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TRANSFORMING **CHILD NUTRITION**

**STATE-LEVEL APPROACHES AND PRACTICES FOR
COMMUNITY-BASED COMPREHENSIVE CARE AND
MANAGEMENT OF ACUTE MALNUTRITION**



Transforming Child Nutrition: State-Level Approaches and Practices for Community-Based Comprehensive Care and Management of Acute Malnutrition

Publisher:

NITI Aayog

Government of India, Sansad Marg, New Delhi-110001, India

Year of Publication: 2023

Language: English

ISBN: 978-81-956821-7-1

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The document titled “Transforming Child Nutrition: State-Level Approaches and Practices for Community-Based Comprehensive Care and Management of Acute Malnutrition” relies on secondary sources and information obtained from the Department of Women and Child Development of various States. NITI Aayog wishes to emphasize that while every effort has been made to present accurate and up-to-date data, NITI Aayog does not guarantee the accuracy of the information and does not accept responsibility for the consequences of using this data.

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FOREWORD

Nutrition has a profound impact on a country's human capital as it directly influences both physical and cognitive development. Optimum nutrition is linked to better learning outcomes, higher productivity and economic growth. Improving nutritional outcomes among children under five years of age is especially critical for harnessing India's demographic dividend and laying a solid foundation for Viksit Bharat @ 2047.

While considerable progress has been made, reducing the prevalence of wasting in children across states, together with action on other health and nutrition indicators, remains a key policy priority. It is imperative to take strong steps for preventing and reducing the burden of malnutrition through sustainable, community-based interventions.

Recently, the Ministry of Women and Child Development has launched the Protocol for Management of Malnutrition in Children. Many states have successfully implemented community-based programs for managing acute malnutrition by developing their own guidelines. States that have initiated their own programs focus on strengthening last-mile delivery of key services. The emphasis of such guidelines and programs is on improving adherence to standard operating protocols, augmenting the skills of frontline workers, ensuring adequate supplies, enhancing data quality, and enforcing regular monitoring mechanisms.

The collaboration between NITI Aayog and UNICEF has yielded this comprehensive report that compiles good practices on community-based management of acute malnutrition from across the country.

I hope that this document will aid States/UTs in refining their community-based programs for management of acute malnutrition. The tried-and-tested solutions documented in this report provide an opportunity for cross-learning and addressing shared challenges, across varying local contexts. By implementing these practices at scale, India can take significant strides towards ensuring a healthier and more prosperous future for its children.

Suman Bery







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FOREWORD

Malnutrition is one of the significant public health concerns affecting the population across the country. Undernutrition among children under 5 years of age is associated with cognitive impairment, impaired physical growth, and increased risk of infections and morbidity.

Community-based management of acute malnutrition has proven to be highly effective in addressing the issue of acute malnutrition. Evidence shows that about 80 percent of children with severe acute malnutrition can be treated at home. Therefore, providing these children with prompt care and treatment is essential.

Community-based management of acute malnutrition uses key strategies such as community mobilization and awareness, regular screening and identification of children, use of nutrient-dense food, medical management, health, and nutritional counselling, regular follow-ups of children, regular monitoring and reporting, engagement of multiple stakeholders, timely capacity building of health workers with special focus on low-birth-weight babies. Intensification of the above-mentioned strategies and building strong linkages among different stakeholders are crucial to ensure that beneficiaries receive a comprehensive package of services essential for the prevention and management of malnutrition.

The report "Transforming Child Nutrition: State-Level Approaches and Practices for Community-Based Comprehensive Care and Management of Acute Malnutrition" provides valuable insights drawn from different States for enhancing program coverage and achieving better outcomes by State governments.

Vinod Paul



एक कदम स्वच्छता की ओर



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MESSAGE

Good nutrition is paramount for enhancing social capital and economic productivity of a country. Children who suffer from malnutrition face obstacles in their physical and cognitive development, hindering their ability to learn and thrive. An action-oriented approach is imperative to establish a comprehensive care continuum that tackles malnutrition, especially at the community level.

In alignment with our unwavering commitment to provide nutrition, the government has introduced Poshan 2.0 guidelines, emphasizing the management of moderate and severe malnutrition. States are encouraged to adopt community-based strategies for the successful execution of these guidelines. Many states have developed their own community-based management of acute malnutrition guidelines and Ministry of Women and Child Development has also developed the protocol for the management of malnutrition in children at the community level.

To enhance program effectiveness, it is crucial to comprehend the insights, best practices, and challenges derived from state experiences. This comprehensive report delves into key thematic areas crucial for the community-based management of acute malnutrition. It commences with community mobilization and awareness, emphasizing the importance of timely growth monitoring and intervention. Quality services, including nutritional, medical management, and education, are underscored, with frontline worker skills and product supply identified as integral components. The report also meticulously outlines the establishment of recording, reporting, and monitoring mechanisms and the need for continuous capacity building.

I am confident that this report will serve as an important guidebook for policymakers and administrators of States and Union Territories. By adopting the practices outlined in the thematic areas, they can strengthen their efforts in combating malnutrition within their jurisdictions. It is my sincere hope that the insights, state practices, and challenges presented in this report will contribute significantly to our collective mission of building a malnutrition-free and healthier Bharat.

[B.V.R. Subrahmanyam]





MESSAGE

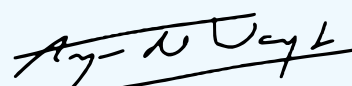
Optimum nutrition and adequate care during early childhood is critical to ensure good health, growth, and development of children. To achieve nutrition and development outcomes, it is critical to strengthen coverage, continuity, intensity, and quality of evidence based high impact Health, Nutrition and WASH interventions via health, ICDS, Food and other systems and, across the continuum of care (from facility to community) during the most critical life stage (1000-days window of opportunity – from conception to the age of 2 years old).

As the growth and development potential in childhood is tremendous, any deficit in care and nutrition during this period can adversely affect the immunity of the child making them prone to diseases that ultimately leads to increased risk of mortality and morbidity. Severe acute malnutrition (SAM) among children is a life-threatening form of malnutrition resulting from inadequate feeding and / or repeated illnesses. Government of India is committed to address prevent and manage SAM. Recently released guidelines from Ministry of WCD states that Poshan 2.0 shall focus on Maternal Nutrition, Infant and Young Child Feeding Norms, Treatment of MAM/SAM, and Wellness through AYUSH. It encourages states to implement community-based approaches for prevention, identification, and care of acute malnutrition.

Many state governments have developed guidelines and initiated implementation of integrated services for children with SAM linking growth monitoring and promotion to identify children with MAM and SAM and linking them with facility and community-based care through the functionaries of Department of Women and Child Development (DWCD) in collaboration with the Department of Health and Family Welfare (DHFV). The states are providing an integrated package of prevention, identification and care services for children with SAM, which includes screening of children for wasting and medical complications; care for children with MAM and prevention of SAM among them; referral to facility-based care if any medical complications; for uncomplicated children with SAM - provision of antibiotic, de-worming, multivitamin, IFA at community level; and locally available nutrient dense food; discharge on achieving target weight and referral if the child develops any complication.

Since 2020, the world has been dealing with the COVID-19 pandemic, with an unprecedented public health crisis that affected the health and nutrition care service delivery across the country. Despite this, states have innovated and modified the components of the program to maintain continuity and in several cases even expansion of the health and nutrition services to the most nutrition vulnerable children.

In order to further strengthen the programs, it is important to understand the learnings, best practices and challenges from the state experiences. NITI Aayog led the process of documenting the experiences through this thematic compendium on identification, prevention, and community-based care of children with acute malnutrition, with support of UNICEF and National Centre of Excellence on care of children with SAM (C-SAM) - Kalawati Saran Children's Hospital and state level centers of excellence. This document summarizes key learning from several states of India on thematic areas of the program and serves to inspire and guide other states to adopt the experiences. As the number of children with SAM



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ACKNOWLEDGEMENT

We extend our heartfelt gratitude to the Ministry of Women and Child Development and the Ministry of Health and Family Welfare for their valuable contributions in enriching this document through their insightful comments and inputs. Their expertise has been instrumental in shaping the content and enhancing its impact.

We would also like to express our sincere appreciation to the State Government officials of the Women and Child Development departments who generously shared their innovative practices. Their contributions have been invaluable in showcasing effective strategies for managing acute malnutrition at the community level.

Our gratitude also goes to the UNICEF state teams for their unwavering support in facilitating responses from the states and providing essential insights throughout the process.

The National Center of Excellence for Management of Severe Acute Malnutrition (NCoESAM), Kalawati Saran Children's Hospital, New Delhi, has played a significant role in enhancing this document. We are immensely thankful to Dr. Praveen Kumar, Dr. Rajesh Sinha, Ms. Shristi Arora and Ms. Shikha Sayal from the National Centre of Excellence for their valuable inputs.

Special thanks are extended to Dr. Rakesh Sarwal, former Additional Secretary, NITI Aayog, for his invaluable comments and feedback during the preparation of this document. His guidance has been crucial in ensuring the document's comprehensiveness and relevance.

We also acknowledge the efforts of Ms. Sumana Arora, Senior Consultant, Ms. Urvashi Prasad, Director, and Dr. Aakriti Gupta, Associate, NITI Aayog, for editorial assistance, which has greatly contributed to the document's clarity and coherence.

ACRONYMS

AD – Additional Director

AIIMS – All India Institute of Medical Sciences

AMMA – Acute Malnutrition Management Action

ANM – Auxiliary Nurse Midwife

ASHA – Accredited Social Health Worker

AWC – Anganwadi Centre

AWT – Anganwadi Teacher

AWW – Anganwadi Worker

VO – Village Organization

BCM – Block Child Manager

BD – Twice a day

BPPP – Baal Poshan Pragati Patrak

CAS – Common Application Software

CBEs – Community Based Events

CDPO – Child Development Project Officer

CGHA – Community Gender & Health Activists

CHC – Community Health Center

CMAM – Community-Based Management of Acute Malnutrition

CC-SAM – Community based Management of Children with Severe Acute Malnutrition

CMHO – Chief Medical & Health Officer

CSO – Civil Society Organization

DD – Deputy Director

DEIC – District Early Identification Center

DM - District Magistrate

DoHFW – Department of Health and Family Welfare

DPO – District Project Officer

DSWO – District Social Welfare Office

DWCD – Department of Women and Child Development

DRPCA – Dr. Rajendra Prasad Central Agricultural University

ECCE – Early Childhood Care and Education

ECD – Early Childhood Development

FLWs – Field Level Workers

GMD – Growth Monitoring Devices

GMP – Growth Monitoring and Promotion

GOM – Government of Maharashtra

GMSH – Government Multi Specialty Hospital

GMERS – Gujarat Medical Education and Research Society

GMSCL – Gujarat Medical Services Corporation

GPDP – Gram Panchayat Development Plan

HBYC – Home-Based Care for Young Child Programme

HBNC – Home Based New Born Care

ICDS – Integrated Child Development Scheme

ICMR NIN – Indian Council of Medical Research – National Institute of Nutrition

IEC – Information Education Communications

IFA – Iron Folic Acid

ILA – Incremental Learning Approach

IMAM – Integrated Management of Acute Malnutrition

IMSAM – Integrated Management of Severe Acute Malnutrition

IVR – Interactive Voice Response

IYCF – Infant and Young Child Feeding

JD – Joint Director

JFMC – Joint Forest Management Committee

JSLPS – Jharkhand State livelihood Promotion Society

KSCH – Kalawati Saran Children’s Hospital

LHV – Lady Health Visitor

LS – Lady Supervisor

LBW – Low Birth Weight

MoWCD – Ministry of Women and Child Development

MAA – Mother’s Absolute Affection

MAM – Moderate Acute Malnutrition

MCHN – Maternal Child Health and Nutrition

MIS – Management Information System

MO – Medical Officer

MPR – Monthly Progress Report

MSSSKA - Mukhya Mantri Sustho Shaishob Sustho Kaishore Abhiyaan

MTC – Malnutrition Treatment Centre

MUAC – Mid-Upper Arm Circumference

NCoE-SAM – National Centre of Excellence for Management of Severe Acute Malnutrition

NFHS – National Health and Family Survey

NHE – Nutrition and Health Education

NHM – National Health Mission

NIPCCD – National Institute of Public Cooperation and Child Development

NNM – National Nutrition Mission

NNMB – National Nutrition Monitoring Bureau

NIN – National Institute of Nutrition

NRC – Nutrition Rehabilitation Centre

NRLM – National Rural Livelihood Mission

OD – Once Daily

ORS – Oral Rehydration Solution

PESA – Panchayat (Extension to Scheduled Areas)

PHC – Primary Health Center

PHD – Public Health Department

PMCC – The Performance Monitoring and Control Centre

PR – Public Relations

PRI – Panchayati Raj Institution

PSM – Preventive and Social Medicine

RBSK – Rashtriya Bal Swasthya Karyakram

RCH – Reproductive and Child Health

RCoENRRT – Regional Centre of Excellence for Nutritional Rehabilitation Resource & Training

RIMS – Rajendra Institute of Medical Sciences

RTE – Ready to Eat

SAAMAR – Strategic Action for Alleviation of Malnutrition and Anaemia Reduction

SAM – Severe Acute Malnutrition

SBCC – Social Behavior Change Communication

SCoE – State Centre of Excellence

SDM – Sub-Divisional Magistrate

SHGs – Self-Help Groups

SIHFW – State Institute of Health & Family Welfare

SNP – Supplementary Nutrition Programme

SNCU – Special Newborn Care Unit

SSFP – Supervised Supplementary Feeding Programme

SUW – Severe Underweight

THR – Take-Home Ration

TOT – Training of Trainers

UNICEF – United Nations Children’s Fund

U6M – Under 6 Months

VCDC – Village Child Development Center

VHSNC – Village Health Sanitation and Nutrition Committee

VHSND – Village Health, Sanitation and Nutrition Day

WASH – Water, Sanitation and Hygiene

WCD – Women and Child Development

WHO – World Health Organization



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Executive Summary

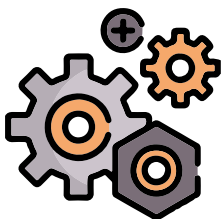
Malnutrition is a major public health concern in the country. To address the issue of acute malnutrition among children under 5 years of age, integrated prevention and treatment approaches are critical to be implemented through community- and facility-based management systems. Facility-based management programme is already in place through functional Nutrition Rehabilitation Centers (NRCs) as per the national guidelines issued by the Ministry of Health and Family Welfare, Government of India. A protocol for management of malnutrition in children has been released by the Ministry of Women and Child Development.

The community-based programme for management of acute malnutrition is being implemented in several states following the development of state-specific guidelines. There is a need to strengthen the services delivered to children with Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM) by increasing coverage, standardizing protocols and improving adherence, enhancing the knowledge and skills of frontline functionaries, ensuring adequate supplies, boosting data quality and enforcing regular monitoring mechanisms.

For successful programme implementation and its scale-up, the key thematic components are - community mobilization, screening/identification, appetite test, medical management, nutritional management, nutritional and health education, recording and reporting, monitoring, multisectoral engagement and capacity building.

The practices under community mobilization cover a range of Information Education Communications (IEC) activities such as community meetings, media engagement, social audits, rallies, wall paintings and food-related games, among others. These activities help Anganwadi Workers (AWWs), Accredited Social Health Workers (ASHAs), Auxiliary Nurse Midwives (ANMs) and Anganwadi Services Supervisors to interact with the community and families, thereby building a relationship with them and encouraging their participation in the programme.

Early screening and identification of malnutrition among infants and young children are instrumental to the programme. Various states have adopted innovative methods to screen children under the CMAM programme through multiple screening modes, including monthly door-to-door screening, the constitution of a special team for screening and enrollment and fixed days for routine growth monitoring and identification.



For successful programme implementation and its scale-up, the key thematic components are - **community mobilization, screening/identification, appetite test, medical management, nutritional management, nutritional and health education, recording and reporting, monitoring, multisectoral engagement and capacity building.**

SAM and MAM children without medical complications can be treated at the community level using medicines and supplements as per Integrated Management of Neonatal and Childhood Illness (IMNCI) protocols. In most states, health team comprising of ANMs or doctors conduct a medical assessment of children identified with SAM.

The nutritional needs of SAM and MAM children differ from those of normally nourished children in terms of energy density, quantity, and feeding frequency. SAM and MAM children can take only a small amount of food at a time. Therefore, the food must be easily digestible, rich in energy and contain appropriate amount of proteins. Some states are focusing on strengthening targeted counselling to enhance home prepared food using locally available and culturally-appropriate food ingredients, while others have enhanced the routine THR, also tried to make provision as per the age and weight of the child. States have also tried energy-dense recipes where the recipe is provided only after approval of the recipe committee of districts, special provision of funds is made for the nutritional management of SAM and MAM children, and flexibility is given to AWWs for preparing recipes using locally available foods.

Children under the CMAM programme are frequently followed-up, and different activities are undertaken during follow-up visits. Most states have fixed duration of the follow-up visits at regular fixed intervals by frontline workers while the child is in the programme - and even after they are discharged from the programme - to prevent relapse and take timely action.

The strategies for nutrition and health education include interpersonal counselling during follow up as well as home visits using audio-visual aids and other printed IEC materials, or cooking demonstration at AWC.

The recording and reporting system allows for assessing the progress of CMAM programme. The states have developed tracking tools such as a management information system (MIS), an android-based application, for real-time data entry of enrolled children and for tracking all the parameters of children with SAM and MAM.



Monitoring and supervision are conducted to observe and check the

Details of logistics including equipment, THR and medicine supplies	Recording and reporting formats and quality of data recorded	Knowledge and skills of frontline functionaries or field-level workers (FLWs) on identification and classification of nutritional status	Services provided to enrolled children in CMAM programme	Outcome of the programme
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Regular monitoring of CMAM activities and review of data can also help in early identification of gaps.

The multisectoral involvement and capacity building is enabled by the active participation of Health and Family Welfare Department, with the lead role taken by the Department of Women and Child Development (in most states), to streamline CMAM implementation and avoid duplication of efforts.

At the time of COVID-19 restrictions, innovative strategies were adopted to ensure the continuity of service delivery while minimising the spread of infection. These included the organisation of virtual trainings of health functionaries in place of physical trainings to keep up the momentum, delivery of services (including food) at the doorsteps of beneficiaries when the Anganwadi centres were closed, and the use of Mid-Upper Arm Circumference (MUAC) in case of unavailability of growth monitoring devices.

State-specific practices documented here will serve as examples to help other states overcome the challenges and improve CMAM implementation at scale. This documentation will also support in planning and implementation of interventions for the management of under 6-months infants with early-growth faltering, at the community level, by ensuring home visits of Low-birth Weights (LBWs) under the Home-Based Care for Young Child Programme (HBYC) and Home Based New Born Care (HBNC) programmes and by providing special care to these infants and their mothers. Community participation fostered by awareness generation among key community members like families, PRIs, SHGs and village leaders through individual and group counselling sessions using IEC tools, growth charts, videos and counselling flipbooks, has been highlighted. Tools and practices for real-time data monitoring and tracking for improved screening outcomes have also been shared. Efforts towards decreasing undernutrition prevalence are sustained by focusing on preventive approaches such as by promoting better infant and young child feeding practices and WASH conditions to reduce childhood infections.

The practices and learning outlined in this document can be taken up by state governments to leverage and strengthen the existing services. It will also provide an opportunity for cross-learning and help state governments mitigate potential challenges by implementing tried-and-tested solutions from other states. The purpose of this document is to strengthen implementation of community based integrated approach for prevention and management of childhood wasting, increase the coverage, ensure better outcomes, and hence reduce the prevalence of undernutrition in the country.



1

Backgrounds

Malnutrition results from inadequate consumption of food, inappropriate feeding practices, illnesses like diarrhoea, pneumonia etc., and poor sanitation, and inadequate hygiene

- A low-birth-weight infant is at high risk of undernutrition.
- If adequate quantity of food containing appropriate amount of nutrients is not consumed for an extended period, the child will become undernourished gradually.
- Illnesses like diarrhoea can cause excessive loss of nutrients from a child's body, which might lead to making the child malnourished.
- Acute Respiratory Infection also badly impacts the nutritional status of a child.

Types of undernutrition: Generally, the three indicators, namely weight-for-age, height/length-for-age, and weight-for-height/length are used to identify three undernutrition conditions viz. underweight, stunting and wasting respectively (Figure 1).

Figure 1: Types of undernutrition



Underweight

Underweight condition can result from either chronic or acute malnutrition, or both. An underweight child has a weight-for-age Z score of (-2SD) below the median for the World Health Organization (WHO) Child Growth Standards. According to WHO standard, a child is considered moderately underweight when its weight-for-age Z-score falls between -2 and -3 SD, and severely underweight when weight-for-age Z-score falls less than -3 SD.

