categories ensures appropriate care (eg. Nepal).
11. Inclusion of therapeutic foods in national essential medicine lists can ensure their availability at national level.
12. Customization/ development of locally produced nutrient dense food / alternate food to cater to the need of malnourished children (eg. Bangladesh is doing the trial. ICDDR, developed two types RUTF based on locally available food ingredients such as rice, lentils, and chickpeas and conducted trial assessing their acceptability among SAM children).
13. Including/ linking nutrition indicators and wasting data in the countries regular HMIS would be key in assessing and monitoring the program. It would be instrumental in the evolution of the IMAM program.
14. Establishing online reporting systems as a way of strengthening access to real-time data (eg. Afghanistan, the Maldives and Pakistan).
15. Quality programme data are essential to track progress and inform scale-up of programmes. In the context of country reporting on national and SDG commitments to reduce wasting and stunting, countries should collect

frequent data on the coverage, quality and equity of services to track progress, identify programme constraints, and inform the scale-up of programmes.

16. Set targets to scale-up programmes for the care and treatment of severe wasting.
17. The scale-up of programmes should take into consideration the geographic distribution of wasting, with priority given to geographic areas with the highest prevalence and/or burden.
18. The lessons learned from implementation at a small-scale (including pilots) should be factored into the design of the model for scale-up.

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EXPERIENCES
FROM
SOUTH ASIAN
COUNTRIES

MAINSTREAMING
CMAM INTO
HEALTH SYSTEM
EXPERIENCES FROM
BANGLADESH



BANGLADESH EXPERIENCES OF MAINSTREAMING IMAM IN HEALTH SYSTEMS

1. BACKGROUND

Bangladesh is the 8th most populous country in the world with a population of 16,82,20,000 according to the Sample Vital Registration System (SVRS), 2020. It is ethnically homogeneous and derives its name from the Bengali ethno-linguistic group which comprises 98% of the population. Children under five years of age are 8.4% of the population and the mortality of this group is 28%. According to the Bangladesh Demographic and Health Survey 2017-18, the under-5 mortality is 45 deaths per 1,000 live births. The infant mortality rate is 38 deaths per 1,000 live births and the child mortality rate is 7 deaths per 1,000 children. The neonatal mortality rate is 30 deaths per 1,000 live births and these deaths account for 67% of all under-5 deaths. The percentage of births with a reported birth weight below 2.5 kilograms regardless of gestational age is 16%.^[7]



Picture: UNICEF Bangladesh



60% of children under 2 years are breastfed within 1 hour of birth, and 65% of children under age 6 months are exclusively breastfed. Infants and young children should be fed a minimum acceptable diet to ensure appropriate growth and development. However in Bangladesh only 38% of children of age 6–23 months receive meals with the minimum recommended diversity (at least four food groups), 81% receive meals at the minimum frequency, and 35% meet the criteria of a minimum acceptable diet. 83.9% of children aged 6–23 months received breastfeeding and solid, semi solid or soft foods.

86% of children age 12–23 months received all basic vaccines (BCG, three doses of pentavalent, three doses of polio, and one dose of measles-containing vaccine) before their first birthday. 88% of children received measles rubella vaccine by 12 months. Only 33% of children age 12–23 months received all age-appropriate vaccinations (basic vaccinations plus one dose of inactivated polio vaccine and three doses of Pneumococcal vaccine), as compared with 53% of children age

24–35 months (a second dose of measles-containing vaccine).

82% of women received at least one antenatal care (ANC) from a medically trained provider. 47% of women received four or more ANC visits during pregnancy. 49% of live births are delivered at a health facility. Out of which 32% of births are delivered in a private facility, 14% in a public facility, and 4% in an NGO facility. 53% of births are delivered by a medically trained provider. 50% of births are delivered at home.

Women of reproductive age (15–49 years) are especially vulnerable to chronic energy deficiency and malnutrition, which are major risk factors for adverse birth outcomes. 56% of women have a normal BMI, while 12% are thin and 32% are overweight or obese. The proportion of women with height under 145 cm (short stature) is 14%. The prevalence of anemia among women of age 15–49 is 36.5%^[7].

In Bangladesh, the access to improved sources of drinking water is almost universal in both urban (99%) and rural (98%) areas. Tube

wells and boreholes are the major source of improved drinking water for rural (97%) as well as urban (73%) households. 65% of households have improved sanitation facilities (75% in urban areas and 62% in rural areas). Overall, 47% of the population has basic sanitation. According to Bangladesh Multiple Indicator Cluster Survey 2019, 81.9% of population has household drinking water tested with *E. coli* contamination.

The 2017–18 BDHS results shows that 31% of children under age 5 are stunted (short for their age) and 9% are severely stunted. 8% are wasted (thin for their height), with 2% being severely wasted. 22% of children are underweight and 4% are severely underweight. 2% of children under age 5 are overweight. The prevalence of anemia among children of age 6–59 months is 43.1%. There is a high burden of malnutrition among children of Bangladesh. The prevalence of Severe Acute Malnutrition (SAM) and Global Acute Malnutrition (GAM) among Bangladesh population is 2.3% and 10% respectively.

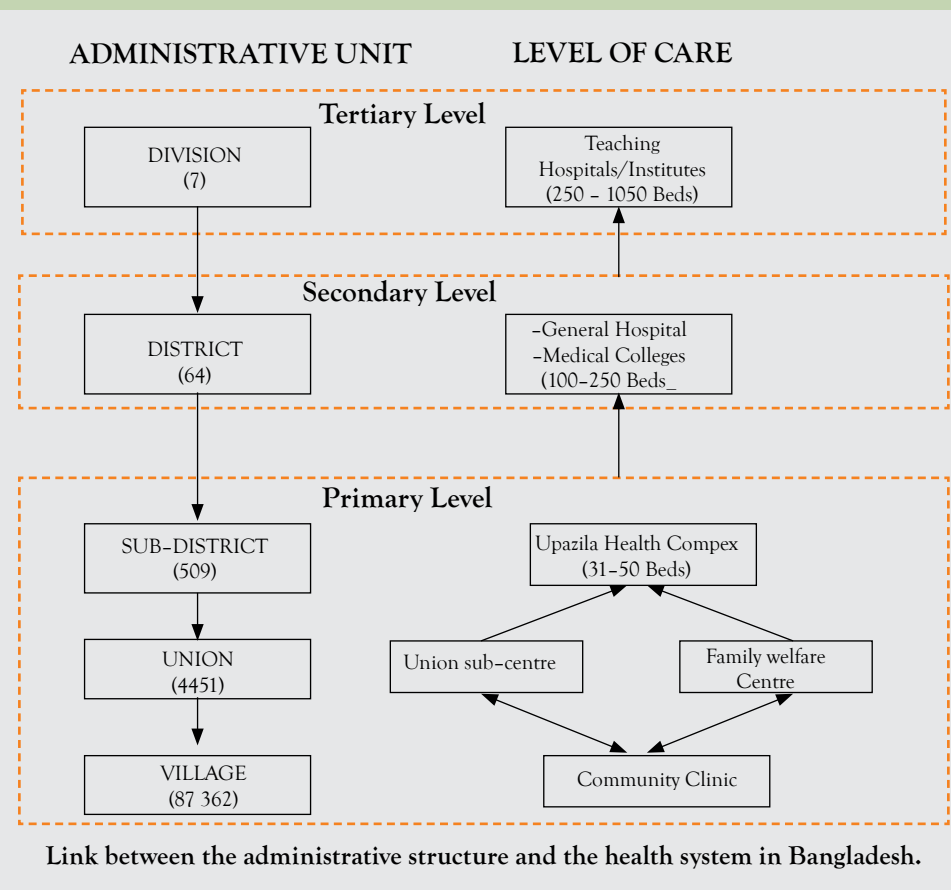


2. ADMINISTRATIVE STRUCTURE

Bangladesh is divided into eight administrative regions called divisions, each of which has 64 districts, subdivided into 509 administrative sub-districts or Upazilas. The Upazilas in turn are subdivided into 4451 Unions, under which there are around 87362 villages. The public health system pyramid follows the country's administrative structure. The primary level of the health system is located at sub-district, the secondary level at district, and the tertiary level at division and national capital. The primary level is organised around one Upazila health complex (UHC) which is the first level referral hospital for the rural population with 31 to 50 beds. It is completed at Union level by the Union sub-centres, the family welfare centres and the community clinics. The secondary level of the health system is represented by the general hospital with 100 to 250 beds and the medical colleges serving a group of districts (semi-urban areas) and providing inpatient, outpatient, laboratory and imaging services. The tertiary level is represented by teaching hospitals/institutes with

250 to 1050 beds, located at division and national levels (urban areas) mainly offering specialised health care services.

The Ministry of Health and Family Welfare (MOHFW) is responsible at the national level for policy formulation, planning and decision making. Its policies are implemented through four executive authorities, namely: the Directorate General of Health Services, the Directorate General of Family Planning, the Directorate of Nursing Services and the Directorate of Drug Administration. There are private hospitals and health centres in rural and urban areas at each level of the health system, mainly managed by NGOs.





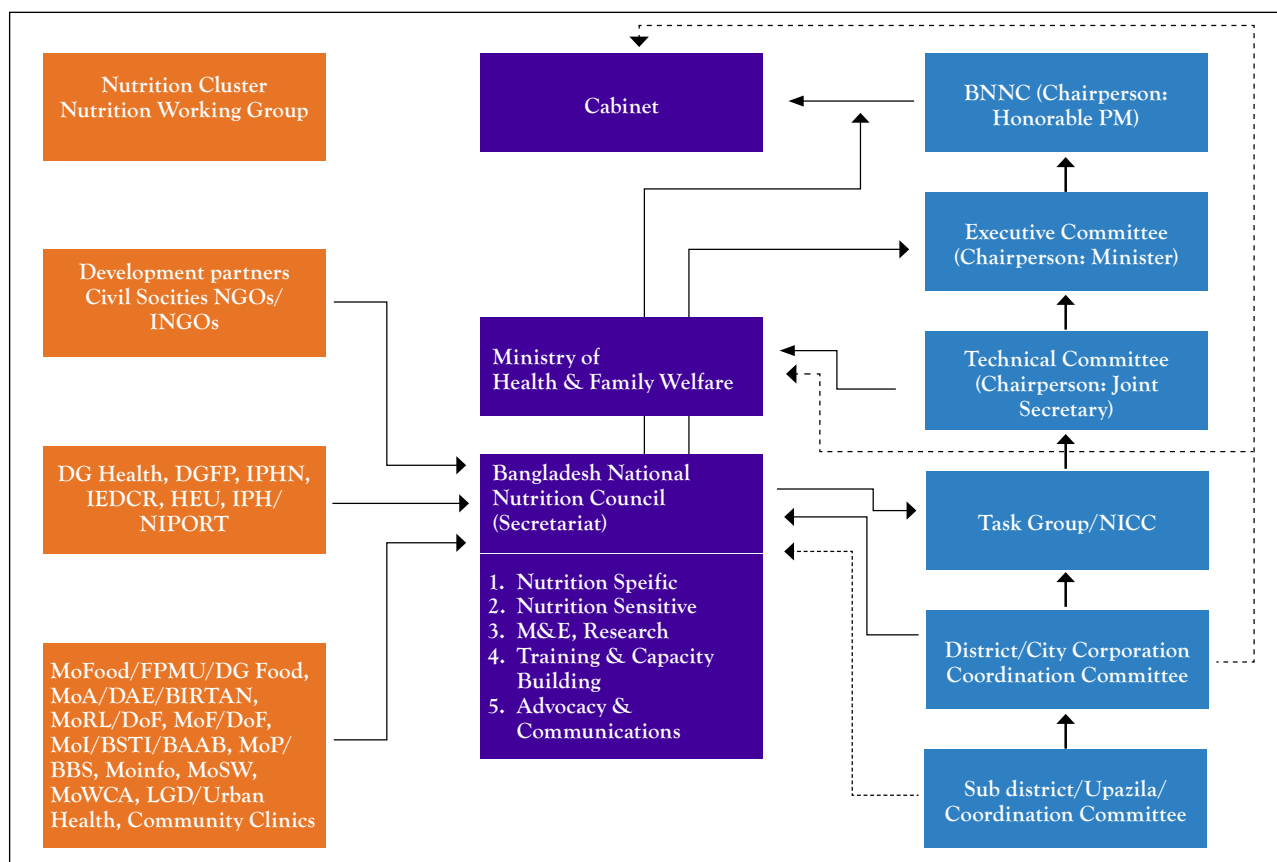
3. NUTRITION GOVERNANCE

Bangladesh national nutrition council was first established in 1975, and later on revitalized in 2016. The council is responsible to provide guidelines on nutrition, and coordination of nutrition activities across ministries. Nutrition cluster in Bangladesh was activated in 2007 with representations from over 15 member organizations including UN agencies, international and local NGOs, national institutes and research/academic institutions. UNICEF and Institute of Public Health Nutrition under Ministry of Health co-chair nutrition

cluster. Nutrition cluster is the focal point for scale up of management of childhood SAM. Besides, the nutrition working group is a forum of stakeholders discussing and sharing emerging issues related to nutrition.

The Government of Bangladesh implements two nutrition-related initiatives, namely National Nutrition Service (NNS) and Country Investment Plan (CIP). While NNS is an Operational Plan of the Ministry of Health and Family Welfare Planning focusing on nutrition-specific activities through public

health facilities at sub national level (Upazila Health Complex and Community Clinics), CIP includes nutrition-sensitive activities of relevant ministries coordinated by Food Policy Monitoring Committee, an inter-ministerial cabinet level committee led by the Ministry of Food at national level. The Government of Bangladesh has entrusted the Institute of Public Health Nutrition (IPHN) to implement NNS as part of Health, Population and Nutrition Sector Development Program (HPNSDP) of the Department of Health.



3.1. Government child health/ nutrition policy:

Improvement of nutritional status of children has been a priority of the government of Bangladesh for many years. The Bangladesh integrated nutrition program was the first comprehensive nutrition program implemented in the country from 1996 to 2002, aimed at reducing the incidence of low birth weight and malnutrition in children. From 2002 onwards, the intervention was continued as a national nutrition project (NNP) funded by the World Bank and operated by local NGOs. One of the six objectives of the NNP was to reduce the prevalence of severe and moderate malnutrition in young children. In 2006, the NNP was integrated into the health, nutrition and population sector programme (HNPSPP), a policy instrument for improving the nutritional status of children. The programme was implemented through several contracted NGOs. The NNP activities are operationalized as national nutrition services (NNS) delivered through the national health centres, and CMAM is one of the NNS interventions. The National Nutrition Services was subsequently established within the MoHFW in 2011 as the primary national programme to mainstream nutrition. The country's first National Nutrition Policy (NNP) was developed in 2015 and clearly articulated inter-sector coordination as a key objective, while emphasising nutrition-specific interventions and nutrition-sensitive approaches. This was coupled with the revitalisation of the Bangladesh National Nutrition Council (BNNC) in



Photo: aoav.org.uk



2015 as the most powerful national coordinating body for nutrition, with an explicit mandate to “ensure the accountability of government agencies by evaluating their performance”.

3.2. CMAM guidelines

The guidelines for inpatient and outpatient management of SAM were developed and disseminated on 10th July, 2017 as a part of CMAM national guidelines. Inpatient guidelines recommend facility-based treatment of SAM children with therapeutic milks F-75 and F-100, and with local equivalents called ‘Khichuri, Milk Suji, and Halwa’, prepared from local ingredients. The outpatient guidelines recommend the use of ready-to-use foods made from locally-available ingredients for community-based management of MAM and SAM without complications.



Photo : UNICEF Bangladesh

4. NUTRITION FINANCING

The sector-wide approach to nutrition financing brought together the government, donors, civil society and other stakeholders. The MOHFW was supported by donors, who accounted for 30% to 40% of total health, nutrition and population sector expenditures over the last ten years. Major contributors were the World Bank, the United Kingdom Department for International Development (DFID), and the United States Agency for International Development (USAID) and UNICEF, in addition to 14 other donors. 7% of the governmental health budget was reportedly dedicated to nutrition. Bangladesh health policy provided a free of charge primary health care for under-5 children, annually funded by the MOHFW.

The total budget of current health, population and nutrition sector program (January 2017 to June 2022) is USD \$14.71 billion. For National Nutrition Services (NNS), allocated budget is USD \$92.88 million (6.58% of total health, population and nutrition sector program budget) of which around USD \$3.08 million has been allocated for the management of children with moderate and severe acute malnutrition (3.3% of total NNS budget). This budget includes costs of relevant guideline/training module development, staff training and procurement of supplies. Budget spending per child under 5 years for nutrition-specific interventions is \$14.96 and donor spending per stunted child under 5 is \$6.12.^[2]



5. HISTORY OF SAM PROGRAMMING IN BANGLADESH

Bangladesh implemented vertical nutrition programs like Bangladesh Integrated Nutrition Project and National Nutrition Program during 1996 to 2011 where reducing national rates of acute malnutrition was one of the priorities. Considering the importance of an integrated approach, nutrition services were integrated within the existing ministry of health and family welfare service delivery systems as national nutrition services (NNS) since July 2011. The institute of public health nutrition under the ministry of health and family welfare was made responsible to implement NNS including inter alia CMAM and ensuring coordination between different

ministries for nutrition interventions. The government has endorsed the national nutrition policy 2015 and the second national plan of action for nutrition (2016–2025). The policy puts much emphasis on treating severe and moderate acute malnutrition both at health centre and in the community. Institute of public health nutrition developed the national guideline for facility-based management of SAM in 2008. A national guideline for the community-based approach to manage acute malnutrition was published in 2011 to complement the national inpatient SAM management guideline.

1972	1973–78	1974–75	1984	1989	1990–95	1995–2011	1997	2008
Constitution of Bangladesh that anchored adequate nutrition as a basic human right	1st Five Year Plan include Vitamin-A supplementation as health intervention	Establishment of Institute of IPHN and BNNC	Breast milk Substitute Act (BMS Code	Prevention of Iodine Deficiency Disorders Act. 1989	4th Five Year Plan– first time a separate chapter on nutrition.	Vertical/ Area based nutrition programming focusing on underweight (BINP/NNP)	1st National Food and Nutrition Policy (NFNC) and National Plan of Action on Nutrition	Guideline for management of severe malnourished children
2010	2011	2012	2013	2015–16	2017	2020	2020–21	2022
Country Investment Plan (CIP) for Nutrition-Sensitive Food Systems	Nutrition was mainstreamed into 4th HPNSP–NNS OP prioritize SAM and CMAM	National SAM Guideline (2nd edition)	Breastmilk Substitute Law; Mandatory Vitamin A Enrichment in Edible Oil	National Nutrition Policy. NPAN2 emphasize multi-sectoral approach	National Guideline on SAM and CMAM	National Food and Nutrition Security Policy 2020	COVID-19 Service Continuation Guideline; Pocketbook of facility-based management of SAM	Upcoming Revision of SAM and CMAM



6. OVERVIEW OF CMAM IN BANGLADESH

Children with acute malnutrition are identified as malnourished using MUAC tape and by checking for bilateral pedal oedema. The criteria used to identify children in the community are the same criteria used for enrolment in CMAM program. A simple Referral Slip from Community Health Worker (CHW) is used to refer children to a community outreach site. This is done in duplicate copy so that one copy is given to the caregiver and the other is kept for the record by the CHW.

The guideline emphasizes on identifying children with acute malnutrition at the community or household levels using MUAC tapes by the frontline community health workers (CHW), i.e., HA (DG health cadre), FWA (DG family planning cadre), CHCPs, and NGO community health or nutrition workers. Growth monitoring and promotion, routine vaccination, expanded program on immunization campaign, community clinic visits or home visits by CHWs are platforms used for identification of malnourished children. The uncomplicated cases are managed by CHW by using nutritional and/or medical treatment. The serious and complicated cases are referred to the outpatient sites where the trained CHW assess whether the child requires inpatient care and accordingly refer to the Upazila health complexes. Inpatient care for stabilization is provided to SAM children

with complications following the national guideline. The national CMAM guideline places much emphasis on prevention of childhood malnutrition by behavior change communication, and follow up of children who received treatment for acute malnutrition at the community level.

The CMAM program has following components

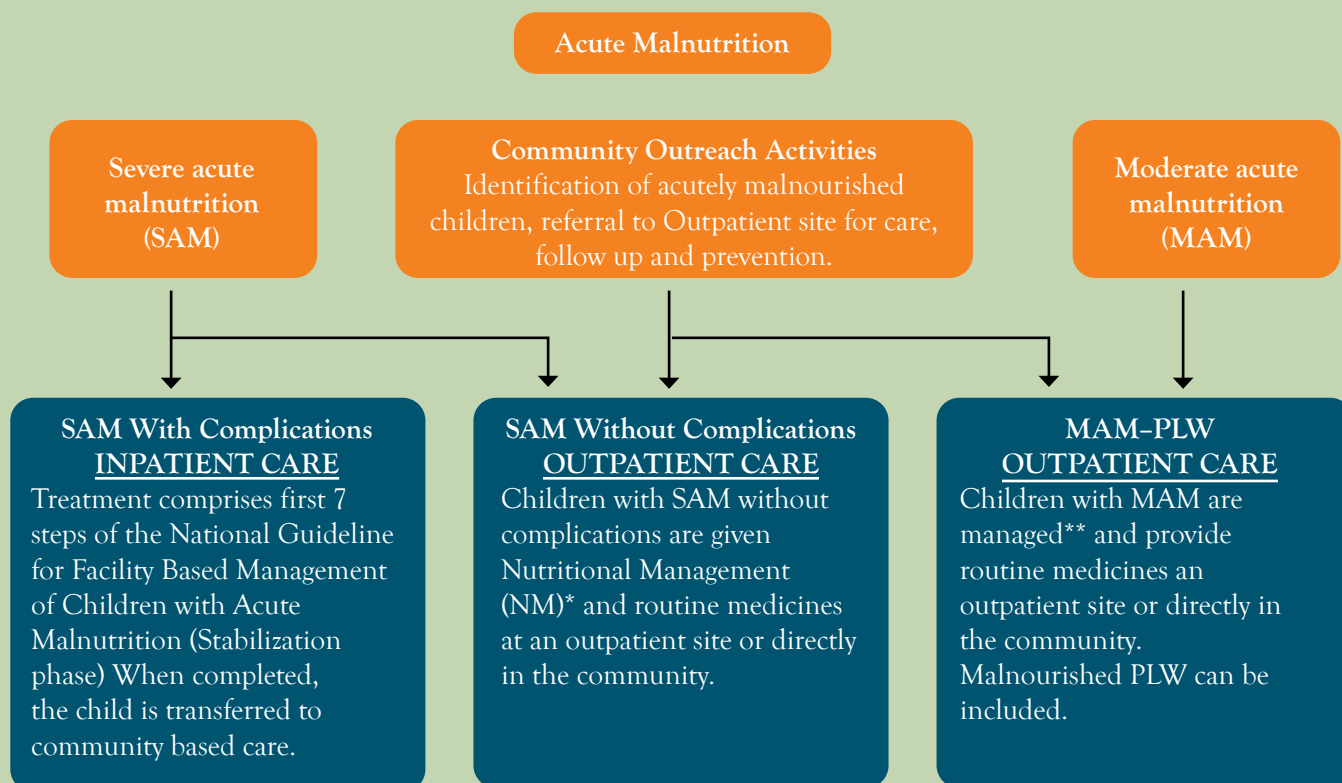
Community outreach activities: Children with acute malnutrition are identified in the community and at household level using mid upper arm circumference (MUAC) tapes and simple techniques to identify nutritional oedema. Caregivers of children with SAM are given a referral slip and asked to go to the outpatient site on a certain day. Children with MAM and acutely malnourished PLW are also be included in a community based program. Some children with SAM who are absent, who have defaulted or have other problems with their treatment and recovery are followed up at home by the CHWs. CHWs also promote and support appropriate IYCF practices during screening of acute malnutrition among children 6–59 months and follow up visits at household level.

Community based management of SAM without complications: Children with (SAM) WITH appetite and WITHOUT complications are given Nutritional

Management (NM) and routine medicines. The children and their caregivers come to a designated outpatient site every week for a medical check-up and to receive Nutritional Management. A trained CHW directly manage the child at the community level without referral to a designated outpatient site. Where there is no community based management of SAM, children are treated according to the National Guidelines for the Management of Children with SAM in Bangladesh.

Inpatient care for SAM with complications: Children with SAM who do not have appetite and/or WITH complications and severely malnourished infants less than 6 months are treated in inpatient care until stabilized. Inpatient care for the SAM child with complications follow the first seven steps of the National Guideline for the Management of Children with SAM in Bangladesh. Wherever possible, these children are transferred to an outpatient site once they are stabilized.

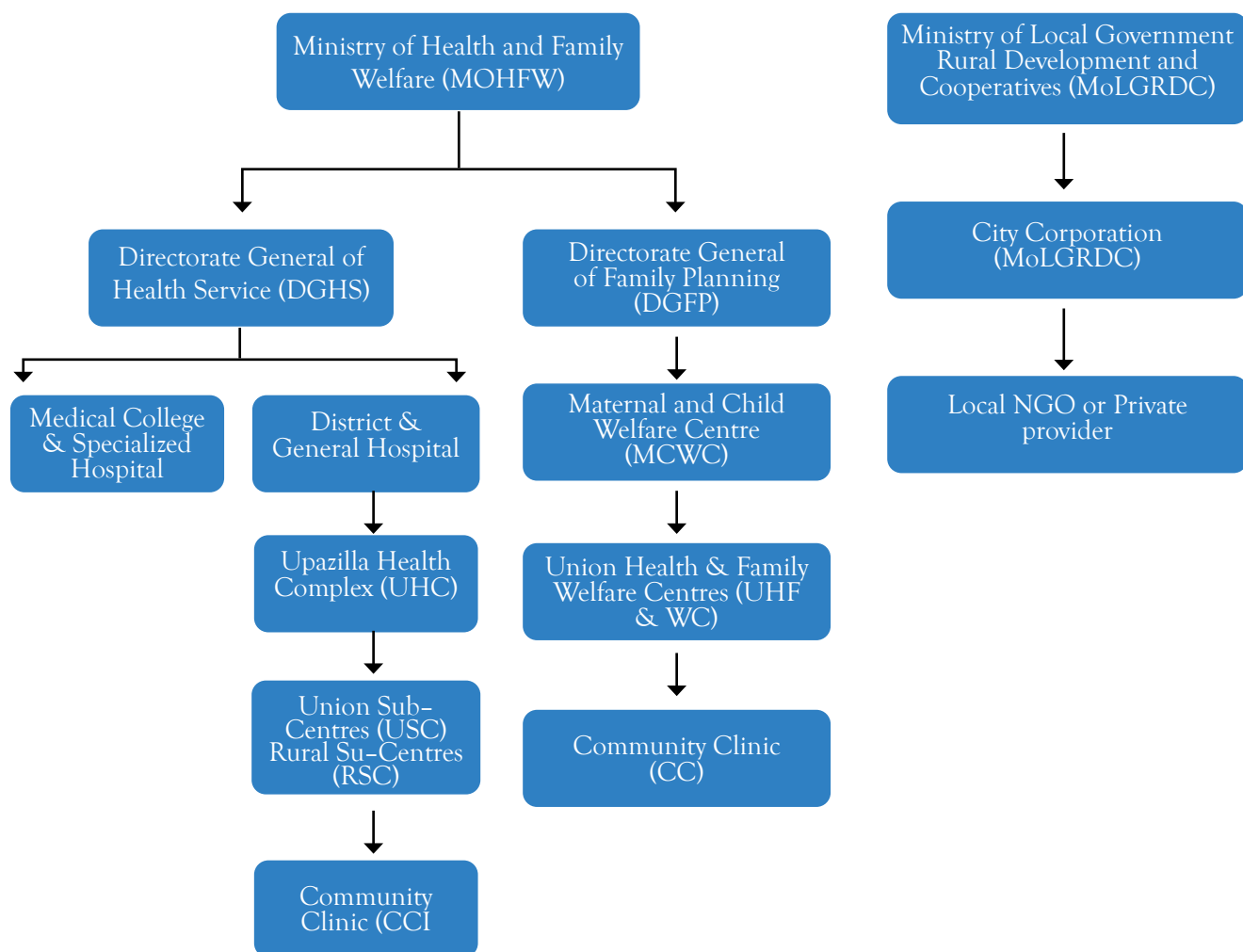
Community based management of MAM and PLW: Children with MAM are managed at the community level using energy and nutrient dense local foods at the household level. Acutely malnourished PLW with infants less than 6 months are also included in a community based program where resources and capacity are sufficient.