Stunting

Failure to achieve expected height/length as compared to a healthy, well-nourished child of the same age is a sign of stunting. Stunting is an indicator of linear growth retardation and chronic growth failure. It is associated with a number of long-term factors including chronic insufficient nutrient intake, frequent infection, inappropriate feeding practices and poverty. A stunted child has a height-for-age Z score that is at least two standard deviations (-2SD) below the median for the WHO Child Growth Standards.

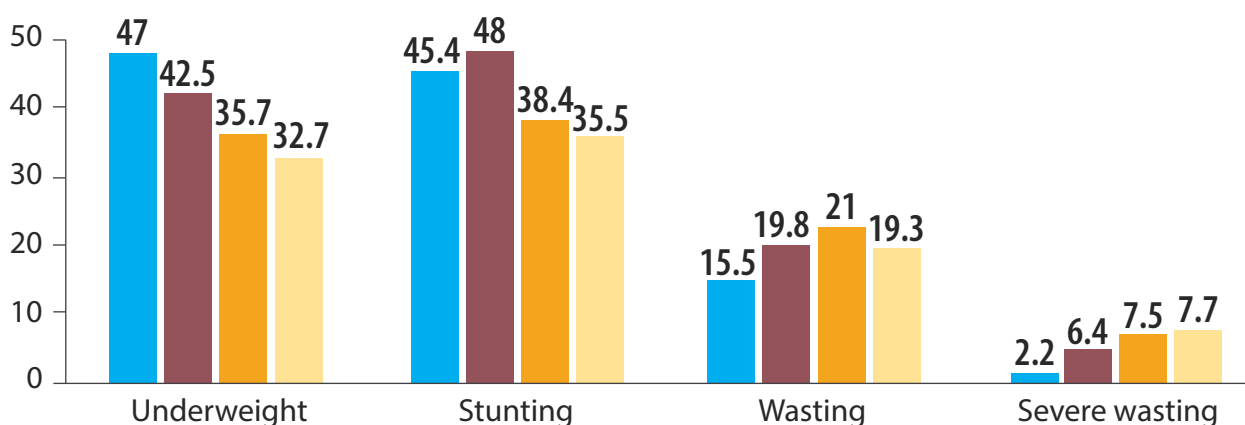


Wasting

It is acute malnutrition resulting from either failure to gain weight or from actual weight loss. Wasting in individual child and population groups can change rapidly and show marked seasonal patterns, since it is very sensitive to changes in food availability or disease prevalence. A wasted child has a weight-for-height/length Z score at least two standard deviations (-2 SD) below the median for the WHO Child Growth Standards.

As per the National Family Health Survey (NFHS-5) 2019-21, the prevalence of stunting (35.5%), underweight (32.1%), wasting (19.3%), and severe wasting (7.7%) remains very high among children under 5 years (U5) of age (Figure 2). Although a decline in undernutrition from NFHS-2, 3, 4 to NFHS-5 has been witnessed, the progress seems to be very slow.

Figure 2: Trends in prevalence of different forms of child undernutrition in India



In 2006, WHO released new growth standards for children aged 0-5 years, which inform all WHO definitions and estimates of malnutrition. Accordingly, acute malnutrition can be classified into two categories viz. Moderate Acute Malnutrition (MAM) and Severe Acute Malnutrition (SAM).

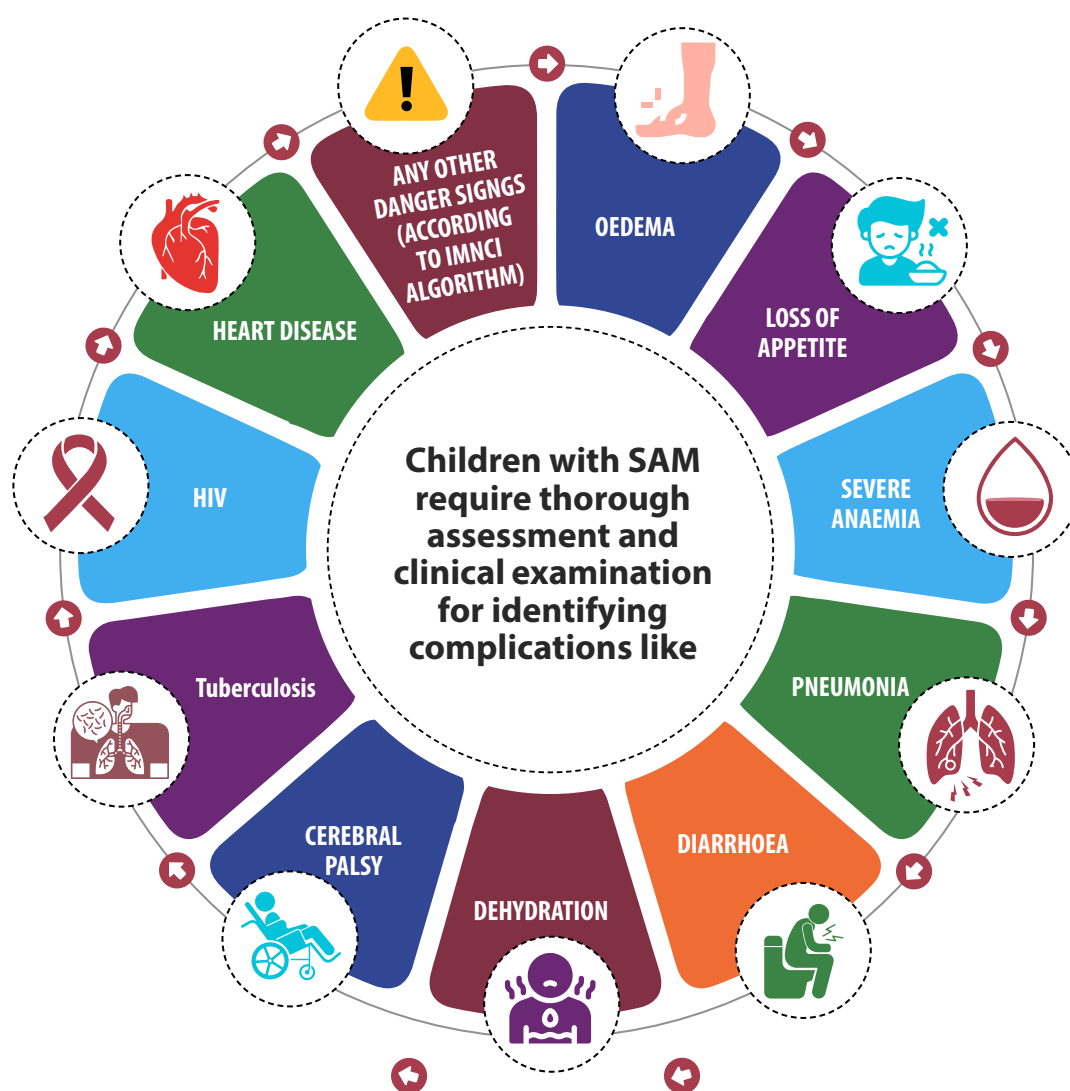
Moderate Acute Malnutrition (MAM) (WHO, 2013) is defined by moderate wasting, i.e., weight-for-height/length (WFH) between -2 and -3 Z score (SD) or mid-upper-arm circumference (MUAC) between 11.5 cm to 12.5 cm for children 0-59 months. It makes up the greatest portion of malnourished children. It is, therefore, vital to intervene in children with moderate malnutrition at the community level before they slip into severe malnutrition and develop complications.

Severe Acute Malnutrition (SAM) (WHO, 2013) is when a child suffers severe wasting that may or may not be accompanied by swelling of the body due to fluid retention. It occurs when infants and children do not have adequate energy, proteins and micronutrients in their diet, combined with other health problems such as recurrent infections. For children 0-6 months, it is defined by weight-for-length (WFL) Z score below three standard deviations (-3SD) of the median WHO child growth standards and/or presence of bilateral pitting oedema (build-up of fluid in the body which causes the affected tissue to become swollen, could be generalized but commonly seen in the lower extremities first). For children 6-59 months, it is defined by weight-for-height/length (WFH) Z score below three standard deviations (-3SD) of the median WHO child growth standards and/or presence of bilateral pitting oedema and/or MUAC < 11.5 cm.

Children with SAM are at an increased risk of mortality due to common childhood illnesses since they have reduced immunity and a deranged metabolic system. Global evidence suggests that severely malnourished children contribute significantly to deaths in children under the age of five years.

Children with SAM require thorough assessment and clinical examination for identifying complications (Figure 3) like oedema, loss of appetite, severe anaemia, pneumonia, diarrhoea, dehydration, cerebral palsy, tuberculosis, HIV, and heart disease, and any other danger signs (according to IMNCI algorithm). If any of these are present, it is classified as SAM with medical complication, and the child is referred for inpatient management. If the child with SAM has no associated medical complication, it can be managed in the outpatient/community setting with care at home. Evidence shows that about 85-90% children with severe acute malnutrition do not have medical complications when they are identified early through active case-finding, or through sensitizing and mobilizing communities to access decentralized services themselves, and can be treated at home.

Figure 3: Assessment and clinical examination for identifying complications



It is important to recognise that malnutrition is preventable and treatable, and therefore, there is an urgent need to have mechanisms in place for early detection of growth faltering and for taking corrective measures before the child progresses to severe grades of malnutrition. Children who have already developed SAM require immediate curative care closer to their homes in the community settings to prevent further complications. However, children with SAM who have also developed medical complications need to be treated at the health facilities/NRCs.

1.1 Approaches for Management of Children with Acute Malnutrition

There are two approaches for management of children with acute malnutrition (Figures 4 and 5).

Figure 4: Two approaches for management of children with acute malnutrition

1

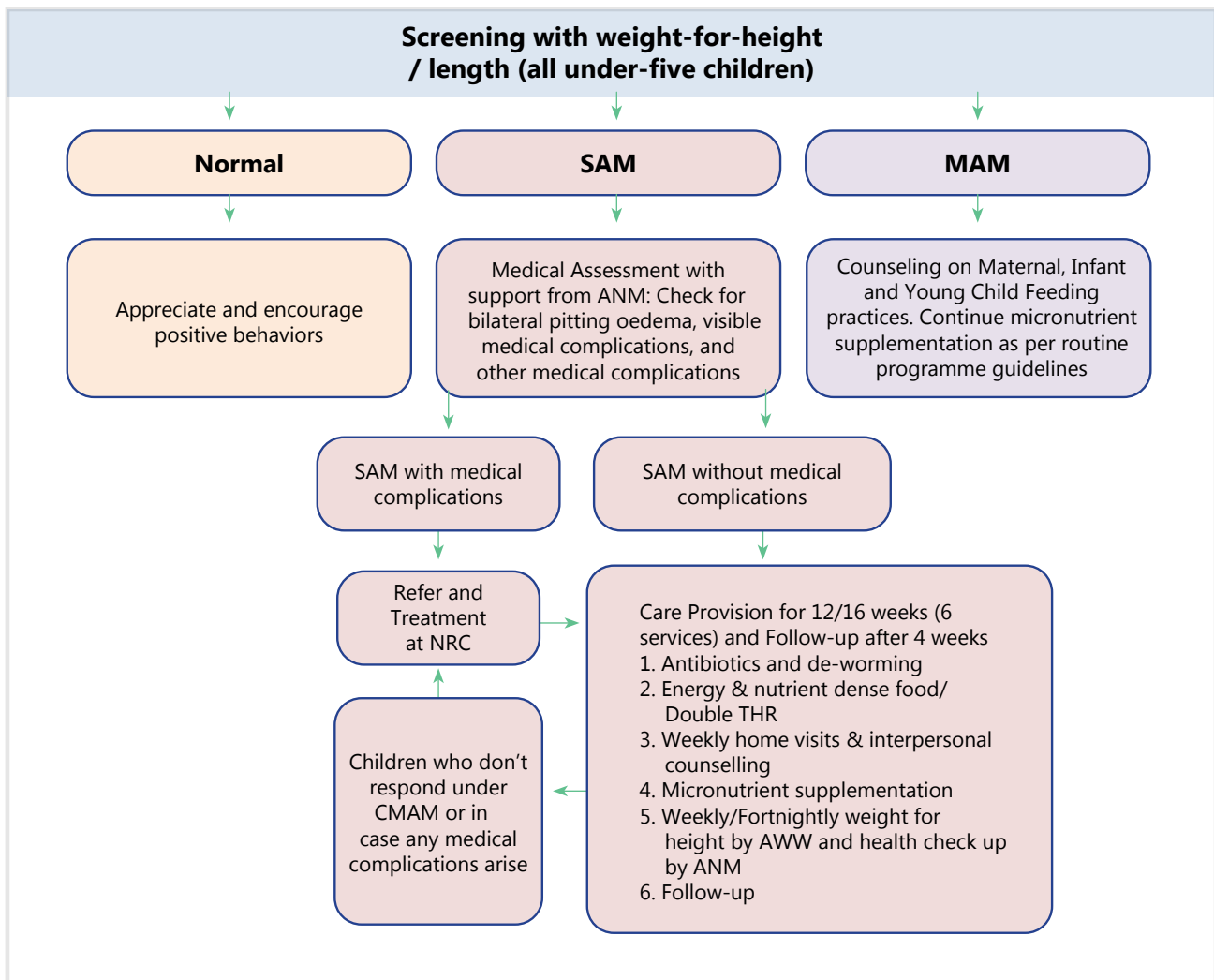
Inpatient or Facility-Based Management of Acute Malnutrition: Only about 10-15% children with SAM suffer from medical complications and require inpatient care. Inpatient management at NRCs is effective in reducing case fatality rates. NRCs have already been established in many states to provide specialised care, while other states are in the process of setting them up or integrating the protocols in the existing paediatrics care.

2

Community-Based Management of Acute Malnutrition (CMAM): The majority of severely malnourished children who do not have medical complications can be managed in the community setting. In addition, children discharged from the NRC can also continue to be cared for in the community setting after initial phase of stabilisation and onset of recovery phase. Community-based management is also important from another perspective. Under the best of circumstances, the NRCs will not be able to provide care to the entire case load of children with SAM in each district or state, as NRCs are meant for facility-based management of the SAM children with medical complications only. Inability of the caregivers to stay in the NRC for a considerable period till the child is on the way to recovery is also a reason for incomplete treatment/recovery of admitted children in NRCs. There is, thus, a need to establish continuum of care at the community level. Community-based care will complement the services delivered through NRCs. This will create scope for most children with SAM to be provided with care in the community setting itself, thus reducing the load on resources and health facilities.



Figure 5: Approaches for management of children with acute malnutrition



1.2 Principles for Management of Children with Acute Malnutrition at Community Level

Community-based management is founded on the understanding that if children with MAM/SAM are identified in the early stages, then treatment can be provided at community level, thereby averting medical complications in these children. Community-based management, therefore, focuses on the timely detection and addressing of acute malnutrition in early stages, before the metabolic and immunological aspects become severe enough to warrant inpatient treatment.

The community-based care programme builds on the existing local capacity and resources of the Health and Anganwadi Services systems, providing easy access to services and making appropriate care available within the community setting as long as needed.

Community-based care is linked with facility-based care through referrals; children developing medical complications can be referred to a nearby health facility, for example, a Primary Health Center (PHC) or Community Health Center (CHC) with the availability of medical officers for further outpatient/inpatient care, and even NRCs, wherever available. Those discharged from NRCs are enrolled into the community-based programme for continuation of care and nutritional rehabilitation.

Community-Based Management of Acute Malnutrition (CMAM) is based on the principle that children should receive timely and appropriate care and assistance, especially if they are facing health risks (Figures 6 and 7). The core operating principles of CMAM are as follows.

Figure 6: Core operating principles of Community-Based Management of Acute Malnutrition

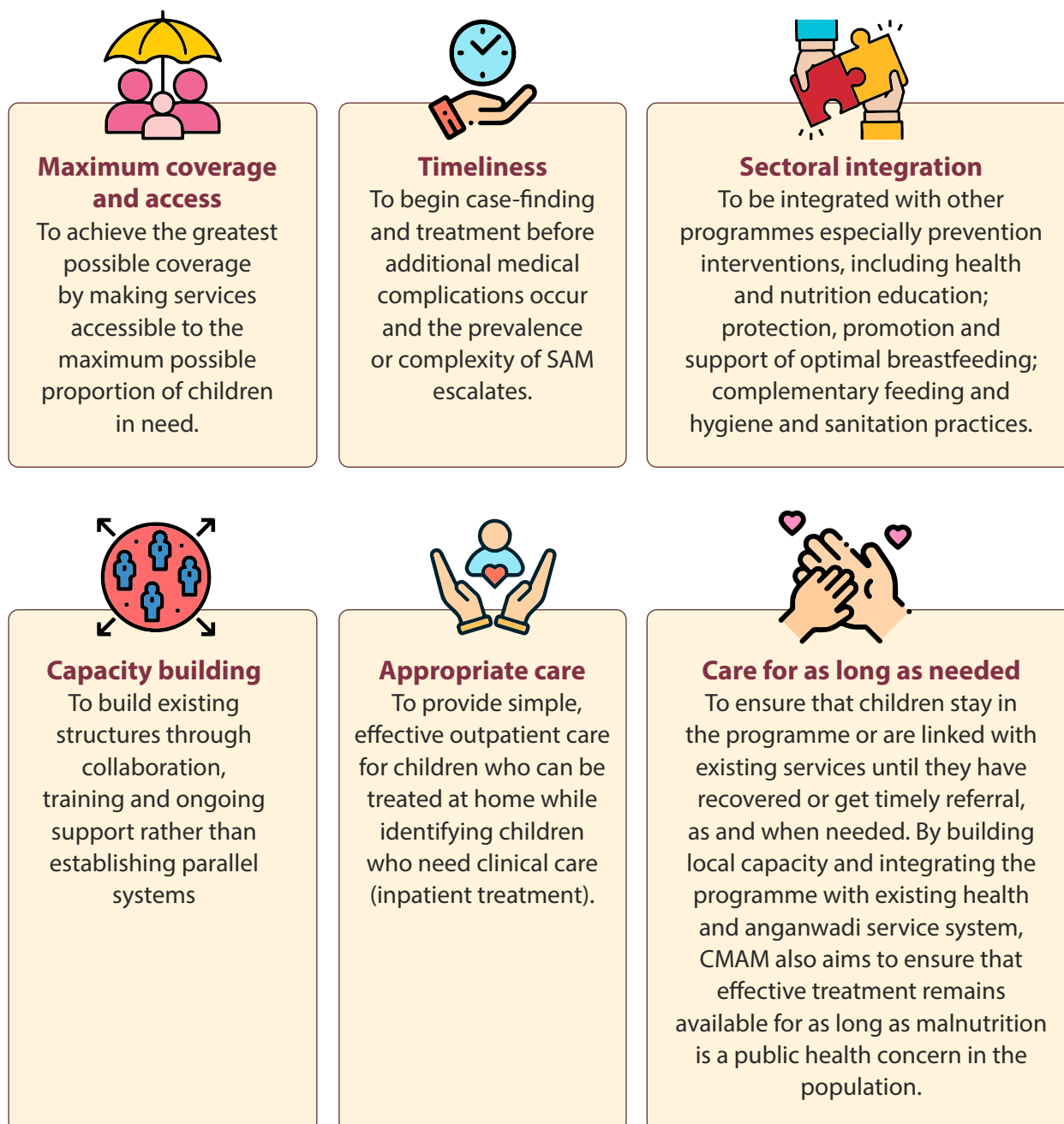
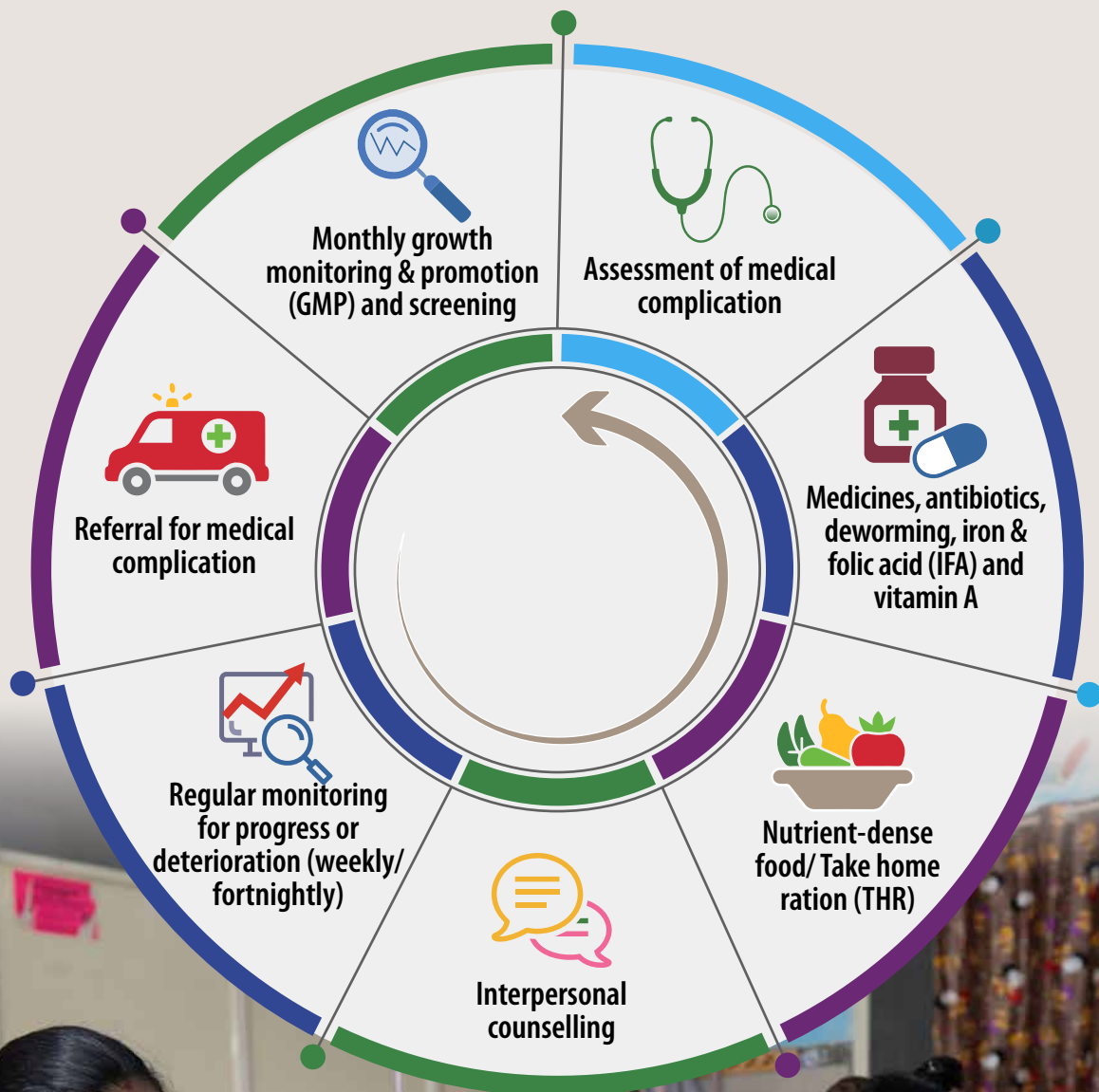