6.1. Integration of the CMAM into the existing health services and system

The operational plan under National Nutrition Services has provision for management of SAM at the upazila (sub-district) health complex level. The Sixth Five Year Plan of the government also emphasizes the preventive component along with appropriate management of SAM. National guidelines on the management of SAM and on CMAM has been developed. Initiatives have been taken to train healthcare providers to develop capacity in management of SAM.

Identification and referral takes place at community clinics and IMCHN corner at Upazila/district hospital. The inpatient management of acute malnutrition is integrated with IMCI services.



6.2. Human Resource

The national CMAM guideline envisages the government front line CHWs to conduct community level screening for malnutrition in children. The existing CHWs, i.e., HAs and FWAs are tasked to work fulltime 6 days/week to complete their domiciliary duties. However, after establishment of community clinics, they are assigned to work 3 days/week at the clinics without any modification in their existing domiciliary responsibilities and targets.

The Community Health Worker perform different functions depending on the delivery mechanism:

- (i) Identify and refer to an outpatient site (outreach site) and follow up.
- (ii) Identify children with acute malnutrition and acutely malnourished PLW and refer them to a specific

.outpatient site (outreach site) using the referral slip.

- (iii) The CHW will be present at the outpatient site and will assist the designated community outreach health worker to manage cases at the site.
- (iv) The CHW will also follow up cases that are absent, defaulted or require follow up as determined by the designated community health worker.
- (v) Identify and manage children with SAM and MAM without complications and acutely malnourished PLW (without complication) directly in the community. In addition to identifying cases, the CHW will directly provide nutritional management and routine medicines.

6.3. Capacity Building for IMAM

The NNS provides training on facility-based management of SAM as well as CMAM.

NNS is providing training to relevant service providers on management of severe acute malnutrition cases and also establishing SAM management centres in all hospitals, so that severely malnourished children referred from the community can be successfully treated. At the community level, the GOB is addressing community-based management of acute malnutrition through providing training and logistics to Community Clinic level facilities and also working on establishing referral linkages to higher facilities. National guidelines for the management of severely malnourished children as well as Community Management of Acute Malnutrition (CMAM) in Bangladesh is used for the same.

NNS also provides cascade training for the management of severe acute malnutrition.

Community Health Workers (CHWs) are trained to identify, refer and follow up children with SAM and MAM and on promotion & support of appropriate IYCF practices. Training is done in three days. Frequent refresher training is also done. Training should include:

- Appropriate IYCF practices.
- The purpose of community-based management of SAM and MAM.
- Basic information on the causes, identification and treatment of malnutrition.
- Practice in identification of oedema and wasting, use of MUAC tape.
- Case finding.
- Case referral.
- Health, nutrition and hygiene education (prevention).

6.4. Coverage

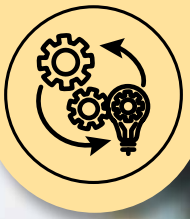
Coverage of OTP services was disaggregated across five (Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage) SLEAC zones. The SLEAC survey indicated that OTP coverage in all five zones fell in the “Moderate” classification range (60–90% coverage). This is based on a coverage assessment conducted in the Rohingya refugee camps in Cox’s Bazar district in southern Bangladesh in November 2019. The coverage assessment is based on an “Adapted SQUEAC methodology” and set out to assess the treatment coverage of OTP and TSFP services.

Compared to the baseline coverage survey in 2018, the 2019 coverage assessment found that a greater proportion of SAM and MAM cases are accessing treatment. Distance and accessibility are identified as a factor affecting coverage in some camps.

	August 2018	November 2019
OTP (Outpatient Therapeutic Programme)	27.7% (22.5–32.9%)	76.9% (72.1–81.7%)
TSFP (Targeted Supplementary Feeding Programme)	34.1% (31.9–36.4%)	61% (57.5–64.6%)



Photo: UNICEF Bangladesh



7. PROGRAM IMPLEMENTATION

7.1. Community Mobilization

It is important to directly engage the community from the outset. This is done initially through meetings with community and religious leaders. Mothers of young children are also included so that there is full representation of all those concerned with the health of the young children. Community mobilization is done through:

- engaging in discussion with the community to talk about existing IYCF practices, the problem of malnutrition, causes and possible solutions.
- discussing the community-based management of SAM, MAM and its working.
- Agreeing on relevant groups, organizations, structures to be involved in the program which includes the recruitment of volunteers/community nutrition workers to help with the case finding and follow up.
- Developing clear roles and responsibilities of service providers and community.

7.2. Screening, Identification and Referral

CHWs are involved in the active case finding. They actively identify children with SAM and MAM during ongoing community activities such as growth monitoring and promotion (GMP), at an EPI site during routine vaccination or campaigns, at community clinic and during routine health visits for the well and sick children. CHWs also find and identify children with acute malnutrition in the household' CHWs refer children with SAM, MAM and acutely malnourished PLW to a designated outpatient site (community outreach site) on a certain day. In some cases the same CHW who identifies the child or PLW will also directly provide nutritional and medical treatment without any referral to a designated site. In this case, the CHW must

be specifically trained to manage children with acute malnutrition.

Children with acute malnutrition are identified as malnourished using MUAC tape and checked for oedema. The criteria used to identify children in the community are the same criteria used for enrolment in CMAM program (refer following table). A simple Referral Slip from CHW to Outpatient Site (Community outreach site) is used to refer children to an outpatient site (community outreach site). This is done in duplicate copy; one copy is given to the caregiver and the other is kept for the record by the CHW.

Target Group	Finding	Action
6–59 months	MUAC < 115mm (RED)	Refer to outpatient site CHW providing direct treatment <ul style="list-style-type: none"> • Determine complications • Refer to inpatient care if SAM with complications • Provide nutritional management (NM) and medical care for SAM without complications
6–59 months	Bi- pedal oedema (any grade)	<ul style="list-style-type: none"> • Refer to outpatient site CHW providing direct treatment <ul style="list-style-type: none"> • Refer to inpatient care
6–59 months	MUAC 115 mm – < 125mm (YELLOW)	<ul style="list-style-type: none"> • Refer to outpatient site CHW providing direct treatment <ul style="list-style-type: none"> • Management of MAM and medical care for MAM/or practical guidance on use of local foods
Pregnant and lactating women	MUAC <210 mm	<ul style="list-style-type: none"> • Refer to outpatient site CHW providing direct treatment <ul style="list-style-type: none"> • Provide nutritional management (NM) and medical care for/or practical guidance on use of local foods
Infants < 6months	<ul style="list-style-type: none"> • Visibly wasted. Weight for length less than –3 Z-score or Infants with biped-aloeidema • Infants too weak or feeble to suckle with failure to gain weight 	<ul style="list-style-type: none"> • Refer to outpatient site for evaluation (if available) CHW providing direct treatment <ul style="list-style-type: none"> • Refer to inpatient care

7.3. Assessment of Appetite and Medical Complications

Once acute malnutrition has been identified, assessment is done to identify any medical complications that would necessitate referral for inpatient therapeutic care (for acute malnutrition with complications) or whether the child can be treated in OTC or the MAM program. Medical and dietary history is taken and recorded in the child monitoring card (CMC). Physical examination and medical complications are assessed. If the child presents with any medical complication listed in the table, the child is referred to the inpatient care.

The child's appetite is assessed to see if the child is able to complete the nutritional management (NM) recommendations necessary for recovery.

The child is transferred to inpatient care, if the child refuses to eat little amount of food or no appetite and/or has any medical complications and/or has oedema of any grade and severe malnourished infants < 6 months. The caregiver is advised to keep the child warm and if possible, the first antibiotic dose is given. Transfer Slip to Inpatient Care is

completed before transfer. One copy is given to the caregiver and the other is kept in the file. When the child returns from inpatient care, a return transfer slip is completed by medical staff at the inpatient care health facility. The transfer to inpatient care and date is noted on the CMC. It is filed under "Children transferred to inpatient care". Children are enrolled if they have appetite, do not have oedema or any medical complications and refuse to go to UHC/hospital for initial phase management.

SIGN	CRITERIA FOR IN PATIENT TREATMENT
Oedema	* Grade ++ and Grade+++
Oedema with wasting	Any grade of oedema with MUAC <115 mm and/or WLZ or WHZ<-3)
Appetite/anorexia	Poor appetite or unable to eat
Vomiting	Persistent vomiting (>3 per hour)
Temperature	Fever (>39°C or 102.2° Faxillary) orhypothermia (<35°C or 95° Faxillary)
Respiratoryrate	Rapid breathing according to IMCI guidelines for age: >60/min for children <2 months >50 /min for children 2-12months >40 /min for children 12-59months
Anaemia	Severely pale (severe palmer pallor) with or without difficulty breathing
Infection	Extensive infection requiring parenteral treatment
Alertness	Very weak, apathetic, unconscious, fitting/convulsions
Hydration status and dehydrating diarrhoea	Dehydration based primarily on are cent history of diarrhoea, vomiting, fever or sweating, not passing urine for last 12 hours and on recent appearance of clinical signs of dehydration as reported by the care giver
Other criteria	<ul style="list-style-type: none"> • Infants <6 months with severe acutemalnutrition • Caregiver requests inpatient care

7.4. Outpatient Care for SAM children without medical complication –community based management of SAM

Children are screened and identified as SAM through community outreach activities. Post identification there are two possible options (i) Referral to an outpatient site (ii) Direct nutritional management by a CHW at the community outreach site at household level.

An outpatient site/community outreach sites are operated at any of the following: Satellite/Outreach Clinic, Community Clinic, Union Health and Family Welfare Centre (UHFWC), Union Sub-Centre, UHC outdoor facility, NGO static clinic, mobile clinic, outdoor facilities of secondary and tertiary hospitals and other community based outreach sites. The outpatient site is managed by a service provider (either a trained community health worker or skilled health worker).

Children identified as SAM during community outreach activities are given a referral slip and attends the outpatient site on a specific day. The service provider at the outpatient site determines if the child has complications that require transfer to inpatient care. Children with SAM without complications receive nutritional management and routine medical care every week on a specific day until discharge. CHWs and community volunteers are present at the outpatient site/community outreach site and follow up cases that are absent, defaulted or require follow up as determined by the treatment provider.

In addition to identifying cases, a trained CHW can manage children with SAM at the directly at household level without any

need for referral to an outpatient site/community outreach site. The direct management of SAM at community/household level takes place in the community often at the home of the CHW and sometimes at a certain location in the community which is immediately accessible such as an EPI site or NGO operation community based sites. The CHW determines if a child has complications that require transfer to inpatient care. Children with SAM without complications receive nutritional management and routine medical care every week on a specific day until discharge. This delivery mechanism ideally requires one trained dedicated CHW for an average of 200 households to ensure a manageable caseload.

7.4.1. Overview of Outpatient therapeutic care (OTC)

A trained Community Health Worker (CHW) conducts screening and determines whether the child is SAM or MAM at community level. There are SAM corners where Community health workers identify malnourished children using MUAC tapes. The CHW manages

children with SAM without any complication at the household level without any need for referral to an outpatient site/community outreach site. Children with SAM without complications receives nutritional management (government approved energy-dense mineral vitamin

enriched nutritious food produced locally equivalent to F100 and providing 175–200 kcal/day) and routine medical care every week on a specific day until discharge at community outreach clinic / outpatient site.



Children and their mothers/caregivers have a weekly appointment at the outpatient site or with the CHW if managed directly at the community level. Every week the child has a medical check-up and receives Nutritional Management (NM). The weekly visits are recorded on the follow up section of the CMC under “Children currently in the outpatient care for SAM”. MUAC, weight, oedema and appetite assessment are done at every visit. Medicines are given according to the Routine Medical Protocol. First dose of antibiotic is given on enrolment and the mother is shown how to use it. Immunization status is checked and if found missing any vaccine, the child is referred for immediate immunization. Counselling is given on appropriate IYCF feeding recommendations of family diet up to 2 years with multiple micronutrients and IMCI feeding recommendations of family diet after two years of age /NM according to weight of the child. Medicines which are pending according to the routine medical protocol are completed. All the details are recorded in the CMC.

Children are followed up at home by a community health worker or community volunteer on whether:

- Child has gained weight on two consecutive visits.
- Weight or medical condition has improved.
- the child was initially treated in inpatient care.
- absent or defaulted.
- Issues with care and feeding practices at home.

The feeding history and weight of child is used to provide appropriate guidance on NM. Appropriate IYCF feeding recommendations for family diet for children upto 2 years are given. Children are ready for discharge from outpatient site when the following criteria are met.

- MUAC >115 mm for two consecutive visits (one week apart).
- no severe classification (according to IMCI protocol) like general danger sign, chest in-drawing and strid or in a calm child.

7.4.2. Services and procedures at OTCs

An outpatient site/community outreach sites are operated at any of the following: Satellite/Outreach Clinic, Community Clinic, Union Health and Family Welfare Centre (UHFWC), Union Sub-Centre, UHC outdoor facility, NGO static clinic, mobile clinic, outdoor facilities of secondary and tertiary hospitals and other community-based outreach sites. The outpatient site/outreach site is as close as possible to the community in order to avoid issues of drop out. In some cases, when children start to improve, mothers/caregivers may not be motivated to attend weekly visits. Follow up of children who are absent or default from the outpatient site/community outreach site is therefore essential. Direct management of SAM at community/household level takes place in the community often at the home of the CHW and sometimes at a certain location in the community which is immediately accessible such as an EPI site or NGO operation community-based sites.

- 1: MUAC, weight is measure and oedema is assessed. If the child meets the criteria for enrolment, the admission section of the Child Monitoring Card (CMC) is completed and a card number is assigned.
- 2: Assessment – a medical and dietary history is taken and information recorded in the CMC. A physical examination is conducted and results recorded on the CMC. The Action Protocol is used to determine if there are any medical complications. If the child has medical complications or oedema of any grade, transfer the child is transferred to the nearest inpatient care facility. If caregiver refuses to admit the child in inpatient care health facility then service

are provided at community outreach site. If the child has no medical complications. Then appetite test is done. A child is transferred to inpatient care if according to the Action Protocol the child, refuses to eat little amount of food or no appetite, and/or has any medical complications and/or has oedema of any grade and Severe malnourished infants < 6 months.

- 3: Appetites assessed to see if the child will eat the nutritional management recommendations necessary for recovery.
- 4: Based on the medical assessment and appetite test results decision on if the child needs to be enrolled in outreach site or refer to inpatient treatment centre is taken.
- 5: Enrolment and management of children with SAM without complications Children who have appetite, do not have oedema or any medical complications and refuse to go to UHC/hospital for initial phase management are enrolled in community management of SAM.
- 6: Medicines are given as per the routine medical protocol. First dose of antibiotic is given on enrolment and the mother shown how to use it. 7. Immunization status is checked and missing vaccinations ensured 8. guidance on appropriate IYCF feeding up to 2 years and beyond /NM according to weight of the child is provided. 9. CMC is completed in under “Children currently in the outpatient care for SAM.” And filed.

The treatment is decided as per the following Enrolment Criteria

Criteria for admission to in- or out-patient care centre (children 6–59 months) with SAM:

ENROLMENT CRITERIA		
Inpatient Care	Community based management (Outpatient Care)	Community based management (Outpatient Care)
SAM with complications (children 6–59 months) and Infants less than 6 months	SAM without complications (Children 6–59 months)	MAM (Children 6–59 months) and acutely malnourished Pregnant and Lactating Women (PLW)
<ul style="list-style-type: none"> ➤ Bipedal oedema (any grade) OR ➤ MUAC <115 mm with any grade of oedema OR ➤ MUAC <115mm with any of the 	<ul style="list-style-type: none"> ➤ MUAC<115 mm and all of following: ➤ Presence of appetite ➤ Without any medical complications as per National IMCI Protocol 	<ul style="list-style-type: none"> ➤ MUAC 115mm –<125mm AND No bipedal oedema and all of following: ➤ Presence of appetite ➤ Without medical complications as per national IMCI protocol
<p>following complications:</p> <ul style="list-style-type: none"> • No appetite/unable to eat • Persistent vomiting (≥3 per hour) • Fever >39°C or 102.2° F (axillary temperature) • Hypothermia < 35°C or 95°F (axillary temperature) • Fast breathing as per IMCI guidelines for age: <p>≥60/min for children <2 months ≥50/min for children 2–12 months ≥40/min for children 12–59 months</p> <ul style="list-style-type: none"> ➤ Dehydration based primarily on a recent history of diarrhoea, vomiting, fever or sweating, not passing urine for last 12 hours and on recent appearance of clinical signs of dehydration as reported by the care giver 		
<ul style="list-style-type: none"> ➤ Severely pale (severe palmer pallor) with or without difficulty breathing ➤ Very weak, apathetic, unconscious, fitting/ convulsions ➤ Conditions requiring IV infusion or ➤ NG tube feeding ➤ Infants < 6 months ➤ Severe malnourished Infants <6 months who are visibly wasted and or unable to breastfeed ➤ Weight for length less than –3 Z- score or, ➤ Presence of bipedaloedema 		<ul style="list-style-type: none"> ➤ Pregnant women with MUAC<210 mm ➤ Lactating women with Infant < 6 months AND MUAC <210mm

DISCHARGE CRITERIA		
Transfer to outpatient site (6–59 months children) when:	<ul style="list-style-type: none"> • MUAC >115mm for two consecutive visits <p>AND</p> <ul style="list-style-type: none"> • No sign of severe illness • Transfer to community-based management of MAM where possible 	<p>Children 6–59 months MUAC >125mm for two consecutive visits Pregnant and lactating women</p> <ul style="list-style-type: none"> • MUAC ≥210mm <p>AND</p> <ul style="list-style-type: none"> • Infant completed 6 months

7.4.3. Follow-up of Children with Acute Malnutrition

The SAM children without complication enrolled in the community program are followed every week at outpatient site on a specific day until discharge. During each follow up visit the CHW determines if the child has complications that require transfer to inpatient care, provides nutritional management and routine medical care. CHWs and community volunteers also follow up cases that are absent, defaulted or other reasons for follow up as determined by the health care provider. During home visits, the CHW uses a check list and completes the Home Visit form. This form is also duplicated and one copy is preserved by caregiver of SAM/MAM child and another copy with the health worker.

The weekly visits are recorded on the follow up section of the CMC. At every visit the following steps are taken:

Step 1:

Measurements– MUAC, weight and assessment for oedema at every visit.

Step 2:

Appetite test and medical check.

Step 3:

Based on the action protocol the CHW determines if there are complications and determine if there is a need to transfer to inpatient care or if follow up by a community health worker or community volunteer is needed at home. Children are transferred to inpatient care at any time during treatment in the outpatient program according to the Action Protocol if:

- (i) Medical condition deteriorates
- (ii) Increase in bipedal oedema
- (iii) Weight loss for three consecutive weeks
- (iii) Static weight (no weight gain) after five weeks
- (iv) Target weight has not been reached after 2 months
Children are followed up at home by a community health worker or community volunteer according to action protocol if:
 - (a) Child has lost weight on two consecutive visits







- (b) Weight or medical condition has not improved
- (c) Child was initially treated in inpatient care.
- (d) The child has been absent or defaulted.
- (e) If there are issues with care and feeding practices at home The findings of the home visit are noted on the CMC

Step 4:

Nutritional Management ID provided- feeding history and weight is recorded to provide appropriate guidance on NM, guidance on appropriate IYCF feeding recommendations of family diet up to 2 years, IMCI feeding recommendations of family diet after two years of age /NM according to weight of the is provided and the CMC is completed and make an appointment for the next visit is given.

Follow-up visits are made by CHWs who play an important role in tracing children who are absent or have defaulted and encouraging the caregivers to return. Children who have static weight or have lost weight are also followed up at home. In order for follow up to be effective, a good linkage between the outpatient site and the community health workers and volunteers is established through presence of the CHWs should at the outpatient site in order to:

- (i) Assist the Health Worker at the outpatient site/outreach site
- (ii) Follow up children who are absent or defaulted or if there are other reasons for follow up as determined by the health care provider
- (iii) Ensure children referred for further care/other programs During home visits, the CHW uses a check list and complete a simple Home Visit Form. The form is completed in duplicate and one copy is preserved by caregiver of SAM/MAM child and another copy with the health worker.

7.4.4. Nutritional rehabilitation in Outpatient Therapeutic Care

Children are given a suitable RUTF/local Nutritional Management (NM) & routine medicine to manage SAM at an outpatient community-based center with weekly follow up. If NM is available, government approved energy-dense mineral vitamin enriched nutritious food produced equivalent to F100 and providing 175–200 kcal/day is provided. Until NM is not available, children with SAM without complications are referred to the nearest inpatient care facility (e.g. UHC, District hospital) and treated according to National Guideline for facility based management of children with severe acute malnutrition.

The RUTF used is Plumpy'nut, a peanut-based paste formulated and developed by Nutriset and currently being produced by Nutriset and the Plumpy Field network of producers in Ethiopia, Malawi, Niger, DR Congo, India, Mozambique, and Uganda. Plumpy'nut is equivalent in formulation to F-100, which is the WHO-recommended fortified liquid milk-based diet for the nutritional rehabilitation of children with SAM.

7.4.5. Medical management in Outpatient Therapeutic Care

To address the sub-clinical symptoms in severely acutely malnourished children, all cases admitted to OTC are treated according to the following systematic treatment schedule.

Drug/Vaccine/ Micronutrient	When	Age/Weight 6 months to < 1year	Prescription 100 000IU	Dose
Vitamina	On enrolment (if not taken with in last 1 month)	>1year	200 000IU	Single doseon admission
		6–12months	125mg	
Amoxycillin	On enrolment	12–24months	187.5mg	3 times/dayfor 5days
		24–59months	250mg	
*Albendazole	Secondvisit (if not taken withinlast 3 months)	<12months	DO NOT GIVE	
		12–23 months	200mg	Single dose
Measles Vaccination	Fourth visit (if not already vaccinated)	>2years	400mg	Single dose
		>9months	Standard	

7.5. Facility Based care and management of SAM children with complication

7.5.1. Overview of Inpatient therapeutic care

Step	PHASE		
	STABILIZATION	REHABILITATION	
	DAY 1-2	DAY 3-7	WEEKS 2-6
1. Hypoglycaemia	→		
2. Hypothermia	→		
3. Dehydration	→		
4. Electrolytes	→	→	→
5. Infection	→	→	
6. Micronutrients	no iron		with iron
7. Cautious feeding	→	→	
8. Catch-up growth			→
9. Sensory stimulation			→
10. Prepare for follow-up			→

SAM with medical complications is admitted to facility-based inpatient therapeutic care until medical complications are controlled.

The management of SAM is accomplished in two phases, as shown by the typical time frame for the management of a child with severe acute malnutrition in figure

below. In Stabilisation phase life-threatening problems are identified and treated, specific deficiencies are corrected, metabolic abnormalities are reversed and feeding is begun. During Rehabilitation phase intensive feeding is started to recover lost weight; emotional and physical stimulation is increased; breastfeeding is re-initiated and/or

encouraged; the mother or caregiver is trained to continue care at home, and preparations are made for discharge of the child. There is an intervening transitional phase of treatment for 2–3 days when dietary treatment changes from low calorie-low protein (F-75) to high calorie-high protein diet (F-100).

7.5.2. Nutrition management for cases in in-patient care

The nutritional management of SAM in facility follows WHO protocols of using F-75 and F-100. There are two main groups of F-75 recipes: those which contain cereal flour and require cooking facilities, and those that do not contain cereal

flour and do not require cooking. In the stabilisation phase feeding is started as soon as possible after admission and the child is provided just sufficient energy and protein to maintain basic physiological processes because of the child's

fragile physiological state and reduced capacity to handle large feeds. Low calorie-low protein (F-75) is given during stabilization phase and as the child's condition improves the child is shifted to high calorie-high protein diet (F-100)

7.5.3. Discharge from inpatient care

Follow up: First follow up visit is done at 1 week after discharge in treated health facility or nearby public (CC, UH&FWC, IMCI-Nutrition corner, EPI centre etc) or NGO facilities. Subsequent visits are at 2nd week, 1st month, 3rd month and then every 3 months thereafter until WHZ becomes >1. Child is enrolled in the CMAM programme and Safety net programme. Child attends monthly GMP sessions at health centres (CC, UH&FWC, IMCI-Nutrition corner, EPI Centre etc) or NGO facilities upto 5yrs of child age.

Criteria for discharge inpatient care in areas where there is no community-based outpatient care

Child	<ul style="list-style-type: none">• WHZ > -2• Odema has resolved• No more infections and medical complication• Immunization is completed or planned
Mother	<ul style="list-style-type: none">• Knows how to:<ul style="list-style-type: none">• Prepare homemade balanced diet & to feed the child• Give home treatment for diarrhoea• Recognise the danger signs for seeking medical assistance• Advice for follow up

7.6. Management of Moderate Acute Malnutrition

7.6.1 Overview of Community Management of MAM

The purpose of the community-based management of MAM is to provide decentralized services for as many acute malnourished children as possible. MAM Children aged 6–59 months with appetite and without medical complications are enrolled and managed at an outpatient site or directly at the community level by a trained CHW where they provide basic medical treatment to MAM children and counsel mothers/caregivers on the use of high energy/nutrient dense local foods fortified with micronutrients in the outpatient care.

Children are screened and identified as MAM through community outreach activities. There are two possible options: referral to an outpatient site or direct management of MAM by a CHW at the community level. An outpatient

site is managed by a service provider, either a trained community health worker or skilled health worker. One CHW manages 200 households. Children identified as MAM during community outreach activities are given a referral slip and they attend the outpatient site on a specific day and receive guidance on nutritional management and basic medical treatment every two weeks until discharge.

7.6.2. Services and procedures at community for MAM

The CHWs or skilled trained health worker at household level or immunization site. Measure MUAC, weight and assess the oedema. If the child meets the criteria for enrolment, the admission section of the CMC for MAM is completed and a registration number is assigned. History of feeding practice and danger signs are also recorded. If any danger sign is present, the child is referred to the health facility for medical assessment/treatment. Children transferred from the outpatient program for SAM is not given routine medical treatment again. Counselling on home-based diet to support catch up growth or Provide Nutritional Management (NM) is given. The necessity of additional energy and nutrients to support catch up growth of the child and available local food recipes are explained to mothers. Specific messages on home-based diet following standard IYCF protocols and the procedures of family food fortification with micronutrient powder are provided.

The mother/caregiver is given an appointment for the next visit after two weeks. CMC is completed and filed under “Children currently in the outpatient care for MAM”. Children and their mothers/caregivers has an appointment every two weeks at the outpatient site or with the CHW if managed directly at the community level. At each visit, the child is assessed and counselled on the use of energy/nutrition dense local foods.

7.6.3 Nutritional Management of MAM

The management of MAM aims to provide additional energy and nutrient density to the existing home based diet to support catch up growth. This means adding at least 25kcal/kg/day over and above the energy requirements of a well-nourished child. This is done by encouraging increased intake of home food. The staple cereal (rice) is fortified, branded as Pushti Chal in Bangla, contains vitamins A, B1 and B12, and Folic Acid, Iron and Zinc, is included in the diet. The fortified rice, nutrients are powdered and mixed with rice flour to form pre-mix kernels and these kernels are then mixed with regular rice in 1:100 ratio. Micronutrient-enriched fortified rice was first introduced in Bangladesh in July 2013, in Kurigram for an acceptability trial. Nutrition International (NI) and Global Alliance for Improved Nutrition (GAIN) are supporting the advocacy for fortified rice in the program.

De-worming is done at least 6 monthly intervals. Inter-current infections are appropriately treated and hygiene is promoted to prevent infection. Children with MAM living in extremely food insecure conditions where the caregivers may not be able to provide the additional food. The nutritional supplement aims to provide 700–1000 Kcal/child/day with 25–30% of energy from fat and 10–12% of energy from protein.

Local diets with appropriate micronutrients to be used during rehabilitation phase gradually replacing with F-100

Local foods such as Khichuri and Halwa can be used to manage MAM. Local recipes must be fortified with micronutrients including 15 essential micronutrients in order to ensure catch up growth.

Khichuri is a preparation made from rice and lentil paste mixed with soybean oil and boiled vegetables.

Ingredients for Khichuri	Amount
Rice	120g
Lentils (mashur dal)	60g
Oil(soya)	70ml
Potato	100g
Pumpkin	100g
Leafy vegetable(shake)	80g
Onion (2 medium size)	50g
Spices (ginger, garlic, turmeric, coriander)	50g
Water	1000ml
Total energy/kg	1,442kcal
Directions for use	
Put the rice, lentils, oil, onion, spices and water in a pot and boil. Cut the potatoes and pumpkin into pieces and add to the pot after 20 minutes. Five minutes before the rice is cooked, add the cleaned and chopped leafy vegetable. The pot should be kept covered throughout cooking. Khichuri takes about 50 minutes to cook and can be kept at room temperature for 6-8 hours.	




Milk suji is composed of milk powder, rice powder, sugar, soybean oil, with added magnesium chloride, potassium chloride, and calcium lactate. The energy content is 67 kcal/100 ml and the protein content is 1.4 g/100 ml.

Halwa is a sweet dish consisting of carrots boiled with milk, almonds, sugar, butter, and cardamom. NT provides 450–550 kcal/100 g; 45–60% of total energy is from fat and 10–12% from protein. For outpatient management of MAM children, mothers/caretakers are encouraged to increase the intake of home food by adding at least 25 kcal/kg/day over and above the energy requirements of a well-nourished child. MAM children living in extremely food insecure conditions would receive a nutritional supplement providing 700–1000 Kcal/child/day, with 25–30% of energy from fat and 10–12% of energy from protein.



Photo : UNICEF

Ingredients for Halwa	Amount
Wheat flour(atta)	200g
Lentils (mashurdal)	100g
Oil (soya)	100ml
Molasses (brown sugar orgur)	125g
Water (to make a thickpaste)	600ml
Totalenergy/kg	2,404kcal
Directions for use:	
Soak the lentils in water for 30 minutes and then mash. Roast the wheat flour on a hot pan for a few minutes, and then mix with the mashed lentils, oil and water. Melt the molasses and add to the mixture to make a thick paste. Halwa takes about 15 minutes to cook and can be kept at room temperature for 6–8 hours.	



7.6.4. Medical management of MAM

Routine Medical Protocol for MAM

Drug/Vaccine/ Micronutrient	When	Age/Weight	Prescription	Dose
VITAMINA	On enrolment (not taken in last 1 month)	6 months to < 1year	100 000IU	Single dose on admission
		>1 year	200 000IU	
ALBENDAZOLE	On enrolment (not taken in last 3months)	< 12 months	DO NOT GIVE	
		12-23 months	200mg	Single dose
		>2 years	400mg	
MEASLES VACCINATION	On enrolment	After completion of 9 months	Standard	Single dose

Note: Children completing for SAM transferred to the outpatient care for MAM should NOT be given routine medical treatment again.

* Should be taken in empty stomach



Photo: Humanium.org

7.6.5. Follow up during treatment and discharge of MAM:

Children and their mothers/caregivers will have an appointment every two weeks at the outpatient site or with the CHW if managed directly at the community level. At each visit, the child will be assessed and counselled on the use of energy/nutrition dense local foods. At each visit the MUAC and weight is measured and oedema is assessed. Children with danger signs are referred to the nearest health facility. If the child has not gained weight after three two weekly visits or if the child is losing weight the child is referred for a medical check-up at the nearest inpatient care or health facility. Children who are enrolled as MAM and then deteriorate or develop oedema should be transferred to the program for SAM. Children are ready for discharge as recovered from MAM treatment when the following criteria are met.

- MUAC \geq 125 mm for two consecutive visits (two weeks apart).
- No other severe classification (according to IMCI protocol) like any general danger sign or chest in drawing & strid or in a calm child.



8. RECORDING, REPORTING AND MANAGEMENT OF INFORMATION SYSTEM

Nutrition related indicators related to SAM treatment are incorporated within the existing Management Information System (MIS) of DG health and DG family planning and monthly reporting through DHIS-2 is operationalized. The nutrition register books maintained at the community clinics included information on height, weight, MUAC and severe acute malnutrition. All clinics were equipped with laptops and internet connection, and the CHCPs reports the service delivery statistics online. The statistician at upazila health complex feeds the field level information to national health data repository. CHWs fill the register books after carrying out the nutritional assessment. The malnourished or sick children did not have any registration number or identification number to track the child, or monitor his improvements or compliance to follow-up visits.

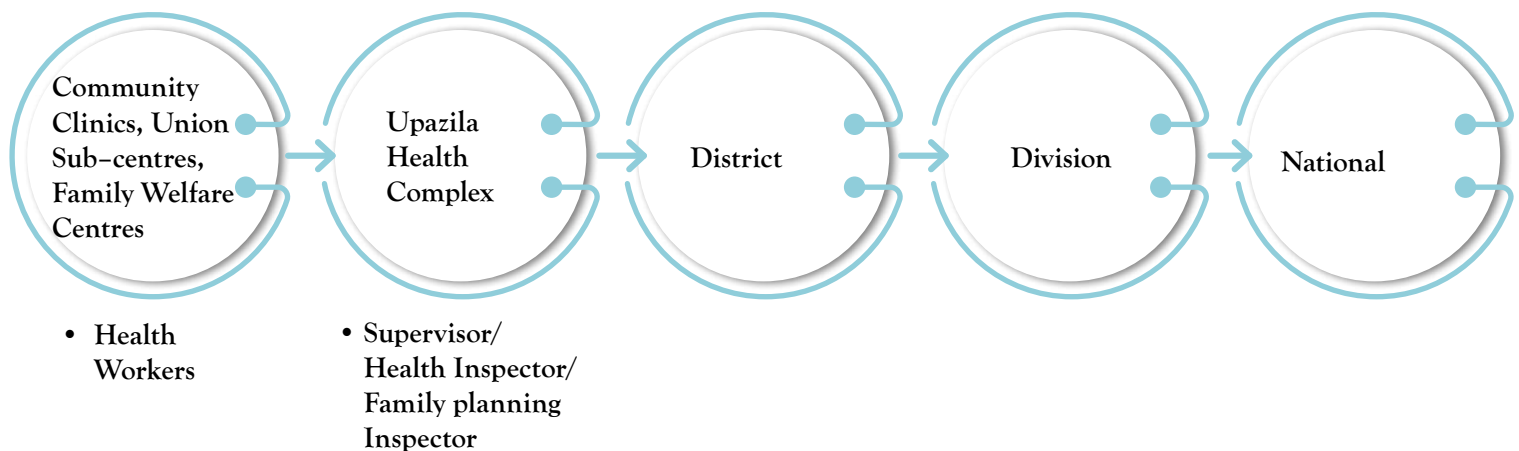




Photo : Unicef

8.1. Recording and Reporting

Health workers in charge of community clinics, Union sub-centres and family welfare centres submit their monthly activity reports to their supervisor, the health inspector or the family planning inspector in the Upazila health complex. From the Upazilas the reports are transferred to the district where they are tallied, and submitted to the division, then to the national level. Nutrition indicators are not included in the health information system, and therefore, it is not possible to determine how many children are screened and managed for malnutrition.

Numbering system: A registration number is given to each child and PLW when first enrolled in the outpatient care. This number is followed in the Health Monitoring

Information System (HMIS). All records concerning the child/PLW follow the same numbering system which includes monitoring cards and transfer slips. Returning defaulters who return to the program within a month retain the same number as they are still suffering from the same episode of malnutrition and the treatment continues on the same monitoring card. Re-admissions (meet enrolment criteria after being discharged recovered) are given a new number and new card as they are suffering from another episode of malnutrition and require full treatment again.

Monitoring and tracking individual child: Different staff and in some cases different agencies may manage different program components. It is essential

that there is contact between the staff managing the various components (facility and community-based management/outpatient care) to ensure children/women are enrolled and transferred with adequate information.

Transfer to inpatient care: When a child with SAM with complications requires transfer to inpatient care, the date of transfer is recorded on the CMC (child monitoring card) for SAM. The CMC (child monitoring card) remains at the outpatient site (or with the CHW managing the program) and is filed under the section marked “Transfers awaiting return.” The child is on transfer and is not an exit since they will return to the outpatient care once stabilized. The transfer slip to inpatient care



Photo : Unicef

should have the child's number. When the child returns from inpatient care to the outpatient care return transfer slip (the same slip) is used.

If a child is transferred to inpatient care and does not return to OTC after one week, the CHW finds out what has happened to the child. If a child dies while in inpatient care or defaults, this information is recorded in the CMC.

Defaulters: The CMC remains in the discharge file at the OTC in case of defaulters. They are followed up by CHWs and encouraged to return. If the child/woman

does not return, the reason for default is investigated.

Deaths: When a child dies while in the outpatient care, the CMC card is filed under deaths. If a child dies while on transfer to inpatient care, this death must be recorded on the CMC. Wherever possible, cause of death is recorded.

Non-responders: CHWs investigate possible reasons for the child not responding. The findings are recorded in the CMC. This information is used to make decisions about whether to transfer the child to inpatient care.

8.2. Support and supervision system for implementation of services

Health workers are supervised on a monthly basis by the Upazila health inspector. He visits the health facilities, observes the delivery of services, discusses with the health workers about their daily management difficulties and provide practical advice and instructions.

Monitoring cards are kept at the outpatient site/community outreach site by the service providers. It is essential that cards are stored and filed properly. Cards are kept in plastic sleeves and are stored in files that are organized into sections. There are files for the outpatient care of MAM, PLW and SAM cases. An existing MOHFW service card is given to the mother/caregiver. The card contains key information about the child and basic information on their progress (MUAC, weight, nutritional treatment/supplement received). Basic information is recorded by the service provider at the outpatient site or CHW on a simple Tally Sheet. Tally sheets are completed every week for SAM cases, every two weeks for MAM cases and acutely malnourished PLW. Tally sheets are collected by a supervisor and compiled into a monthly report at the community level and UHC. A standard monthly report format is used which are available in paper and electronic format.

Supervisors are responsible for ensuring the program is running smoothly and overall program quality. The Supervisor is able to pick up on errors and correct them as well as address any issues that arise in the program. Supervision visits are conducted by the Upazila/District Health Management Team or equivalent and is a part of an integrated supervisory visit. A general Supervision Checklist is used. Supervisory visits include review of the monitoring cards particularly the cards of children who have died, defaulted and those who are not responding to the treatment. Supervisors work closely with the service providers at the outpatient site, CHWs and community volunteers to ensure that any issues in implementation or in the management of individual child can be identified and followed up. Supervisors hold monthly meetings with service providers, CHWs and volunteers to discuss any program issues and answer any questions that may arise. Supervisors are responsible for supply management including ensuring a reliable pipeline of Nutritional Treatment, NM supplies and drugs. Supply Requisition is used for this purpose. Pipeline breaks can result in high default rates.

Based on needs Upazila Health and Family Planning Officer send requisition to Civil Surgeon-then Civil Surgeon send Requisition to IPHN and IPHN send accordingly.

For Inpatients under SAM management reporting there is only option for F-75 and F-100 requisition for every Upazila Health Complex.



Photo : newsmicrosoft

9. PREVENTION OF ACUTE MALNUTRITION – SAM and MAM

Four key messages are focused to prevent acute malnutrition include exclusive breastfeeding until infant is 6 months and continuation of breastfeeding up to two years,

introduction of appropriate energy/nutrient dense foods including oil and animal products after completion of 6 months of age (from 181 days), hand-washing

with soap before eating and after defecation and recognizing danger signs.

Other parallel programs contributing to prevention and management of acute malnutrition

1. **Integration of maternal nutrition into Alive & Thrive/BRAC Health, Nutrition and Population Program (HNPP).** This was implemented under the Health, Population and Nutrition Sector Development Program (HPNSDP) from July 2011–June 2016 and was guided by the National Nutrition Services Operational Plan (NNS OP)–package of maternal nutrition interventions that included iron and folic acid (IFA) supplementation, calcium supplementation, promotion of a varied diet, counselling on improved protein and energy intake, the monthly weight gain tracking of pregnant women and the promotion of early initiation and exclusive breast-feeding.
2. Bangladesh has various social safety net programmes targeted at reducing vulnerability, poverty and inequalities for a range of population groups. The rural-based **Maternal Allowance (MA)** and the urban-based **Lactating Mother Allowance (LMA)** programmes, both under the Ministry of Women and Children Affairs (MoWCA), targeted poor pregnant women who were admitted to the programme based on set criteria. The MA and LMA reduced maternal and infant mortality, increase rates of breastfeeding, and increase utilisation of delivery and prenatal care services by providing improved linkages between services, as well as BCC sessions, which were run by a resource pool of frontline staff from various ministries
3. The **MCBP (Mother and Child Benefit Programme)** was introduced in July 2019 and implemented by MoWC (Ministry of Women and Children Affairs) with technical assistance from WFP. It combines the previous MA (rural-based Maternal Allowance) and LMA (urban-based Lactating Mother Allowance) and introduces new programme components as well as prior programme evaluations and monitoring visits. The MCBP aims to reach 7.5 million children 0–4 years of age by 2030 all over the country with the aim of achieving safe births; preventing stunting and wasting; and ensuring breastfeeding, optimal complementary feeding and proper cognitive and psychosocial development of young children.
4. In 2011 Bangladesh introduced its first integrated plan for nutrition, the **National Nutrition Services Operational Plan (NNS-OP)**, to deliver nutrition-specific interventions to address maternal and child nutrition challenges. To address the governance and institutional gaps identified in the assessment of the NNS-OP, the Government established the Nutrition Information and Planning Unit (NIPU) as part of the Institute of Public Health Nutrition in the Mohawk. The coverage of maternal nutrition interventions increased.
5. **NIPU** (the Nutrition Information and Planning Unit) has coordinated the review, standardisation and streamlining of indicators under the NNS-OP (the National Nutrition Services Operational Plan). This has led to development of a single information system, underpinned by a common nutrition indicator framework, to guide information collected by the data systems of the two directorates, to enable integration of data into one portal and to strengthen monitoring and reporting of nutrition services at district level.
6. **Multisector coordination under NPAN 2:** The National Nutrition Services was subsequently established within the MoHFW in 2011 as the primary national program to mainstream nutrition, with the following objective: “To develop and strengthen coordination mechanisms with key relevant sectors (especially Ministry of Food and Disaster Management, Ministry of Agriculture, Ministry of Women and Children’s Affairs, Ministry of Information, Ministry of Education, Ministry of Livestock and Fisheries, Ministry of Local Government and Rural Development and Cooperative, etc.) to ensure a multi-sectoral response to malnutrition. They worked with coordination among different sector to achieve target of reducing malnutrition.



10. ENABLERS

International nongovernmental organizations, supported treatment of SAM and in specific contexts such as in the case of specific disease outbreaks, healthcare exclusion, and natural or man-made disasters in Bangladesh. This contributed to the effective scale-up of the community program for treating children with SAM with good appetite and free from any acute illnesses in these communities. Leadership and political commitment were key to success: the Ministry of Health and Family Welfare has played a strong leadership role in convening different sectors/stakeholders and development partners have worked with their respective GoB counterparts to ensure their involvement. Dividing into four sector committees and giving leadership of each committee to its respective GoB sector and development partners was another effective strategy for Multisector coordination, leadership and political commitment. Coverage surveys are conducted every 6 months which reveals information about the reason for the children/women not attending the program, excluded and possible barriers to access. Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) uses quantitative and qualitative methods to give an accurate estimate of coverage.



Photo : Globalgiving



11. OUTCOMES

An increase in coverage of CMAM program has been observed which can be attributed to a number of changes to the context of the camps and to the OTP and TSFP treatment modalities. These include:

- Increased geographical coverage of TSFP (Targeted Supplementary Feeding Programme) services.
- Increased experience of implementing partners operating OTPs (Outpatient Therapeutic Programme) and TSFPs.
- Improvements to the coordination of CMAM in camps.
- Increase to the MUAC cut-off point used during community screening from 125mm to 135mm (i.e., all children with a MUAC less than 135mm are referred to the nearest nutrition facility for full anthropometric measurement).
- Introduction of RUSF for treatment of MAM (from WSB++ in 2018).
- Revision of the SAM treatment protocols to be in line with the 2013 WHO guidelines.

The 2019 coverage assessment also found that community awareness about malnutrition and about available nutrition services in camps had improved compared to the 2018 assessment. This can be attributed to enhanced community outreach services including house-to-house screening and sensitisations).



Photo : Globalgiving



12. INNOVATIONS

Pilots involving mothers in training of MUAC measurement and allowed them to screen the children using MUAC and to check oedema for malnutrition identification and reporting.

13. CHALLENGES AND LIMITATIONS

Imported RUTF have shown promising results, however, cost and sustainability are major constraints. Ready-to-use therapeutic food (RUTF) is currently being imported for the treatment of children with SAM, but it is expensive. Low coverage, access to facility, lack of trained health staff, shortage of supplies, lack of community awareness of SAM are other challenges.



Photo : Cini-India



14. CONCLUSION AND LEARNINGS FROM IMAM BANGLADESH

Bangladesh has witnessed many innovation and intervention for CMAM successfully implemented by NGOs. The country is targeting mainstreaming nutrition in grass root planning, improving government and civil society coordination, expanding ownership and capacity beyond the health sector, ensuring continuity and resources to support monitoring.

Bangladesh caters to the treatment and care of SAM, MAM and malnourished PLWs. The CMAM program includes care for SAM children without complications, MAM and malnourished PLW. Separate national guidelines for CMAM and facility management of SAM is in place with a well-defined strategy and protocol for care of each of the malnourished categories. Dedicated funding for treatment of SAM and MAM included as part of the National Nutrition Services (NNS).

RUTFs based on locally available food ingredients have recently been developed and produced in the country. ICDDR, developed two types RUTF based on locally available food ingredients. These Bangladeshi RUTFs conform to the National Guidelines on Community-based Management of SAM of the Government of Bangladesh as well as WHO and UNICEF specifications. These newly developed therapeutic foods, named as Sharnali-1 and Sharnali-2, are made of locally available food ingredients such as rice, lentils, and chickpeas respectively and a recently conducted trial assessing their acceptability among SAM children showed that the local Bangladeshi NTs are as acceptable as the imported RUTF. ICDDR also completed a double-blind, randomized efficacy trial among children with SAM in Dhaka and Kurigram that revealed that the Bangladeshi RUTFs are as efficacious as the imported RUTF. It is still needing the effectiveness of the two local RUTFs for the treatment of SAM broader scale to get the approval to use both development and Humanitarian context.



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MAINSTREAMING
COMMUNITY
MANAGEMENT
OF ACUTE
MALNUTRITION INTO
HEALTH SYSTEM
EXPERIENCES
FROM NEPAL

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Nepal experiences of integrating
Community Management of Acute
Malnutrition into Health Systems

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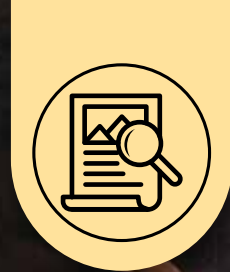


Photo : World Food Programme

1. BACKGROUND

Nepal is a multicultural and multiethnic country with a population of 29,659,958, of which 25,67,963 are children under 5 years. According to Nepal Demographic and Health Survey 2016, the infant mortality of the country is 32 deaths per 1000 live births. The neonatal mortality rate is 21 deaths per 1,000 live births, while the under-5 mortality rate is 39 deaths per 1,000 live births. This means that 54% of all under-5 deaths occur in the first month of life. The perinatal mortality rate is 31 deaths per 1,000 pregnancies. These rates imply that nearly one in 30 children die before reaching their first birthday and that one in 25 dies before reaching their fifth birthday. The percentage of births with a reported birth weight below 2.5 kilograms regardless of gestational age is 12.5%^[2].

Appropriate infant and young child feeding (IYCF) practices include early initiation, exclusive breastfeeding in the first 6 months of life, continued breastfeeding till 2 years, introduction of solid and semisolid foods at 6 months. 55% of children under 2 years are breastfed within 1 hour of birth, and 66% of children under age 6 months are exclusively breastfed^[2]. It is also important to receive a diverse and adequate diet to satisfy growing micronutrient needs. 47% of children of age 6–23 months receive meals with the minimum recommended diversity (at least four food groups), 71% receive meals at the minimum frequency, and 36% meet the criteria of a minimum acceptable diet^[2].

Health care services during pregnancy, childbirth

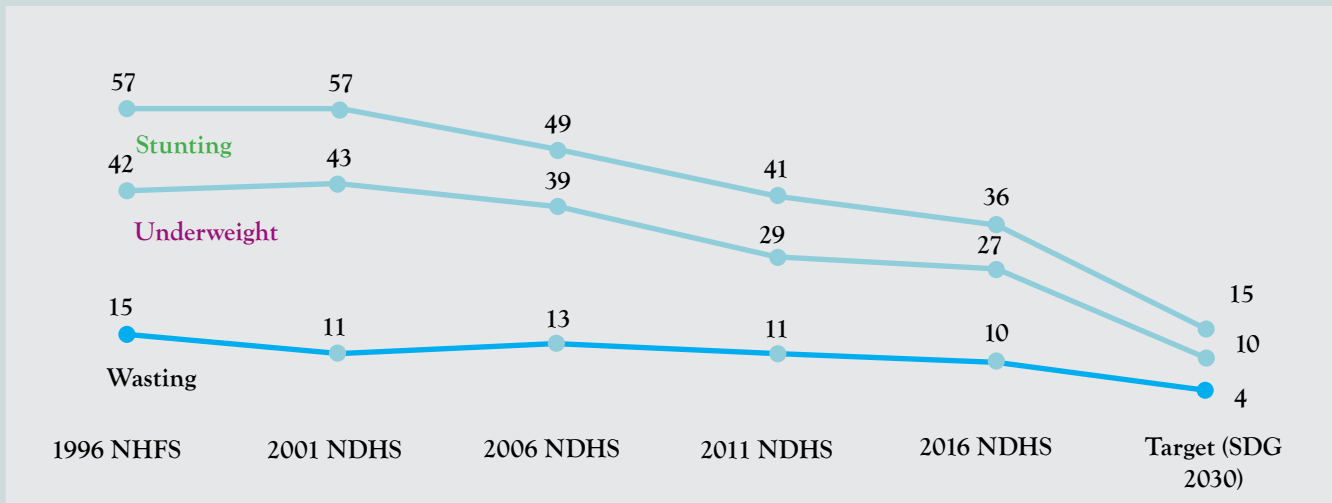


Figure: Trends of malnutrition in Nepal

and after delivery are important for the survival and well-being of both the mother and the child. The National Safe Motherhood Program is a priority area for the Government of Nepal to improve maternal and neonatal health. According to the DHS 2016, 69% of women had at least four antenatal care visits, 58% of deliveries are conducted by skilled birth attendants and 57% of deliveries took place in a health facility.

According to DHS 2016, 78% of children of age 12–23 months had received all basic vaccinations at the time of the survey. Only 1% of children did not receive any vaccines. 43% and 31.1% of children of age 12–23 months and 24–35 months received all age-appropriate vaccinations respectively.

According to Nepal Multiple Indicator Cluster Survey 2019, almost all households (95%) in Nepal have access to an improved source of drinking water. In contrary to that, the faecal contamination of drinking water is high in the country. 85.1% of population has household drinking water tested with *E. coli* contamination.

There is a high burden of malnutrition among children of Nepal. As per the most recent data NDHS 2016, 36% of children under age 5 are stunted (low height for age) which is a sign of chronic malnutrition, 10% are wasted (low weight for height), an indicator of acute malnutrition and 27% are underweight (low weight for age).

Wasting (measured by low weight for height compared to the WHO reference population) has remained nearly unchanged over the last decade in Nepal; 11% in 2001, 13% in 2006, 11% in 2011, and 10% 2016. As per the WHO decision making criteria, wasting prevalence is at a critical level in Nepal, affecting an estimated 10 percent children under five years of age at any point in time. As per the most recent data of NDHS 2016, 1.8% under-five year children in Nepal are suffering from severe acute malnutrition (SAM). A further 8%, under-five year old children in Nepal, are suffering from moderate acute malnutrition (MAM).

More than half (53%) of the children age 6–59 months and 41% of the women age 15–49 are anaemic. 11% of women aged 15–49 are short (less than 145 cm), and 17% are thin (BMI less than 18.5). Another 22% of women are overweight or obese (BMI greater than or equal to 25.0) [2].

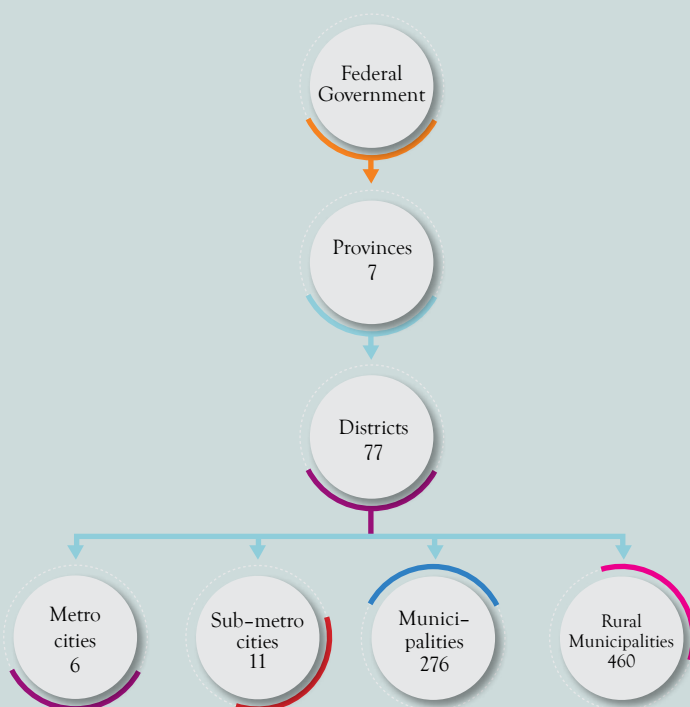
There are geographic areas of food insecurity in the country. Access to a diverse and nutrient-dense diet remains a challenge, infectious diseases are rampant and sanitation and hygiene are unsatisfactory in most of the country. Cholera outbreaks occur during the rainy summer season and intestinal parasites alone constitute one of the major public health problems in Nepal.



2. ADMINISTRATIVE STRUCTURE

The administrative divisions of Nepal are subnational administrative units. The first level of country subdivision is the provinces. Each province is further subdivided into districts, each district into municipalities and rural municipalities, and each of those municipalities into wards. Before 2015, instead of provinces, Nepal was divided into developmental regions and administrative zones.

Fulfilling the requirement of the new constitution of Nepal in 2015, all old municipalities and villages (which were more than 3900 in number) were restructured into 753 new municipalities and rural municipalities. The former 75 district development committees (DDC) were also replaced by 77 new district coordination committees (DCC) which have much less power than the DDCs. At present there are 6 metropolitan cities, 11 sub-metropolitan cities, 276 municipalities, and 460 rural municipalities.