Figure 7: Comprehensive integrated package of services under community-based programme for children with severe wasting/growth faltering





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Thematic Areas for Community-Based Management of Acute Malnutrition

Thematic areas under Community-Based Management of Acute Malnutrition (CMAM) are categorised as follows (Figure 8)

Figure 8: Key thematic areas under CMAM Programme



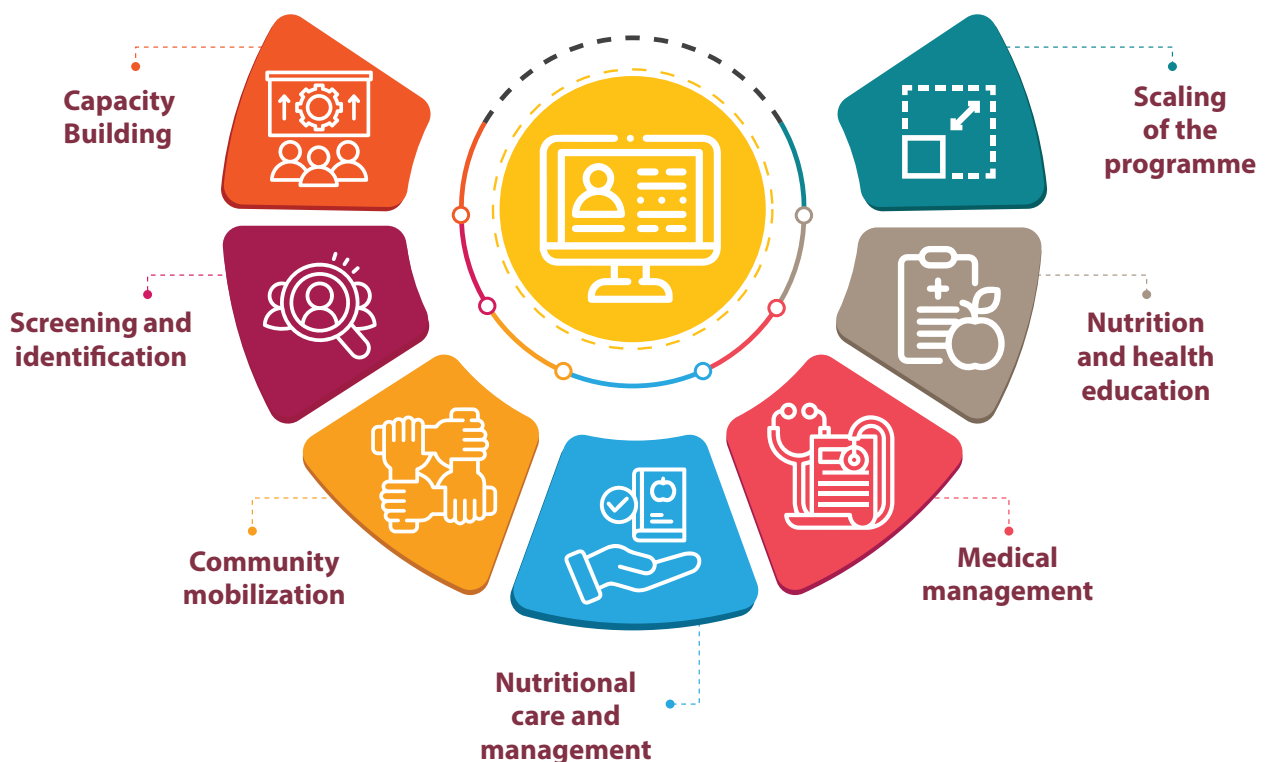


3

Methodology for Development of the Compendium

To understand the programme implementation approaches adopted by states, NITI Aayog reached out to state governments. A Google form was developed to capture different aspects of CMAM programme implemented by states, such as capacity building, screening and identification, community mobilization, nutritional care and management, medical management, nutrition and health education and scaling of the programme (Figure 9). Information on challenges faced, strategies to mitigate those challenges, and practices under each state’s respective CMAM programme were also captured through the Google form. The form was shared with nodal department of all the state governments within India, in December 2021. Information received from different states of India on the practices of CMAM has been collated in this document. The Google form used to capture the information is appended in Annexure 1.

Figure 9: CMAM programme implementation approaches





4

Status of CMAM Implementation in India

As per the information received from the states, CMAM programme is operational in different states by different names, varying with regards to its scale of implementation and salient features. State-wide implementation of the CMAM programme has been reported by Assam, Bihar, Chandigarh, Chhattisgarh, Gujarat, Haryana, Maharashtra, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Telangana, Uttar Pradesh and Meghalaya. In other states, it has been implemented on a smaller scale catering to few districts (Figure 10). Details of CMAM implementation in several states of India is summarized in Table 1.

Figure 10: Status of implementation of CMAM programme across India



Table 1: Status of Implementation of CMAM Programme in India

S. No.	State	State-wide implementation	Scale of implementation of CMAM programme	Name of the district(s)	Title of the CMAM programme in the state
1	Assam	Yes	State-wide	All districts	Community Based Program for Children with Severe Acute Malnutrition (CP-SAM)
2	Bihar	No	6 districts	Purnea, Araria, Begusarai, Katihar, Sheikhpura, Sitamarhi	Samvardhan: Comprehensive Health and Nutrition Interventions for Community Care of SAM
3	Chandigarh	No	4 high risk areas	Bapu dham colony (East), Hallomajra (West), Dhanas (North), Maloya (South)	Chatur Dishai Poshan on Wheels
4	Chhattisgarh	Yes	State-wide in phased manner	17 districts in first phase: Durg, Mohla-Manpur-Ambagadh Chowki, Mahasamund, Kanker, Kondagaon, Bastar, Bijapur, Dantewada, Narayanpur, Korba, Bilaspur, Raigarh, Surguja, Jashpur, Koriya, Kawardha (Kabirdham), Balrampur	Community Based Management for Children with Severe Acute Malnutrition (CC-SAM)
5	Gujarat	Yes	State-wide	All districts and 8 Corporations	Kuposhan Mukht Gujarat Maha Abhiyaan – Integrated management of Severe Acute Malnutrition
6	Haryana	Yes	State-wide	All districts	Strategy for Identification & tracking of SAM & MAM Children
7	Jharkhand	Yes	State-wide in phased manner	6 districts in first phase: West Singhbhum, Godda, Sahibganj, Simdega, Chatra, Latehar	Known as: » Johar Poshan in West Singhbhum district (launched on 31 st March 2021) » SAAMAR programme (launched on 29 th December 2021)

S. No.	State	State-wide implementation	Scale of implementation of CMAM programme	Name of the district(s)	Title of the CMAM programme in the state
8	Madhya Pradesh	Yes	State-wide	All districts	Mukhya Mantri Baal Aarogya Samvarshan Karyakram (IMAM - Integrated Management of Acute Malnutrition)
9	Maharashtra	Yes	State-wide	All districts	Village Child Development Center (VCDCs)
10	Odisha	Yes	State-wide	All districts	Community-Based Management of Acute Malnutrition (CMAM)
11	Rajasthan	Yes	State-wide in phased manner	Accelerated action in 20 priority districts: Udaipur, Dungarpur, Chittorgarh, Pratapgarh, Banswara, Rajasmand, Jodhpur, Jaisalmer, Jalore, Barmer, Pali, Sirohi, Jaipur, Tonk, Bundi, Baran, Karauli, Dholpur, Alwar, Bharatpur	Acute Malnutrition Management Action (AMMA) Programme
12	Telangana	Yes	State-wide	All districts	Supervised Supplementary Feeding Programme (SSFP)
13	Uttar Pradesh	Yes	State-wide	All districts	SAMBHAV
14	Meghalaya	Yes	State wise	All districts	Collaborative Actions to improve nutrition status of SAM and MAM children in Meghalaya





5

Thematic Areas on CMAM across India

5.1. Community mobilization for strengthening CMAM

For a successful CMAM programme, coverage is key. It is important to reach each and every child under five years of age. To ensure the best possible coverage, understanding of the community is crucial, as people have diverse educational and economic backgrounds. Laying the groundwork for CMAM requires a range of activities designed to help implementers interact with the community, especially families of SAM and MAM children.

It is crucial that the community is aware of the signs of malnutrition, the preventive and curative services available, and the process and the benefits of the services for children. Families of at-risk children should be encouraged to seek and continue appropriate care. A range of activities designed to help AWWs, ASHAs, ANMs and Anganwadi Services Supervisors interact with the community and families help build a relationship with them and foster their participation in the programme. The mobilisation process covers three activities: community sensitisation, follow-up and on-going sensitisation (Figure 11).

Figure 11: Stages in community mobilization process



Some of the creative and innovative community mobilization processes followed across different states of India are discussed in the section below:

5.1.1 Community mobilization through media and showcasing videos (Jharkhand)

i. In **Jharkhand**, the Information and Public Relations Department (IPRD) is involved in disseminating IEC messages.

- The Johar Poshan Van, with an LED screen, is leased by the district for 90 days @ Rs. 8000/day to showcase videos and spread awareness about malnutrition, breastfeeding and anaemia in the weekly haat bazaar, bus stand and public gathering areas. The district has a structured weekly route plan for LED vans to ensure all the areas are covered. The following films are being displayed through the LED van: Anemia Mukht Bharat (AMB) video, Mother's Absolute Affection (MAA) video, breastfeeding and nutrition videos, COVID precaution-related videos, Poshan Abhiyaan animation video and CMAM video, *Zindagi fir muskurayegi* (Figure 12).

Figure 12: Use of LED Van in Jharkhand for showcasing videos for spreading awareness



5.1.2 Mobilization through utilizing community platforms (Jharkhand, Maharashtra, Meghalaya)

i. In **Jharkhand**, platforms like the Village Health, Sanitation and Nutrition Day (VHSND) at the Anganwadi Centre (AWC), Ratri Chaupals (community meetings held at night), Gram Sabhas, and SHG meetings are being utilised by frontline workers to inform community members about the CMAM programme. Let's look at these closely:

- **Ratri Chaupal** meetings are organized in the evening for community awareness on nutrition issues including anaemia, dietary diversity and WASH practices, during which IEC materials, videos and LED vans are used. District-level officers also participate in these awareness meetings.
- **At the AWC level**, cooking demonstrations are organized by AWWs in groups of 10-15 women, focusing on enhancing dietary diversity using locally-available ingredients.
- Community-related issues are discussed by 20–25-gram *sangathan* women in SHG meetings held twice in a month. They use flip-books to share information about malnutrition with the community members. Under the Poshan Abhiyaan, regular sensitization activities are conducted. These include seminars and workshops undertaken during *Poshan Pakwada* and *Poshan Maah*, during the months of March and September respectively, for community mobilization.

- Dissemination media used include radio, TV, miking (subtitled) and hoardings. Coordination with the representatives of district- and block-level public relations department is being done for larger-scale dissemination and awareness generation (Figure 13).

Figure 13: Ratri chaupal: Community awareness through discussion on health and nutrition



ii. In **Maharashtra**, frontline functionaries and officers of Department of Women and Child Development (DWCD) and the Public Health Department (PHD) organize and participate in the following:

- Community-based events (CBEs), home visits and Growth Monitoring and Promotion (GMP) sessions.
- Other initiatives being undertaken in the state for community awareness include Mata Baithak (Mother's meeting), *Bal Kopra* (designated food corner at AWCs or at home), promotion of *Paras Bagh* (nutri-gardens to improve dietary diversity), and the *Muth Bhar Dhanya* (contribution of a fistful of grain) campaign.

iii. **Meghalaya** took the collaborative approach of involving the Self-Help Groups (SHGs) and Village Organisations (VOs) of the National Rural Livelihood Mission (NRLM) for community mobilisation.

- SHG members were mainly involved in the mobilization of women with children below 6 years of age, whereby such women are advised to take their children to the Anganwadi Centres for physical check-ups.
- Some of the SHGs and VOs were also trained by the Social Welfare Department (Women and Child Development) on the identification of SAM and MAM children. They were able to identify SAM and MAM children with the support of the ASHA, AWW and ANM.
- Based on the recommendation, the SHGs also took responsibility of transferring cases to the PHCs or CHCs. Apart from this, SHGs were also involved in awareness programmes, rallies, and other programmes during the Poshan Maah celebrations.

Furthermore, during visits, community-based events and VHSNDs, the SHGs/VOs push malnutrition as a special agenda to be discussed during the meeting. The SHGs/VOs and AWWs were instrumental in mobilizing parents, especially mothers, to encourage weighing and monitoring their children's health status on a regular basis.

The initiatives have led to increased awareness, ownership, and participation among community members and greater utilization of available services and platforms by the family for children.

5.1.3 Community mobilization through participatory learning approach, involvement of local bodies and use of IEC tools (Madhya Pradesh)

- i. In **Madhya Pradesh**, mobilization is strengthened by the convergence between concerned departments at the village level through different initiatives:
 - **Sanjhi Sehat:** Participatory Learning and Action (PLA) to empower women's groups to improve feeding practices. The PLA approach encourages community to identify and take ownership of their children's health concerns. This is executed in a series of meetings conducted by trained frontline workers who encourage community members to participate, interact and learn by utilizing visual tools and interactive games.
 - **Poshan Sarkar:** Participation and leadership of local bodies/gram panchayats and urban bodies in the nutrition campaign innovations.
 - **Poshan Matka:** Community members contribute nutritious, locally available grains/vegetables/fruits for malnourished children in their community.
 - **Poshan Mitra:** Local people/officers of different departments take responsibility for improving the nutritional status of the children.
- ii. Community-based Information Education Communications (IEC) tools like community growth chart (wasting-based) are used effectively on village immunization days to create awareness among community members. It was used to show the nutritional status of SAM/MAM children to their mother/caretaker and to demonstrate in the individual and group counselling sessions.
- iii. A convergent action plan for every village was prepared for the orientation of the members of VHSNC, Joint Forest Management Committee (JFMCs), Sahyognin Matra Samiti (SMS) and other local committees on the prevalence of malnutrition, its underlying and immediate causes, and community responsibility and ownership to address it.
- iv. Orientation of VHSNCs, Panchayati Raj Institution (PRI) and local committee members was also done to build their capacity, thereby increasing their engagement in local nutrition governance.

The initiatives of convergence of different departments have led to greater mobilization, improved participation, and more empowerment among women's groups to identify SAM and MAM children.

5.1.4 Community mobilization through innovative activities (Bihar)

The AWWs, ASHA and ANM organized community outreach meetings, supported by village leaders, Panchayati Raj Institution (PRI) members and other village resource persons to share information and experience with the village leaders and the community members about CMAM programme prior to its launch. The purpose of the meetings was community sensitization; to create understanding, to communicate importance of their participation and to own the programme. Subsequent meetings were held once a month on the occasion of VHSND or other contact points to reinforce the importance of CMAM.

Under the *Samvardhan programme* in **Bihar**, social behavior change regarding nutritional practices is at the core of all efforts. Nutritional treatment under Samvardhan programme is based on the augmentation of the diet available at home as well as improving the understanding of caregivers on the frequency, diversity and adequacy of the food to be given to children. Therefore, following community mobilization activities are planned to provide information about a child's diet and care practices to improve community awareness:

- **Community Meetings** – On the day of annprashan, community meetings are organized and male members from the families are also invited to attend the meeting - to enhance their understanding on nutrition and care practices. These meetings are organized at AWC by AWWs and ASHA to demonstrate the low-cost food recipes and to display food groups to the caregivers and other community leaders of PRIs.
- **Food basket game** – A food basket game is organized at AWCs by AWWs, ASHA and Lady Supervisors (LSs) under the leadership of resource persons from Dr. Rajendra Prasad Central Agricultural University (DRPCAUI), Pusa. AWWs and ASHA invite family members (both male and female) of acutely malnourished children. During this game, there are two kinds of baskets placed in front of caregivers, one with nutritious food items like leafy vegetables, eggs, peanuts, seasonal fruits and sattu powder (protein-rich flour made from powdered chana or other cereals and pulses) and the other basket with junk food items like chips, chocolates, or puffs. Parents are then asked to choose the food basket for their children to assess their nutritional knowledge. They choose the food items and are asked the reason behind the selection. Choosing nutritious food items leads to positive reinforcement by the AWWs, whereas the selection of junk food signifies the need for guidance. In this manner, this game opens up a discussion about the nutritive value of food items given to children (Figure 14).

Figure 14: Glimpses from the food basket game played with the caregivers of children with MAM/SAM to create awareness in Bihar



- **Poshan Prahari Award**– A Poshan Prahari is identified at the community level. They can be a mother, field functionary, lady supervisor, PRI or JEEViKA *didi*. They are awarded for their significant work done in the identification of nutritional status, improvement of the acutely malnourished children, and community mobilization.

These initiatives in Bihar resulted in improved participation of community members in programme activities like screening and nutrition-education sessions. This also improved the understanding of community members about dietary diversity, age-appropriate feeding of children, care practices, including micronutrient supplementation and hygiene, food safety and home augmentation of food

5.1.5 Creation of ICDS mascot (Uttar Pradesh)

In the state of **Uttar Pradesh**, under the SAMBHAV programme, the community mobilization and awareness components have been led by the AWWs, and in 2022, the Integrated Child Development Scheme (ICDS) mascot “Aanchal” was created for taking forward the communication around the wasting agenda.

The SAMBHAV campaign focuses on a different determinant of wasting each month – like maternal nutrition in July, infant and young child feeding in August and importance of care during first 1000 days – from conception to two years of child’s life (hand washing, kitchen gardens, diarrhoea and care during illness) in September.



The ICDS mascot *Aanchal* has a) enabled the targeted population to better understand the programme, and b) increased awareness and transfer of relevant information about nutrition across the population.