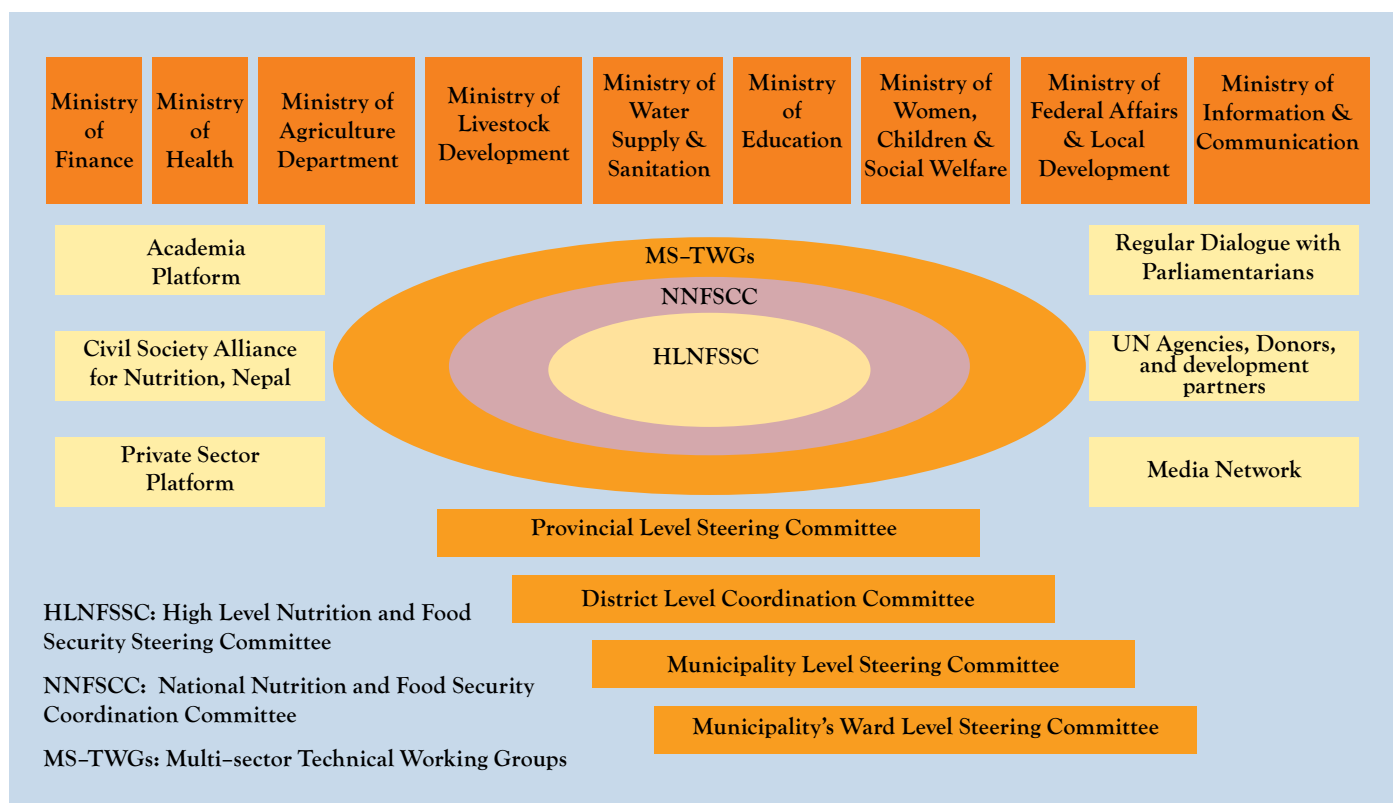
3. NUTRITION GOVERNANCE

Nepal has been concentrating its efforts since last three decades to address child health related issues through formulation and implementation of several policies, programs and strategies like National Nutrition Policy and Strategy which was formed in 2004 and revised in 2008. The most recent advancement is the National nutrition strategy 2020 envisioned to quality scale up of Integrated Management of Acute Malnutrition (IMAM) programme in all local levels. Multi Sector Nutrition Plan-II, (2018- 2022) has set the goal to: Improved maternal, adolescent and child nutrition by scaling up essential nutrition-specific and sensitive interventions and creating an enabling environment for nutrition. The 15th plan (2076/77-80/81) emphasizes the scale up of all essential nutrition service all over the country by multi sectorial coordination and collaboration.

Nepal has Multi-Sector Nutrition Plan, which has identified coordination mechanism for both nutrition sensitive and specific interventions. This mechanism is available up to the ward level. All the health facilities at the ward level are governed by rural/municipalities. There is Health Office at the district level providing technical support to the health facilities but not governing body for the ward level health facilities. Health Office is the representative of the Provincial Government. At the Provincial level, there is Provincial Health Directorate under the Provincial Ministry of Social Development of Provincial Ministry of Health and Population. The federal level Ministry of Health and Population is responsible to provide act/policy/strategy level guidance and have no role in the governance directly. Federal level National Planning Commission is independent body under the Prime Minister whereas

Provincial level Planning Commissions are under the Provincial Chief Ministers. Nutrition coordination is led by the Planning Commissions, which are above the Ministry. A High-Level Nutrition and Food Security Steering Committee (HLNFSSC) sits within the planning commission that provides overall leadership, resources allocation, coordination, monitoring and evaluation for Multi-Sectoral Nutrition Plan (MSNP). The committee is composed of the Secretaries from different line Ministries and four Nutrition Experts. The Committee is assisted by a Secretariat responsible for managing the information system, communication and advocacy activities and funding mechanisms.

The MoHP is the overall lead ministry for nutrition specific interventions within the MSNP, including CMAM programming, and is accountable to the High-Level Nutrition and Food Security Steering Committee which sits within the National Planning Commission. The National Health Policy, National Health Sector Strategy and IMAM guidelines are other important policy and technical documents that drive the IMAM programme in Nepal.



Sector	Activity	Implementation	Additional details
Agriculture	Seed distribution, Kitchen gardens and Greenhouse cultivation training	Sectoral	Training given mostly to women who manage the gardens primarily
	Growing fruit trees	Sectoral	
Livestock	Distribution of cows, goats,	Sectoral	Training on rearing included
	Poultry distribution and training on rearing		
Health	Nutrition counselling	Intersectoral coordination	FCHVs are trained
Water, Sanitation and Hygiene	Counselling on hand-washing and hygiene	Intersectoral coordination- WASH and Education	
	Emphasis on eliminating open defecation		
Education	Counselling on hand and food hygiene in school	Intersectoral coordination-WASH and Education	
	Curriculum developed on nutrition	Sectoral	Unique to Jumla
	Training of teachers, parents and staff of school of nutrition	Sectoral	
Social Protection	Nutrition counselling by FCHVs in monthly Saving group meeting	Intersectoral coordination Health and Social Protection	

The MSNP-II's is targeted:

- To increase the number of service delivery institutions to improve access to and the use of nutrition-specific services
 - To increase access to and the use of nutrition sensitive services including improving health-related behaviour
 - To improve policies, plans and multi-sectoral coordination at federal, provincial and local government levels to create an enabling environment to improve nutrition
2. Develop positive nutrition behaviour by running advocacy, communication and participation campaigns and through public engagement programs.
 3. Foster cooperation, partnership, coordination and the sharing of lessons learned and best practices on improving nutrition.
 4. Promote and use innovative technologies and initiatives for improving nutrition.
 5. Internalize and implement nutrition interventions in federal, provincial and local government policies and plans.

The MSNP-II plan has strategized the following:

1. Scale up multisector nutrition programs across Nepal to ensure qualitative, equitable and gender-informed nutrition services for all.
6. Strengthen monitoring, evaluation, study and research for evidence-based planning, decision making and implementation.



Photo : WVI

4. NUTRITION FINANCING

There is a child health and nutrition funding policy in the country. Funding for the nutrition is done by the Government of Nepal and external development partners like UK's Department for International Development and World Bank. Ministry of Health and Population (MoHP) funds 90% of the program and the UK's Department for International Development (DFID) and the World Bank support the remaining 10%. MoHP has other sources like World Bank and ADB. Budget spending per child under 5 years for nutrition-specific interventions is \$14.22 and donor spending is \$8.19 [5].

IMAM Financing: The IMAM programme was initially funded by development partners, including UNICEF. However, the MoHP now funds 90% of the program and the UK's Department for International Development

(DFID) and the World Bank support the remaining 10%. Government funds include the procurement and management of therapeutic food and milks within the health system's supply chain, staffing, training of the government health workforce and information management. UNICEF, the United States Agency for International Development (USAID) and Action Centre la Faim (ACF) provide ad hoc support for capacity development activities on request from the MoPH and UNICEF has supported ready to use therapeutic food (RUTF) procurement when the government process has been delayed or constrained. A five-year costed action plan for nutrition is currently being developed by the MoHP which will inform the exact costs of the IMAM programme



Picture : Humanium

5. HISTORY OF SAM PROGRAMMING IN NEPAL

In 2008, inspired by the global progress made on community-based management of acute malnutrition (CMAM) and the issuance of the WHO/UNICEF/WFP Standing Committee on Nutrition (SCN) joint statement in 2007, Ministry of Health and Population (MoHP) Nepal conducted a feasibility study of the approach. The findings of the study led to piloting of CMAM with high wasting prevalence and emergencies prone five districts (Bardiya, Kanchanpur, Jajarkot, Achham, and Mugu) in a cross section of eco-geographical zones. Implementation was conducted in collaboration with the national health authorities, working through the health structures including FCHVs) as well as the local NGOs and the community-based organisations (e.g., women's groups). The outcomes of the CMAM pilot were evaluated in 2011 and found to be very positive. The aim of the pilot was to test different implementation strategies, evaluate outcomes and generate lessons learned for future expansion of the CMAM approach. Until this time, the treatment of acute malnutrition in Nepal was carried out mainly on an inpatient basis in Nutrition

Rehabilitation Homes (NRHs) supported by the Nepal Youth Opportunity Foundation (NYOF). Assistance to families of malnourished children focused mainly on household counselling on hygiene, feeding practices and balanced diet, as well as on treatment with a mix of therapeutic milk (WHO recipe) and food. The NRH approach required the child and his/her caretaker to stay in the NRH for a minimum of four weeks, which posed difficulties for caretakers with other children as well as work responsibilities, and thus led to a high default rate. In addition, the NRHs could not address malnutrition on a large scale due to their limited number and low capacity at each unit. The outcomes of the CMAM pilot were evaluated in 2011 and found to be very positive. The evaluation indicated that the CMAM approach offered:

- Ability to reach more children with services for the management of acute malnutrition
- Effective treatment outcomes
- A service that could be sustained within the regular

health service with existing human resources and facilities.

As a result, the MoHP Nepal has incorporated community-based management of severe acute malnutrition (SAM) into the Multi-Sector Nutrition Plan (MSNP) 2013-17(10) and MSNP-II 2018-2022. CMAM pilot evaluation in 2011 and a joint review of the Mother and Child Health Care (MCHC) programme conducted by the Government of Nepal with partners. These results led the development of Nepal Integrated Management of Acute Malnutrition (IMAM) guideline, for effective management of both severe and moderate acute malnutrition. To reduce the prevalence of wasting, the Government of Nepal, in collaboration with donors and non-governmental partners, has been implementing community

and health facility-based programs. After CMAM evaluation in Nepal in 2012, Community based Management of Acute Malnutrition (CMAM) programme was shifted to Integrated Management of Acute Malnutrition (IMAM) programme and the national guideline and treatment protocol was developed by MOHP in 2015 to address the issues of acute malnutrition. The IMAM guideline 2017 was developed based on NDHS 2011 and other global and local evidences of that period. But as the country shifted from unitary to the federal governance system, the implementation authority of social services was given to local governments. Considering new evidences and federal governance system of Nepal, the IMAM guidelines were revised in 2020.



Photo: Unicef

History of IMAM in Nepal



Scaled in 56 out of 77 districts and plan to scaled up in all districts by 2021-22

Planning to scale up IMAM programme in additional 12 districts in 2017 to reach put to all 28 MSNP districts

Revision and endorsement of National IMAM Guideline in 2016/2017

A study conducted on integration of SAM management into national health system in 2016

Scale up of IMAM in additional 7 Districts in 2016

Implementation of IMAM in earthquake affected 14-priority district in May 2015

National scale up in additional 6 districts from 2012

CMAM pilot evaluation in during July-Dec 2011

Piloting of CMAM in 5 district since Mar 2009 to Sep 2010

M to T training of CMAM in Feb 2009

National pilot planning meeting of CMAM in Jan 2009

CMAM baseline survey in 5 district in 2008

Development of Pilot National Guideline of CMAM June 2008

National stakeholder meeting on finalization CMAM protocol and implementation framework in Mar 2008

Approval of Emergency Nutrition Policy including CMAM Pilot in June 2008

Feasibility study of CMAM in Dec 2007

Orientation workshop with potential partners on CMAM in Oct 2007



6. OVERVIEW OF IMAM IN Nepal

Integrated Management of Acute Malnutrition (IMAM) in Nepal is a strategy to address acute malnutrition and focuses on the integration of effective management of acute malnutrition into the ongoing routine health services at all levels of the health facilities whilst still striving for maximum coverage. It also aims to integrate the management of acute malnutrition across the sectors to ensure that treatment is linked to support for continued rehabilitation of cases and to wider malnutrition prevention programmes and services focused on the critical 1000-day window and beyond. IMAM is based on the same principles as the initial CMAM program of ensuring maximum coverage and access, providing timely services with early case-finding and mobilization so that most of the cases of acute malnutrition can be treated before complications develop, provision of simple, effective outpatient care for those who can be treated at home and clinical care for those who need inpatient treatment. Less intensive care is provided for those suffering from MAM and continuing to provide care to acutely malnourished children as long as needed.

IMAM represent a continuum of care for acute malnutrition that consist of four components working together to optimize the treatment of malnutrition according the severity of the condition.

a. Community mobilization/outreach: It involves identification of acutely malnourished children at the community level on an on-going basis to enable early detection and referral before the children's condition deteriorates further (i.e., children with MAM becoming SAM and children with SAM developing complicated SAM). It aims to increase coverage and maximise the effectiveness of treatment. The community mobilization also provides an opportunity to counsel mothers/caretakers of children under five years on IYCF practices, as well

are prevent future cases of malnutrition through behaviour change communication activities such as water and sanitation education and nutrition promotion activities.

- b. Management of Moderate Acute Malnutrition (MAM) This component may take two forms depending on the household food security level including in emergency context. It involves either a) Nutrition counselling in areas where local food is available to provide a nutritious diet for children, or b) blanket targeted supplementary feeding with fortified blended food plus nutrition counselling in both cases, individual monitoring and orientation to mothers/caretakers is provided, plus referral for any medical issues in line with CB-IMNCI protocols.
- c. In patient Therapeutic Care Centre (ITCC): It involves management of complicated cases of SAM according to WHO protocols on an inpatient basis at tertiary level facilities (hospitals) or PHC or specialised units (Nutrition Rehabilitation Homes).
- d. Outpatient Therapeutic Care Centre (OTCC) It involves the management of non-complicated cases of SAM in outpatient care using ready-to-use therapeutic foods (RUTF) provided on a weekly/fortnightly bases, simple routine medicines, and monitoring and orientation for the mothers/caretakers. Outpatient care is offered through federal health structures (e.g., Health Posts).

All these components are set within a wider range of health and nutrition interventions and services that focus on the 'critical 1000-day window'. In Nepal these currently include nutrition counselling for IYCF support, WASH, ECD. IMAM may also be linked to local production of RUTF/RUSF/Fortified Blended Food.



*GMP, CB-IMNCI, IYCF counselling, PMTCT

**ECD, CBIMNCI, MMPs, Child Cash Grant, WASH, IYCF counselling, PICT

Figure: Components of IMAM in Nepal

6.1 Integration of the IMAM into the existing health services and system

Multi-sector Nutrition Plan (MSNP) 2012 and the organisational structure for IMAM is modelled according to the MSNP specifications as well as the Ministry of Health structures. A national Nutrition and Food Security Steering Committee (HLNFSSC) is functioning under the provision of the MSNP. The Committee is housed within the National Planning Commission (NPC) and it provides overall leadership, resources allocation, coordination, monitoring and evaluation. It is chaired by the Honorary Vice Chairperson of the National Planning Commission and it is composed of different Secretaries and four nutrition experts. The Committee is assisted by a Secretariat responsible for

managing the information system, communication and advocacy activities and funding mechanisms. The HLNFSSC is responsible for ensuring the implementation of the IMAM guidelines at the national level. Regional Nutrition and Food Security Coordination Committees will be activated by the HLNFSSC in order to provide oversight and coordinate the management of IMAM in all the programme regions.

The District Development Committees (DDCs), responsible for the overall planning, implementation and monitoring of the MSNP at the district level, incorporates the IMAM guidelines in the periodic and annual planning through a multi-sector approach. The DDCs

looks after the District Nutrition and Food Security Steering Committees and ensures implementation and periodic monitoring in line with the national monitoring system. They also coordinate the implementation of the IMAM program with other sectors and partners. Village Development Committee (VDC) also incorporates the IMAM guidelines into their periodic and annual plans and monitoring mechanisms through a multi-sectoral approach. VDC Food and Nutrition Steering Committees is established in each VDC under the guidance of the District Nutrition and Food Security Steering Committee. Nutrition and Food Security Steering Committees is activated at the municipal level, chaired by the Mayor and co-chaired

by the District Health Officer or the District Public Health Officer.

IMAM is an integral part of the existing health system. The services for treatment of SAM and MAM are rooted in CB-IMNCI assessment protocols and implemented, managed and monitored by existing health service system. The program monitoring and supply chain for the service for SAM has been done through the existing health commodities supply system.

In addition, IMAM program aims to link with broader activities at health

facility and community levels. This is achieved in a number of ways:

- Through the addition of basic sensitization on IMAM and identification of acute malnutrition into the roles and training of existing health facility and community – level workers from a range of sectors (including WASH, ECD, Health, Education) and services (GMP, ECD Centers, CB-IMNCI, New-Born Care, WASH promotion, the Child Cash Grant, Child Health Days/Weeks (FWD), EPI, HIV/
- By ensuring that acutely malnourished children are linked with all other services that may aid in their rehabilitation (HIV/TB services, GMP, MNP distribution, IYCF counselling)
- By setting IMAM firmly within the IYCF package through integrating trainings and counselling activities with the aim of bringing together treatment and prevention aspects of malnutrition.

TB, Child Clubs, Parent Teacher Associations)

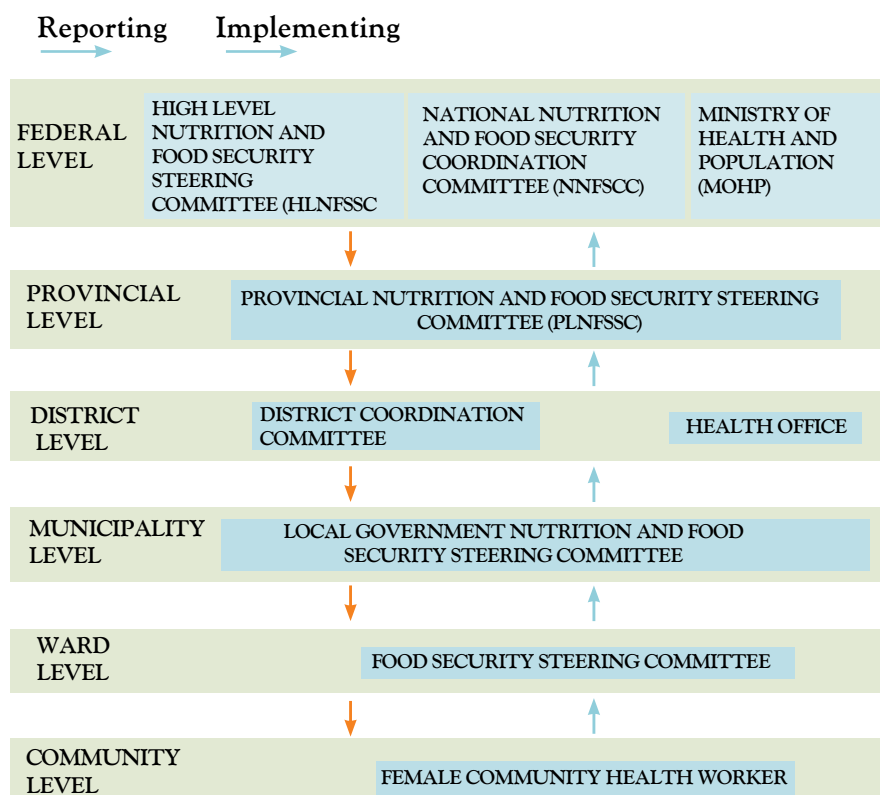
6.2. Management of IMAM Program within health system

The management of acute malnutrition is part of the National Multi-Sector Nutrition Plan (MSNP II). The governance structure is as follows

At Federal Level:

At Federal level a High-Level Nutrition and Food Security Steering Committee (HLNFSSC) is established, housed and functioning under the chaired by the Honorable Vice –Chair of the National Planning Commission (NPC). The HLNFS SC is responsible for ensuring the implementation of the IMAM guidelines after their approval at a national level.

GOVERNANCE STRUCTURE OF IMAM PROGRAM



The HLNFSSC role specifically for IMAM:

- Coordinate the implementation of the IMAM guidelines with other sector policies and programs on food and nutrition and health
- Establish and activate District Nutrition and Food Security Steering Committees in each district and assign them and health offices roles and responsibility for the implementation of IMAM guidelines and allocate financial resources to them.
- Determine which areas are food insecure and are entitled to received fortified blended food

The second body at federal level is the National Nutrition and Food Security Coordination Committee (NNFSCC) which is responsible for national level coordination of the implementation of MSNP of which IMAM is an integral part.

The third structure at federal level is the Ministry of Health and Population (MOHP) which has greater specific role related to IMAM. The role of MOHP is to:

- Formulate/revise national policy and guideline of IMAM program
- Formulate annual plans, implement and monitor/review the program
- Allocate financial resources to the local level Health Offices for the implementation of the IMAM guidelines in line with National Nutrition Strategy 2020
- Assign roles and responsibilities of nutrition/health focal person HOs and relevant health/nutrition workers for the implementation of the IMAM program
- Build capacity of human resources of HOs and health facilities for program implementation and monitoring/review
- Manage human resources for IMAM implementation
- Scale up IMAM program

At Provincial level

Provincial nutrition and food security steering committees (PLNFSSC) have been established in all provinces that are

composed of key provincial bodies and is chaired by the Provincial Secretary. The PLNFSSC is responsible for the management and support MSNP and for coordination and management of IMAM at provincial level. The committees monitor and supervise the implementation of the IMAM activities at the provincial level and provide support and coordination to main stakeholders. They also Identify available resources for IMAM and ensure necessary resources for its implementation at provincial and local government levels.

At District Level:

District Coordination Committees are constituted that carry out monitoring and coordination within provinces. They facilitate the incorporation of IMAM in local governments' long -term, periodic and annual programs, coordinate with provinces and between local governments, monitor IMAM program in local governments where it is implemented and review the progress and evaluate its performance and effects at the local level.

Another structure at district level involved in IMAM program is the Health Office at district that provides technical and operational support to IMAM by

- Implementing the program in local level
- Monitoring and review of IMAM program periodically
- Coordination with provincial and federal government
- Ensuring HMIS system reporting
- Ensuring complete regular screening for acute malnutrition through the national vitamin A program, including in hard-to-reach areas
- Managing supply chain of RUTF and other IMAM supplies

At Municipality Level

At local level, local government nutrition and food security steering committees are formed in metropolitan cities, sub metropolitan cities, urban municipalities and rural municipalities. They facilitate the formation of ward level nutrition and food security steering committees, review their progress and provide guidelines and directives. Their specific role in IMAM is to review IMAM related performance of ward level nutrition

and food security steering committees and provide directions for improvement and regularly submit IMAM progress reports to district coordination committee and province level nutrition and food security coordination committees.

At Ward Level

At the ward-level, food security steering committees are formed and chaired by the chairperson of concerned ward. Ward -level nutrition and food security steering committees have the following responsibilities for IMAM program:

- Identify IMAM program need in a participatory way and submit for support to local government councils.
- Identify and assess needs of nutrition deficient communities and support prioritization of program for them with their participation.
- Mobilize communities to run nutrition specific and sensitive campaigns.

- Assign NGOs and other agencies to monitor local nutrition programs and report findings to the committee.

At Community level

At community level, Female Community Health Volunteers are selected and trained for all community level interventions of health and nutrition program. In terms of IMAM interventions, the roles of FCHVs are

- Implementing activities related to IMAM within the ward
- Active and passive case finding
- Following up of MAM cases
- Home visits for defaulters
- Collection of data and reporting at the ward level (including the ECEDs centers)
- Supporting ECEDs facilitators and other volunteer

6.3 Human Resource

Outpatient Therapeutic Care (for SAM without complication): A trained nurse or other qualified clinical health worker (or several, depending on workload) is placed to carry out the admission and follow-on consultations. Health workers are trained and thus able to identify danger signs applying standard protocols (CB-IMNCI) and take decisions on when and whether referral for inpatient care is necessary during admission and follow-up.

Inpatient Therapeutic Care (for SAM with complication):

- Clinical care staff: Includes nurses and/or physicians who have received specific training on the management of SAM with medical complications. One clinician is available at night.
- Feeding assistants: Nutrition or health assistants are in charge of monitoring the child, preparation and/or supervision of the preparation of the feeds,

supervising the meals, interacting with the mothers, monitoring clinical warning signs and filling in most of the information on the patient's card, cover all feeds including where night feeds are scheduled. They may also be in charge of emotional and physical stimulation activities and breastfeeding support. A ratio of 1 staff per 10 patients is considered appropriate.

- Support staff: Cleaners and kitchen staff play a key role in maintaining a tidy environment and preparing therapeutic milks and food for mothers/caretakers.

Management of Moderate Acute Malnutrition (MAM):

A trained nurse or other qualified clinical health worker (or several, depending on workload) will be responsible for carrying out the admission and follow-on consultations. A trained assistant or volunteer could assist the trained nurse and/or the qualified clinical health worker with measurements and provision of fortified blended food,

MNPs and counselling (depending on the local level/districts where the management of MAM is being implemented).

Community Level:

The FCHVs, ECD facilitators and other identified community level stakeholders for:

- Screening for acute malnutrition at various contact points (home visits, community meetings, health facility, outreach programmes, and at other opportunities using the Mid Upper Arm Circumference (MUAC) and pitting oedema for all client groups.
- Act as a focal point in their community where mothers/ caretakers could be come if they are worried about their child losing weight or being sick so that they can be assessed for acute malnutrition.
- Identify and refer acutely malnourished children appropriately and provide IYCF counselling, WASH/care practices, demonstration of locally available nutritious foods

(food diversity and minimum meal frequencies) etc. In addition, FCHVs particularly act as focal points in their communities for the assessment of severe acute malnutrition with medical conditions (using CB-IMNCI tools) to directly identify those children requiring referral to inpatient care located in local hospitals or PHCCs.

6.4. Capacity Building for IMAM

Training is an essential part of the setup and the roll out of IMAM activities for managers and supervisors as well as for health workers based on these national guidelines. There is a training curriculum on management of wasting and pre-service training of health professionals includes CMAM. In-service training system of health professionals includes CMAM. There are various CMAM learning site (learning visits, internships) available.

The District Health/Public Health Offices have a responsibility to ensure that the identified community volunteers (including FCHVs, ECD facilitators and other groups) are trained on how

to engage with the community and disseminate messages effectively and on identification, and referral of cases.

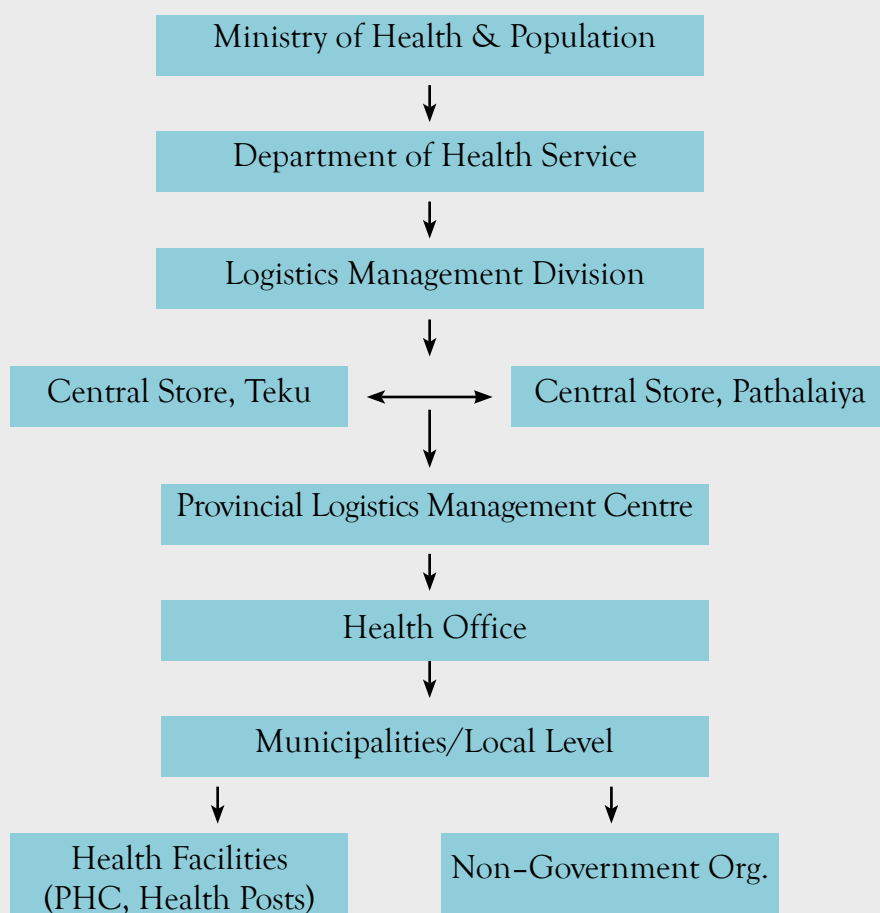
Cascade types of training materials and job aids are available such as; manual for CMAM TOT, health workers training and training of FCHVs. They are used by trainers experienced in the implementation of CMAM & IMAM to ensure that appropriate training is delivered. However, the training manuals and materials are revised periodically as per the changed context and situation. The training is followed immediately by set-up of the service to ensure that new knowledge is quickly put into practice and therefore retained. Community

level agents trained using standard materials and mechanisms set up to link them to the health facilities. Similarly, refresher training is organized once in a year. There is also various specialized course for service providers on nutrition. Training on products storage, distribution and preparation (both MNPs and fortified blended food) is provided to the health facility staff for smooth implementation of the program.

6.5. Supply Chain Management:

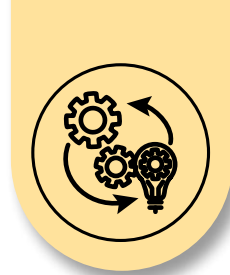
The equipment used are digital baby weighing scales, MUAC tapes, stadiometers/ infant meters for measuring height and length, child monitoring cards, thermometer, WFH Z scores tables, antibiotics, deworming tablets/syrup, micronutrient supplies, IEC materials on IYCF and transfer slips to inpatient care. The procurement is done by the MOHP and UNICEF for the equipment. ACF has also been supporting for weighing scales (analog), MUAC tapes etc. Logistic Management Information System (LMIS) is used to keep a track of the supplies.

The other recurring supplies required are F-75, F-100, RUTF and Fortified Blended Food. A number of measures are followed to support effective supply chain: – Forecasting of needs – Definition of minimum stock levels at facility and district levels – each facility and district is supported to define their minimum stock levels to ensure orders are made in time. Stocks are closely and accurately monitored as influx of admissions can quickly deplete stores. Appropriate storage conditions are also ensured to minimize any stock losses that could affect the supply chain. In coordination with the District Public Health officers (D/PHOs) and the health facility staff, storage facilities are established and proper storage is ensured for both MNPs and fortified blended food. On the basis of forecasting and minimum stock level the concerned district health office sends demand form and letter to Child Health Division. With reference demand form CHD recommends for supplies to Logistic Management Division (LMD) and LMD again requests to supply to central ware house Pathway. After that Central Ware house proceed to dispatch as demanded. The flow of supplies is as follows.



6.6 Coverage

Since 2012, the IMAM programme has expanded and is now implemented in 38 out of 773 districts through 500 OTCs located in health posts and 21 NRHs located within hospitals.



7. PROGRAM IMPLEMENTATION

IMAM is delivered through the government health system as a part of a comprehensive set of nutrition interventions, integrated within the basic package of health services. At municipal level, IMAM is delivered at government health facilities through a separate room or desk alongside other child health and nutrition programmes, all of which serve as platforms for identifying children with moderate or severe wasting. Children attending a health facility for growth monitoring and infant and young child nutrition counselling or for the integrated management of childhood illnesses (IMCI) are screened using weight for height and, if severe wasting is indicated, are referred for treatment in either an outpatient therapeutic centre

(OTC) or a Nutrition Rehabilitation Home (NRH) depending on whether complications are present. When a child is identified as moderately wasted, their caregiver is given nutrition counselling. Female community health volunteers (FCHVs) also screen children using mid-upper arm circumference (MUAC) during the biannual vitamin A campaigns, distribution of micronutrient powders and during village-level mothers' groups and nutrition education activities. When children are referred to a health facility for nutrition assessment and subsequent treatment, those who are not yet included in the government's universal child cash grant are identified and referred for registration.



7.1 Community Mobilization

The first step to implementation is community mobilization through “discussions held with key people in the community to give orientation on nutrition, malnutrition, and the CMAM program.” The Female Community Health Volunteer (FCHV) is the key person responsible for mobilizing the community for raising awareness about malnutrition as a health problem, informing the communities regarding the CMAM program, ensuring CMAM services are offered free of charge and people are aware about the services and ensuring inclusion of marginalized groups. Mobilization is done during immunization day, community events, vitamin A campaign and house to house visit by FCHVs/ECD facilitator /CHV at community level. The community mobilization also provides an opportunity to counsel mothers/caretakers of children under five years on IYCF practices, as well as prevent

future cases of malnutrition through behavior change communication activities such as water and sanitation education and nutrition promotion activities.

The community mobilization facilitates screening/ case finding. In addition to female Community Health Volunteers other Community level agents are also involved in case finding like community health workers from local health facilities who are responsible for and conduct primary health care outreach clinics, Early Childhood Development Centre staff and Facilitators, WASH volunteers , Traditional healers, Mothers’ Group Members, Social Mobilisers, community health workers of CBOs/local NGOs/clubs, Ward citizen forums, citizen awareness centers and women cooperatives/federations and Teachers

7.2. Screening

A combination of approaches of active and passive screening is used for case finding. The FCHVs, ECD facilitators and other identified community level stakeholders actively screen children using the Mid Upper Arm Circumference (MUAC) and pitting oedema for acute malnutrition at various contact points. Different opportunities like home visits, community meetings, health facility, and monthly mother’s group meetings, vitamin A supplementation, immunization days are used for assessing the children and case identification for SAM and MAM.

The children are also passively screened for SAM and MAM during health facility visits by parents with their child, at ECD Centres by

ECD facilitators, During consultation visits by parents bringing child to the FCHVs’ house, during PHC outreach clinics by community health workers with support of FCHVs or other community volunteers, during growth monitoring sessions by community health workers- MUAC is taken on any growth faltering children, during community level ECD sessions organised by ECD facilitators, during mothers’ group meetings by FCHVs if mothers bring their children

The children during active screening found not to be acutely malnourished by FCHV are referred for any complementary services like referral to the health facility for any medical problems identified according to CB-IMNCI,

Counselling on IYCF practices, care, WASH, ECD etc. where appropriate and available, Referral for growth monitoring and counselling where appropriate and available, referral/orientation about livelihood/safety net/social protection programmes available, including the cash grant programme, if they are eligible, provide vitamin A and deworming tablets to those children who did not receive the treatment and supplementation in the past six months or during the last campaign, refer children older than nine months, who did not receive measles vaccination, to the health facility or EPI outreach clinic to obtain necessary immunisation

The child in community is screened at five times (i) during daily routine work (by the FCHV or at health posts) (ii) during growth monitoring and promotion activities as part of the PHCORC (iii) during any other activities in the community by the health worker or FCHV such as mothers' group meetings, and general organized screening events etc. (iv) by Early Childhood Development (ECD) facilitators on a quarterly basis for all children enrolled in the facility (v) by private practitioners and traditional healers who should advise caretakers to link with the FCHV of that area for a MUAC test if they suspect malnutrition.

7.3 Identification & referral

Acutely malnourished children (aged 6 to 59 months) are identified by measuring the mid-upper arm circumference (MUAC), checking for the presence of bilateral pitting oedema and taking weight and height of children. The following steps are followed for identification of children with acute malnutrition and assessment to define the level of care to be provided

Step 1: Determine age

Step 2: Check for pitting oedema on both feet

Step 3: Measure MUAC

Step 4: Assessment of appetite and medical complications

The screening and identification criteria used is as follows.

	Measure	Cut-off
Severe Acute Malnutrition	Weight-for-height*	<-3SD
	MUAC	<115 mm
	Bilateral pitting oedema	Grades 1, 2 or 3
Moderate Acute Malnutrition	Weight-for-height	<-2SD and \geq -3SD
	MUAC	<125mm and \leq 115 mm

*Based on WHO Standard (www.who.int/child-growth/standards)



Photo :Pinterest

Assessment of acute malnutrition in children aged less than 6 months: Infants under 6 months with bilateral pitting oedema and/or visible wasting or who are noted to be lethargic (according to CB-IMNCI) are not measured with MUAC but referred to the nearest health facility where they could get further investigation. FCHVs also conduct a rapid assessment of feeding practices in order to determine whether there is immediate risk to the baby and therefore a need for immediate referral for full assessment at the health facility or if the mother needs only community based supportive care. In addition to that according to CB-IMNCI and anthropometric assessment using MUAC a health assessment of mother is done. A MUAC of <230 mm in the mother of an infant under 6 months is either admitted to inpatient or outpatient admission of the infant depending on their condition and registration of the mother to also receive support through the MAM program.

At the nearest health facility criteria of visible wasting is also used and weight and height measurements are

also taken and the infant assessed for presence of severe wasting according to the WHO growth standards for WHZ. Paediatric balance scales are used for the accurate recording of weight in infants to precision of 10g. Full assessment is made about breastfeeding practice in accordance with national IYCF guidelines. On the basis of these assessments care givers are provided IYCF counselling at community level, IYCF counselling on an outpatient basis at facility (along with any medical support required and supplementary feeding for the mother if available), or the infant will be referred for inpatient Care.

Assessment of acute malnutrition in pregnant and lactating women are done using single cut-offs of MUAC for the diagnosis of acute malnutrition for PLW is assessed as <210 mm – severe acute malnutrition and ≥ 210 mm and <230 mm as moderate acute malnutrition.

7.4. Assessment of Appetite and Medical Complications

Once acute malnutrition has been identified, assessment as per CB-IMNCI protocol (depending on the level of contact) is done to identify any medical complications that would necessitate referral for inpatient therapeutic care (for acute malnutrition with complications) or whether the child can be treated in OTC or the MAM program. Most commonly this takes place at the health facility as a result of the CB-IMNCI checking, however in some cases the FCHV may urgently refer to the nearest health facility based on her CB- IMNCI assessment process

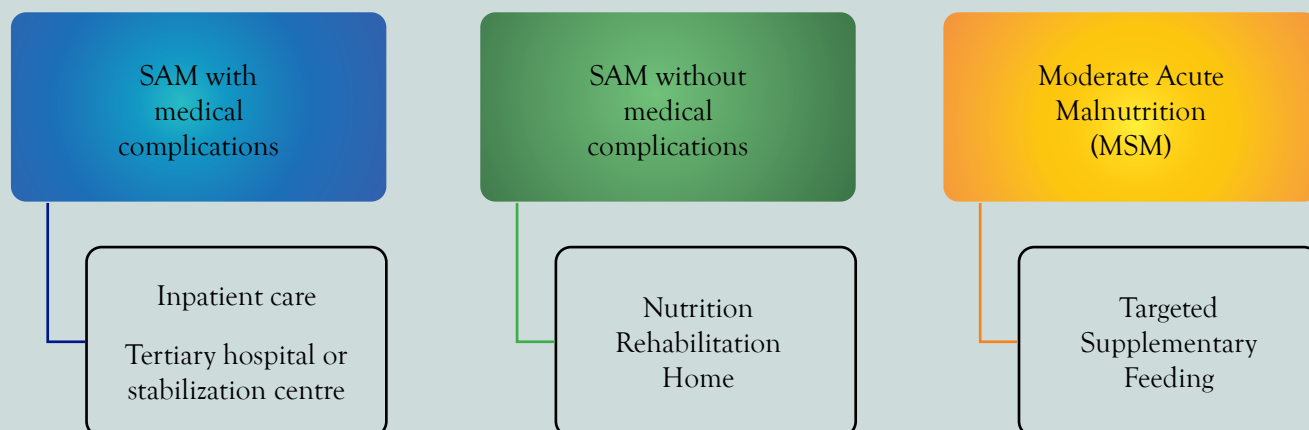
At Community level when FCHVs measure the MUAC and check-up for the oedema, they also look for the danger signs according to CB- IMNCI protocol. If the child is within the range of nine main danger signs defined in the CB-IMNCI guidelines – (i) The child has had convulsions / is unconsciousness /is apathetic, lethargic /not alert (ii) The child vomits everything (iii) The child has severe diarrhoea and/or dehydration (iv) The child has hypothermia (v) The child has high fever (vi) The child has rapid breathing (vii) The child is not able to drink or breastfeed and/or does not eat (anorexia) (viii) The child has severe oedema (+++ Grade 3) (ix) The child has severe anaemia (severe palmar pallor). Children with any of these complications are referred by FCHV to the nearest health facility.

At Health Facility Level Once MUAC, WHZ (optional for non-OTC health facilities) and oedema have been assessed and the child is identified with acute malnutrition, health facility staff assess the condition of child and presence of complications. They first assess the appetite of the child by conducting appetite test. Secondly the staff takes history of the child – for Diarrhoea, Vomiting, Stools, Urine, Cough, Appetite, Breastfeeding, Swelling, and Oedema. If needed, ask further questions about the duration of the symptoms, etc. to get a clear picture of the problem. After taking history the staff carry out medical assessment as per CB-IMNCI, paying special attention to the conditions mentioned in the following table. After conducting the above assessment, the staff determines whether the child requires referral to inpatient care. Based on the following criteria the SAM child with no appetite is admitted to inpatient care and SAM children with appetite and no medical complications is enrolled/admitted to outpatient care. And Weight and height measurement of the child is taken and noted as a baseline for weight monitoring during follow-up visits.

Criteria for admission to in- or out-patient care centre (children 6–59 months) with SAM:

Factor	In Patient Care Centre	Out Patient Care Centre
Oedema	Bilateral pitting oedema grade 3 (+++) Marasmic kwashiorkor (MUAC < 115 mm or Z score < -3SD AND oedema)	Bilateral pitting oedema grade 1 or 2 (+ and ++) AND MUAC ≥ 115 and ≥ -3SD)
MUAC	<115mm AND any medical complications (one of below)	<115 mm AND both of the below
WHZ	<-3SD AND any medical complications (one of below)	<-3SD AND both of the below
Appetite	Not able to eat the test dose of RUTF	Demonstrates appetite by eating the test dose of RUTF
Medical complications	Yes	NO medical complications
Vomiting	Intractable (empties contents of stomach)	
Temperature	Fever > 101.3 °F (38.5°C) under arm pit; (102.2°F/39°C rectal) Hypothermia < 95 °F (35°C) under arm pit; (96°F/35.5°C rectal)	
Respiration rate	≥ 50 resp/min from 6 to 12 months ≥ 40 resp/min from 1 to 5 years ≥ 30 resp/min for over 5-year-olds and any chest in-drawing (for children > 6 months)	
Anaemia	Very pale (severe palmer pallor), difficulty breathing	
Superficial infection	Extensive skin infection (including Redness, swelling, abscess/pus, or foul odour around skin) requiring Intra - Muscular treatment Extensive mouth ulcers Ear pain with tender swelling behind the ear	
Alertness	Very weak, apathetic, unconscious Fitting/convulsions	
Hydration status	Severe dehydration based primarily on recent history of diarrhoea, vomiting, fever, anuria (lack of discharge of urine), thirst, sweating and clinical signs	
Jaundice	History of dark yellow urine, yellowish conjunctiva, lips and nails, yellow skin	
Eye infection and other eye problems	Corneal clouding or other signs of Vitamin A deficiency (Xerophthalmia, bitot spots and corneal ulceration or history of night blindness)	

Treatment of Acute Malnutrition



7.5 Outpatient Care for SAM children without medical complication

7.5.1 Overview of Outpatient therapeutic care (OTC):

Outpatient therapeutic care (OTC) is a part of IMAM program for 6 months 59 months' children for home based management of SAM cases without medical complications, having the normal appetite. It provides the recommended therapeutic food (RUTF) and drugs (simple routine medicines) through local health facility. The registered SAM cases are referred by FCHVs or special care centre and self-comers' for OPD services. Children may be received directly into outpatient care when they come to the health facility, by referral from a FCHV or other community stakeholder or by referred from inpatient care once their condition has stabilised. Non-complicated SAM cases are also treated in Nutrition Rehabilitation Homes (NRH) which serve as OTC Centres where community-based facilities are not available.







7.5.2. Services and procedures at OTCs:

1. Provide water with sugar to prevent hypoglycaemia
2. Assess the child medical status as per CB-IMNCI protocol.
3. Take the anthropometric measurement.
4. Record the anthropometric measurement (MUAC, weight and height and oedema)
5. Decide the child is suffering from MAM or SAM
6. Assess the appetite
7. Decide to be register in OTC or refer to special treatment centre
8. Registrar the case
9. Maintain all information as IMAM Register
10. Provide the treatment as standard protocol
11. Counselling service to mother/ care taker on feeding practice.
12. Distribute RUTF for a week or two weeks and maintain record as system
13. Suggestion/education to mother/ care taker
14. Follow up visit after one or two weeks
15. Refer and transfer as per component of IMAM protocol
16. Discharge from OTCC.

7.5.3. Follow-up of Children with Acute Malnutrition:

The SAM children enrolled in the program are followed at the health facility every week and fortnightly follow up in case of geographical difficulty areas. During the follow-up visits at the health center, health workers and volunteers check oedema, weight, height and MUAC, medical assessment is completed as per CB-IMNCI guidelines, appetite is discussed and RUTF appetite test performed at each follow-up, the weekly ration is calculated according to current weight and provided and mother/caretaker is asked about the progress of the treatment and feeding history of the child. Based on the progress of the child they decide on appropriate counselling and/ action. They are monitored to ensure sustained improvement in their condition. However some children with acute malnutrition for example children with medical complications who have refused to transfer to inpatient care and are being treated on an out children basis, Cases who are not responding in the programme (loss or static weight for two weeks) and aspects of the home environment are suspected to be playing a role rather than medical issues or are repeatedly absent from the treatment require follow-up at home during their time under treatment, in addition to the follow-up they receive at the facility every week or fortnightly. Any SAM child in OTC if shows an increase of or development of oedema, no weight gains for five weeks, weight loss for three weeks, no appetite, any medical complications is referred to inpatient care.

7.5.4. Nutritional rehabilitation in Outpatient Therapeutic Care

Through the use of standard peanut based Ready-to-Use Therapeutic Food (RUTF) which is nutritionally equivalent to F100, recommended by the WHO for the treatment of severe acute malnutrition. The amount of RUTF given to each SAM child is based on the weight of the child and the quantity is adjusted as weight increases during treatment. In IMAM districts where Nutrition Rehabilitation Homes (NRH) is available, RUTF is used for transition phase/appetite test otherwise complicated SAM cases in inpatient care is managed by F-100. SAM children receiving treatment with RUTF do NOT receive any supplementation with multi micronutrients (even if they are suffering from anaemia) as they are already receiving appropriate micronutrient supplementation within the RUTF.

7.5.5. Medical management in Outpatient Therapeutic Care

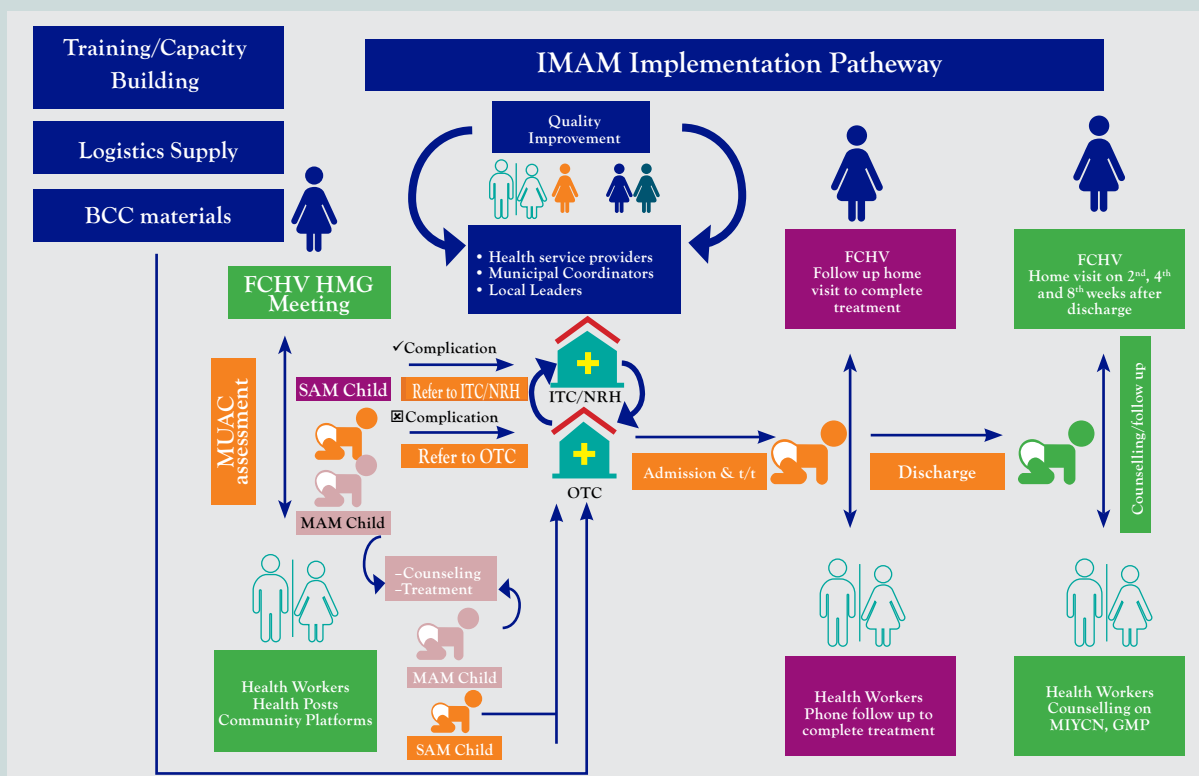
To address the sub-clinical symptoms in severely acutely malnourished children, all cases admitted to OTC are treated according to the following systematic treatment schedule.

Drug/supplement	When	Age/Weight	Prescription	Dose
Amoxycillin	At admission	All SAM cases	<10 kg 125mg tds >10 kg 250mg tds	2 times a day for 5 days
Malaria Medication	According to national protocol of Nepal Government. Only in malaria endemic area			
Albendazole	Second visit	<12 months	Do not give	None
		12–23 months	200 mg	Single dose on second visit
		≥24 months	400 mg	
Measles vaccination	According to national protocol of Nepal Government			
Iron & Folic Acid	NOT to be given routinely. Where severe anaemia is identified according to CB-IMNCI guidelines, the severely malnourished child is referred to in–patient care. Where moderate anaemia is identified treatment begin after 14 days in the program. Treatment should be given according to CB-IMNCI protocol (one dose daily for 14 days).			
Other medical conditions/ symptoms – eye infections, ear discharge, mouth ulcers, minor skin infections and lesions	should be treated according to the CB-IMNCI guidelines			

The SAM children without complication are enrolled in the outpatient care at community level for a minimum period of 7 weeks and are discharged from the community-based outpatient care when they achieve the MUAC ≥ 125 mm, or WHZ ≥ -2 SD have no oedema for two consecutive visits, weight gain for last two consecutive visits and clinically well and alert. The anthropometric indicator that was used for admission to the program is used to assess whether a child has reached nutritional recovery or discharged criteria

- If child admitted by MUAC → Discharge by MUAC
- If child admitted by WLZ/WHZ → Discharge by WLZ/WHZ
- If child admitted by MUAC and WLZ/WHZ → Discharge by MUAC and WLZ/WHZ
- If child admitted only by oedema → Discharge by MUAC and WHZ and absence of oedema.

Upon discharge, if the child has completed nine months of age during his/her treatment in OTC, and did not yet get a measles vaccination, the mother/caretaker is given an appointment for follow-up visit during EPI clinic/outreach clinic as soon as possible to receive the vaccination. Children admitted at age six to eight months is scheduled for a follow-up appointment (during EPI hours or outreach clinic) for the second measles vaccination after one month. All children are given last ration of seven sachets of RUTF (for one week) to aid the transition onto local and, in some cases, supplementary foods. The mother/caretaker are counselled on IYCF practices, care practices, hygiene, feeding practices, food preparation for children etc. in line with standard IYCF counselling. The caretakers are linked with the MAM program (either supplementary feeding or MNP distributions with counselling depending on which is available) and with any other appropriate services (e.g., further IYCF counselling) for which they are eligible and which support the ongoing rehabilitation of the child and the discharge details of the children are completed in the register.





7.6 Facility Based care and management of SAM children with complication

7.6.1. Overview of Inpatient therapeutic care:

The inpatient therapeutic care in Nepal commonly takes the form of stabilisation care (or 'phase' of care according to WHO in patient protocols) for cases of severe acute malnutrition with medical complications. Once stabilised, these children are referred to outpatient care to complete their treatment. In some cases, e.g., in the NRH, the complete rehabilitation of children past the stabilisation phase may occur where OTC is not

in place or accessible or for a minority of special cases (infants <6 months, cases with high-risk home environment, children choice). In patient care is carried out according to WHO protocols. In patient stabilisation is delivered from tertiary level facilities with capacity for 24- hour care and where medical capacity is available for the treatment of complications. In some cases, the NRH linked to the hospital may provide this stabilisation care where there is not IMAM program. In patient therapeutic care is incorporated into the existing facility system through a specific section (bed space) and assigned staff. Children may be received directly into inpatient care via identification at the outpatient department of the hospital, by referral from Outpatient care or by referral from the FCHV or other community stakeholders. The management of SAM with medical complications follow the WHO steps for management of SAM which is similar to the protocols followed in India for in patient



Photo : Action Against Hunger, Nepal

management of SAM. Therefore, the details of protocols have not been discussed here and is available in Nepal IMAM guidelines. The medical treatment is given by the physician and trained nurses in the facility. The general WHO principles for routine care and timeline for management of SAM with Medical Complication followed are

	Stabilisation Phase		Rehabilitation Phase
	Days 1 - 2	Days 3 - 7	Weeks 2 - 6
1. Treat/prevent hypoglycaemia	→		
2. Treat/prevent hypothermia	→		
3. Treat/prevent dehydration	→		
4. Correct electrolyte balance	→	→	→
5. Treat/prevent Infection	→	→	→
6. Correct micro nutrient deficiency	No iron	→	With iron
7. Start cautious feeding		→	→
8. Catch-up growth			→
9. Sensory stimulation	→	→	→
10. Prepare for follow-up			→



Photo : Edexlive

7.6.2. Nutrition management for cases in in-patient care:

It is guided by age group and the appetite test. Children 6–59m with SAM demonstrating appetite is treated using RUTF calculated according to weight of the child as per the standard WHO protocol. This includes those children referred to stabilisation from outpatient care who may already have appetite and be eating RUTF but not gaining weight for a number of reasons. Children 6–59m with SAM with no appetite demonstrated are treated using F75 (130ml = 100kcal). Quantity of feeds is calculated according to the weight of the child. A six-feed schedule (every four-hour feed) or the option of an eight-feed schedule is also given. Where night feeds are problematic, five-to-six feeds are given during the daytime. Infants less than 6 months old without oedema admitted according are be treated with F100 diluted and F75 in special cases.

As soon as the medical condition of the children is stabilised, oedema is reducing and the complications are resolving, the transition phase is started in preparation for transfer to OTC (or in a minority of cases to rehabilitation inpatient care). Transition is started by feeding the child a test dose of RUTF at alternate feeds retaining the same feeding schedule. If the child refuses the RUTF, the mother/caretaker is encouraged to try to get the child to start eating at every other milk feeding. In the meantime, F75 is continued until appetite returns and RUTF is given at every scheduled feed. Monitoring continues as for the stabilisation phase and if any of the following develops the client is returned to stabilisation.