5.2. Screening and Identification

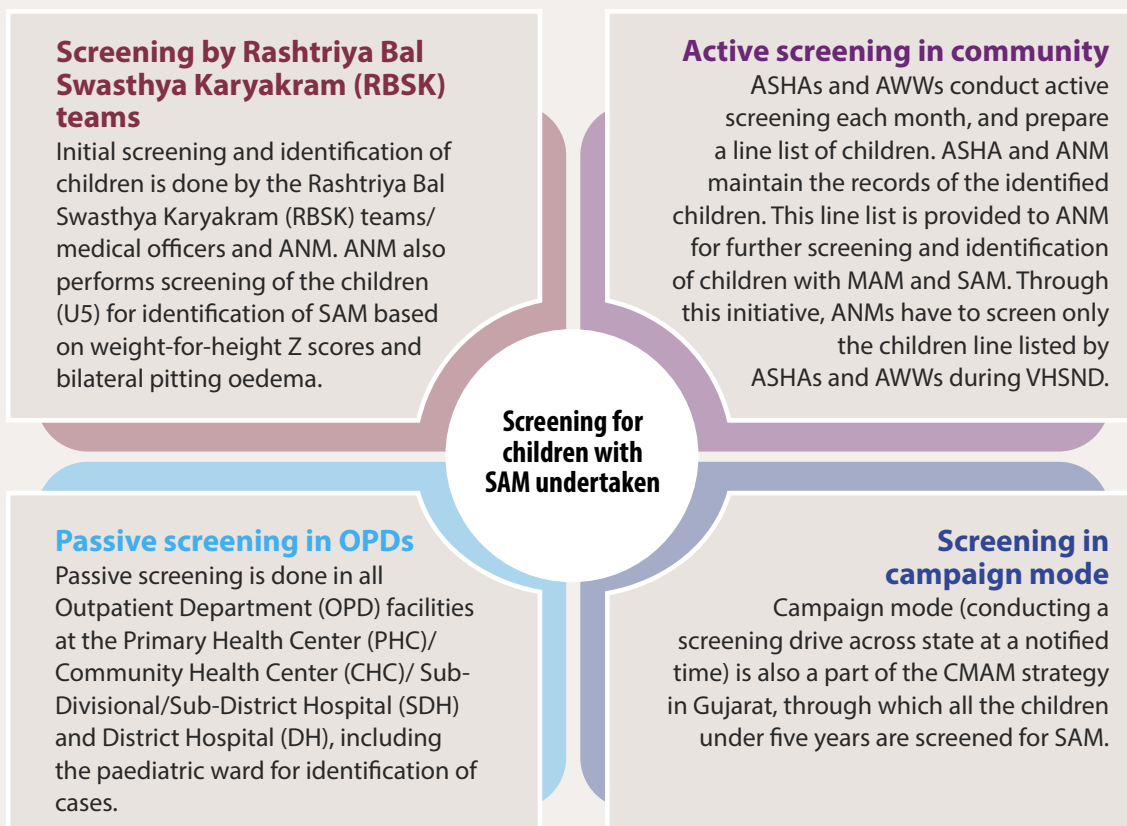
Regular and optimal screening at the community level is imperative for timely diagnosis and management of malnutrition. If not identified timely, severe wasting in children may lead to an increased risk of morbidity and mortality. Currently, in India, all children aged 0-59 months are being screened at regular intervals in the community settings at AWCs by frontline health workers (AWWs, ASHA and ANMs). Children are usually screened based on weight-for-height Z score and the presence of bilateral pitting oedema. The use of MUAC for screening of children with SAM is not endorsed by the Ministry of Women and Child Development (MoWCD). The use of MUAC as a rapid screening tool to detect wasting in children can be restricted to only emergency situations, like the COVID-19 pandemic or natural disasters.

During Village Health, Sanitation, and Nutrition Day (VHSND) SAM and MAM children are checked for medical complications and those with medical complications or poor appetite are referred to NRCs or Malnutrition Treatment Centre (MTC). In contrast, children without medical complications are enrolled in the CMAM programme. Screening efforts need to be strengthened to enhance coverage. In this section, we describe the strategies adopted by different states for improved screening of children in communities under the CMAM programme.

5.2.1 Multiple modes of screening (Gujarat)

- i. In **Gujarat**, screening for children with SAM is undertaken in the following ways (Figure 15).

Figure 15: Screening for children with SAM



The comprehensive efforts for screening took the limelight, where all the field-level functionaries were engaged in the identification process. The strategy helped identify, refer and treat children with SAM in mission mode at the community as well as facility level.

5.2.2 Joint screening drive by Department of Women and Child Development and the Public Health Department (Maharashtra)

- i. In **Maharashtra**, routine growth monitoring has been strengthened for screening of children and the nutritional status of children is tracked as per standard charts, using formula-based Excel sheets or the Poshan Tracker. If a child is categorized as SAM by AWWs, he/she is reassessed by health functionaries (Medical Officer or ANM).

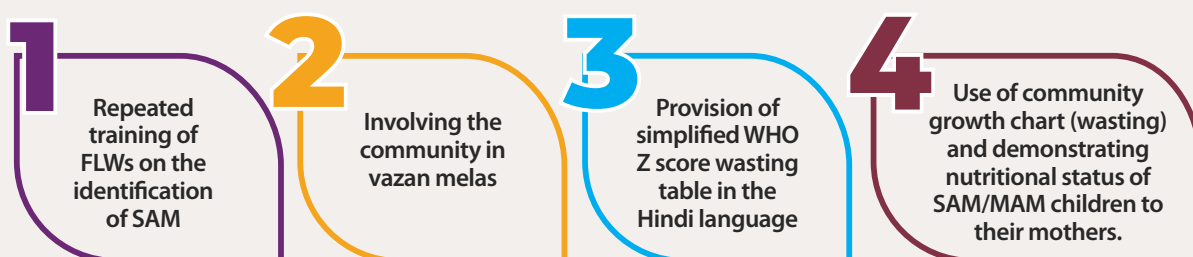
Joint screening drive is also undertaken in the state to intensify screening for SAM during the monsoon season, between 15 June to 30 August. The DoWCD and PHD work in close coordination at all levels to ensure an effective screening drive. The newly-identified children are admitted to Village Child Development Centre (VCDCs) or Nutrition Rehabilitation Centers (NRCs) followed by efforts for improving their nutritional status. This initiative has scaled up the identification of children with SAM by more than two-fold. Considering the effectiveness of the convergence between DWCD and PHD, the joint screening drive has been promoted in the upcoming period, and it has been supplemented with the execution of treatment protocol and tracking, using end-to-end SAM management software.

This initiative led to the identification of **8000 SAM children** in June and **19000** August 2021.

5.2.3 Fixed screening days (Madhya Pradesh, Haryana)

In **Madhya Pradesh**, the weight and length/height of all children are measured between day 11 to 20 of every month under regular growth monitoring service through the ICDS. Name-wise details of children with MAM and SAM are recorded in the registers and in a dedicated android application (called Sampark IMAM Module). Following efforts are made to strengthen the identification of SAM children in Madhya Pradesh (Figure 16).

Figure 16: Steps to strengthen the identification of SAM children



These efforts led to name-wise tracking and identification of children with SAM under IMAM programme. Despite COVID-19, about **1 lakh children with SAM and more than 4 lakh children with MAM were identified and treated under IMAM** (during 2020-21).

In **Haryana**, children are screened for MAM and SAM using weight and height measurements by AWWs and ASHAs on VHSND and every Saturday of the week. The compiled reports of SAM/MAM children are shared with Rashtriya Bal Swasthya Karyakram (RBSK) team by lady supervisor of ICDS. Children with SAM having complications are admitted to NRCs/District Early Identification Centres (DEIC) at district hospitals/private hospitals.

5.2.4 Bimonthly screening on Village Health, Sanitation & Nutrition Days (VHSND) (Telangana)

In **Telangana**, two Village Health, Sanitation & Nutrition Days (VHSND) are organized every month at AWCs.

The first VHSND is dedicated to growth monitoring, organized collectively by ASHA and AWW, during which height, weight and MUAC measurements of all children aged 0-59 months are obtained.

Due to COVID-19 lockdown in March 2020, the routine growth monitoring under ICDS had halted and the identification of children with wasting at village-level got disrupted.

MUAC tapes were introduced as a screening tool across the state keeping the minimal risk of corona virus transmission.

Children below 6 months who are identified as SAM are referred to NRC by the Anganwadi worker through ANMs and children aged 7-59 months undergo Appetite Test at AWC on the day of screening (Figure 17).

The second VHSND is organized as per National Health Mission (NHM) micro-plan by ANM for ante-natal care and immunization activities.

Figure 17: Screening and identification of children with SAM in Jharkhand



5.2.5 Intensive screening by special team (Chandigarh)

An innovative pilot project was launched on 20 September 2021, for providing care to malnourished children including the following:

- Outreach camps were conducted on Wednesdays on a weekly basis, as a multi-convergence approach wherein peripheral doctors and field functionaries of the Health Department and Social Welfare Department as well as a team of doctors (paediatrics and dieticians) from Dietetics Department, Government Multispeciality Hospital (GMSH) sector-16 Chandigarh, are present. Children are screened for severity of malnutrition, and those who require inpatient care are proposed to be admitted to NRC at Department of Paediatrics, GMSH-16 Chandigarh. Dietary counselling was given to the mothers and caregivers on-the-spot by dieticians. Each child was measured and provided care at their doorstep. Take-away food (ration) was provided to beneficiaries by functionaries of the Social Welfare Department and their intake and compliance was monitored by field workers.

As a result of this special multi-convergence approach to treatment, there has been upswing in detection by intensive screening and convenient domiciliary treatment of SAM/MAM children.

5.2.6 Formation of core village health team for identification of MAM/SAM children (Meghalaya)

The ASHA, AWW and ANM, SHGs/VOs and the ICDS Supervisor form the core village health team. They work together for the identification and management of SAM children. 480 VOs were trained by the Social Welfare Department on identification of SAM & MAM children. These SHGs & VOs play a vital role in mobilizing women to bring their children for screening. The core team members coordinate effectively, keeping each other informed about their activities and the local health status and assist each other with various tasks, such as organizing village health sanitation days and encouraging visits to the Anganwadi centres and sub-centres for regular monitoring of a child's health status.

During September 2020, **358,056 (85%) children** between 0 to 5 years were weighed. As a result of this exercise, the **number of SAM and MAM children identified in September 2020 was 1,788 and 16,327** respectively.

5.2.7 Sambhav-Three month long intensive campaign (Uttar Pradesh)

In **Uttar Pradesh**, "*Vazan Divas*" is organized on the first tuesday of every month, dedicated to growth monitoring and identification of children with undernutrition inclusive of SAM/MAM. Keeping in mind the Government of India priority on wasting, the Department of ICDS, Uttar Pradesh introduced a novel initiative by the name of "*SAMBHAV*", which is a three-month-long intensive campaign (July-September) focusing on the identification, health check-up, referral and community-based care of SAM/MAM children. The implementation phase is preceded by a weighing/screening campaign in the month of June.

- In 2021, the Department of ICDS successfully managed to provide essential anthropometry equipment for identifying SAM/MAM cases. Screening of all eligible under-five children present in the community for SAM/MAM was done using weight for height/length criteria and through the Poshan Tracker. In 2021, two special screening drives were conducted: one in June and another in September during Poshan Maah.

To strengthen the screening process, rigorous capacity building of field supervisory staff on the correct use of Anthropometric Devices was undertaken through local videos demonstrating the use of Growth Monitoring Devices (GMDs) and reference charts as ready reckoners for identification of wasting grade. AWWs were trained to use the Poshan Tracker application as a tool for reporting the SAM/MAM cases, for an external assessment of the quality of growth monitoring session, and to feed the learnings into the departmental reviews.

Overall, the states have adopted innovative practices with respect to the screening and identification of children with SAM at the community level. There has been involvement from both Health and WCD/ICDS departments for screening of children and identification of SAM. Additionally, in a few states, RBSK team has also been involved in improving the quality of screening. These provide compelling case studies and playbooks which can be adopted by other states as well.

Such concerted efforts resulted in the identification of **1.2 lakh and 91,000 SAM cases in June and September 2021** rounds respectively under SAMBHAV campaign.

5.3. Appetite Test

Usually, SAM children with medical complications or infection have a loss of appetite due to physiological changes. Appetite test helps in identifying children with SAM with underlying medical complications. Appetite test is carried out to decide the future course of treatment. Child is offered recipes made from Take-Home Ration (THR)/locally-available food items like Khichdi/any hot cooked meal or milk for the appetite test. If the child is able to eat/drink the offered food with eagerness, the child is considered to have passed the appetite test. On passing the appetite test, the child is enrolled in the community-based programme, otherwise, referred to NRC for further treatment.



Different states have adopted slightly different method of testing, as mentioned in Table 2.

Table 2: Method adopted for conducting appetite test by the states

State	Who conducts it?	Where?	What food used?	Steps followed	Amount offered	Deciding criteria for passing the test
Bihar	AWW	At CMAM clinic during VHSND	Locally-prepared energy-dense food or locally available food items like khichdi/ any hot cooked meal or milk.	<ol style="list-style-type: none"> 1. The test is to be conducted in a separate quiet area. 2. Explain to the mother/ caregiver the purpose of the appetite test and how it is carried out. 3. Ask the mother/ caregiver to wash her/ his hands. 4. The mother/ caregiver needs to sit comfortably with the child in her/his lap. 5. The child should not have taken any food for last two hours. 6. The test usually takes a short time but may last up to one hour. 7. Offer small amount of locally prepared energy-dense food or food items like khichdi/ any hot cooked meal or milk to the child, encouraging the child all the time. 8. If the child refuses, then the mother/caregiver should continue to quietly encourage the child. 9. The child must not be forced to eat during the test. 10. The child should have free access to safe drinking water while he/she is eating the offered food. 	Not specified	If the child is able to eat/drink the offered food with eagerness

State	Who conducts it?	Where?	What food used?	Steps followed	Amount offered	Deciding criteria for passing the test
Chhattisgarh	AWW	At CMAM clinic during VHSND	EDF (Energy-Dense Food) prepared with THR or locally available food items like Khichdi/ any hot cooked meal or milk.	<ol style="list-style-type: none"> 1. The test should be conducted in a separate quiet area. 2. Explain to the mother/ caregiver the purpose of the appetite test and how it will be carried out. 3. Ask mother/caregiver to wash her/his hands. 4. The mother/caregiver should sit comfortably with the child on her/ his lap. 5. The child should not have taken any food for last two hours. 6. The test usually takes a short time but may take up to one hour. 7. Offer a small amount of energy-dense food or locally available food items like Khichdi/ any hot cooked meal or milk to the child, encouraging the child all the time. 8. If the child refuses, then the mother/ caregiver should continue to quietly encourage the child. 9. The child must not be forced to take the EDF (Energy Dense Food) or any other diets being used for the test. 10. The child should have free access to safe drinking water while he/she is taking the EDF. 	Not specified	If the child is able to eat/drink the offered food with eagerness

State	Who conducts it?	Where?	What food used?	Steps followed	Amount offered	Deciding criteria for passing the test
Jharkhand	AWW	During VHSND	THR/Hot cooked meal e.g., halwa	<ol style="list-style-type: none"> 1. The child should not have eaten any food for last two hours. 2. The test should be conducted in a separate quiet area. 3. Explain to the mother/caregiver the purpose of the appetite test and how it will be carried out. 4. Ask mother/caregiver to wash her/his hands. 5. The mother/caregiver should sit comfortably with the child in her/his lap. 6. The test usually takes a short time but may take up to one hour. 7. The child should be offered a small amount of food prepared with THR, with constant encouragement. 8. If the child refuses, then the mother/caregiver should continue to quietly encourage the child. 9. The child must not be forced to take the food being used for the appetite test. 10. The child should have free access to safe drinking water while he/she is taking the food for appetite test. 	Not specified	If the child eats the offered food with eagerness.

State	Who conducts it?	Where?	What food used?	Steps followed	Amount offered	Deciding criteria for passing the test
Madhya Pradesh	AWW	At CSAM clinic during VHSND	Available THR such as halwa, balahaar and khichdi	<ol style="list-style-type: none"> 1. The child should not have taken any food for last two hours. 2. The test should be conducted in a separate quiet area. 3. Explain to the mother/ caregiver the purpose of the appetite test and how it will be carried out. 4. Ask mother/caregiver to wash her/his hands. 5. The mother/caregiver should sit comfortably with the child on her/his lap. 6. The test usually takes a short time but may take up to one hour. Also, should offered small amount of food prepared with THR to the child, encouraging the child all the time during the appetite test. 7. If the child refuses, then the mother/ caregiver should continue to quietly encourage the child. 8. The child must not be forced to take the food being used for the appetite test. 9. The child should have free access to safe drinking water while he/she is taking the food for appetite test. 	Not specified	If the child is able to eat the offered food with eagerness.

State	Who conducts it?	Where?	What food used?	Steps followed	Amount offered	Deciding criteria for passing the test
Odisha	AWW	At CMAM clinic during VHSND	Food prepared with Augmented THR/locally available food items like khichdi/ any hot cooked meal or milk.	<ol style="list-style-type: none"> 1. The test should be conducted in a separate quiet area. 2. Explain to the mother/ caregiver the purpose of the appetite test and how it will be carried out. 3. Ask mother/caregiver to wash her/his hands. 4. The mother/caregiver should sit comfortably with the child on her/ his lap. 5. The child should not have taken any food for last two hours, else wait for some time. 6. The test usually takes a short time but may take up to one hour. 7. Offer a small amount of food prepared with augmented THR or locally available food items like Khichdi/ any hot cooked meal or milk to the child, encouraging the child all the time during the appetite test. 8. If the child refuses, then the mother/ caregiver should continue to quietly encourage the child. 9. The child must not be forced to take the food being used for the appetite test. 10. The child should have free access to safe drinking water while he/she is taking the food for appetite test. 	<p>Age band</p> <p>7-18 months: at least 15 grams</p> <p>19-36 months: at least 30 grams</p> <p>37-59 months: at least 50 grams</p>	If the child is able to eat/drink the offered food with eagerness

State	Who conducts it?	Where?	What food used?	Steps followed	Amount offered	Deciding criteria for passing the test
Telangana	Anganwadi Teacher (AWT)	At Supervised Supplementary Feeding Program (SSFP) session during VHSND	Balamrutham plus	<ol style="list-style-type: none"> 1. The test should be conducted in a separate quiet area. 2. Explain to the mother/ caregiver the purpose of the appetite test and how it will be carried out. 3. Ask mother/caregiver to wash her/his hands. 4. The mother/caregiver should sit comfortably with the child on her/ his lap. 5. The child should not have taken any food for last two hours. 6. The test usually takes a short time but may take up to one hour. 7. Offer a small amount of balamrutham plus to the child based on the age of the child, encouraging the child all the time. 8. If the child refuses, then the mother/ caregiver should continue to quietly encourage the child. 9. The child must not be forced to take the <i>balamrutham</i> plus. 10. The child should have free access to safe/ portable drinking water while he/she is taking the food for appetite test. 	<p>Children (7-18 months): at least 15 grams</p> <p>Children (19-36 months): 30 grams</p> <p>Children (37-59 months): 50 grams</p>	The child should eat the offered amount based on the age within one hour.

5.4. Medical Management

Few children with SAM may have medical complications which may or may not be apparent. If not diagnosed and managed timely, they may lead to increased risk of mortality. Timely medical assessment and management is, therefore, crucial.

Usually, under CMAM programme, medical assessment of the identified cases is done by ANM. Children having any medical complication or any danger signs are referred to NRC/MTC/health facility for further treatment. Those without any medical complications are managed at the level of community by frontline workers (Figure 18).

Figure 18: Medical assessment of a child with SAM being done in Jharkhand



In Assam, Bihar, Chhattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Rajasthan and Odisha, children identified as SAM are examined for the presence of medical complications by ANM at “CMAM Clinic” on VHSND. ANM assesses the child for any danger/emergency signs and refers the child to NRC if any of the signs are present. If child doesn’t require immediate referral, ANM undertakes further medical examination. The medical examination includes assessment of oedema, appetite, vomiting, temperature, respiratory rate, anaemia, superficial infections, alertness, and hydration status. ANM observes and asks the mother/caregiver about complaints like cough, fever, diarrhoea, lethargy, convulsions, skin infections, or eye complaints.



If a child with SAM shows no medical complications, he/she is treated as per the protocol at the community level, and medicines are provided as per the IMNCI protocol. Through other national programmes and schemes, children are provided with vitamin-A syrup, multivitamin syrup, and iron syrup, if required. Complete medicine package given under CMAM programme in states is summarized in Table 3.

Table 3: Medicines given CMAM programme across different states of India

Medicine	Bihar	Chhattisgarh	Jharkhand	Assam	Gujarat	Maharashtra	Madhya Pradesh	Odisha	Rajasthan	Telangana	Uttar Pradesh
Amoxicillin	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Albendazole	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Folic acid	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Iron Folic acid syrup	✓	✓	✓	✓	✓		✓	✓	✓		✓
Multivitamin syrup	✓	✓	✓	✓	✓		✓	✓	✓		✓
Vitamin A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Zinc	✓	✓	✓	✓	✓			✓	✓		
Paracetamol*	✓	✓	✓					✓	✓		
ORS*	✓	✓	✓					✓	✓		

Details of dosage of medicines are explained in detail in Table 4 below.

Table 4: Details of dosage of medicines

Drug	When	Weight or age of the child	Dose
Amoxicillin Syrup (125 mg / 5 ml)	First dose on enrollment (to be prescribed by ANM) and then for home (two times daily for five days)	3 – 4.9 kg	2.5 ml twice a day
		5 – 6.9 kg	5 ml twice a day
		7 – 9.9 kg	7.5 ml twice a day
		10 – 12.9 kg	10 ml twice a day
		13 – 15.9 kg	12.5 ml twice a day
		16 – 18.9 kg	15 ml twice a day

Drug	When	Weight or age of the child	Dose
Albendazole (400 mg / 10 ml)	Once on enrollment	Less than 1 year	Not to be given
		1-2 years	5 ml / 200 mg once
		2-5 years	10 ml / 400 mg once
Iron Folic Acid (1 ml of Iron and Folic Acid Syrup containing 20 mg elemental iron and 100 mcg Folic Acid)	Biweekly	6 months to 5 years	1 ml Iron and Folic Acid syrup
Vitamin A (100000 IU/ 1 ml)	One dose on admission if not given during last 1 month	6-12 months	100000 IU/ 1 ml
		Above 12 months	200000 IU/ 1 ml
Multivitamin syrup	Daily for 90 days	6 months to 5 years	5 ml

*Paracetamol and ORS are not routinely given. Paracetamol and ORS will be given as per the complications of fever and diarrhoea if required. They are to be used only if needed as per standard dosage prescribed under IMNCI. ORS dose: 5 ml/kg body weight in every 30 minutes for the first 2 hours.