- (i) Weight gain of more than 10 g/kg bodyweight/day in association with an increase in respiratory rate (indicative of excess fluid retention)
- (ii) Increasing

or developing bilateral pitting oedema (iii) Rapid increase in liver size (iv) Any signs of fluid overload (v) Tense abdominal distension (vi) Significant re-feeding diarrhoea so that there is weight loss –it is common for the children to get some change in stool frequency when they change diet. This does not need to be treated unless the children lose weight. Several loose stools without weight loss are not a criterion to move back to the stabilisation phase. (vii) A complication that necessitates an IV infusion or (viii) a need for feeding by NGT.

7.6.3. Discharge from inpatient care

The children are discharged from inpatient care to OTCC when the child's appetite returns – child eats >75 per cent of RUTF daily ration, has no medical complications, Oedema is resolving and no objection/contraindications for rehabilitation at home is assured.

7.7 Management of Moderate Acute Malnutrition

The active case finding is done by Community health workers and community volunteers. They refer moderate acutely malnourished children and PLWs to the health facility. Moreover, MAM Children and PLWs may also be screened and referred from the Health Facilities, Nutrition Rehabilitation Homes and OTCs. The referral criteria for children 6–59m will be MUAC < 125mm (<12.5 cm) and pregnant and lactating women with MUAC < 230mm (<23 cm).

Two basic strategies are used for management of MAM children and PLWs. Protocol A focuses on prevention of malnutrition through promoting consumption of locally available foods, dietary diversity practices, enhanced health counselling, and other social net programmes along with the provision of multiple micronutrient supplements for all MAM children living in food secure areas. Protocol B focuses on rehabilitating nutritional status of MAM children through targeted supplementary feeding program (TSFP) along with promotion of dietary diversity and enhanced counselling in highly food insecure areas, as well as in areas with high rates of wasting. In addition to protocols A and B, the Community Based Integrated Management of New-born and Childhood Illness (CB-IMNCI) protocols and criteria is followed when children are found sick. NRH is also one of the treatment centres where MAM children with medical complications can be identified and treated.

At the health facility, the trained staff determine age of the child, measure MUAC and check for bilateral pitting oedema to confirm MAM, measures weight, height/length and determine WHZ/WLZ, takes medical history, assess medical condition of child and presence of complications, check immunization status, last deworming and vitamin A supplementation and

finally review and record all relevant information from referral document where there is one.





Photo : World Food Programme

7.7.1 Nutritional Management of MAM

Supplementary foods designed for MAM treatment are provided to the MAM children or PLWs on top of family meals. Locally available food is encouraged to complement the daily intake of fortified blended food. Super flour is promoted as an additional meal as part of protocol A to complete and integrate the daily diet: 220g of super flour should be provided daily to a MAM child. Another recipe that is encouraged is Poshilo Jaulo.

Micronutrient needs of children with MAM are ensured by complementing the consumption of locally available foods with distribution of micronutrient powders (MNPs) through health facilities, enhancing access to fortified staple foods and nutrition education. Home instant food fortification through MNP is promoted in food insecure areas with no access to multi-micronutrient fortified staple foods, and where Ready to Use Supplementary Foods (RUSF) is not used for treatment children with MAM, accordingly, mothers/caretakers are orientated to use the MNP to fortify foods at home, after preparation and just before consumption.

Modified formula of Super Flour (Sarbottom Pitho)

220g per child per day	Option no.1: Sarbottom Pitho	Option no. 2: Sarbottom Pitho
50g/2 mutthi	Soy bean	Soy bean
25g/1 mutthi	Maize flour	Wheat flour
25g/1 mutthi	Wheat flour	Rice
100g/tea glass	Cow milk/liver	Cow milk/liver
10g/½ mutthi	Sugar	Sugar
10g/½mutthi	Ghee or vegetable oil	Ghee or vegetable oil

Source: Food composition calendar of DFTQC (Department of Food Technology and Quality Control)

It is a common practice to add green leafy vegetables to Poshilo Jaulo and are integrated into the daily diet of MAM children to cover the extra nutrient requirements.

Micronutrient powders contain iron, zinc, iodine, copper, selenium, vitamins A, B1, B2, B3, B6, B12, C, D, E, and folic acid. The recommended dosage for MNPs is 1 sachet every day for two months. MNPs is added to solid or semisolid foods that are ready for consumption: one dose is added in the individual plate of the child. In areas where the multi-micronutrient supplementation is already in place, caretakers are advised not to provide a daily double dose of MNPs. Lactating women of malnourished infants under 6 months also receive MNP together with enhanced counselling on the use of MNPs to fortify their daily diet.

In food insecure areas where local food availability and access is not sufficient to provide the required energy needs of children within the households, as well as in areas with high wasting rates, protocol B of Targeted supplementary feeding program (TSFP) approaches are followed. The TSFP aims to treat MAM children aged 6–59 months without medical complications through the provision of outpatient treatment consisting of high energy and nutrient dense supplementary food rations, routine medications and prevention package. Specialized Nutritious Food products available in the market for the treatment of MAM are Fortified Blended Foods (FBF) and Lipid-based Nutrient Supplement (LNS). The use

Modified formula for Poshila Jaulo

75g per child per day	Option no.3
Poshilo Jaulo	Soy bean
25g/ 1 mutthi	Rice
15g/ small mutthi	Dal/ Meat/ Fish/ Liver
10g/ ½ mutthi	Clarified Butter
25g/ 1 mutthi	Pumpkin leaves
10g/½mutthi	Ghee or vegetable oil

of Super Cereal Plus is recommended as best option in the case of Nepal for treatment MAM children.

Fortified Blended Foods (FBF):

Ingredients: Super Cereal Plus is a mixture of corn, wheat, rice, soya, milk powder, sugar, oil, and vitamins and minerals.

Ration: Take home rations provide 200–250g of dry matter per day per child. The daily ration contains 787 kcal, 33g protein (17%), 20g fat (23%), essential fatty acids and all the required micronutrients. Take home rations will be provided for a minimum period of 60 days. After discharge from the program, counseling sessions will be provided during two follow-up visits by FCHVs, where they will focus on educating the mothers and caregivers on how to prevent further bouts of malnutrition. Family sharing is taken into account for the calculation of this ration of 200–250g of Super Cereal Plus. 200g of the Super Cereal Plus per beneficiary also includes provision for intra-household sharing. Given the provision of 100g of the Super Cereal Plus as daily ration size per beneficiary, there will be no provision of intra household sharing, which should be made very clear to the beneficiaries through IYCF/MIYCN counseling.

Lipid-based Nutrient Supplement (LNS)

Ingredients: 92g of each sachet Plumpy Sup contains peanuts, sugar, whey, vegetables oil, milk, soy protein,



cocoa, vitamins and minerals with 500 kcal, 13g protein (10%) and 31g fat (55%). 92g of each sachet. Ready to use Supplementary Food (RUSF) contains peanut, sugar, milk, solids, vegetable oil, vitamins and minerals with 500 kcal, 13g protein (11%) and 31g fat (56%). Similarly, 100g of each Acha Mum sachet contains chickpeas, vegetable oil, milk powder, sugar, vitamins, minerals and soya lecithin with 520 kcal, 13g protein (10%) and 29g fat (50%). It does not contain any ingredient

of animal origin, except for those derived from milk.

Ration: Each admitted individual will be provided 1 sachet of RUSF per day for a period of 60 to 90 days as supplementary food. However, all caregivers, mothers and children will be encouraged to utilize nutritious food available at household level. The RUSF will be provided as a fortnightly ration with a special provision for one month in case of geographical difficulty for each

individual. Each beneficiary is required to come for a follow-up visit at the end of each fortnight to the Targeted Supplementary Feeding Center (TSFC).

Counselling services for MAM mothers is given on breastfeeding, nutritious foods, hygiene and sanitation. Mainly counselling is provided to MAM mothers when MUAC of the child is found yellow.

7.7.2 Medical management of MAM

The child with MAM is treated medically like any child according to CB-IMNCI protocols. The opportunity is taken to ensure they are fully immunized and have received any additional supplements (vitamin A), iron and anti-helminths that are included in the national protocols for all children.

Vitamin A: Vitamin A is given to all children on enrolment (unless they have received vitamin A in the last one month or are going to receive it within the following month or children referred from OTCC, or other health facility where Vitamin A has already been given should not be given vitamin A. Children showing clinical signs of vitamin A deficiency are referred to the nearest health facility for treatment according to National guidelines. Vitamin A is NOT given to pregnant women. Lactating women receive

Vitamin A postpartum (6 weeks after delivery) only.

Mebendazole/Albendazole is given to all children aged 12–59 months on enrolment. If the child is ≥ 1 years and has not had Albendazole in the previous 6 months, one dose of Albendazole 200 mg is given till 2 years then 400 mg after 2 years.

Iron is given to children on admission if there are signs of anemia. Home treatment with iron (daily dose of iron/folate tablet or iron syrup) is given for 14 days. The parent is asked to return with the child after 2 weeks. Treatment should be given for 3 months, where possible. It takes 2–4 weeks to correct the anemia and 1–3 months after the hemoglobin reverts to normal to build up iron stores. If there is severe anemia, children are referred to inpatient care. Iron folate

acid tablet is given to all pregnant and lactating women on admission.

Vaccination: Measles vaccine is given to all unvaccinated children above 6 months of age in case of emergency and the vaccination status of the child is ensured to be satisfactory.

Progress in the treatment of MAM is monitored by the health workers at the health facility on every follow-up where the anthropometric measurement (MUAC, oedema, weight, height) are taken, follow up with mother/caretaker about the progress of the treatment and feeding history. Children are discharged cured from the program only after a minimum of two months of treatment in the program and achieved MUAC > 125mm (12.5 cm) or $\geq 2SD$ WHZ/WLZ.



Photo : Action Against Hunger, Nepal

8. RECORDING, REPORTING AND MANAGEMENT OF INFORMATION SYSTEM

Monitoring and data collection is performed through meetings, registration and reporting from community and health facility levels and through specific assessments conducted at local level/district level of coverage. Collation can be performed at the local/district level and at health facilities. The monitoring system includes data capture, compilation, analysis and feedback to function effectively. The data on IMAM has integrated into current health management information systems (HMIS) and report comes through the system. There is standardized system and tools for monitoring and reporting of services. Reports are generated through HMIS/DHIS-2. Commodities are tracked through LMIS. Coordination and communication structures are defined as per MSNP.

The Monitoring an IMAM programme is comprised of two major components:

- Assessment of effectiveness of treatment (i.e., proportion of clients treated effectively)
- Assessment of programme coverage (i.e., proportion of the target group being reached with treatment) and appropriateness of the programme for communities

Program performance indicators are collected on a monthly basis which helps in monitoring whether the IMAM program is achieving its objectives or not. Indicators are recovery rate, death rate, and default rate, non-cured rate, and referral rate, average length of stay, Treatment coverage, and geographical coverage is assessed through periodic coverage assessment surveys. Assessment of coverage includes assessment of barriers to coverage. This is obtained by various methods like trends in admissions plotted against the seasonal calendar, spread of MUAC on admission, distance that clients are travelling to access services and default rate plotted against the seasonal calendar.

8.1 Recording and Reporting

Community level:

Reporting focuses just on the number of cases of SAM and MAM identified and referred or counselled (where no additional treatment for MAM is available) and who enter treatment. This is achieved using simple tally sheets in the existing reporting format of the FCHVs. In addition, FCHVs have simple formats to record the information of any follow-up home visits they conduct in order to report back to the health facility. One of the key responsibilities of the FCHVs members is to maintain records of the community members screened and referred, the health education sessions conducted, as well as the analysis and submission to health facilities.



Facility level :

Monthly reporting formats for the recording of admissions and exits according to a number of categories are filled at each facility implementing IMAM. These formats are completed using a simple tally sheet and the patient cards or from the register book where this is in use. Compilation occurs at district level compiling results for all health facilities implementing IMAM.

8.2. Support and supervision system for implementation of services (e.g., for case management, organization of services)

case management, organization of services)

Supportive supervision become a routine internal process happening on-site. For example, there is a supervisor in charge of the daily supervision of the activities in each health facility. The day-to-day attention to quality is implemented through on-site supervision. Supportive supervision is designed to improve the quality of care offered in line with the standards outlined by:

- Identifying weaknesses in the performance of activities, taking immediate action and apply shared corrective solutions
- Strengthening the technical capacity of health workers and motivating staff through encouragement of good practices

In addition, IMAM supervision visits are carried out by the DHO/DPHO/Regional/Centre team supported as applicable by agencies' staff and local partners. Supervision is carried out at least once a month for each particular facility. Supervision for IMAM activities when integrated is done at the same time as the visits for other programs and by the same personnel.

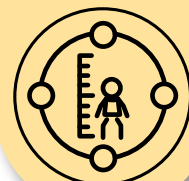
The Supervisors' role includes

- review and submitting the reports
- identifying any issues prior to their visit

and during their visit through structured observation and discussion with the person in-charge and health workers about the activities, structural condition and hygiene of the health facility, storage of products and equipment, reference documents and job aids, application of criteria and treatment protocols and procedures (anthropometric measurements, medical examination, appetite test, referral, medical treatment, and provision of RUTF, MNPs and Fortified Blended Food)

- Completeness of individual patient monitoring and recording
- Completeness of program documentation (forms and filing)
- Stock control procedures
- Treatment performance at facility and actions taken to address issues
- Compilation of available information to monitor coverage and actions taken to address issues

Supervisors review the documents like individual patient cards (to check admission and discharge criteria and completeness of patient monitoring), registration book if being used, and data collection sheets at the facility level (tally sheets and monthly reports) and stock cards.



9. PREVENTION OF ACUTE MALNUTRITION – SAM and MAM

As the first line of prevention, IYCF practices are improved, with a focus on improving complementary feeding through increasing affordability and accessibility of nutritious foods (incl. food that is locally available). Linkages with nutrition-sensitive interventions for prevention are strengthened, as treatment alone will not address wasting. Prevention and management programmes for acute malnutrition are established in integrated way focusing directly or indirectly, the two main immediate causes of malnutrition through high quality Infant and Young Child Feeding (IYCF) and counselling programmes and disease prevention and treatment programmes.

Different preventive approaches are institutionalised towards prevention of acute malnutrition.

Food demonstration is organised for conveying nutritional information to a target group through cooking and sharing nutritional tips as it is being done. Different available foods and how they can be used are discussed, as well as cooking the food together and tasting the foods prepared. The recipes that are accessible and affordable are chosen and prepared within a hygienic environment, and retain a high nutrient content to meet most of the needs of the child who is still breastfed by his/her mother. All the ingredients are purchased in the community in order to show accessibility of the food.

The Mother and Child Health and Nutrition (MCHN) program in food insecure area aims at improving the health and nutritional status of women and children through the network of the Department of Health Services. It also supports capacity building interventions to foster the skills and knowledge of the health staff, with a specific focus on Infant and Young Child Feeding (IYCF) practices. The Nepal Government and WFP have signed a joint Operational Agreement on implementation of the Mother and Child Health and Nutrition (MCHN) programme in 6 districts (Mugu, Dolpa, Jumla, Kalikot, Humla and Solukhumbu) targeting all pregnant and lactating women and children aged 6 to 23 months. The programme continues in five districts of the Karnali Province and is currently preparing to expand this programme in five districts of Provinces 1 and 2, targeting nearly 77,000 beneficiaries. The MCHN programme aims at supporting the nutritional requirements of pregnant and lactating women and children aged



Photo : UNICEF

6 to 23 months through the daily provision of 100 grams of fortified blended food. The provision of food is an incentive to attract women and caregivers to the health facilities to receive regular ante-natal and post-natal care services and growth monitoring. In addition to this, counselling is provided to mothers and caregivers at the health facilities to support appropriate infant and young child feeding practices.

Nutrition education and SBCC Nutrition Education: The targets group for IMAM program nutrition education is focussed to mothers'/care givers of children under five years; pregnant and lactating women, adolescents and suffering the people with chronic conditions such as HIV/TB. All nutrition service facility like MCH clinic are equally equipped with enough ICC/BCC materials in local cultural context.

Social Behaviour Change Communication (SBCC): Respecting the local cultural practice of the community two ways communication and feedback nutrition education is provided at community and health facility level by nutrition service provider. In addition to that electronic media like radio, short messaging services SMS, television and print media like brochures, booklets, posters, pamphlets flyers, banners, billboards and other nutritional promotional materials are used.

Mothers and caregivers are counselled with the MIYCN messages to correctly practice the simple things that they are doing in the daily life such as breastfeeding, complementary feeding, visiting health posts during pregnancy, growth monitoring their child etc. The message in MIYCN is available in IMAM manual.

Other parallel programs contributing to prevention and management of acute malnutrition

1. IYCF: protection, promotion and support
2. Micronutrient supplementation to children 6–23 months (Sprinkles)
3. IFA supplementation to PLW and adolescent girls
4. School Health and Nutrition Program
5. School Feeding Program

In 2002, the Government of Nepal launched a national strategy for controlling anemia among women and children. This included increasing the coverage of and adherence to IFA supplementation among pregnant women; promoting dietary modification, with an emphasis on foods containing bio-available iron; and food fortification initiatives to increase dietary iron intake. The main delivery platforms for IFA supplementation in the strategy were: health facility antenatal and post-natal clinics; outreach clinics (maternal and child health workers and village health workers); and female community health volunteers (FCHVs). By 2016 there had been a sharp increase in IFA tablet coverage (at least 90 tablets consumed), with 90% of women aged 15–49 years receiving some IFA tablets and a decrease in anemia among pregnant women. FCHVs are the building block of Nepal's public health system, bridging the gap between communities and families, and the formal health system. FCHVs brought the supplements closer to the household level. As part of the intensification of the IFA tablet distribution program, FCHVs received specific training on IFA distribution, as well as on counselling to increase adherence to IFA and the importance of dietary diversity and foods rich in iron.

Development partners have aligned with Nepal's MSNP by funding and implementing multi-sector programs to support the government's efforts. A United States Agency for International Development (USAID)-funded multi-sector program, Suaahara (meaning "good nutrition") aims to reduce under nutrition. Suaahara II were implemented to enhanced homestead food production (EHFP) to increase access to and consumption of diverse and nutrient-rich foods by supporting households to produce and consume nutritious foods (known as "garden-to-plate" foods) all year round. In each community, households were selected if they had: (1) a resident pregnant woman or mother of at least one child under two years old (known as "1,000-day women"); and (2) at least 40–75 m² of land near the home. More than 100,000 selected households received a two-day basic EHFP training, a variety of vegetable seeds for three seasons (dry, rainy and winter) during the following year and five eight-week brooded chicks, and were linked with a VMF for further technical support. This initiative

focused on selection and capacitating community-level extension workers, known as village model farmers (VMFs). VMFs discuss with the community how to grow nutrient-dense vegetables and produce eggs but also how to make nutritious recipes. The outcome of the program has been encouraging with improvements in several infant and young child feeding indicators for children aged 6 to 23 months old, minimum dietary diversity increased by 10%, and there is improvement in dietary diversity related to increases in egg consumption among these children by 13%.

Nutrition-friendly local government initiative^[12]:

Following Nepal's decentralisation in 2017, local governments of 308 rural and urban municipalities signed a declaration to eliminate malnutrition within five years and developed the local government as 'nutrition friendly', with effective implementation of the national multi-sector nutrition reduction plan. Many local governments promote four or more antenatal check-ups during pregnancy and adherence to the consumption of at least 180 IFA tablets through various incentives, such as provision of eggs and iodised salt packs.

Nutrition-sensitive agriculture in improving diets of young children: Homestead food production in Nepal ^[7]

Development partners have aligned with Nepal's MSNP by funding and implementing multi-sector programmes to support the government's efforts. A United States Agency for International Development (USAID)-funded multi-sector programme, Suaahara (meaning "good nutrition") aim to reduce undernutrition. Suaahara II was implemented as enhanced homestead food production (EHFP) to increase access to and consumption of diverse and nutrient-rich foods by supporting households to produce and consume nutritious foods (known as "garden-to-plate" foods) all year round. The program selected and developed community-level extension workers, known as village model farmers (VMFs). In each community, households were selected if they had: (1) a resident pregnant woman or mother of at least one child

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Photo : Action Against Hunger, Nepal



Photo : Unicef



10. ENABLERS

Key successes in Policy Framework includes Multi sectoral nutrition plan, NHSP II (CMAM included), Emergency nutrition including CMAM.

The program follows an integrated approach focusing both on prevention and management of acute malnutrition and the protocols for each is very well defined. The management protocol is not limited to management of SAM but includes MAM and acute malnutrition among pregnant women which is one of the most important underlying reason for low-birth-weight babies and acute malnutrition in young children. The program implementation, management and monitoring are done through the existing health facilities and district health staff. The programme monitoring and supply chain for the service for SAM & MAM is done through the existing MoHP supply system. In addition to this, well planned National guidelines for integrating IMAM to the health system, the availability of human resources, well defined job roles for the frontline workers, well defined prevention strategies, use of locally available food helps in the success of the program. Integration of IMAM to the health system, funded and owned by the government, good supply chain for the commodities and reporting integrated

within the DHIS are other enablers.

Maternal nutrition services were brought closer to the community via community-based health worker networks, underpinned by strong social mobilization, integration and reinforcement through all possible platforms.

Key successes in Policy Framework includes Multi sectoral nutrition plan, NHSP II (CMAM included), Emergency nutrition including CMAM. Other outcomes are cascade type of training to the HW's and FCHVs, community Involvement through involvement of FCHVs in CMAM, MUAC Screening integrated in National Vit A Campaign, ECD Facilitators, centers meeting indicators as per SPHERE standard, awareness at various levels through video documentary, district and VDC level advocacy meeting, broadcasting from media (FM), orientation to ECD facilitator, watch groups, street drama. In Monitoring and Supervision, joint monitoring, periodic review, on site visit by supervisors/DPHO also led to the success of the program.



Photo: Unicef

11. OUTCOMES

Outpatient Therapeutic Care indicators between 2009 and 2018 show high performance including an average recovery rate of 83%, a low death rate of 0.26% and a defaulter rate of 10.9%, well within Sphere standards^[8].

Total severe acute malnutrition (SAM) treatment in Nepal (2009–2018)^[8].

Facilities	Admission	Discharged	Recovered*	Deaths*	Defaulter*	Other discharged*
Outpatient (OTC)	82,923	66,439 (80.1%)	55,274 (83.2%)	176 (2.6%)	7,214 (10.9%)	3,755 (5.7%)
Inpatient (NRH)	17,076	17,076 (100%)	16,588 (97.1%)	7 (0.04%)	0	481 (2.8%)
Total	99,999	83,515	71,862	183	7,214	4,236
%		83.5	86.0	0.2	8.6	5.1

*% of discharged



12. INNOVATIONS

MSNP to address nutrition specific and sensitive interventions, especially for MAM cases. Well-established nutrition governance architecture, committed leadership and financing allocation for the management of acute malnutrition at all levels. Management of acute malnutrition in SAM, MAM and PLW has been prioritized and dedicated protocols of management well defined. Context specific strategies to manage malnutrition with use of locally available resources at the community level for sustainability. Gradually introducing ‘family MUAC’ or ‘mother-led MUAC’ to enable caregivers to screen their own children for wasting and hence trigger early detection and care seeking. A dedicated mechanism in place to improve program quality. Nepal has well established quality standards and a quality assurance architecture from national level to the frontlines. The set of QI modules exists with the MoHP for Reproductive, Maternal and Child Health services including logistic and lab services and service readiness to strengthen the quality of health services. The QI modules and service standards for nutrition program has also been developed recently and is expected to address the current implementation challenges and build a culture of dynamic and continuous improvement in the quality service delivery within the government health system and will be integrated into the existing QI package of the government for Reproductive, Maternal and Child Health services.





13. CHALLENGES AND LIMITATIONS

In spite of the well thought and well-intended strategy to mitigate acute malnutrition in the country. The IMAM program in Nepal faces a number of challenges related to coverage and quality of services. Active case finding through the health system is weak with screening linked to two mass vitamin A campaign events per year, the reach of which is limited and constrained by topography and access issues. Outside of the vitamin A campaigns, FCHVs are not systematically or routinely screening children for wasting. On the other hand, the caregiver recognition acceptance of wasting is very low. Parents and caregivers often do not recognize the signs of wasting among their children, nor do they know about

the associated increased risk of morbidity or mortality. Weak case finding and low demand by caregivers results in poor early detection and referral and health seeking for treatment. Barrier to improved treatment is the weakness in the government supply chain management system is a major challenge. Stock outs at health facility level of RUTF or therapeutic milks are too frequent and the loss of stock due to expiry is linked with low detection rates and treatment defaulting.

Limitations include low coverage, poor access to facility, lack of trained health staff, lack of community awareness about SAM, poverty and social problems, financial and logistic problems.



Photo : Unicef



14. CONCLUSION AND LEARNINGS FROM IMAM Nepal

IMAM in Nepal has been identified as an important part of local development agenda and is scaled up to improve coverage of wasting treatment using a government owned and managed approach, enabled by a strong policy framework, national and devolved governance architecture and financing commitment, with services integrated within the national health system. Owing to its success, IMAM is now delivered at scale in 38 districts across the country with capacitated and skilled government health workers delivering care. While continuing to develop existing services, the next critical step for the Ministry of Health and Population (MoHP) is to address how to manage children who are moderately wasted considering new ways such as simplified approaches to treatment and, equally important, to invest in understanding and implementing actions that prevent wasting.

The Nepal IMAM model has a lot to offer in terms of how other countries could integrate prevention and management of acute malnutrition into their health system and also linkage with other programs. The IMAM program not only focuses identification and management of acute malnutrition but also aims to place the management of acute malnutrition within the broader range of interventions and approaches for addressing malnutrition in general. It also aims to integrate the management of acute malnutrition across the sectors to ensure that treatment is linked to support for continued rehabilitation of cases and to wider malnutrition prevention programmes and services focused on the critical 1000-day window and beyond.

The following are some of the lessons learned and factors contributing to the success of the IMAM programme in Nepal and that could be replicated in other countries

The IMAM program is included in national policy and plans, including in the first Multi-sectoral Nutrition Plan (MSNP-I, and MSP II). Similarly, it is reflected in the national health policy and national health sector strategy and implementation is supported by national IMAM guidelines. The most recent National Nutrition Strategy and the Ministry of Health and Population (MoHP) five-year costed action plan also includes the IMAM programme. These policy documents form the foundation on which the programme is managed and implemented in Nepal.

Nutrition governance architecture is well established at all levels of government. Nutrition and food security steering committees and coordination committees at federal, provincial and local government levels are responsible for planning, budgeting and ensuring funds are allocated for nutrition programmes. Without these, the IMAM programme would not have received the funding necessary for it to evolve.

Provincial and local governments have included nutrition programmes with budget allocation in their annual work plans and budgets so they can realise their respective commitments for universal coverage of essential nutrition services including the IMAM program.

The Nepal IMAM model includes care for SAM children with complications without complications, MAM and malnourished PLW. A national IMAM guideline is in

place with a well-defined strategy and protocol for care of each of the malnourished categories.

The Government of Nepal has allocated domestic resources for the procurement of ready to use therapeutic food (RUTF), capacity development of healthcare providers and a commitment to fulfil its scale up plan for sustainable continuity of the programme. The MoHP has gradually assumed responsibility for procuring RUTF and therapeutic milks using domestic resources, with development partners no longer providing this support. There is an intention by MoHP to include RUTF in the Essential Medicine list in Nepal which may facilitate increases in allocated funds to meet the full need.

Partners to the MoHP are supporting in providing technical assistance to MoHP in-service training of healthcare providers, capacity development of FCHVs, and technical guidance for supply chain management, programme monitoring and reporting and periodic programme reviews and, most recently, the revision of the national IMAM guidelines.

The IMAM in Nepal is implemented through a well-established nutrition governance architecture with financial commitment at all levels. The community health system is well established to implement community-based program for management of acute malnutrition. The learning's indicate integration of IMAM into health system is possible through certain changes within the system like defining the role of health facilities at each level, revising the job description of health workers, strengthening IMAM trainings, ensuring full functioning of stabilization centers and OTP centers, activate PHC/ORC on IMAM, aligning the IMAM supplies with the existing logistic supply system, integrating IMAM indicators in HMIS, inclusion of MAM indicators, address the issues of defaulter and ensure effective and intensive monitoring/supervision. Annual coverage survey, strong advocacy and awareness program and experience sharing and exposure visit would further support in scaling up and improving the quality of the IMAM program.



Photo : pinerest.com

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MAINSTREAMING
COMMUNITY MAN-
AGEMENT OF ACUTE
MALNUTRITION INTO
HEALTH SYSTEM
EXPERIENCES FROM
SRI LANKA

———— “ ————

Sri Lanka experiences of integrating
community management of Acute
Malnutrition into Health Systems

———— ” ————



1. BACKGROUND

Sri Lanka has a population of 21,503,370 with almost four out of every five living in rural areas. The country has achieved a high Human Development Index (0.757) in the recent years demonstrating remarkable progress in terms of growth, poverty reduction and other key human development indicators. However, there exists a significant inequality in income, health and nutrition across the geographic regions and wealth quintiles.

Sri Lanka was able to achieve Millennium Development Goals targets on infant and under-five mortality. According to the Demographic and Health Survey 2016, the under-5 mortality of the country is 11 deaths per 1000 live births. The infant mortality rate (IMR) is 10 per 1,000

live births of which 7 per 1,000 live births correspond to the neonatal mortality rate. Most of the under-5 deaths occur within the first year of life, particularly during the first month after birth or the neonatal period. An important indicator of a child's vulnerability to the risk of childhood illnesses and chance of survival is birth weight. The percentage of births with a reported birth weight below 2.5 kilograms regardless of gestational age is 16%.

The country has an impressively high prevalence of exclusive breast feeding which appears to have improved in the course of the last decade and is almost double the global average of 40% and considerably higher than the regional average in South Asia of 60%. Around 90% of the children

were breastfed within one hour of birth and 82% of the children less than age 6 months are exclusively breastfed with the median duration of 5.2 months. Almost 99% of children come under ever breastfed and the median duration of breastfeeding of 30.2 months. 89% of breastfed children aged 6–8 months received complementary foods in addition to being breastfed within the 24 hours preceding the survey. 72% of the breastfed children aged 6–23 months are given foods from four or more food groups, and 86% are fed the minimum number of times and about 2 in 3 (63%) breastfed children fell into both categories as their feeding practices met minimum standards with respect to food diversity as well as feeding frequency.

Another important determinant of health is the clean drinking water. 9 in 10 households in Sri Lanka obtain drinking water from an improved source, and 10% of households still use water from an unimproved source. Households in the urban areas have greater use of improved sources than those in other areas. 99% of the households in the urban sector are using an improved source of drinking water, followed by 91% in rural sector and 43% in estate sector. 92% of all water in the estates are found to have a high level of E. coli bacteria at source.

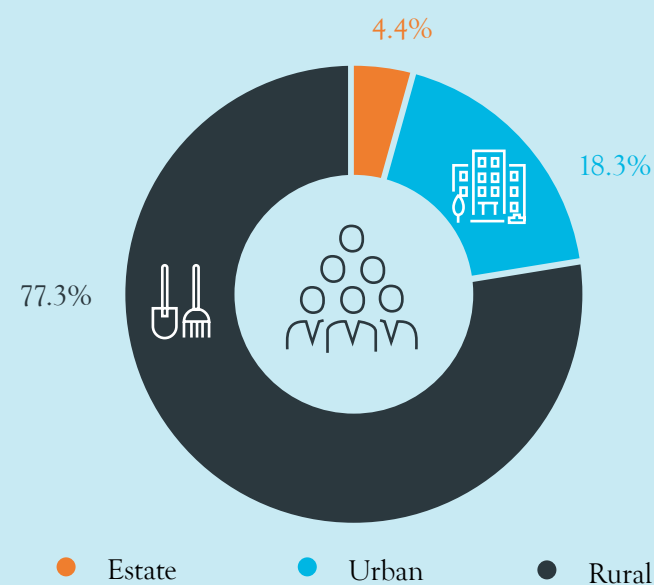
Many deaths in early childhood can be prevented by immunizing children against preventable diseases. In 2016, only 1% of the children aged 24–35 months did not receive any vaccination. The level of coverage for BCG, three doses of DPT/Pentavalent, Polio and Measles containing vaccines is 96% or higher. The coverage for the Pentavalent/DPT and Polio vaccines by appropriate age are 98% and 99% for the first dose which reduces to 85% for the subsequent doses.

The health care received by a woman during pregnancy, child birth and postpartum period decide the survival health and well-being of both the mother and the child. In Sri Lanka, 99% of mothers received antenatal care from a skilled provider and the median duration of pregnancy at the first antenatal care visit is 7 weeks. The prevalence

of anaemia among women of reproductive age in Sri Lanka is 33%. While the prevalence of anaemia among school aged children ranged from 16.3% among 5–9-years, 9.9% – 13.9% among 10–15 years and 54% among 12–16-years.

Despite having achieved many of the targets associated with the Millennium Development Goals (MDGs) Sri Lanka did not attain target set for nutrition. Nutritional status of the children shows whether the child is chronically or acutely undernourished. 17% of children under age 5 are stunted (short for their age), 15% are wasted (thin for their height) and 21% are underweight (thin for their age). The prevalence of both stunting and wasting are at similar levels unlike other countries. There are significant disparities in the level of stunting and wasting across regions and income quintiles. The prevalence of severe acute malnutrition (SAM) and global acute malnutrition (GAM) are 18.1% and 3% respectively. Various drivers of malnutrition in Sri Lanka includes employment insecurity, gender inequality, land degradation, climate change and natural disasters.

Proportion of the population living in urban and rural areas:





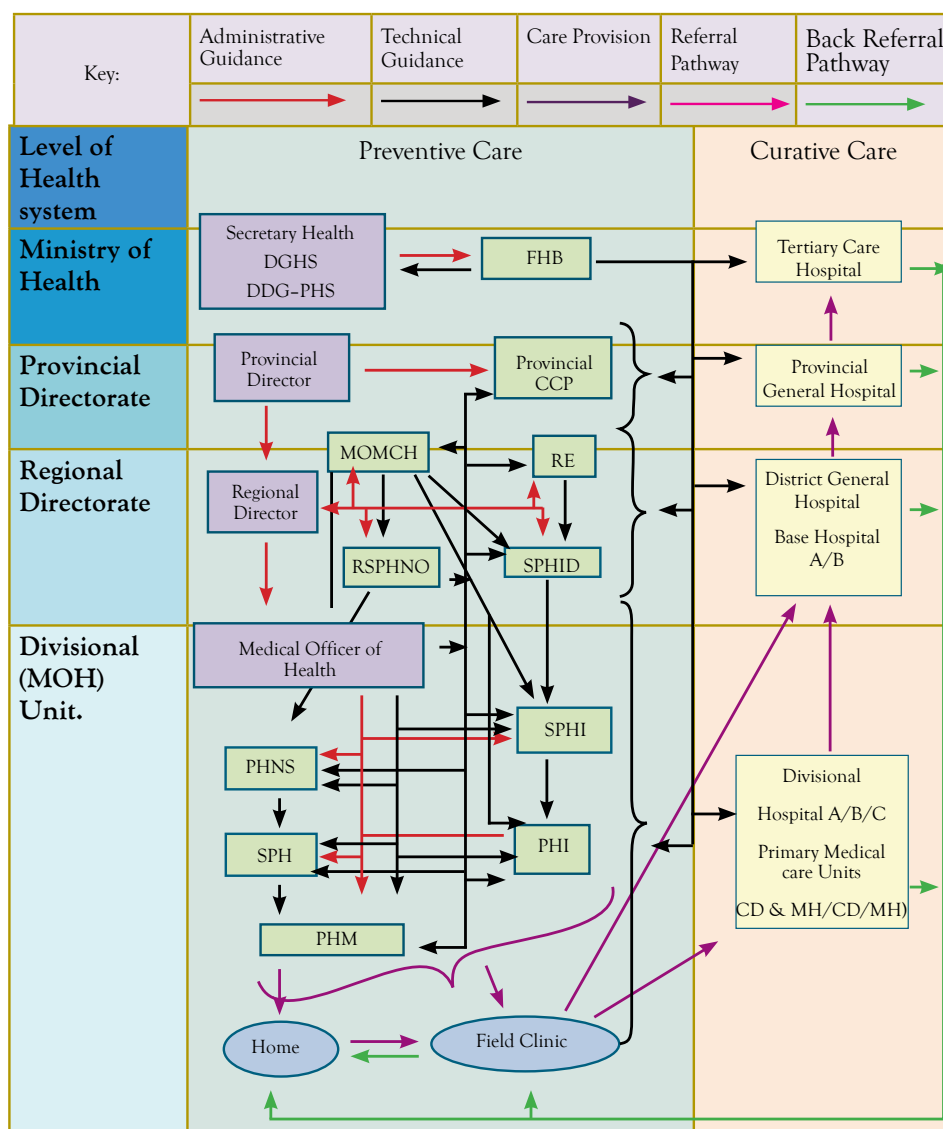
2. ADMINISTRATIVE STRUCTURE

Sri Lanka is divided into 9 provinces, which are further subdivided into 25 districts. Districts are further subdivided into Divisional Secretary's Divisions. Each DS Division is divided into Grama Niladhari Divisions (village officer divisions).

Community health services are organized into health units and most of them share the boundaries of the Divisional Secretariat areas geographically. These are commonly known as Medical Officer of Health (MOH) areas. There are 353 MOH areas in Sri Lanka and each is headed by a Medical Officer responsible for a defined population. The MOH is supported by field public health staff. The average population for a MOH is approximately 60,000. Each member of health staff (Public Health Nursing Sister, Supervising Public Health Inspector, Supervising Public Health Midwife, Public Health Inspector and Public Health Midwife) is also responsible for a subdivided area and a respective population.

The overall responsibility for the management of

community health services lies with the Provincial Health Authorities. The scope of public health is divided among two Deputy Director Generals at the line Ministry level. Deputy Director General Public Health Services II is mainly assigned public health areas outside the scope of communicable diseases. This work is performed through different directorates under the DDG PHS II.

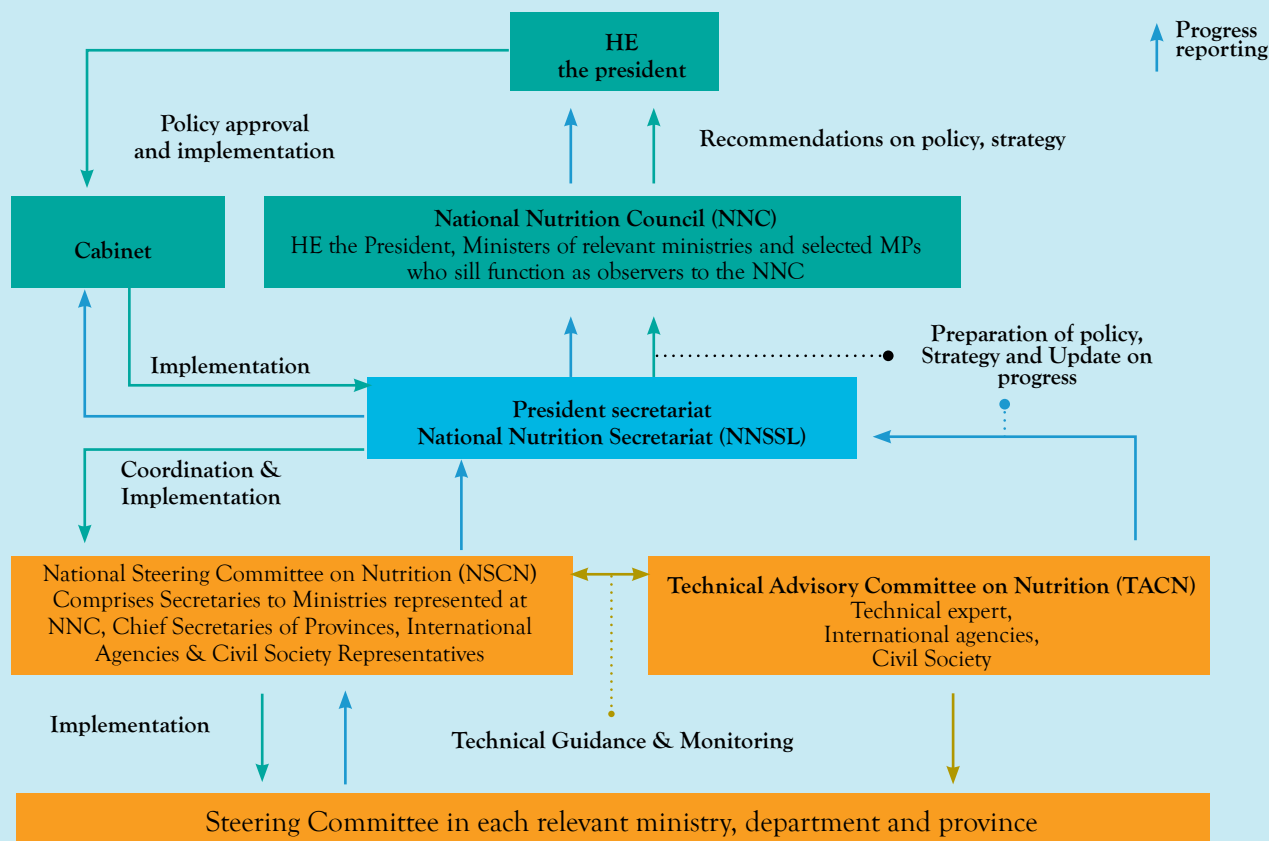




3. NUTRITION GOVERNANCE

Sri Lanka joined the Scaling Up Nutrition (SUN) Movement in 2012 and the Government's SUN Focal Point represents the Presidential Secretariat. The National Nutrition Council (NNC) is chaired by the President and brings together 17 government ministries (as well as chief ministers from 9 provinces and members of the national parliament). This serves as the multi-sectoral governance mechanism for operationalizing Sri Lanka's National Nutrition Policy.

Within the Ministry of Health, the national nutrition surveillance system has also been strengthened to enhance the quality and timeliness of data across the country. There is various national policy response to maternal and child undernutrition like National Nutrition Policy, Maternal & Child Health Policy, Multisector Action Plan for Nutrition 2013–2016, National Strategy for IYCF 2015–20, Sri Lanka Code and LBW prevention strategy.



The National Nutrition Policy (NNP) was first developed in Sri Lanka in 1986 and revised in 2004 and 2010. The NNP has six key objectives: (a) To ensure optimal nutrition throughout the life cycle (b) To enhance capacity to deliver effective and appropriate interventions (c) To ensure effective management of adequate nutrition to vulnerable populations (d) To ensure food and nutrition security for all citizens (e) To strengthen research, monitoring, and evaluation.

The first MSAPN 2013–2016 set the platform through multi sector partnerships within the government, cutting across sectors, for targeted action on the nutrition agenda to reduce maternal and child malnutrition in the country. The MSAPN was built upon the existing interventions and enhanced the synergies between institutions -- ministries, provincial offices, Divisional Secretariats together with development partners towards a common nutritional goal. This effort is aligned with the global SUN framework and a roadmap is made which strongly advocates the adoption of a multisector approach. Building on the lessons learnt from implementation of the first MSAPN 2013–2016, the second MSAPN 2018– 2025 further improves upon the multi sector collaboration and coordination. Especially, the MSAPN 2018–2025 increases the momentum towards improving the nutrition status of the country in line with achieving the SDGs related to nutrition.

Maternal and Child Health Bureau or Family Health Bureau (FHB) is the national focal point in the Ministry of Health responsible for planning, implementing, monitoring and evaluating the Reproductive, Maternal, New-born, Child Adolescent and Youth Health programme (RMNCAYH). FHB provides technical guidance for provincial health care system on its implementation. Nutrition Division under FHB is the

focal point for nutrition interventions across the country on behalf of the Ministry of Health and coordinates the nutrition specific activities within the Ministry of Health, and nutrition sensitive activities with other ministries and Non-Governmental Organizations with the goal of providing effective, evidence-based nutrition services to all strata of Sri Lankan population. One of the major activities of Nutrition Division is formulating National Nutrition Policy and relevant guidelines. Nutrition Division coordinates Thripasha Programme. It is also responsible for providing technical and financial guidance to implement District Nutrition Action Plans to execute district specific nutrition interventions to mitigate locally identified nutrition issues. Monitoring and evaluation of the nutrition specific interventions and advocate for nutrition sensitive interventions are also carried out by the Nutrition Division. In addition, Nutrition Division conducts In service training programmes, awareness programmes and other capacity building programmes for the health and non-health staff.



Photo : Adobe Stock



4. NUTRITION FINANCING

Sri Lanka's investments in nutrition interventions are dominated by nutrition-sensitive interventions at 90 percent. On average, the GOSL annually spends around SL Rs 5,000–8,000 per capita for nutrition-sensitive interventions as against SL Rs 550–600 per-capita for nutrition-specific interventions. Per capita nutrition expenditure in 2018 was SL Rs 6,441 (approximately US\$39.6). A 5 percent share of TPE on nutrition is higher than some countries such as Bhutan (3 percent) but lower compared to countries such as Nepal and Bangladesh (23 percent and 9 percent respectively).

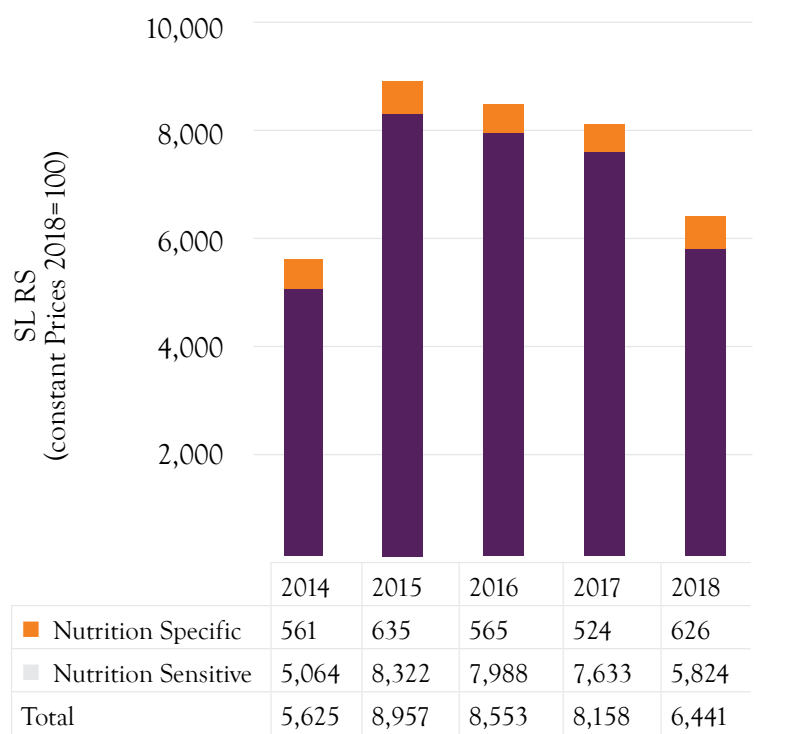
In 2018, the Samurdhi program absorbed the highest proportion of expenditure on nutrition-sensitive programs (39 percent), followed by the agriculture sector food security programs (28.9 percent) and WASH (24.7 percent), leaving only a share of 7.8 percent for other nutrition-sensitive

programs such as food allowance for pregnant mothers, health promotion programs, and fisheries and livestock food security programs.

Out of the MoH nutrition expenditure, 96 percent is spent on two key programs: MCH medicine/supplementation program and Thripasha. Of the total nutrition-specific expenditure, only 1.8 percent accounted for awareness-raising programs on nutrition practices such as IYCF with related IEC materials and staff training programs and nutritional improvement programs for vulnerable population.

Donor funding per stunted child under 5 years for nutrition is \$45.32 and donor spending for nutrition specific intervention is only 12%. UNICEF, the WHO, and the WFP are the main Development Partners aiding financial support to implement

nutrition-specific interventions in Sri Lanka, island wide through the FHB, Nutrition Coordination Division, and HPB. UNICEF contributes to policy



development, evidence generation, IYCF promotion, capacity building, and advocacy programs on maternal and child nutrition, to buy required equipment for the MCH clinics in certain situations (that is, disaster), and programs such as early childhood development, national nutritional month, and health and nutrition (by a mix of own fund and grants from other DPs).

Funds from the WHO are mainly utilized to conduct training and advocacy programs on nutrition, including promotion of IYCF and breastfeeding practices, as well as for the printing of certain materials such as preterm growth charts and leaflets only at the inception of a program. In addition, WHO funds are used for programs under the National Nutrition Surveillance System. There are other DPs such as the WFP, Food and Agriculture Organization (FAO), Global Affairs Canada, and EU-Aid majorly funding to implement different nutrition-sensitive programs in Sri Lanka. Improving the nutritional status of pregnant and lactating women and undernourished children is funded by the WFP and FAO, using SUN through multisectoral approach programs.

The FAO further funds the Northern, Eastern, and Central Provinces to improve the nutritional status of vulnerable families in post-war-affected and flood-affected areas. The FAO also funds agricultural and agroeconomic development programs, which are implemented through the MoA and MPISE. The Ministry of Fisheries is funded by the FAO for programs such as fish handling, reduction of postharvest losses in tsunami-affected areas, restoration and improving fish landing sites, construction of ponds to cultivate fresh water fish, preparation of the inland fisheries sector development program and implementation strategy, and aquaculture industry improvement.

Europe Aid supports the estates and surrounding communities to provide equitable WASH for improved health and nutrition and Assisting Communities in Creating Environmental and Nutritional Development (ACCEND) in the most vulnerable districts of the Central and Uva Provinces through the Integrated Rural Development program. The European Union is an important development partner for Sri Lanka and the EU commitment to nutrition in Sri-Lanka (through the DCI Multi-annual Indicative Programme 2014–2020) is underscored by the prioritization of investment in Integrated Rural Development focal sector, which includes support to Food and Nutrition Security and Sustainable Agriculture (FNSSA).



5. HISTORY OF SAM MANAGEMENT IN SRI LANKA

The National Maternal and Child Health Programme incorporates growth monitoring and promotion as a main focus area through which a range of activities directed at primary and secondary prevention of malnutrition among under 5 children are being implemented countrywide. Management of moderate acute undernutrition and severe acute undernutrition in children below five years of age as a measure of secondary prevention also called Nutrition Rehabilitation Programme (NRP) is an integral component of this program.

The NRP to manage children under 5 years of age with severe undernutrition was initially implemented in districts of Northern Province, Eastern Province, Uva Province, Hambantota, and Nuwaraeliya districts when RUTF for the management of SAM and supplementary food for the management of MAM was used in the MOH clinics. Children with SAM who had underlying medical problems were managed as ward patients in hospital pediatric units. Then, a manual was developed in 2007 to serve as a guideline for healthcare personnel on the management of children under 5 years of age with MAM and SAM in hospital and community settings. Subsequently in the year 2012, the NRP was extended to all 26 health districts and modality of implementation of this programme was changed from hospitals to outpatient/ clinic based and/or inpatient care as necessary. In 2017-18, it is further strengthened and streamlined by adapting it to the changing malnutrition patterns of the country. Now, all the children with SAM eligible for NRP are identified and referred to relevant hospital with Consultant Pediatrician / hospital nutrition clinic to be managed with therapeutic feeding in the hospital setting and MAM children are managed at MOH clinics with appropriate dietary management and Thriposha as supplement.



Photo : pixahive



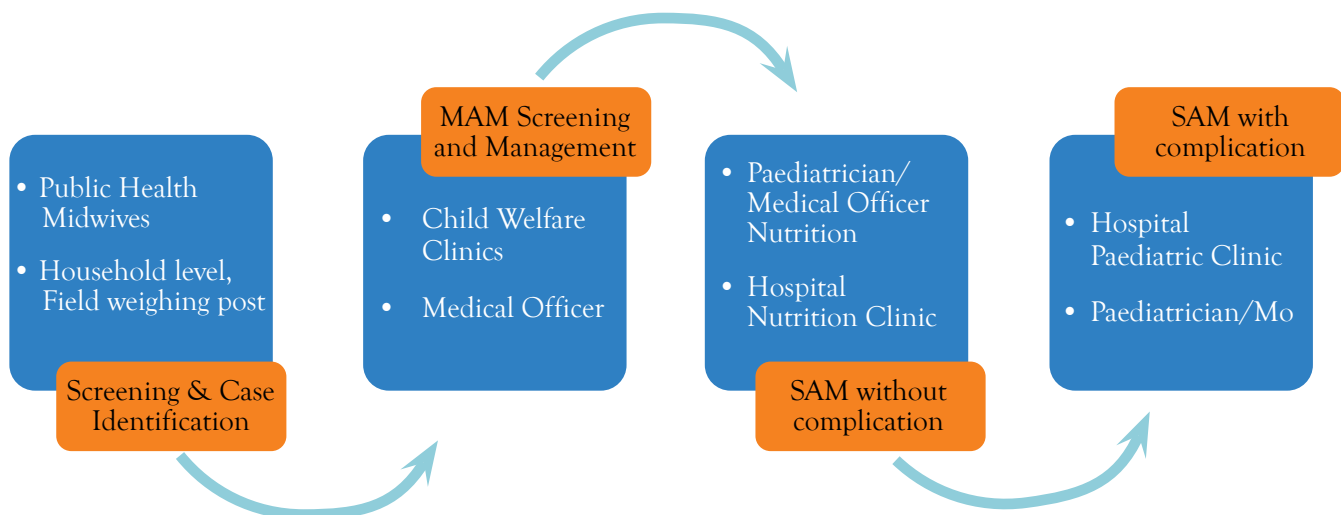
6. OVERVIEW OF IMAM IN SRI LANKA

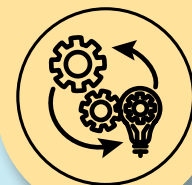
Under the national growth monitoring program, all children under five years are periodically measured at child welfare clinics, field weighing posts, and well-baby clinics in curative establishments. According to MoH recommendations, the weight-for-age of children under two is assessed monthly and thereafter once every three months up to the age of five years if the child is growing normally. However, if a child is having any nutritional problems, irrespective of age, monthly weighing is recommended. The length-for-age is measured at birth, 4, 9, and 18 months, and for children with nutritional problems it is measured every two months up to two years of age. The height-for-age is assessed every six months from two years of age up to five years, and for children with nutritional problems, it is measured every three months from two to five years. Children whose weight for age lies below $-2SD$ receive locally produced fortified food supplement, Thriposha, at the primary health care level. The children with SAM receive BP 100, ready-to-use therapeutic food (RUTF) only after confirmation of the diagnosis by a pediatrician at the district hospital level or above. The outpatient care and treatment services are currently available only at the district hospital level and above.

6.1. Integration of the IMAM into the existing health services and system

Children are identified at field weighing posts, at CWC, during home visits and hospital visits. Management is done according to the zone where weight for length/height falls. If the child is in the:

- **RED ZONE (SAM)** – they are referred to hospital nutrition clinic/pediatrician by the Medical Officer of Health (MOH) for SAM management.
- **ORANGE ZONE (MAM)** – MAM guideline is applied and the child is managed at the CWC/nutrition clinic of MOH.
- **GREEN ZONE (growth faltering for 2 months)** – MOH assesses the growth problem and manages accordingly with follow up at routine growth monitoring sessions.





7. PROGRAM IMPLEMENTATION

7.1. Community Mobilization

The Public Health Midwife (PHM) is involved in community mobilization which involves community sensitization, case finding, follow-up and ongoing sensitization. Community sensitization on the importance of regular growth monitoring and promotion of children under 5 years of age promotes good understanding of the program objectives and approaches.