5.5. Nutritional Management

Nutritional management is a critical component for SAM and MAM children for improved recovery at the community level. These children have additional nutritional needs in terms of calories and proteins to regain the loss. For successful rehabilitation, food provided should achieve intakes (compliance for consumption) that will promote catch-up growth and improve immune function.

Different states in India have adopted different food options to be given to SAM and MAM children aged 6-59 months without medical complications under their CMAM programme. Largely, the food given to children with SAM includes THR, dry ration or ready-to-eat supplement packets, which are distributed by frontline workers in AWCs in specific amounts at regular intervals.

Nutrition protocols followed under CMAM programme for the nutritional management of children is discussed in this section.

5.5.1 Under Samvardhan Programme- Amylase-rich food and standardized energy-dense recipes (Bihar)

In **Bihar**, under the *Samvardhan* Programme, dry ration (rice, dal and soyabean) is provided under the SNP of ICDS to children younger than 6 years. Mothers of children with SAM are counselled to prepare **amylase-rich food** by soaking, germination, roasting and grinding of wheat and whole green gram and to be used for making products called as *balahar, sattu laddu and paushtik laddu*. These are the products demonstrated by AWW to mothers at AWCs during SAM sessions (organized 15 days after SAM Clinic).

Additionally, sesame seeds/peanuts and jaggery are also provided to children. Roasted flax seed powder, which can be added to *khichdi*, rice or dal or sprinkled on the roti, is promoted as a protein supplement. Dr. Rajendra Prasad Central Agricultural University (DRPCA), Pusa have standardized some energy-dense recipes for demonstration including semolina *kheer* and *halwa*, vegetable *khichdi*, vegetable *parantha*, spinach *parantha*, *besan cheela*, *meetha cheela*, rice *kheer*, *pua*, *thekua*, *sweet and namkeen daliya*, and *upma*. During the home visits done by AWW, there is focus on finding out the dietary practices of children and consumption of any home-made energy-dense nutritious product, promotion of optimum dietary practices and counselling on appropriate feeding practices.

5.5.2 Age-specific energy-dense Take Home Ration (Chhattisgarh)

In **Chhattisgarh**, all children are given state-prescribed energy-dense THR as per the child's age at AWCs during VHSND.

A packet of THR weighing 1200g is given every week to all children (~170g/day), while children with SAM enrolled in CC-SAM aged 6 months-3 years are given 200g of THR per day and children aged 3 to 5 years are given 75g THR per day along with hot cooked meal of 430 calories and 11g of protein.

100g of energy-dense THR comprises of wheat (30g), soyabean (10g), bengal gram (20g), sugar (27g), soyabean oil fortified (5g), peanuts (5g), ragi (3g), providing 12.7g protein and 410 calories.

5.5.3 Provision of Ready to Eat (RTE) food supplement and Third meal along with regular THR (Madhya Pradesh)

In **Madhya Pradesh**, there is provision of regular THR (*khichdi* premix), Ready-to-Eat (RTE) food supplements and Third meal (which is enriched with locally available nutritious grains, vegetables, and ghee/oil).

- RTE food supplement packets are given to children with SAM aged 6-36 months include *halwa premix* (made from wheat, soya, sugar, sorghum, green gram, finger millet and edible oil; @ 125 g/beneficiary, i.e. 625 g for a week), *baal aahar* premix (made from wheat, soya, edible oil, finger millet, rice, bengal gram flour and sugar; @ 125 g/beneficiary i.e. 625 g for a week) and *Khichdi Premix* (made from rice, soya, green gram, pearl millet, edible oil & spices @125 g /beneficiary i.e. 625 g for a week).
- Third meal includes premixes like *dalia mix* (made from wheat, moong daal, jaggery), *paushtik sattu* (made from wheat flour, jau, groundnuts, soya, chana dal, rice, sugar and khadya daal) and *gudh patti/chikki* (made from roasted gram, peanuts and jaggery). Nutritious eatables such as grains and fruits collected in *poshan matka* are also distributed. Community and *poshan mitra* also provide protein-rich foods.

5.5.4 Augmented THR (Odisha)

In the state of **Odisha**, each child with SAM is provided with 100 – 250 gm per day of augmented THR as per body weight, once every fortnight and seven eggs every week (1 per day) by the AWW. Ingredients used in the preparation of the augmented THR (per 100g) include wheat (30g), groundnut (10g), bengal gram (10g), sugar (15g), vegetable oil (15g), milk powder (20g). 100g of THR provides 462.0 calories, 16.0g protein and 20.1g fat. The augmented ICDS THR is ready to consume. For young children, 100g of THR powder can be mixed with 60ml of lukewarm water or milk to make semi-solid consistency porridge. Routine recommended for consumption of augmented THR, egg and home cooked food is as follows: morning 8 AM augmented THR (1/2 of recommended amount), 10 am boiled egg, 12 PM freshly prepared home food/food at AWC, afternoon 2 PM augmented THR, evening 4 PM homemade snacks / fruits, 6 PM augmented THR and night 8 PM freshly prepared home food. Follow-ups are conducted on a weekly basis through home visits by AWWs to assess their feeding and growth status.

5.5.5 Balamrutham Plus formulated by ICMR-NIN (Telangana)

In **Telangana**, under the Supervised Supplementary Feeding Programme (SSFP), children with SAM and MAM are given *balamrutham plus* 4 times per day along with home available foods, under the supervised supplementary feeding programme. The standard consumption for children with severe acute malnutrition is 125 kcal/kg body weight.

Balamrutham plus is formulated by ICMR-NIN specifically for children with SAM and MAM, using wheat, groundnut, bengal gram, skim milk powder, sugar, oil and rice flakes with an energy content of 703 kcal/150g and 15.6g of protein. It is fortified with vitamin B-1, B-2, B-12, calcium, vitamin-A, folic acid, iron, niacin and zinc.

Balamrutham plus is **given to SAM children at a frequency of 4 times per day** along with home available foods. The **standard consumption** for children with severe acute malnutrition is **125 kcal/kg body weight**.

Balamrutham plus is given to **MAM children at a frequency of 2 times per day** along with home available foods. The **standard consumption** for children with moderate acute malnutrition is **75 kcal/kg body weight**.

Children without MAM and SAM are given routine *balamrutham* under the ICDS programme.

Anganwadi teachers calculate the number of packets a child needs per month according to the current weight of the child. She also instructs the caregivers about the number of spoons, consistency, and frequency of feed. During the first week of admission in the SSFP programme, the Anganwadi teacher asks the caretaker/mother to feed the child at AWC during daytime so that they can observe how the mother is feeding and provide guidance to them.

Balamrutham plus was developed looking at the increased prevalence of SAM in the state from 5% in NFHS-4 to 8.5% in NFHS-5. *Balamrutham plus* was developed using the following parameters:

- The average body weight of SAM and MAM children based on NFHS-4 database
- Calculation of energy and protein requirements based on the body weight
- Deriving gaps in the intakes of protein and energy from National Nutrition Monitoring Bureau (NNMB) 2012 data
- Modifying the existing THR of *balamrutham* to *balamrutham plus* to address the gaps in energy and protein requirements
- Conducting shelf-life analysis, acceptability and sensory evaluation of consumption of required portion of *balamrutham plus* (Figure 19).

Figure 19: Door-step supply of *balamrutham plus* during COVID-19



Findings from the sensory evaluation study revealed that *balamrutham plus* had better acceptability in terms of appearance, colour, texture, flavor, taste, and palatability. Shelf-life study of the product also showed absence of harmful microorganisms, with total bacterial count within the reference range (Table 5).

Table 5: Nutritional supplement provided to children with SAM in different states of India under CMAM programme.

State	Nutritional Supplement	Quantity / dose
Bihar	Amylase rich food, dry ration (rice, dal and soyabean) + balaahar, sattu laddu and paushtik laddu	Existing quantity of dry ration / THR along with counselling for enhancement / recipes
Chhattisgarh	Energy dense THR: 100g of THR comprise- wheat (30g), soyabean (10g), bengal gram (20g), sugar (27g), soyabean oil fortified (5g), peanuts (5g) and ragi (3g)	Additional THR: 200 gram per day for 6-to-36-month child and 75 gram per day (along with hot cooked meal) for 3-to-6-year child
Madhya Pradesh	Provision of regular THR, RTE and a third meal (enriched with locally available nutritious grains, vegetables, and ghee/oil). For children aged 6-36 months: RTE food supplement packets of halwa premix, baal aahar premix and khichdi premix are given. Third meal includes dalia mix, paushtik sattu and gudh patti/chikki.	Additional THR as per the body weight
Telangana	THR-balamrutham plus (wheat, groundnut, bengal gram, skim milk powder, sugar, oil rice flakes with energy content of 703 kcal/150 grams and 15.6 grams of protein)	For SAM: 30 to 90g (as per weight of the child) 4 times a day For MAM: 30 to 75g (as per weight of the child) 2 times a day
Odisha	Augmented THR and egg. 100g packet include- wheat (30g), groundnut (10g), bengal gram (10g), sugar (15g), vegetable oil (15g) and milk powder (20g)	THR as per the body weight (100 to 250g per day) and one egg daily (including Saturday and Sunday).

5.6. Follow-up

Under the CMAM programme, regular follow-ups are done for children with SAM/MAM by frontline workers. Follow-ups take place while the children with SAM/MAM are still in the programme, and even after they are discharged from the programme, to monitor their progress, prevent relapse and take timely action. Follow-up visits are used to monitor the child's weight gain, ensure intake of food supplements and medicines, assess development of medical complications, ensure timely referral (if needed) and conduct counselling sessions with the caregivers of children on important aspects of nutritional management. The protocol of follow-up under CMAM varies slightly across different states. Some of the practices are summarized in Table 8.

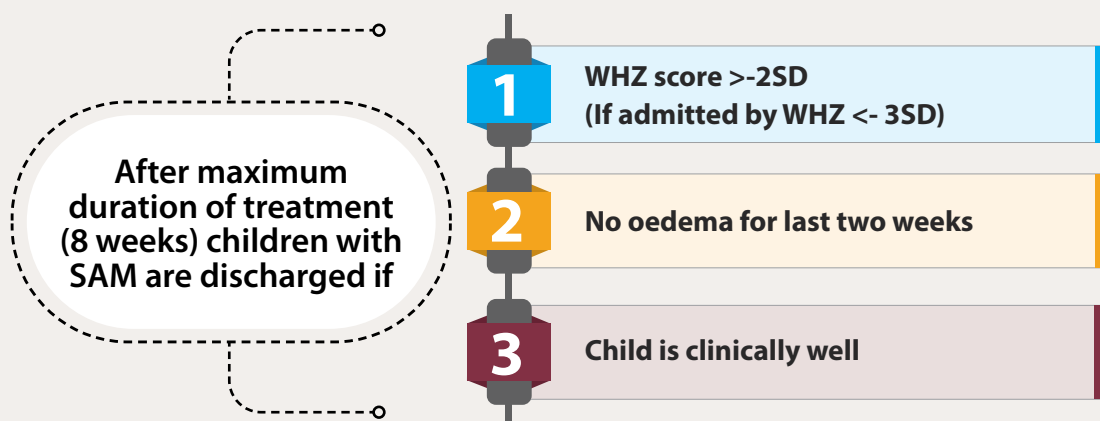
In addition to the practices of the states mentioned in Table 8, in *Chandigarh*, monitoring is done by a team of doctors every Wednesday. Weekly weight record is maintained and the children are also monitored by field workers under the supervision of their supervisors/senior officials.

In Haryana, timeline has been given to the AWWs for regular follow-ups. They also fill the details of children in Poshan monitoring card.

5.6.1 Regular follow-up of children on a monthly basis for two years after discharge (Gujarat)

- Follow-up in CMAM programme is done on a weekly basis during the programme to monitor the progress of enrolled children. Common monitoring indicators measured in CMAM programme are weight, bilateral pitting oedema, feeding pattern, weekly counselling, weight-for-height SD score and monthly check-up for any medical complications/oedema.
- If any child has lost weight or develops any medical complication during weekly follow-up, further medical assessment of the SAM child is done for medical complications. These children are then referred to facility NRC for further management.
- Indicators like cured, not cured, defaulter, death and medical transfer are measured as output indicators after 8 weeks of treatment in CMAM programme. SAM Children are discharged on the same criteria as they are admitted/enrolled in CMAM programme (Figure 20).

Figure 20: Regular follow-up of children on a monthly basis after discharge



- If SAM child does not recover from the CMAM programme after 8 weeks, the child is discharged and classified as non-responder and is further referred to a higher health facility for detailed investigations.

After 8 weeks of CMAM programme, children are regularly followed up on a monthly basis for two years after discharge from the programme. Children discharged from the CMAM programme are enrolled in the Supplementary Nutrition Programme (SNP) of the ICDS and their growth monitoring is done on a monthly basis during VHSND.

5.6.2 Follow-up for 16 weeks for SAM and 8 weeks for MAM (Telangana)

Child-wise progress is monitored regularly by Anganwadi workers at AWC and recorded in SSFP mobile application along with SAM/MAM card until the beneficiaries are discharged from the programme.

- For SAM children, routine visit to AWC is done weekly in the first month and then fortnightly, while for MAM children it is fortnightly.
- The maximum duration of stay in SSFP is 16 weeks for SAM and 8 weeks for MAM child.
- Post-discharge follow-up is scheduled for children who reach above -2 SD (WHZ).

The children can be enrolled in the Supplementary Nutrition Programme of ICDS (i.e. THR *balamrutham plus* for children aged <24 months and Hot Cooked Meal at AWC for >24 months) and their growth can be monitored every month during the first 6 months after discharge.

5.6.3 Weekly follow-up for 12 weeks (Madhya Pradesh)

Weekly follow-up is done in **Madhya Pradesh** for up to 12 weeks during the programme to monitor the progress of enrolled children. Common monitoring indicators measured in CMAM programme include anthropometric measurements, compliance to nutritional supplements, medicines and health counseling. After being discharged from the programme, monthly follow-ups are done during VHSND for three months.

5.6.4 Weekly home visits by AWW to Follow up SAM Children (Uttar Pradesh)

In **Uttar Pradesh**, when the child is enrolled in the programme, weekly home visit is done by AWW for demonstration of food, assessing progress, interpersonal counselling, and dietary assessment of SAM children.

Fortnightly visits for monitoring the progress of enrolled children are conducted for up to 12 weeks. After getting discharged, monthly follow-up visits by AWW take place for 3 months, wherein monthly VHSND/sub-centre-based follow-up by ANM is done to assess the overall progress and medical condition (Table 6).

Table 6: Protocol of follow-up under CMAM programme across different states of India

State	While the child is in CMAM		After discharge from CMAM		Activities undertaken during follow-up visits
	Duration of follow-up	Frequency of follow-up	Duration of follow-up	Frequency of follow-up	
Gujarat	8 weeks	Weekly monitoring of weight, bilateral pitting oedema, feeding pattern and counseling. Monthly monitoring of weight for height SD score and checking for any medical complications/ oedema.	2 years	Monthly	<ol style="list-style-type: none"> 1. If a child has lost weight or develops any medical complication during weekly follow-up, further medical assessment of the SAM child for danger signs, medical complications is done. These children are then referred at facility NRC/CMTC for further management. 2. Children discharged from the CMAM programme are enrolled in the Supplementary Nutrition Programme (SNP) of the ICDS and their growth monitoring is done on a monthly basis during VHSND.
Telangana	16 weeks for SAM & 8 weeks for MAM	Weekly follow-up at AWC by Anganwadi teacher for SAM children in the first month and then fortnightly visits. Fortnightly visits for children.	First 6months after discharge	Monthly	<ol style="list-style-type: none"> 1. Distribution of food supplements 2. Growth monitoring 3. Recording in SSFP mobile application along with SAM/MAM card. 4. Health and nutrition education 5. Evaluation of balamrutham plus consumption each week

State	While the child is in CMAM		After discharge from CMAM		Activities undertaken during follow-up visits
	Duration of follow-up	Frequency of follow-up	Duration of follow-up	Frequency of follow-up	
Madhya Pradesh	12 weeks	Weekly	3 months	Monthly follow-ups during VHSND	<ol style="list-style-type: none"> 1. Anthropometric measurements 2. Assessing compliance to nutritional supplements, and medicines 3. Nutrition and health counseling
Uttar Pradesh	12 weeks	Weekly home visits by AWW for demonstration of food to be given to children & Fortnightly visits for monitoring the progress of enrolled children	3 months	Monthly by AWW	<p>Two levels of follow up are proposed as part of SAMBHAV strategy:</p> <ol style="list-style-type: none"> 1. Weekly follow-up as home visits by AWWs – focused on assessing progress, dietary assessment, and interpersonal counselling. 2. Monthly VHSND/sub-centre-based follow-up by ANM – to assess the overall progress and medical condition.
Bihar	16 weeks	Fortnightly	6 months	Monthly by AWW	Weighing at AWC, assessment for bilateral pitting oedema and other illness, feeding demonstration and individual counselling of caregiver
Assam	12 weeks	Weekly	1 month	Weekly by AWW	Anthropometric measurements, appetite test, micronutrient supplementation, counselling
Chhattisgarh	16 weeks	Weekly	6 months	Monthly by AWW	Anthropometric measurements, check for oedema, history of illness and loss of appetite, micronutrient supplementation, counselling on health and nutrition issues including use of THR

State	While the child is in CMAM		After discharge from CMAM		Activities undertaken during follow-up visits
	Duration of follow-up	Frequency of follow-up	Duration of follow-up	Frequency of follow-up	
Jharkhand	16 weeks	Fortnightly	4 months	Monthly by AWW	Anthropometric measurements, history of illness, counselling
Maharashtra	12 weeks	Weekly		Monthly by AWW	Anthropometric measurements, history of illness, provision of energy dense nutritious food, counselling
Odisha	16 weeks	Weekly	6 months	Monthly by AWW	Anthropometric measurements, check for oedema, history of illness and loss of appetite, counselling on health and nutrition issues including use of THR
Rajasthan	16 weeks	Weekly	4 months	Fortnightly by ASHA and monthly by ANM	Anthropometric measurements, check for oedema, history of illness and loss of appetite, counselling on health and nutrition issues



5.7. Nutrition and Health Education (NHE)

Nutrition and Health Education-cum-counselling is an important component of CMAM programme. Caregivers of children with MAM/SAM are provided structured, individual as well as group counselling on key topics of health and nutrition. This takes place at the time of follow-ups done by AWW or ANM during home visits, CMAM clinics, VHSND and *poshan panchayats*. The aim of counselling sessions is to equip children’s caregivers with adequate knowledge for adherence to the protocol for management of children with MAM/SAM at home, to prevent undernutrition among other children in the family and to maintain a sustainable change in the household-level feeding and care practices. Frontline workers use existing counselling materials such as flipbooks, IEC videos and counselling cards during the counselling sessions.

The AWW and ASHA, supported by the ANM, explain the caregivers about the following aspects of the community care programme in Table 7.

Table 7: Health and Nutrition Education

Nutrition and health education at the time of admission	Nutrition and health education during follow-up visits
Information about food, basic hygiene and antibiotics treatment at home	How to enrich/augment home foods
	Use of local ingredients suitable for the child
	Continued feeding during illness and importance of frequent feeding

Some of the innovative strategies for health and nutrition education being followed in different states are as follows:

5.7.1 Counselling and Nutrition toolkit for dietary recommendation (Bihar)

Under the *Samvardhan* programme of **Bihar**, NHE has two activities: Individual counselling of the caregiver and education sessions for the caregivers. Education sessions for caregivers are organized using audio-visual aids on a fortnightly-basis in AWCs and during monthly VHSND.

- Printed IEC materials and cooking demonstrations are organized at AWC during the monthly VHSND.
- Nutrition toolkit has also been developed for counselling sessions, used by AWWs during CMAM sessions/clinics. The nutritional toolkit has details about dietary recommendations for normal children as well as ways to improve diets for the children with SAM/MAM using locally available food items. The kit also contains recipes demonstrated by AWWs in SAM sessions as well as during home visits of the children.

5.7.2 Counselling by AAA to improve the maternal and child health (Gujarat)

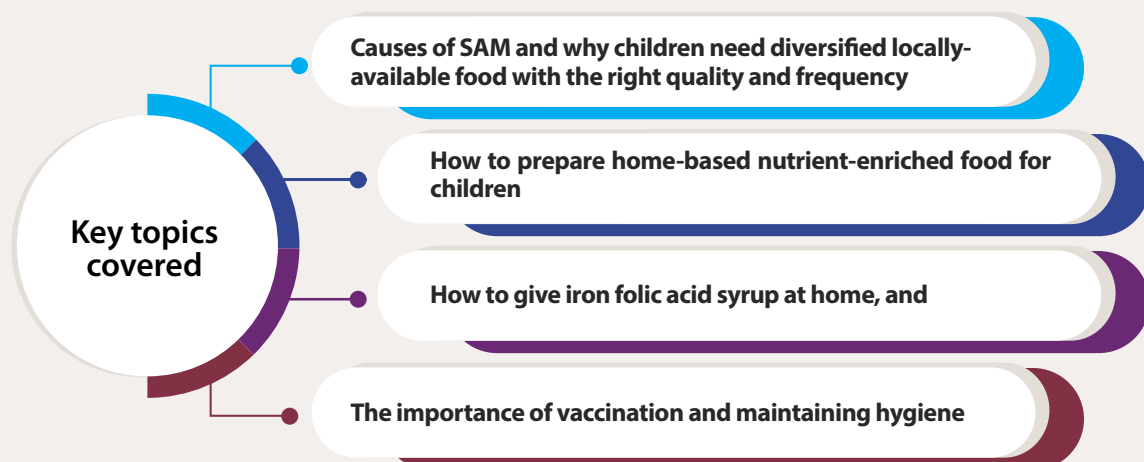
In **Gujarat**, social behavior change communication and counselling is done by AAA at the community level to improve the maternal and child health components.

- During the weekly follow-up visits of children with SAM, ASHA workers counsel the mothers/caregivers about consumption of *balshakti* fortified THR, homemade food to be given after SAM child completes the recommended dose, handwashing and hygiene practices, medicine protocol, and the importance of continued breastfeeding during illness, and age-appropriate complementary feeding practices.
- They also provide counselling on referral if needed, GMP and on practices to prevent relapse and reoccurrence of malnutrition

5.7.3 Sessions by AAA using tools and flip books (Jharkhand)

In **Jharkhand**, NHE sessions are conducted by AWW, ASHA and ANM using essential nutrition flip-book, ILA counselling tool and MAA flip-book. Information given to the caregivers of children with SAM is recorded by AWW in the follow-up and treatment register (Figure 21).

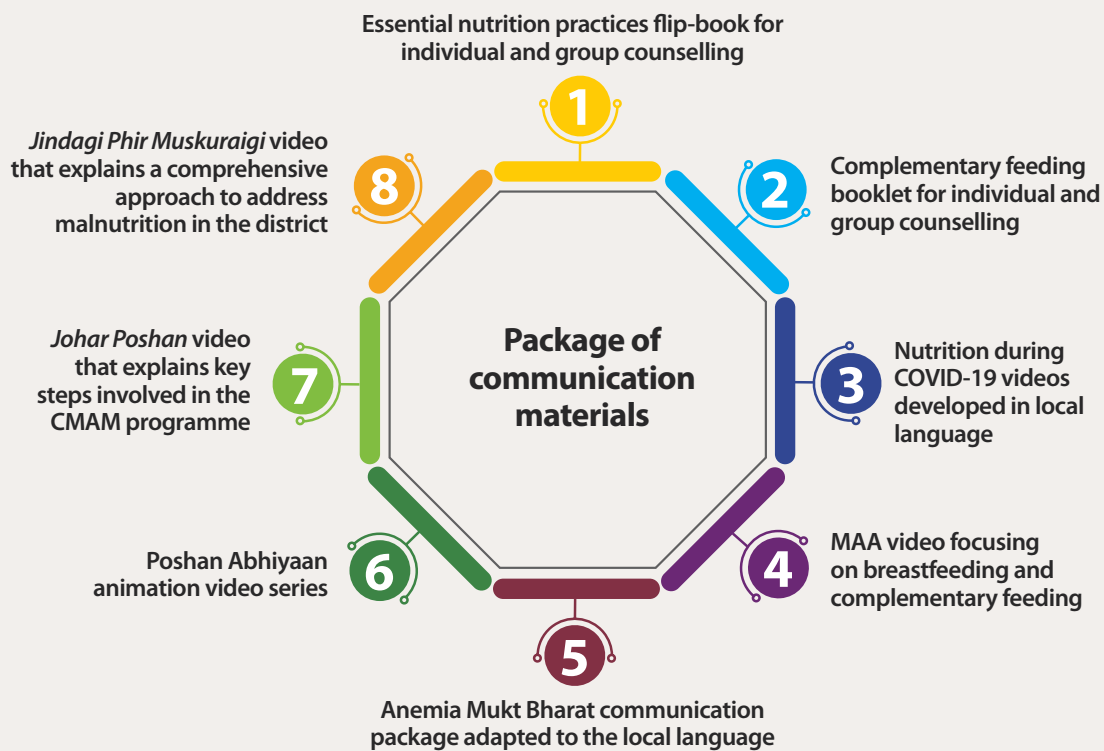
Figure 21: Key topics covered under sessions by AAA



West Singhbhum district in Jharkhand is a tribal district with many hard-to-reach areas. Under the *Johar Poshan* Programme, this district was specifically targeted for creating awareness in the community to improve nutrition and health behavior with focus on breastfeeding, complementary feeding, anaemia, maternal nutrition, hygiene and sanitation and immunization. With support from UNICEF and State Center of Excellence (SCOE-SAM), Rajendra Institute of Medical Sciences (RIMS) has compiled a package of communication material and a structured plan to create awareness through individual/group counseling and through mass- and mid-media activities.

To improve acceptance and reach of the nutrition messaging, videos and documents are translated into local tribal language. Following comprise the package of communication material is enumerated in Figure 22 further.

Figure 22: Package of communication material



5.7.4 Digital platform-based outreach strategy-“Tarang Suposhit Maharashtra” (Maharashtra)

In **Maharashtra**, AWWs, ASHAs, and ANMs are proactively working at the village level for providing NHE during home visits, CBEs, and other SBCC activities. The DoWCD has initiated the special CBEs focused on children with SAM in high-burden blocks. The focus is not just on curative aspects but also on ensuring the further development of a child and avoiding relapse.

Due to COVID-19 and associated measures in the state, the DoWCD, Government of Maharashtra (GOM), adopted a digital platform-based outreach strategy through the initiative of “*Tarang Suposhit Maharashtra*”. It is a digital platform for continuing interface with potential programme participants for nutritional and early childhood development counselling even during the ongoing COVID-19 pandemic.

Figure 23: Glimpse from a Nutrition and Health Education session conducted in Maharashtra



It encompasses the Interactive Voice Response (IVR) helpline, auto-generated broadcast calls/ SMS, and a Whatsapp Chatbot. The platform is leveraged for counselling, social auditing, and as a tool to empower parents to assess the nutritional condition of their children. The platform is also being used to ensure system-generated follow-up with parents with respect to increasing demand for growth monitoring sessions at AWCs and their counselling. It is also utilized to capture feedback from parents regarding the interventions such as inter alia, the consumption of energy-dense nutritious packets, and counselling (Figure 23).

5.7.5 Use of digital counseling toolkit (Telangana)

In **Telangana**, caregivers are sensitized about nutrition care, feeding techniques, diet quality, complementary feeding and WASH practices. Digital counselling toolkit is a part of SSFP, used by the AWT during follow-up visits of children with SAM. Posters with key messages are also displayed at AWCs and AWT that delivers the messages to the caregivers during every point of contact. During every fortnightly SSFP visit, AWT conducts the feeding demonstration and extends handholding support for mothers to improve the responsive feeding.

Details of NHE innovative sessions conducted in different states of India are summarized in Table 8.

Table 8: Nutrition and Health Education implementation in different states of India

S. No.	State	By Whom	Where	Tools used
i.	Bihar	AWW	AWC and home visit	<ul style="list-style-type: none"> ➤ Audio-visual aids ➤ Printed IEC materials ➤ Cooking demonstration ➤ Nutrition toolkit
ii.	Gujarat	AWW & ANM	AWC	Counseling on breastfeeding, hygiene, cooking methods, intake of medicine and THR daily dose
		ASHA	During weekly follow-up visits	
iii.	Maharashtra	AWWs, ASHAs, & ANMs	During home visits, CBEs, and other SBCC activities	Digital platform- <ul style="list-style-type: none"> ➤ Interactive Voice Response (IVR) helpline ➤ Auto-generated broadcast calls/ SMS, and ➤ WhatsApp Chatbot
iv.	Jharkhand	AWW, ASHA & ANM	AWC, public gatherings	<ul style="list-style-type: none"> ➤ Essential nutrition flipbook ➤ ILA counselling tool and ➤ MAA flip-book
v.	Telangana	AWT	AWC (follow-up visits)	<ul style="list-style-type: none"> ➤ Digital counselling tool kit ➤ Poster (with key messages) ➤ Feeding demonstration

5.8. Technology-Enabled Recording and Reporting System

Recording and reporting serve an important function of assessing the progress of programme, to track the progress of individual cases, assess the larger outcomes, and provide feedback to relevant stakeholders to fill the gaps in service delivery and programme implementation. Different reporting formats and techniques are being used in different states to capture and analyse data.

The flow of reporting usually starts from field-level workers to supervisors, followed by block-level, district-level and state-level assimilation of reports. Usually, the reporting formats are used to capture the following information about children enrolled in the CMAM programme: Child's socio-demographic information (such as child's name, age, gender, religion, name and age of parents, occupation of parents, birth history, family income, family history and other household information), child's anthropometric details like weight and height / length, details on feeding regimen, immunization history and medical examination.

5.8.1 SAMPARK application for data management and reporting system (Madhya Pradesh)

In **Madhya Pradesh**, details of enrolled SAM children are recorded in Bal Poshan Pragati Patra (BPPP).

Further, the state has developed an android-based application (called *Sampark*) for the efficient collation and monitoring of data. The data of SAM and MAM children related to enrollment, weekly and monthly follow-ups, socio-demographic details and family details are recorded in the application. Data validation and deletion of duplicate entries is undertaken by Child Development Project Offices (CDPOs) and Lady Supervisors. The dashboard is available on the WCD website for which login details are provided to the state officials, district collectors, DPOs, CDPOs, and supervisors. It was developed by RCoENRRT, All India Institute of Medical Sciences (AIIMS) Bhopal, DWCD MP, NHM MP with support from UNICEF. The application is being maintained by a dedicated team of android and web developers at DWCD. The application can be downloaded and installed from the department's MIS page (Figure 24).

Figure 24: Android based Sampark Application



The information regarding the grade change (in nutritional status) of SAM and MAM children, weekly follow-up, and death (if any), along with NRC referral, is available on the dashboard of the Sampark application. All children added in the application are classified as SAM, MAM or normal as per WHO WFH Z score criteria under the 'Child's Detail' tab. A few registration details of the children like date of registration, anthropometric measurements, result of appetite test, the assessment of oedema, and medical examination done by ANM are also entered. Through the application, it is easy to flag the children discharged from NRC so that AWW can immediately act to provide services to those children (Figure 25).

Figure 25: Dashboard details of Sampark Application

The dashboard of the Sampark application is hosted at the WCD website and login details are provided to the state officials, district collectors, DPOs, CDPOs and supervisors for cleaning of duplication and real-time monitoring.

The information related to grade change (nutritional status), weekly follow-up, and deaths (if any) are reflected on the application dashboard.

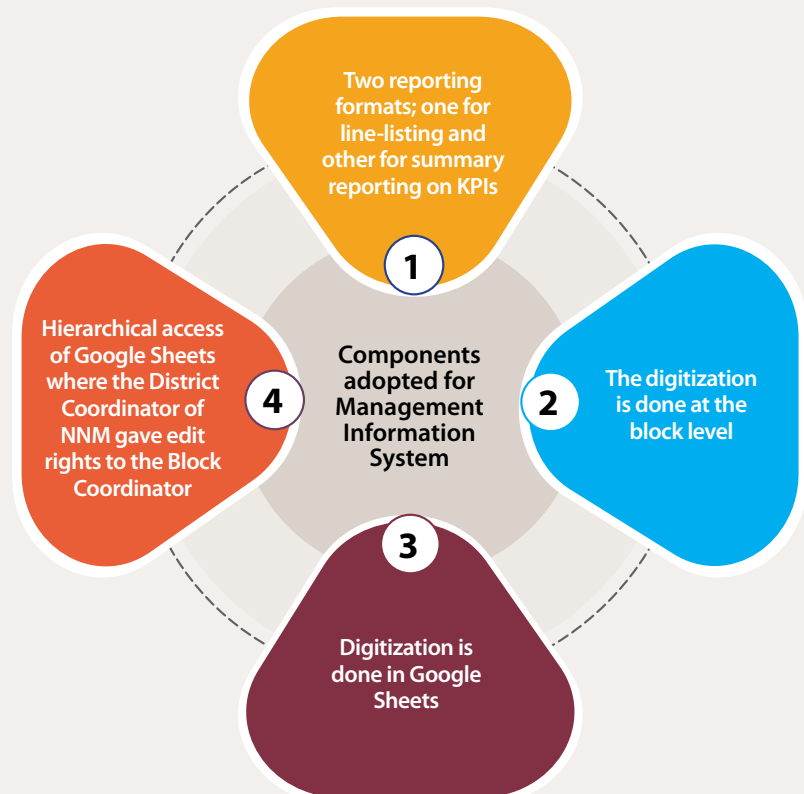
More than 80,000 SAM children and 4,00,000 MAM children were enrolled in the IMAM programme during 2020-21.



5.8.2 Use of management information system (Rajasthan)

Figure 26: Components of MIS

In **Rajasthan**, adoption of MIS was warranted due to the modality of current reporting which was bottom-heavy, relying completely on competence of AWW and lady supervisors. The reporting was delayed because the data moved in hard copies in Rapid Reporting System (RRS) and Monthly Progress Reports (MPRs), and AWWs and lady supervisors would compile all reports in sector meetings, which generally take place in the first week of the next month. As a result, reporting was delayed (Figure 26).

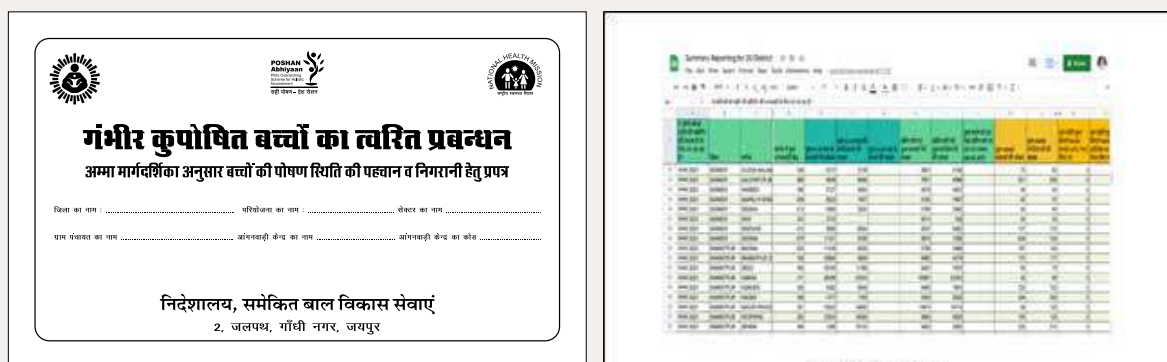


The reporting formats for field functionaries were carefully and comprehensively drafted; after several rounds of iterations these were finalized for printing and hard copies were provided at all AWCs in the 20 districts.

The flow from field level was fast-forwarded by allowing AWWs and lady supervisors to share legible photos through common messenger applications like WhatsApp in their dedicated sector-wise groups, substantially reducing delays in reporting. At the block level, the information is digitized by dedicated Data Entry Operators of NNM at block/sector office.

For capacity building on MIS, 6 rounds of orientation, reorientation, refreshers of the AMMA programme and reporting framework are conducted. The final product consists of 35 Google Sheets for line listing and 20 district-wise Google Sheets for summary reporting (Figure 27).

Figure 27: Reporting format used in Rajasthan



As of 2021, **more than 20,000 children** were being tracked in line listing sheets. As per summary reports, **80% of screening was done in these 20 districts, of which 1,49,641 children were identified as having MAM and 9,195 children as having SAM.**

5.8.3 Real-time data entry and monitoring system through SSFP Application (Telangana)

In **Telangana**, a real-time data entry and monitoring system through SSFP application is established to collect data directly from AWCs. Cure rate, mortality rate, defaulter rate and average weight gain (g/kg/day) are outcome indicators of the programme. The periodic data on specific outcome indicators are collected using SSFP-MIS and analyzed monthly.

5.9. Monitoring and Supervision

This chapter highlights the monitoring process being followed in different states to track progress and quality of service delivery under CMAM programme. Monitoring visits are conducted as per the microplan, and a structured tool is designed to observe and record the details of logistics including equipment, recording and reporting formats, THR and medicine supplies, knowledge and skills of frontline functionaries (FLWs) on identification and classification of nutritional status, services provided to enrolled children in CMAM programme and outcome of the programme.

Then FLWs are provided with hands-on training on the identified gaps, and the block and district level officials are offered recommended actions on improving service delivery. The data is used during the structured reviews at the district and state level for corrective actions. Regular field visits are conducted by District Programme Officers (DPOs)/District Social Welfare Office (DSWO), CDPOs and Supervisors to monitor progress of CMAM programme. Roles and responsibilities at different levels in the state for monitoring and supervision are provided in Table 9. Details of the monitoring process being followed are discussed and summarized in Table 10.

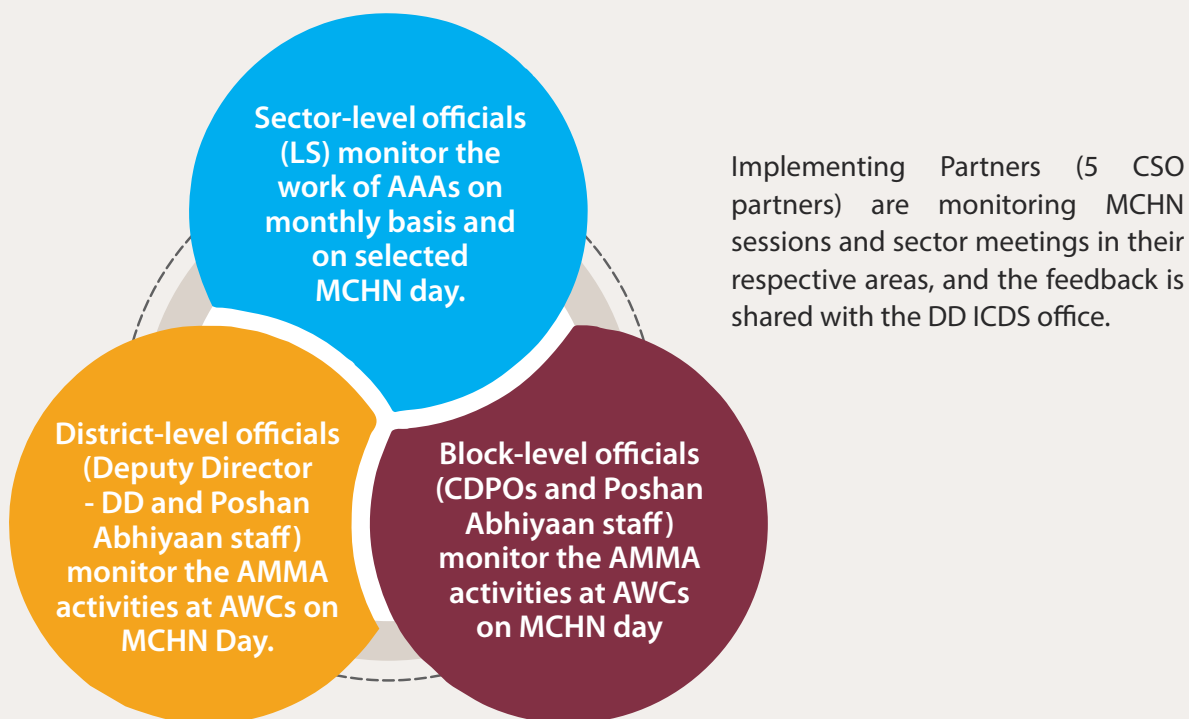
Table 9: Role and responsibilities at different levels in state

Role of State Coordination Group (Committee from DWCD, DoHFW, CoE, PRI, Tribal, Water and sanitation departments)	Role at District level (DPO/ DSWO to monitor the implementation of the programme)	CDPO to be designated as the focal point	Role of Lady Health Visitor (LSVs) and the Anganwadi Supervisors	Establishing technology-driven monitoring system
<ul style="list-style-type: none"> ➤ Provide technical support for planning and implementation. ➤ Facilitate convergence between various departments for training, referrals and linkages, recording and reporting, supportive supervision. ➤ Facilitate any procurement e.g., procurement of equipment, food. ➤ Review progress of implementation. 	<ul style="list-style-type: none"> ➤ Planning of services in discussion. ➤ Fund flow and positioning of manpower, trainings. ➤ Infrastructure strengthening. ➤ Quarterly review of the programme performance. 	<ul style="list-style-type: none"> ➤ Facilitate training of health workers and AWWs. ➤ Ensure linkages between the SAMTUs and the CMAM programme. ➤ Monitor data from the blocks and report to the district/ state on a periodic basis and share with PHC in-charge/BMO. 	<ul style="list-style-type: none"> ➤ Ensure the quality of services and facilitate the supply and logistics by coordinating with the authorities at the Block and District level. ➤ Responsible for finalisation of the monthly reports from the AWCs. ➤ Ensure and monitor community mobilisation activities. 	<ul style="list-style-type: none"> ➤ Application and management information system is crucial for reaching the unreached, improving service delivery as well as supervision, monitoring and counselling actions with impact on accelerating improvement in child nutrition situation.