Weighing posts are used to identify new cases and ensure that children who need to benefit from the program actually get the benefit. Active case findings and referral to MOH for confirmation are done during the weighing session. Nutrition month is used

for annual screening of under five children. A list of children who are referred for SAM management is maintained at the child welfare clinic (name and address of the child, PHM area, date referred, hospital). Children identified in the program are followed up for regular attendance, defaulting and changes in their condition. PHM plays a critical role in the follow up of these cases. She obtains the information on referred cases from the list maintained at the child welfare clinic and updates her records of child health development report (CHDR) B portion and growth monitoring register and these children are followed up for compliance.

7.2. Screening

When children between 0 to 59 months are brought for growth monitoring, weight is measured with a spring balance scale at the field weighing center. Beam balance scale is used for infants especially during the first 6 months. Length is measured till 2 years of age using a length board. Height is measured with a height board from 2 years. Children who are suspected of having acute under nutrition (wasting) is measured for their length/height at the Child Welfare Clinic (CWC) without delay. Values are correctly plotted in the weight for length/height chart and degree of wasting is assessed. If it is found to be below - 2SD, the child is referred to the child welfare clinic /nutrition clinic or hospital nutritional clinic. Children are seen by the Medical Officer conducting the clinic to confirm severe acute under nutrition. Weight-for-length / height chart is recorded in the CHDR (child health development report).

Children are identified at field weighing posts, at CWC, during home visits and hospital visits.

Management is done according to the zone where weight for length/height falls. If the child is in the:

- **Red Zone (SAM)** – they are referred to hospital nutrition clinic/pediatrician by the Medical Officer of Health (MOH) for SAM management.
- **Orange Zone (MAM)** – MAM guideline is applied and the child is managed at the CWC/nutrition clinic of MOH.
- **Green Zone** (growth faltering for 2 months) – MOH assesses the growth problem and manages accordingly with follow up at routine growth monitoring sessions.

7.3. Identification & Referral

Case detection is done at the field weighing centre, during visit to the field Child Welfare Clinics (CWC), Nutrition Clinics of the Medical Officer of Health (MOH) and when children are brought to hospital for other services like immunization or treatment of illnesses. Active case finding and referral for screening to the field weighing centre is also done during home visits.

The medical officer confirms the cases and manages MAM at the child welfare clinics (CWC). Paediatrician or the Medical Officer Nutrition manages SAM with no medical complication at Hospital Nutrition clinic. SAM with medical complication is managed by paediatrician or medical officer at Hospital Paediatric clinic.

Referral: Children who are diagnosed with severe acute under nutrition are referred immediately to a hospital with referral card (pink Nutrition Rehabilitation Programme (NRP card). This special referral card gets direct access to the paediatric clinic/hospital nutrition clinic bypassing the OPD. It is kept with CHDR and used for treatment follow up.

ENROLLMENT CRITERIA FOR OUTPATIENT NUTRITION REHABILITATION PROGRAMME	
New enrolments/1st detection	Children 6–59 months old and below -3SD weight – for – height without complications
Inpatient discharge/Transferred from inpatient care	From inpatient care after “stabilization treatment”
Relapse	Previously discharged, cured and again fulfills NRP criteria
Returned	After defaulting from NRP

7.4. Assessment of Appetite and Medical Complications

Children with weight-for-height below -3SD (severe wasting) with or without bilateral pitting oedema is enrolled into the therapeutic feeding programme. All children referred due to severe acute under nutrition is preferably assessed at the hospital Nutrition Clinic by a Medical Officer Nutrition and in the absence of a Nutrition Clinic, the child is assessed at the Paediatric Clinic. This assessment includes history of the presenting condition taken from the mother or caregiver, presence of bilateral pitting oedema and appetite.

Appetite Test: The child is given some RUTF and checked whether the child eats it freely. Sufficient time and a calm environment are provided to allow the child to try out the food.

The child is also assessed for vomiting, diarrhoea, temperature, respiratory rate, pulse rate, pallor (anaemia), superficial infections, alertness and hydration status. Children with severe acute under nutrition is divided into 2 main groups: I. “Children with severe acute under nutrition without complications” II. “Children with

severe acute under nutrition with complications” (loss of appetite, lower respiratory tract infections, severe pallor, high fever, severe dehydration, reduced alertness, hypothermia, extensive infections, convulsions, bilateral pitting oedema and other conditions that require in-patient care according to clinicians’ assessment).

Children with severe acute under nutrition without complications is followed up in a hospital clinic. The first follow up visit is after a week and thereafter every fortnightly and provided with take home ration of



Photo : Unicef

RUTF and ensured that they receive other services like de-worming, Vitamin A, immunisation etc. If children are managed in the hospital nutrition clinic, it is done in close collaboration with the Paediatrician. Children with severe acute under nutrition with complications is admitted to hospital for inpatient treatment under the Paediatrician.

7.5. Outpatient Care for SAM children without medical complication

7.5.1. Overview of Outpatient therapeutic care (OTC)

Children with weight-for-height below $-3SD$ (severe wasting) with or without bilateral pitting oedema are enrolled into the therapeutic feeding programme. All children referred due to severe acute under nutrition are preferably assessed at the hospital Nutrition Clinic (by a Medical Officer Nutrition) and in the absence of a Nutrition Clinic at the Paediatric Clinic.

Children with severe acute under nutrition without bilateral pitting oedema and medical complications who have appetite are treated on ambulatory basis with RUTF depending on the nutrition assessment and status of food security under two regimes;

- First regime: If the child is just below $-3SD$ and the Specialist/Medical Officer is confident that caregiver will provide nutritious main meals as recommended in the guideline, then the child is provided 50% of



nutrition requirement from main meals (prepared at home) and the other 50% from RUTF as snacks.

- Second regime: If the child is well below -3SD or if the caregiver is unable to provide nutritious meals or there is any other condition (to decide on an individual basis), the child is provided 100% of nutrition requirement from RUTF.

The regime is decided based on nutrition status, clinical condition and home environment including economic status. Healthcare worker registers the basic information of the child in the registration book and NRP card at time of admission. These children are managed in Hospital nutrition clinic by Medical officer, nutritionist and paediatrician and followed up in a hospital clinic. The first follow up visit is after a week and thereafter every fortnightly.

If the child's medical condition is deteriorating, the care giver is advised to immediately take the child to the clinic

or to the closest hospital. The child is assessed after a week of commencement of outpatient management for further weight loss or inadequate or no weight gain on the second visit and referred to inpatient care facility. If the mother is still breastfeeding, she is advised to continue breastfeeding after the RUTF and keep a gap of 2 hours before the next feed with RUTF.

Children with severe acute under nutrition with medical complications are managed as inpatients with Formula 75® or Formula 100. F75 or a milk-based formula providing 75kcal/100ml preparation is used during the stabilisation phase till life threatening problems are under control and during the transition phase when appetite is regained and oedema is reduced. Then the regime is changed over to Formula 100® or a milk-based formula giving 100kcal/100ml. Thereafter RUTF is introduced gradually.

7.5.2. Services and procedures at OTCs

All selected children are registered in the registration book in the clinic. Child's basic information is recorded in the child's NRP card. The regime of providing RUTF, i.e., whether child is managed solely on RUTF or together with nutritious meals is decided after assessing the nutrition status, clinical condition as well as home environment including economic status.



The amount of ration according to the weight of each selected child is identified and RUTF is provided initially for one week for treatment and rehabilitation. Child is reviewed after one week to assess compliance and follow up is done with investigation reports. Thereafter two weekly ration is given.

If the child's medical condition is deteriorating, the care giver is asked to immediately take the child back to the clinic or to the closest hospital. The child is assessed after a week of commencement of outpatient management and if there is further weight loss at that visit or inadequate weight gain or no weight gain on the second visit, then the child is referred to inpatient care facility. If the mother is still breast feeding, she is advised to continue breastfeeding but on a structured manner, where she could breastfeed after a therapeutic feed, but should not breastfeed at least for 2 hours before the next feed with RUTF. Mothers or care givers are advised that children who are eating BP100® as RUTF must be given sufficient amount of drinking water (boiled or filtered or treated with chlorine) to keep them adequately hydrated, at least 200ml of safe drinking water with one bar.

When RUTF is given for children under 2 years, caregivers are advised to give it in porridge form. Children above 2 years can eat RUTF as porridge or as it is in the dry form with recommended amount of fluid. Health worker emphasizes the need for the child to consume the entire ration daily. It is both a medicine and a food that is vital for the recovery of the child.

If the child is on first regime, main meals are given to the child in alternate to RUTF. Key education messages are given to the mothers / caregivers on storage of RUTF and the preparation method. Age-appropriate counselling is provided to mothers / caregivers on infant and young child feeding (so that the dietary practices of the child are corrected at the same time) as well as prevention and management of diarrhoeal diseases at home. The care giver is asked to bring the child to the clinic every fortnightly for follow up, to



Photo: Ispat Cooperative Hospital

receive additional medical treatments if needed, and to receive a supply of RUTF to last until their next appointment. The care giver is informed that the RUTF should not be shared with other children in the household.

7.5.3. Follow-up of Children with Acute Malnutrition

The progress is monitored on fortnightly basis at the hospital. The weight of the child is recorded at each visit on the weight chart provided with the NRP card. Length/height is measured at enrolment and discharge from the SAM management and recorded in the NRP card and Child Health Development Record (CHDR). Oedema on feet, appetite and medical problems are checked at each visit. Whether the child has gained weight is identified according to weight chart in the NRP card. If there is no weight gain,

the child is referred for specialised paediatric care. The PHM follows up all the children referred for NRP and ensures that they are taking the RUTF as recommended and are attending the hospital clinics regularly. If the hospital decides that special follow up is required at the MOH level, it is indicated in the referral section of the Child's NRP card and the parent/caregiver is instructed regarding the same.

All children who achieve a weight-for-height $\geq -3SD$ are referred to the supplementary feeding

programme for MAM implemented by the MOH where they stay for a maximum of 3 months till they reach $\geq -2SD$ weight-for-height level. If there is no improvement even after 3 months of supplementary feeding, the MOH refer them back to the hospital nutrition clinic or a paediatrician. The child is provided with two weeks supply of therapeutic food on discharge from SAM management during which time they should enrol in the MAM management programme at the MOH clinic.

Discharge criteria for Supplementary Feeding Programme

Cured	When children reach above $-2SD$ for weight-for-height and remain above $-2SD$ maintaining an upward trend towards $-1SD$ at two consecutive programme distributions (2 months)
Defaulted	Children who are absent for more than three consecutive distributions need to be traced and followed up actively through home visit.
Referred for hospital care	Non-responding; Children who do not reach the target weight-for-height after three months of receiving supplementary food need to be referred to hospital for further investigations.



Photo: World Food Programme

7.5.4. Nutritional rehabilitation in Outpatient Therapeutic Care

SAM children needs 200kcal/kg/day. If the first regime is chosen, take home ration provides 100kcal/kg/day and the balance is provided from nutritious family food. If the second regime is adopted the total requirement of 200kcal/kg daily is provided from RUTF. Child is fed on RUTF in small amounts frequently up to 3-4 times per day. Children who are on first regime, eats home prepared nutritious food as meals and RUTF as snacks.

Therapeutic food or RUTF used are BP-100 or Plumpy' Nut

First Regime:

Weight of Child (kg)	Amount of BP-100 (150 kcal/tablet)		
	No of bars per day	Daily divided dose as snacks	No. of packets per Fortnight
3.5 – 4.4	1.5	1 tablet 3 times	2
4.5 – 5.4	1.5	1 tablet 3 times	2
5.5 – 5.9	2.0	1 tablet 4 times	3
6.0 – 6.9	2.0	1 Tablet 4 times	3

	Regular main meals (to provide 100 kcal/kg)	Balance 100 kcal/kg from RUTF as snacks
3.5 – 4.4	Age appropriate CF and BM after meals	1 tablet 3 time
4.5 – 5.4	At least 3/4 cup of CF 3 times/day and BM after meals	1 tablet 4 times
5.5 – 5.9	Age appropriate CF 3 time/day and BM after meals	1 tablet 4 times
6.0 – 6.9	3 meals (at least 1 cup) of family food and BM after meals	1 tablet 4 times

Second Regime:

Weight of the child (kg)	Amount of BP-100		
	No. of bars per day	No. of packets & bars per week	No. of packets & bars per Fortnightly
3.5 – 4.4	2.5	2 pack	4 pack
4.5 – 5.4	3	2 pack & 3 bars	4 pack & 6 bars
5.5 – 5.9	3.5	2 pack & 7 bars	5 pack & 4 bars
6.0 – 6.9	4	3 pack & 1 bar	6 pack & 2 bars

7.5.5. Medical management in Outpatient Therapeutic Care

Children are continued on any medications they were on and deworming medication and vaccinations are also completed. All children are given vitamin A Mega dose (100,000U) if they have not received Vitamin A. If the child is showing any Vitamin A deficiency features, he/she is treated on therapeutic regimen of vitamin A.

7.6. Facility Based care and management of SAM children with complication

7.6.1. Overview of Inpatient therapeutic care

New admissions	Children 0–59 months old and below –3SD weight – for – height reference with or without bilateral pitting oedema and with severe medical complications as:
	I. No appetite or unable to eat test dose of RUTF
	II. Intractable vomiting
	III. Fever >39°C or hypothermia <35°C
	IV. Lower respiratory tract infection according to Integrated Management of Childhood Illness (IMCI) guidelines for age. <ul style="list-style-type: none"> • 60 breaths/min for 0–6 months • 50 breaths/min for 6–12 months • 40 breaths/min for 1–5 yr
	V. Any chest wall recessions
	VI. Severe anemia (severe all or in palms, conjunctiva)
	VII. Extensive infection requiring IM/ IV treatment
	VIII. Weak, apathetic, unconscious, seizures
	IX. Severe dehydration
Choice	Caregiver refuses outpatient care
Referral	From NRP outpatient programme due to: <ul style="list-style-type: none"> • Deterioration of medical condition • Weight loss at first visit or inadequate/ no weight gain second visit • Nonrecovery after 2 months in the outpatient NRP programme • All children <6 months of age with severe acute undernutrition
Readmission/relapse	Previously discharged, cured and again fulfils admission criteria

Children with severe acute undernutrition with complications is admitted to the hospital for inpatient treatment under the Pediatrician. They are managed as inpatients with Formula 75® (F75®) or a milk-based formula providing 75kcal/100ml preparation during the stabilisation phase till life threatening problems are under control. During the transition phase when appetite is returned and oedema is reduced, the child is changed over to Formula 100® (F100®) or a milk-based formula giving 100kcal/100ml and thereafter RUTF introduced gradually. The management of SAM with medical complications follow the WHO steps for management of SAM which is similar to the protocols followed in India for in patient management of SAM. Therefore, the details of protocols have not been discussed here and is available in Sri Lanka SAM management guidelines.

7.6.2. Nutrition management for cases in in-patient care

During the stabilization phase, the child is started on F-75 feed with 100ml/kg/day and gradually increased to 130ml/kg/day by day 3-5 and are given 2 to 3 hourly feeds 8-12 times a day, including night feeds. As soon as the child's appetite and general condition improves, the volume of feed needs to be increased. F-100® is used as a "catch-up" formula to rebuild wasted tissues and then RUTF is gradually introduced. Then the number of RUTF feeds is increased while decreasing F100® feeds. Volume of the F100® feed is 150-220ml/kg/day divided into 3 hourly feeds, 8 times a day.

7.6.3. Discharge from inpatient care

Appetite	Good (When the child is eating at least 75% of the prescribed quantity of RUTF for his or her body weight)
Medical complications	Under control and can discharge immediately and follow up at outpatient level.
Bilateral oedema	Reduced or minimal

Child is discharged when the appetite is good and child is eating 75% of the prescribed quantity of RUTF for his/her body weight and when the medical complications including bilateral pitting oedema are resolved. The child is given one week's supply of RUTF to take home. Discharge card including the summary of the child's stay in hospital with the duly completed NRP card is given to the mother/ the caregiver. An appointment to attend the hospital clinic (paediatric clinic or the hospital nutrition clinic as appropriate) in one week's time with a referral note in the child's NRP card is given. The same NRP card is continued to record the clinic follow up as well. On discharge, depending on the regime adopted, mother/caregiver is advised to give RUTF (second regime) or age-appropriate number of main meals together with RUTF in between (first regime) during ambulatory rehabilitation phase as outpatient in hospital clinic.

7.7. Management of Moderate Acute Malnutrition

ENROLLMENT CRITERIA FOR SUPPLEMENTARY FEEDING PROGRAMME FOR CHILDREN WITH MODERATE ACUTE MALNUTRITION	
New enrolment	Children 6–59 months old and between –3 SD to – 2 SD weight – for – height without complications
Discharge from SAM management	From outpatient care after “RUTF treatment”
Readmission/relapse	Previously discharged, cured and again fulfills the criteria
Returned	Returned after defaulting from management of MAM

All children who achieve a weight-for-height $\geq -3SD$ is referred to the supplementary feeding program for MAM children implemented by the MOH where they stay for a maximum of 3 months till they reach $>-2SD$ weight-for-height level. If there is no improvement even after 3 months of supplementary feeding, the MOH refer them back to the hospital nutrition clinic or a pediatrician.

7.7.1. Nutritional Management of MAM

MAM children received 67% to 53% of their energy requirements and 80% to 104% of their protein requirements, according to the food-based daily Recommended Nutrient Intake (RNI) for children with MAM from a daily ration of CSB (Corn Soya Blend) and HEB (High Energy Biscuits). The daily ration of supplementary food provided over 200% of the RNI for iron and vitamin A, 20% of zinc requirements, less than 50% of folic acid requirements, 60% of magnesium requirements, and 0% of copper and selenium requirements, in addition to the family food.

BP 100® is a compressed food product fortified with micronutrients used in the rehabilitation phase of severely malnourished children. BP100® is both a medicine and a food that is vital for the recovery of the child. It is given as porridge for children less than 2 years and in dry form for children above 2 years. BP 100® can be eaten as tablets from the pack together with sufficient drinking water, or crumbled and mixed with water and eaten as porridge. It is advisable to give as porridge due to the need for sufficient water for children under 2 years. One bar (two tablets) of BP 100® contains 300 kilocalories. Children are fed in small amount and many meals per day in the initial phase of rehabilitation to avoid overloading of the intestine, liver and kidney. It is not mixed in the same meal with local food items as the latter may contain components that inhibit the absorption of vitamins and minerals.

Thripasha is a fortified supplementary food made of maize, soya, milk and a vitamin and mineral premix. It is originally created in Sri Lanka in 1973 to address maternal and child undernutrition and is given as RUTF for Community based management of acute malnutrition (CMAM). Thripasha, which means “triple nutrients,” is a precooked, ready-to-eat, cereal/legume/milk-based food that provides energy, protein, and micronutrients which gives 398kcal/100g. It is a supplementary feed and two packets of 750g is given per beneficiary per month which provides 199kcal in the daily ration of 50g. There are various recipes like aggala to increase calorie value. It is given as mid-morning and afternoon snack.

Criteria for distribution of Thripasha

- Children 06 – 59 months who are under nourished
- Underweight (< -2 SD weight/age)
- Long standing growth faltering – Loss of weight for 3 consecutive months
- Moderate Acute Malnutrition (MAM) (< -2 SD to -3 SD weight for length/height)
- Hospitalized for long periods with above criteria

- All pregnant women
- All lactating women during first 6 months

Plumpy nut is a ready to use oil-based paste specially developed to treat SAM children. It consists of peanuts, sugar, oil, milk powder, vitamins and minerals. 1 pack contains 500 kilocalories. According to the protocol of 200kcal/kg/day, one child requires 2–3 packs per day.

High Energy Biscuits: All children with moderate acute malnutrition (MAM) were provided with 100g of high-energy biscuits (HEBs), containing 450 kcal.

7.7.2. Medical management of MAM

Children are continued on any medications they were on and deworming medication and vaccinations are also completed especially measles. All children are given vitamin A Mega dose (100,000U) if they have not received Vitamin A. If the child is showing any Vitamin A deficiency features, he/she is treated on therapeutic regimen of vitamin A. Malaria prevention is also one of the important aspects of management of moderate acute malnutrition.

7.7.3. Follow up

Weight is checked every month at least for a period of six months even after they recover from MAM. Length every two months and height every 3 months is noted according to the age of the child. The measurements are plotted on weight-for-height chart in the CHDR. The protocol for supplementary feeding programme which supports moderately undernourished children without complications is followed by providing the supplement of energy and nutrients as a dry-take-home ration every month. The available food item is Thripasha® or any food recommended by the Ministry of Health for MAM children. A supplementary food should have a calorie density of 350 – 500 Kcal/100g and provide 350 – 500 kcal per child per day in addition to the calories provided by the three main meals. Supplementary food is provided as 2–3 snacks in between main meals. Follow up visits are arranged every month to obtain supplementary food. The supplementary food is continued according to the national protocol till the child is $>-2SD$ weight-for-height and remains above $-2SD$ for another 2 months to maintain in that level with an upward trend towards $-1SD$. The child is discharged from supplementary feeding programme when the child reaches $>-2SD$ and remains above $-2SD$ maintaining an upward trend towards $-1SD$ for another 2 months. It is essential to provide age-appropriate dietary counselling to mothers / caregivers on infant and young child feeding so that the dietary pattern of the child is corrected along with food supplementation.

On discharge, the family is taught to provide energy and nutrient dense food as appropriate for age, i.e., 2–3 main meals per day with nutritious snacks in between twice daily. They are also given education to prevent and manage diarrhoea. If required, they are referred to relevant authorities to provide help in food security activities like support in agriculture, access to the market or micro-credit initiatives.



8. RECORDING, REPORTING AND MANAGEMENT OF INFORMATION SYSTEM

Health Management Information System is being used in the country.

8.1. Recording and Reporting

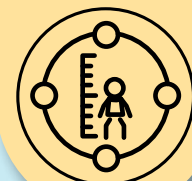
A Child's NRP card (pink colour card) is issued to all children from the point of referral like MOH clinic. This card enables direct access to the hospital nutrition clinic /paediatric clinic for management of severe acute under nutrition. Nutrition Rehabilitation Program Register is maintained in the treatment centre which can be in the hospital nutrition clinic or paediatric ward or paediatric clinic. A monthly feedback summary form is prepared by each treatment centre in triplicate i.e., unit copy, RDHS

copy and FHB copy, and are send regularly every month to RDHS and FHB.

The records, registers and formats are supplied by the Family Health Bureau directly to the line ministry institutions and through medical officers of maternal and child health (MOMCH) of the district to the hospitals that come under the provincial system.



Photo: WSWS



9. PREVENTION OF ACUTE MALNUTRITION – SAM AND MAM

Other parallel programs contributing to prevention and management of acute malnutrition

11. Micronutrient supplementation programs for young children:

The following micronutrient supplementation interventions are being implemented island wide:

Vitamin A high-dose supplementation: Vitamin A is an essential micronutrient that helps in maintaining healthy vision, growth, and development of a child. The program has been designed for infants and children ages 6–59 months, who are given a vitamin A mega dose every six months. Currently,

the coverage of vitamin A supplementation is 86.1 percent at 18 months and 92.9 percent at 3 years.

MMN supplementation: Iron is an important micronutrient for a child's brain development and for transportation of oxygen to the body tissues. Globally, IDA is a major public health concern. In Sri Lanka, MMN is given to children at the age of 6, 12, and 18 months on a daily basis for two consecutive months as a means to prevent anaemia.

Zinc supplementation: It is given for managing diarrhoea along with oral rehydration solution (ORS) among children under five years of age. According to the current MoH protocols, all children with diarrhoea are given zinc tablets for 10–14 days from the onset of diarrhoea.



2. Infant and young child feeding and care in the first two years of life
3. School health program
4. School meal program
5. Preschool meal program

Following the same concept, Sri Lanka's preschool meal programs are also considered as nutrition-specific interventions. At present, there are two preschool meal programs: preschool meal program administered by the MWCA and 'Tikiri Shakthi', a high protein nutrient bar for the plantation sector children ages 3–5 years, administered by the Ministry of Hill Country New Villages, Infrastructure, and Community Development (MHC).

6. Blanket feeding and other routine programs: Based on the prevalence of wasting, food availability, and aggravating factors such as population displacements, the Ministry of Health, with the support of the WFP, implemented a blanket supplementary feeding program, in addition to the general ration, for all

children 6 to 59 months of age. Corn-soya blend (CSB) provided by the WFP was used for blanket feeding as a take home ration. The daily ration size for each child was 50 g, which provided 190 kcal per day.



Photo: srilankabrief



10. ENABLERS

Policy support and National Nutrition Secretariat of Sri Lanka at the Presidential Secretariat, Ownership and leadership by the Ministry of Health and UN support (UNICEF) are the major driving forces of the program.

Measuring weight and height or length was not a new procedure for the health workers, because they were already making these measurements as part of the routine growth monitoring process. The Ministry of Health has an inbuilt system for growth monitoring and distribution of supplementary food. Hence, it was feasible to use the same system as part of the Nutrition Rehabilitation Program. It ensured that those children discharged from therapeutic foods would continue with HEBs in addition to CSB and Thripasha. Since the distribution channels were the same (clinic and weighing posts), the program could function successfully. Other major enablers were

availability of infrastructure and technical expertise, well established preventive healthcare structure with a trained group of health workers, Island wide network of hospitals with Pediatricians & Nutrition clinics being established in curative sector and Postgraduate training in Human Nutrition. High literacy rate and female empowerment formed a major support.



Photo: World Food Programme



11. KEY LEARNINGS

RUTF is important to bring out child from the critical situation, however, it is a short-term intervention and there should be more focus on strengthening primary prevention. Monitoring growth faltering, feeding during illness and Complementary Feeding during 6–12 months are crucial. For preventing relapses – on recovery with RUTF hand in hand IYCF counselling for dietary behaviour change is a must. Referrals from the field needs to be prompt and systematic. Prescription by paediatrician minimizes misuse. There is a need of monitoring individual child progress, in order to ensure improvement and regular follow up at MOH clinic to prevent relapse. Referral back to MOH clinic for supplementation and dietary behaviour change is also effective.





12. CHALLENGES AND LIMITATIONS

Challenges include primary prevention to reduce SAM burden i.e., reduce new cases and relapses and secondary prevention with RUTF. Procurement of RUTF is one of the major challenges as it had issues like high cost, funding, distribution chain. Other barriers include coverage (effective coverage 10.5%) and referral, adherence to national guidelines and protocols by health staff.

Since severe clinical forms like kwashiorkor and marasmus are not present, SAM as a condition requiring treatment is not been perceived. Field follow up to detect defaulters and ensure compliance is a difficult task. Issues with monitoring involve record keeping and submitting returns. Acceptability and misuse of RUTF is another important challenge.





Photo: World Food Programme

13. CONCLUSION AND LEARNINGS FROM IMAM SRI LANKA

The overall objective of the IMAM is to improve the nutritional status of children with SAM and MAM through hospital care (both outpatient and inpatient) and follow up in the community thereafter and bring down the burden of malnutrition in the country. However at present, the coverage of services is suboptimal as inpatient and outpatient care and treatment services are currently available only at the district hospital level and above. The service coverage is still limited because of low demand of services from the population, lack of active case identification, and poor geographical access to services in some provinces. Lastly, there are no data available on the performance of existing services to treat SAM/MAM (for example, coverage and treatment outcomes), making it difficult to assess whether children are being reached and successfully treated. Outpatient

care for severe wasting without medical complications has not been decentralized to the divisional hospitals in line with other primary health care interventions that are provided at the lower levels of the district health system.

Well-defined protocols and guidelines for management of SAM and MAM are available. This ensures a comprehensive package of services for both SAM and MAM that ensures that the malnourished children are managed at an early state before the complication worsens and also reduce the number of SAM and MAM. The other appreciable initiative is locally produced nutrient dense foods BP 100 and Thripasha dedicated for treatment of SAM and MAM. The products are designed to meet the additional requirements of SAM and MAM children.



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The Coalition for Food and Nutrition Security (CFNS)



B-40, NRPC Colony, Block- B, Qutab Institutional Area, New Delhi - 110016



011-41058548



info@nutritioncoalition.org.in



<http://www.nutritioncoalition.org.in/>

find us on:



@coalition_2021



@Cfns Delhi (The Coalition)



@The Coalition for Food and Nutrition Security



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