5.9.1 In-person monitoring by sector, block, district officials and by CSOs (Rajasthan)

In **Rajasthan**, in-person monitoring is done by sector, block and district officials and by Civil Society Organizations (CSOs). Platforms for monitoring include Maternal Child Health and Nutrition (MCHN) sessions and sector level meeting (Figure 28).

Figure 28: Platforms for monitoring sessions and sector level meeting



5.9.2 Weekly granular monitoring by Principal Secretary, Social Welfare, Community & Rural Development & Health Department (Meghalaya)

The weekly granular monitoring of SAM and MAM children at the state level is done by the Principal Secretary, Social Welfare, Community & Rural Development, and Health Department, often chaired by the Chief Minister. This exercise is unprecedented at the State level and at this frequency. These weekly review meetings witnessed the attendance of representatives of three departments involved in the process of management of SAM and MAM children, namely, Social Welfare Department (Women and Child Development) through the ICDS Officials, Community and Rural Development Department through the NRLM programme staff and the Health Department officials. These reviews have inculcated a sense of responsiveness and urgency. The officials also took more ownership of the problem and developed local solutions. A culture of synergy and collaboration is being created between the three departments.

The block-level teams collected data from AWWs, and supervisors regularly reviewed registers during their interactions in the field or in monthly sector meetings, communicating the importance of home visits and maintenance of records. Reports were then shared with district ICDS teams and the state team for documentation and analysis.

5.9.3 Field visits and telemonitoring to monitor the progress of the programme (Telangana, Haryana)

- i. In **Telangana**, field visits and telemonitoring are done by National Institute of Nutrition (NIN) team to monitor the progress of the programme. The sector supervisors (CDPO) also visit AWCs for supportive supervision and streamline the supply of balamrutham plus. Women Development and Child Welfare Department conducts quarterly review meetings on the implementation of SSFP. The review is chaired by the Commissioner WCD along with District Collectors, District Welfare Officers, CDPOs, ICDS supervisors, state-level officers, NIN and UNICEF. The field findings of the programme are shared for corrective actions.
- ii. In **Haryana**, for reporting and recording, four different formats have been developed which are given to AWWs. Name-wise monthly and weekly reports of SAM children are collected from AWWs. Telemonitoring of the parents of SAM children is also being done by DPOs.

5.9.4 Dual monitoring system (Uttar Pradesh)

In **Uttar Pradesh**, two modes of monitoring are undertaken: first, departmental monitoring by ICDS supervisory staff and second, external monitoring with the support of development partners.

5.9.5 Monitoring using Kobo Toolbox platform (Bihar)

In **Bihar**, monitoring and supportive supervision are periodically undertaken by SCoE, UNICEF as well as district and state officials. The monitoring findings are recorded using Kobo Tool box application and data findings are disseminated in meetings of Health and WCD Department. Findings are also shared with District Magistrate (DM) and Sub-Divisional Magistrate (SDM) (Table 10).

Table 10: Summary of process of monitoring of CMAM activities adopted in different states of India

S. No.	State	Monitoring format	By whom	Frequency
i.	Bihar	Kobo Tool box / Kobo Collect application	Government officials (LS, CDPOs) and 3 technical resource persons from DRPCAUI and PUSA.	Every AWC is visited quarterly by a technical resource person. Lady supervisors and CDPOs visit AWCs as per their own plans of monitoring.
ii.	Meghalaya	Granular monitoring	Principal Secretary, Social Welfare, C&RD & Health Department chaired by Chief Minister	Weekly
iii.	Jharkhand	Standard supportive supervision checklist	SCoE-SAM, RIMS and UNICEF team	
			District Social Welfare Officer and Civil Surgeon	Visit to minimum 5 admitted children
			CDPO and Medical Officer	Visit to minimum 8 admitted children in the block
			Lady Supervisors	Visit to minimum 10 admitted children in the sector
			Development partners and other	Visit to minimum 10 admitted children in the sector
iv.	Rajasthan	Kobo collect application	Sector-Level Officials	Monthly
			Block-Level officials	MCHN Day
			District-Level officials	MCHN Day
			5 CSO partners	MCHN Day & sector meetings
v.	Telangana	Telemonitoring	NIN Team	Quarterly
vi.	Haryana	Telemonitoring	DPOs	Monthly

5.10. Multisectoral Convergence

Success of CMAM requires active participation of multiple stakeholders from different government departments. In different states, CMAM is being implemented with the active participation of Health & Family Welfare Department, with the lead taken by the Department of Women and Child Development. Feeding of augmented THR, logistics costs, and counselling are looked after by the Department of WCD. Treatment and medicine portion is managed by the Department of Health. Active support is also provided by the Panchayati Raj Department in community mobilization process, while the development partners are engaged in monitoring and data validation.

5.10.1 Multisectoral engagement between the Social Welfare and Health Department (Assam, Rajasthan)

- i. In **Assam**, there is multisectoral engagement between the Social Welfare Department (for registering children under CMAM programme, conduct weight-for-height screening, giving counselling to beneficiaries and paying home visits to children registered under CMAM programme) and Health Department (involved in micronutrient and antibiotics supply and administration to children registered under CMAM programme; ANMs are responsible for the medical assessment of all children with SAM identified by AWW). Coordination between both departments is vital to ensure children receive health and nutrition-related services. A draft statement of purpose (SOP) for the identification of SAM, referral to NRC and CMAM programme has also been developed.
- ii. In **Rajasthan**, convergence with Department of Health played a pivotal role in the success of AMMA programme. It not only ensured regular supervision from ANMs but also helped in troubleshooting the problem of lack of GMDs in the state. It also proved useful for streamlining and integrating monitoring by AMMA programme officers at the block and district level on MCHN –day within the regular monitoring system. District Nutrition Convergence Planning Committee, under the chairmanship of District Collector and Deputy Director ICDS as member-secretary, reviews all nutrition-related programmes and schemes with all line departments at the end of every quarter.



5.10.2 Convergence in Department of Health and Family Welfare and Department of ICDS in Samvardhan Programme (Bihar) and SAMBHAV programme (Uttar Pradesh)

- i. In **Bihar**, Samvardhan Programme in Purnea was led by the Department of Health, in close association with Department of ICDS. The focal point of services was AWC and majority of the services were to be delivered through AWWs and ANMs. SAM Clinic was organized on VHNDs in the presence of AWW/ASHA. In these clinics, ANMs verified children with SAM, referred them to NRC (if needed) or enrolled them in CMAM programme based on the medical condition and appetite of the child.

Along with these two departments, JEEVIKA (JEEVIKA didi) was involved in the programme implementation with prime responsibility of community mobilization and imparting health and nutrition education regarding Infant and Young Child Feeding (IYCF) and care of SAM children. Block-level convergence meetings were planned on a quarterly basis, under the chairmanship of BDO. In these meetings, block- and sector-level officials of the Department of Health and ICDS, JEEVIKA and PRIs discussed programme challenges and mitigation efforts. Similarly, in district-level review meetings, the programme review was conducted under the leadership of the district magistrate with all concerned departments and key programme outcome indicators and processes were discussed.

- ii. In **Uttar Pradesh**, the Health and ICDS departments work in close coordination for CMAM implementation. Health department is undertaking the medical management part of the intervention both at the community and facility levels. There are separate departmental guidelines for Health and ICDS departments, that describe the actions, roles, and responsibilities of both departments. Joint Health and ICDS department meetings are organized for sensitizing the district officials and reviewing programme progress.

The integration between two departments is critical for the success of the interventions such as screening, identification, mobilization and nutrition management, and medical management. The first phase of SAMBHAV served as a good learning experience. The future strategy involving several other line departments is under development.

5.10.3 Involvement of Department of Women and Child Development (DWCD), Public Health Department, Rural & Tribal Department, PRI members in implementation of programme (Maharashtra, Meghalaya)

- i. In **Maharashtra**, the following departments are involved in the implementation of the Village Child Development Centre (VCDC) programme: DWCD (for screening, provision of food, follow up, counselling, home visits), PHD (for supporting medical check-ups, certification of children with SAM, providing medical treatment and referral services for children with medical complications, and counselling services), Rural Development Department (for mobilizing the local funds and logistics to ensure timely and uninterrupted supply of medicines), PRI members (for community mobilization for growth monitoring sessions and follow-up processes), and Tribal Development Department [for financial support in tribal districts through Panchayat Extension to Scheduled Areas (PESA) funds and other local funds].

Additionally, government officials from various departments have been involved in a few districts for the adoption of SAM children. It has helped in child-wise monitoring ensuring desired weight gain and support to the families. As part of community participation, Muth Bhar Dhanya (Contribution of a fistful of grain) has been promoted to ensure community ownership towards the children.

- ii. In **Meghalaya**, sectoral meeting, involving CDPO, MO, BDO, LS, ANM, AWWs ASHAs, Block Programme Managers (NRLM), Village Heads, VO Leaders, is held on a monthly basis. The sectoral meeting is intended to facilitate teamwork between the Health Department, Community & Rural Department, Social Welfare Department and communities. Block Development Officers, CDPOs and Block Medical Officers are specifically requested to attend the meetings of priority facilities. Deputy Commissioners oversee and give approval for the sectoral meeting schedule of each block within their district, ensuring that there is a set day and time for these meetings each month.

5.10.4 Engagement of concerned departments and development partners (Gujarat)

In **Gujarat**, UNICEF supported the Department of Health and Family Welfare (DoHFW) technically throughout the programme planning and through developing strategy, implementation plan, training package and guidelines, capacity development, monitoring and supportive supervision, MIS development and joint review for the overall strengthening of CMAM programme across the State.

Faculty of Preventive and Social Medicine (PSM) Department of GMERS Medical College were involved in capacity building at the district level and for supportive supervision and monitoring CMAM programme implementation at district level across Gujarat.

State Institute of Health and Family Welfare (SIHFW), District Training Team (DTT) and District Training Centers (DTC) teams collaborated to strengthen capacity building at state, district and block level trainings. National Centre of Excellence for Integrated Management of Severe Acute Malnutrition (IMSAM) technically supported state government, UNICEF and State Center of Excellence in developing new THR-based recipes as nutritional therapy for treating SAM children without any complication at the community level.

State Centre of Excellence (SCoE) was established jointly in collaboration with UNICEF and DoHFW for supporting the IMSAM programme implementation, monitoring and supportive supervision and joint review at the state level. DoHFW in convergence with DWCD helped in the field implementation for CMAM programme for community mobilization, anthropometric assessments, screening children with SAM, home visits, counselling, joint review, and supply of THR.

5.11. Capacity Building

Continued communication and routine information exchange, coupled with technical guidance, should be ensured for stronger capacities and effective implementation of CMAM programme in India. The practices on capacity building followed in different states of India are as follows:

5.11.1 Training in small batches and hybrid mode (Odisha, Chhattisgarh)

During the COVID-19 pandemic, the training of field functionaries faced a setback due to COVID-19 related restrictions. This led to delays in the implementation and scale-up of CMAM in states like Chhattisgarh and Odisha. In order to continue the momentum of CMAM training even at the time of COVID-19, the states of Chhattisgarh and Odisha conducted training in virtual or hybrid mode to equip frontline workers with the right knowledge and skills for identifying and providing treatment to SAM children. The practices on training and capacity building adopted by both the states at the time of COVID-19 restrictions are highlighted in this section.

- i. In **Odisha**, CMAM pilot project was implemented in Nabarangpur & Koraput districts.

One-day orientation training programme on the effectiveness of community-based treatment programmes to treat children aged 6-59 months with uncomplicated SAM using alternative energy-dense foods.

Three-day district-level orientation training on the implementation of comprehensive CMAM programme.

Two-day orientation training of SHG members on preparation of augmented THR.

Virtual training of Medical Officers, District Programme Manager (DPM) NHM, Reproductive and Child Health (RCH) team, RBSK manager and team and block programme manager from NHM on CMAM protocol.

One-day block-level training of frontline workers on the implementation of CMAM programme by district trainers.

Training guides were prepared in English and translated into the local language for circulation among grassroot-level workers. After the hybrid training, knowledge of master trainers (LHV, CDPOs and LS) was assessed using a pre-training and post-training test, which showed an improvement in the knowledge from 48.2% to 83.7% in Nabarangpur and from 53.7% and 89.5% in Koraput. In all sector meetings, CMAM is an agenda point for discussion and doubt-clearing sessions are also held.

- ii. In **Chhattisgarh**, due to COVID-19 restrictions, trainings were initially limited as per instructions from the DoWCD. During the launch of the programme in January 2021, special permission was taken by Director, WCD to allow training of frontline workers on CCSAM programme in small batches with the precautions to contain spread of COVID-19 infection. Hence, precautions for respiratory hygiene like mask-wearing and use of sanitizer were simultaneously ensured along with monitoring of training through district and state officials.

Decentralization of trainings was done by conducting trainings at sector level to ensure maximum participation. Further, a staggered approach was adopted for screening of children for SAM identification and help was taken from the AIIMS team to ensure high coverage, timely detection and enrollment of children in CSAM programme.

5.11.2 Bi-annual district level training (Assam)

In **Assam**, with support from UNICEF, in 2021, two rounds of training were conducted for all districts and state-level officials (including DSWOs, CDPOs, Supervisors and Poshan Abhiyan coordinators) under the innovation head of POSHAN Abhiyaan for 15 districts. Further, in the division-wise Training of Trainers (ToT) programme at the state level, one resource person from each project has been trained on CMAM for conducting further training at the project/district level. Trainings was also organised for sector supervisors and other ICDS staff. Trainings is conducted every 6 months.

5.11.3 Multiple rounds of training and training based on challenges faced in field (Rajasthan)

In **Rajasthan**, six rounds of orientation, reorientation and refreshers of the AMMA programme and reporting framework have been conducted. An MIS framework was introduced and discussed with all Deputy Directors (DDs) of 20 districts in an in-person orientation.

This was followed up by a phased zoom-video conference of ToTs in which a total of 1344 participants from 20 districts were trained. This included 28 DC/DPA, 81 CDPO, 632 LS, 292 NTT and 66 monitors from CSO partners. There were also continuous refresher training sessions held online to troubleshoot challenges that are emerging in the field.

5.11.4 Cascade-mode training (Bihar, Gujarat, Maharashtra, and Jharkhand)

i. In **Jharkhand**, a cascade training approach was followed at the district level. A pool of district-level master trainers was created with support from SCoE-SAM, Rajendra Institute of Medical Sciences (RIMS) and UNICEF. The master trainers and resource person from RIMS and UNICEF supported during block-level training. State-level monitors from UNICEF and RIMS monitor training at block level to ensure quality. Two-day face-to-face trainings were conducted at the district level to build capacity of ICDS and Health functionaries. Refresher training and orientation are conducted at 6-months interval or on need basis (Figures 29 to 31).

- **Preparation:** A training package consisting of training module, formats, registers, and presentations in local language, counselling book and Essential Nutrition Practices during COVID-19 flipbook has been developed.
- **Resource person:** Internal and external personnel & officials from medical college empaneled at SCoE-SAM provide technical support at State/District training.

Micro-Plans of training have been developed after reviewing the number of participants, details of the venue, finalization of batches with names of resource persons. Agenda was developed in consultation with the districts.

Figure 29: Resource Pool for capacity building

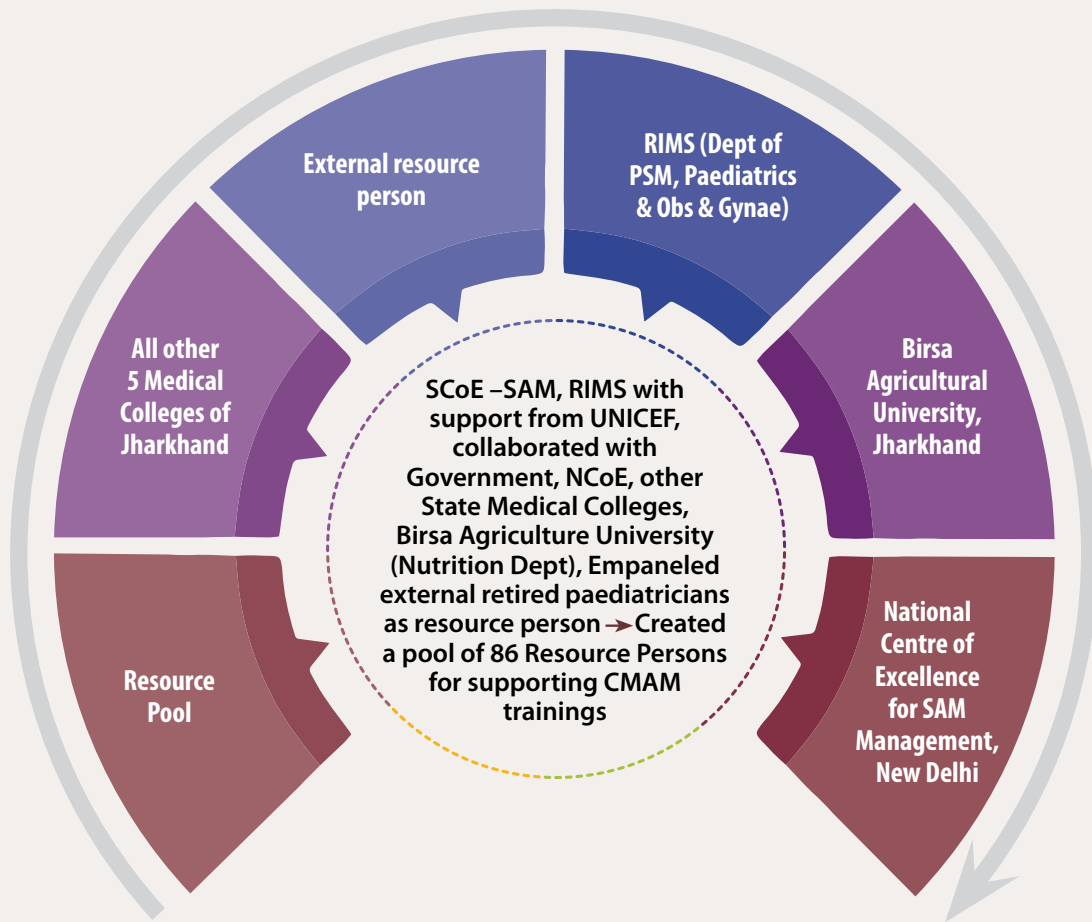


Figure 30: Tool used in CMAM trainings in West Singhbhum District, Jharkhand



Figure 31: Capacity building in Jharkhand



ii. In **Bihar**, trainings were conducted in cascade mode where first master-level trainings were organised by the Department of Health in coordination with ICDS Department. National Centre of Excellence for Management of Severe Acute Malnutrition (NCoE-SAM), Kalawati Saran Children's Hospital (KSCH), New Delhi was the technical agency for developing the training module and imparting training through skilled trainers. Thereafter, separate batches for frontline workers were formed.

Each of the cadres received training from Master Trainers with one representative from KSCH, New Delhi who was present as observer to oversee the quality of training delivery. One-day orientation of the programme was also conducted for the community mobiliser of JEEVIKA and NRC staff as per their roles in the programme.

Training on management of malnutrition under 6 months of infants were also organized. Training for frontline workers is organised every six months. During the COVID-19 period, trainings were organised through the virtual mode, reverting to offline training soon after services opened up.

iii. In **Gujarat**, training is an integral part of the CMAM roll-out plan. Master trainers and training packages were created for the CMAM programme. Cascade trainings were planned and executed at the State, District, Block and PHC level. Satellite Communication (SATCOM) sessions were also planned on a regular basis to reiterate the key messages on the identification of children with SAM, monthly screening, CMAM programme implementation, Medicine and Nutrition Therapy, monitoring, supervision, review, follow up and strengthening MIS for CMAM programme across Gujarat.

iv. In **Maharashtra**, a separate training module was developed for VCDCs. The cascading model of training was followed. At the state level, selected ICDS supervisors, CDPOs, THOs, and MOs were trained as master trainers. These master trainers conducted training at the block level. The frontline functionaries i.e., AWWs, ANMs were trained at the ICDS beat or PHC level. After the initial intensive training programme, based upon the district-specific need, the refresher training programmes were conducted.



5.11.5 Hands-on training (Telangana)

In **Telangana**, AWTs, Sector Supervisors, ANMs and MOs were trained on implementing the SSFP. Hands-on training was also given to workers in the selected districts on screening and identification of SAM & MAM, use of weight-for-height growth chart, conducting appetite test, assessment of oedema, conducting counselling sessions with caregivers, referral, monitoring and discharge. Three-day training programme was organized for AWTs and Sector Supervisors in every ICDS project area. Refresher training is also given to all the frontline functionaries through T-SAT (Telangana State Network) programme.

5.11.6 Collaboration with the National Institute of Public Cooperation and Child Development (NIPCCD) for capacity building (Meghalaya)

In **Meghalaya**, capacity building of functionaries on identification and management of SAM/MAM children was conducted in collaboration with the National Institute of Public Cooperation and Child Development (NIPCCD).

Capacity building was conducted for the state-level functionaries and through them the field-level functionaries were trained. Through this training programme 5896 AWWs of the State were taught about SAM and MAM children identification and management through module 8 and 13 of the Incremental Learning Approach (ILA).

Handholding support was provided to the field functionaries whereby the District Project Officers (DPOs), CDPOs, and supervisors were physically present with selected AWWs (those who still needed guidance) during the weighing and measuring process so that the measurements were correctly undertaken.

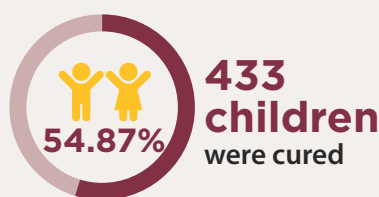
5.12. Scalability, Replicability and Sustainability

5.12.1 Gujarat

In **Gujarat**, between April to June 2016, CMAM programme was piloted in 4 districts. SAM children enrolled in CMAM programme were managed at community level. Out of 798 SAM children who completed 8 weeks treatment in CMAM programme, 433 (54.87%) children were cured. This successful CMAM pilot was then immediately scaled up across select blocks of 13 tribal districts and then across all talukas of 13 tribal districts in a phased manner. The CMAM programme was then scaled up across Gujarat covering 33 districts and 8 corporations in second phase.

Between April to June 2016 CMAM programme
was piloted in **4 districts**

798 SAM
children
completed 8 weeks
treatment



5.12.2 Madhya Pradesh

In **Madhya Pradesh**, the IMSAM programme was initiated with 9 districts and scaled up across the entire state (52 districts).

5.12.3 Odisha

In **Odisha**, the CMAM programme has been scaled-up across 30 districts. The augmented THR or therapeutic food is being prepared by the Women SHGs of the respective the district, indicating the sustainable nature of the feeding component of the programme

5.12.4 Maharashtra

In **Maharashtra**, VCDC is already scaled-up throughout the State. The team is now focusing on quality monitoring through building data systems such as dedicated software for end-to-end management of children with SAM.

5.12.5 Telangana

In **Telangana**, the programme was initiated in 2 districts and scaled-up across 7 districts in the state by WDCW Department.

5.12.6 Jharkhand

In **Jharkhand**, Johar Poshan programme is being scaled up in all AWCs of the West Singhbhum district. Similar model has been adopted in Godda district and community-based programme Suposhit Godda was launched in October 2021 using district funds.

Johar Poshan programme relies on the existing ICDS and Health department structure without any programme-specific additional human resources. The medicines, micronutrients, and food are also already available in the existing government structure; therefore, it does not put additional financial burden. Currently the programme is district-funded.

SAAMAR (Strategic Action for Alleviation of Malnutrition and Anaemia Reduction) programme has been launched in the state in a phased manner, with phase I focusing on 5 districts. It will be scaled up across the state strategically (Figure 32).

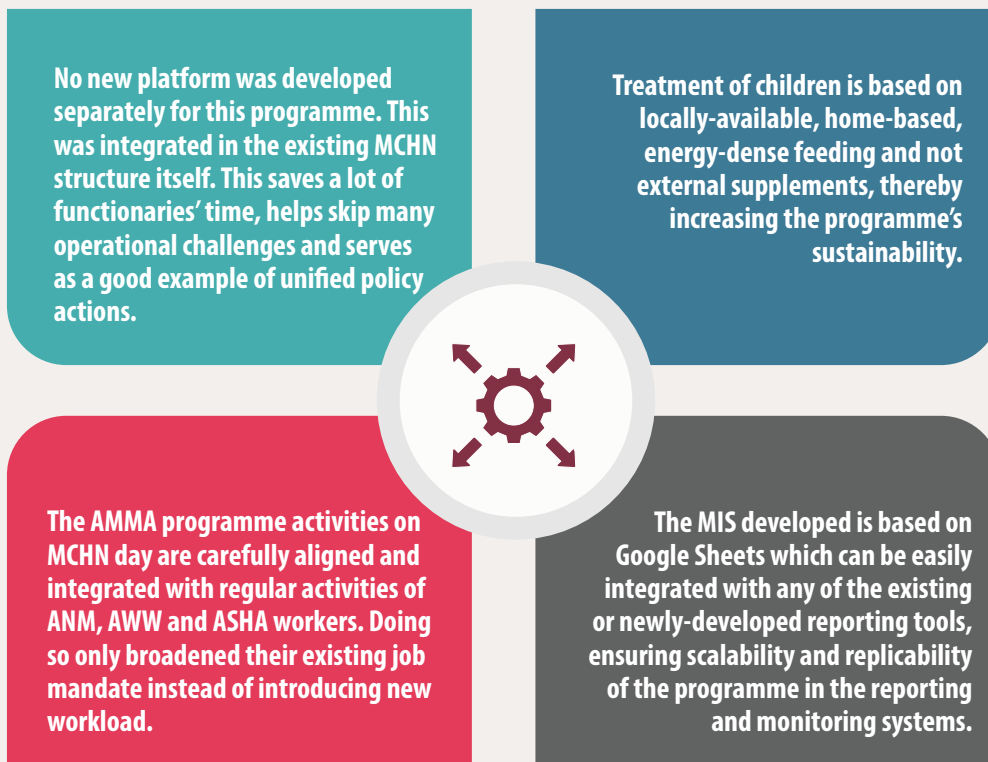
Figure 32: CMAM programme being scale-up in the entire states in phased manner as SAAMAR programme



5.12.7 Rajasthan

Following points make the programme more scalable, sustainable and replicable based on the experiences from Rajasthan (Figure 33).

Figure 33: Points included in Programme to be more scalable, sustainable and replicable

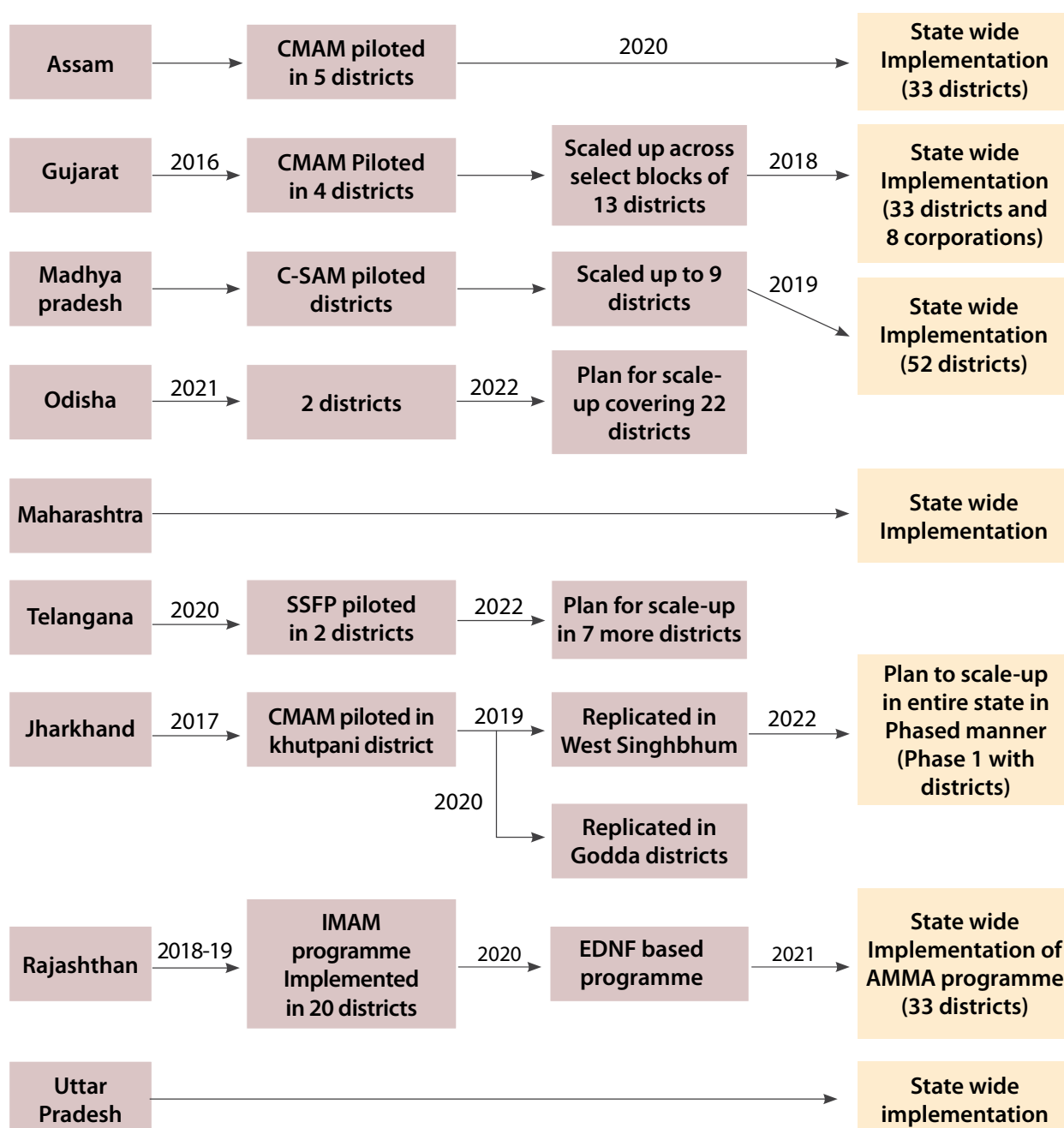


5.12.8 Uttar Pradesh

In **Uttar Pradesh**, the SAMBHAV programme is already a state-wide initiative implemented across all 75 districts. The future strategy for SAMBHAV proposed two biannual campaigns; first, a three-month long campaign between July-September, and second, a one-month campaign in December, with an assessment between two rounds. The focus will be on all categories of malnourished children which include LBW, SAM, SUW under 5 years. The SAMBHAV strategy is conceptualized in a way to utilize existing programme opportunities with greater focus on the intersectoral engagement, improved capacities, and a 360-degree communication approach to mobilize and engage the community.

Journey of different Indian states for CMAM programme scale is illustrated in Figure 34.

Figure 34: CMAM programme scale-up across the states





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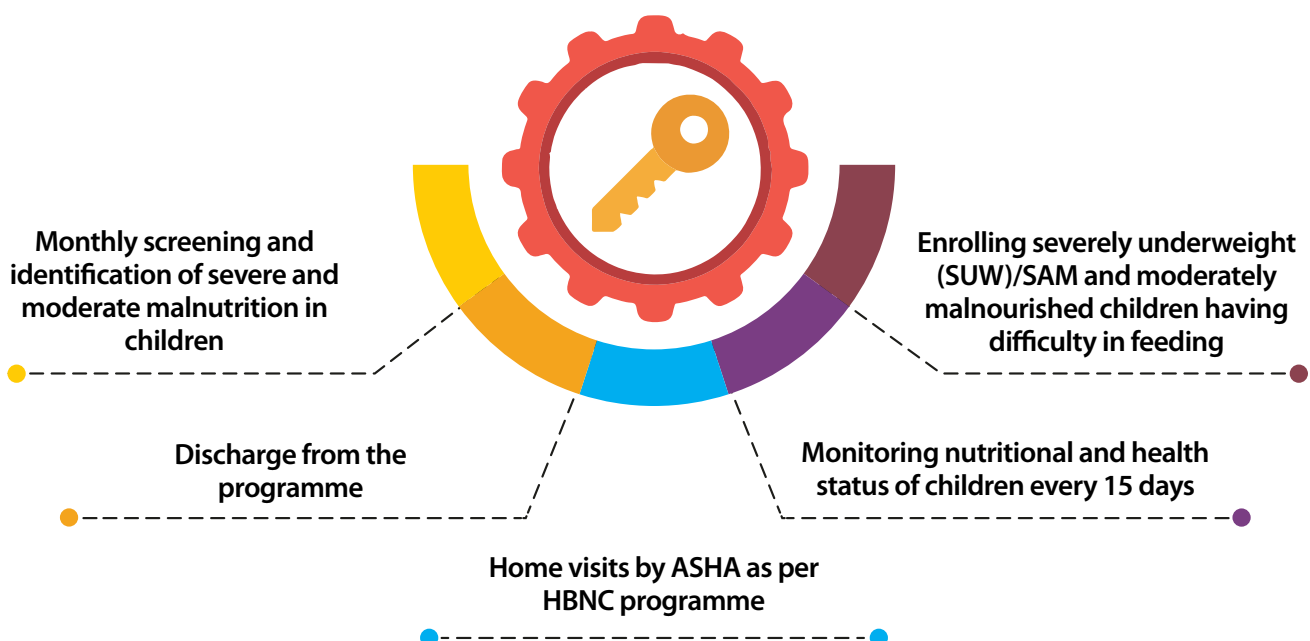
Community-Based Management of Infants (Under 6 months) with Severe Acute Malnutrition

Evidence from India suggests that a large proportion of the nutrition-risk observed in children 6-59 months, can be predicted by the nutrition-risk seen in the first six months of life. Cohort data from India shows that two-third of children with wasting at 12 and 24 months have had wasting at one or more points during the first six months of life. Evidence also suggests that interventions delivered during child's early life are more likely to succeed faster, with better and sustainable outcomes. Both facility-based and community-based interventions are required to manage the children who are at risk. Additionally, children who are discharged from facilities such as Special Newborn Care Units (SNCUs), or those born with low birth weight or preterm are at risk and need quality care during follow-up and at community level.

Several states like Maharashtra, Chhattisgarh, Madhya Pradesh and Bihar have prioritised care for infants (under six months) who are at nutrition-risk and initiated efforts to improve the care and services. Low birth-weight babies who do not fall under the criteria of admission in facility-based care, require support regarding breastfeeding counselling and follow-up.

Samvardhan, a programme for Community-Based Management of Acute Malnutrition in U6M infants, was initiated in Bihar because parents were not keen on inpatient treatment. Development of guidelines and recording formats based on current national and international resources were prepared. Capacity building and training of the frontline workers (ANMs, ASHA and ASHA facilitators and AWWs) were undertaken as per National HBNC & IYCF guidelines. Other steps included hand-holding support to AWWs during supportive supervision visits, baseline assessment and provision of care to children by counseling their mothers by FLWs (Figure 35).

Figure 35: Key activities for management of U6M infants under Samvardhan programme





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Challenges Faced during Implementation

There are several challenges with respect to the implementation of community-based programme for the management of children with SAM and MAM. Some of the key challenges, along with the innovative strategies used by the states to overcome those challenges, are discussed in this section.

i. Community engagement and participation

In **Madhya Pradesh, Maharashtra, Odisha, and Bihar**, lack of awareness among community members and less participation from community members have been reported as a challenge.

In **Madhya Pradesh**, strengthening of community involvement is being done using Poshan Sarkar approach (local nutrition governance). The Chief Minister appealed to all gram panchayats to participate in Poshan Sarkar and also released an annual report of IMAM programme for dissemination and effective engagement of more stakeholders.

In **Odisha**, poor community participation has been observed due to compulsive engagement of mother/caregivers in cultivation or other household engagement and due to cultural taboos. To overcome this, in Odisha, community meetings are held at the village level for mass awareness to ensure uptake and utilization of the available CMAM services.

In **Assam**, due to COVID-19, group meetings and community-based events have not been held in the community, due to which it's not easy to do group counselling. To overcome this, strategies like priority home visits, telephonic calls, WhatsApp messages were adopted.

ii. Lack of knowledge and skills in frontline workers on essentials of CMAM

Another challenge in effective implementation of CMAM pertains to poor knowledge and skills of frontline workers in obtaining accurate anthropometric measurements (reported from Odisha and Madhya Pradesh) and lack of availability of GMDs. To overcome this challenge, in Odisha, a video in Odia was prepared on growth monitoring modules with support from UNICEF.

Field functionaries across the state are now being trained on growth monitoring, identification and management of SAM and improving IYCF. Virtual zoom meetings are also held from time-to-time to orient and clear doubts of field functionaries.

In Madhya Pradesh too, measures were taken for overcoming gaps with respect to skills and capacity of FLWs in obtaining correct anthropometric measurements. They have also ensured 100% availability of medicines and supplements with support of the Health Department.

iii. Training, mindset and resource-related constraints

In **Gujarat**, there were initial challenges in the state with respect to the use of balamrutam.

There were additional challenges in adapting to the changes in modalities of the programme and the introduction of new processes, for instance, the shift in MIS from E-mamta to TECHO+ (Technology Enabled Community Health Operations – Gujarat Government application). Monitoring of CMAM in field and engagement of health officials and functionaries in COVID-19 related activities further created limitations.

These challenges were overcome using the following strategies:

- Conducting trainings in cascade mode for all the FLFs on CMAM programme.
- Updating and revising guidelines under CMAM programme along with orientation/sensitization sessions planning through use of SATCOM platform.
- Integration of CMAM module in TECHO software.
- Development of joint MIS for tracking SAM children in entire state in convergence with DWCD and having joint convergence planning and review of CMAM programme across all levels.

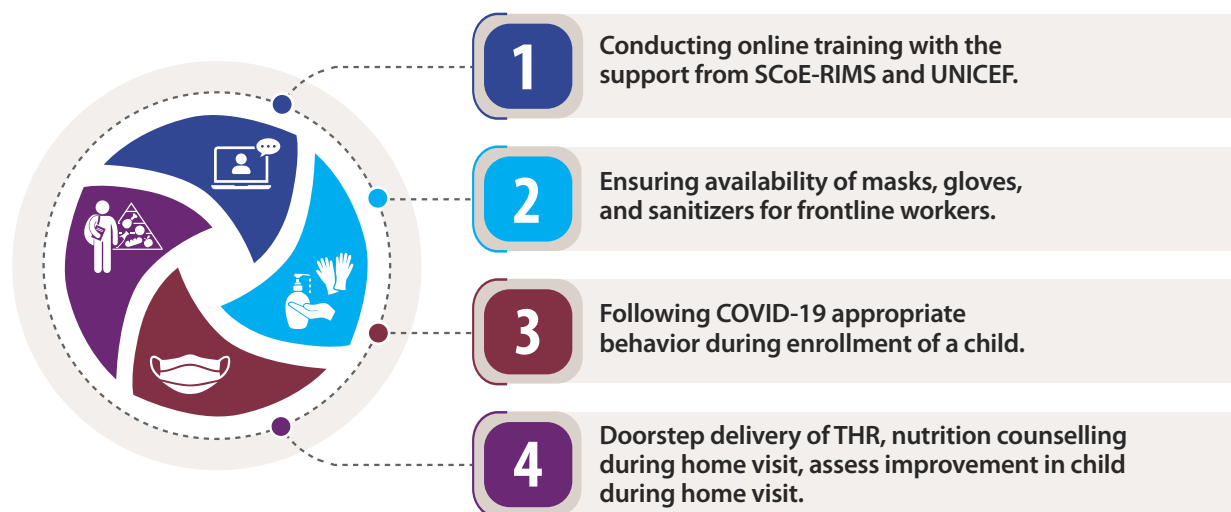
In **Haryana**, there were challenges faced with respect to capacity building/trainings and refresher trainings due to lack of funds. Parents of children with SAM were also not willing to bring their child for check-up/admission to District Hospitals/Private Hospitals/NRCs. To overcome this, government vehicles were used for bringing children for health check-up to facilities.

A similar challenge of lack of willingness of parents was also reported in Jammu and Kashmir due to prevalent social taboos and practices, such as consulting local charlatans. Measures were taken by the state government to create awareness among masses through radio, television and hoardings (prepared in local languages). Health department was involved in the process by nominating CDPOs as nodal officers for ruling out malnourished cases.

In **Jharkhand**, COVID-19 related restriction delayed the process of scale-up of CMAM programme in the state due to poor involvement and less availability of ANMs, inability to conduct face-to-face trainings, closure of AWCs, interrupted THR supply and cessation of GMP activities. To overcome these challenges, following measures were taken:

iv. Integration challenges for multisectoral engagement and linkages (Figure 36).

Figure 36: Multisectoral engagement and linkages



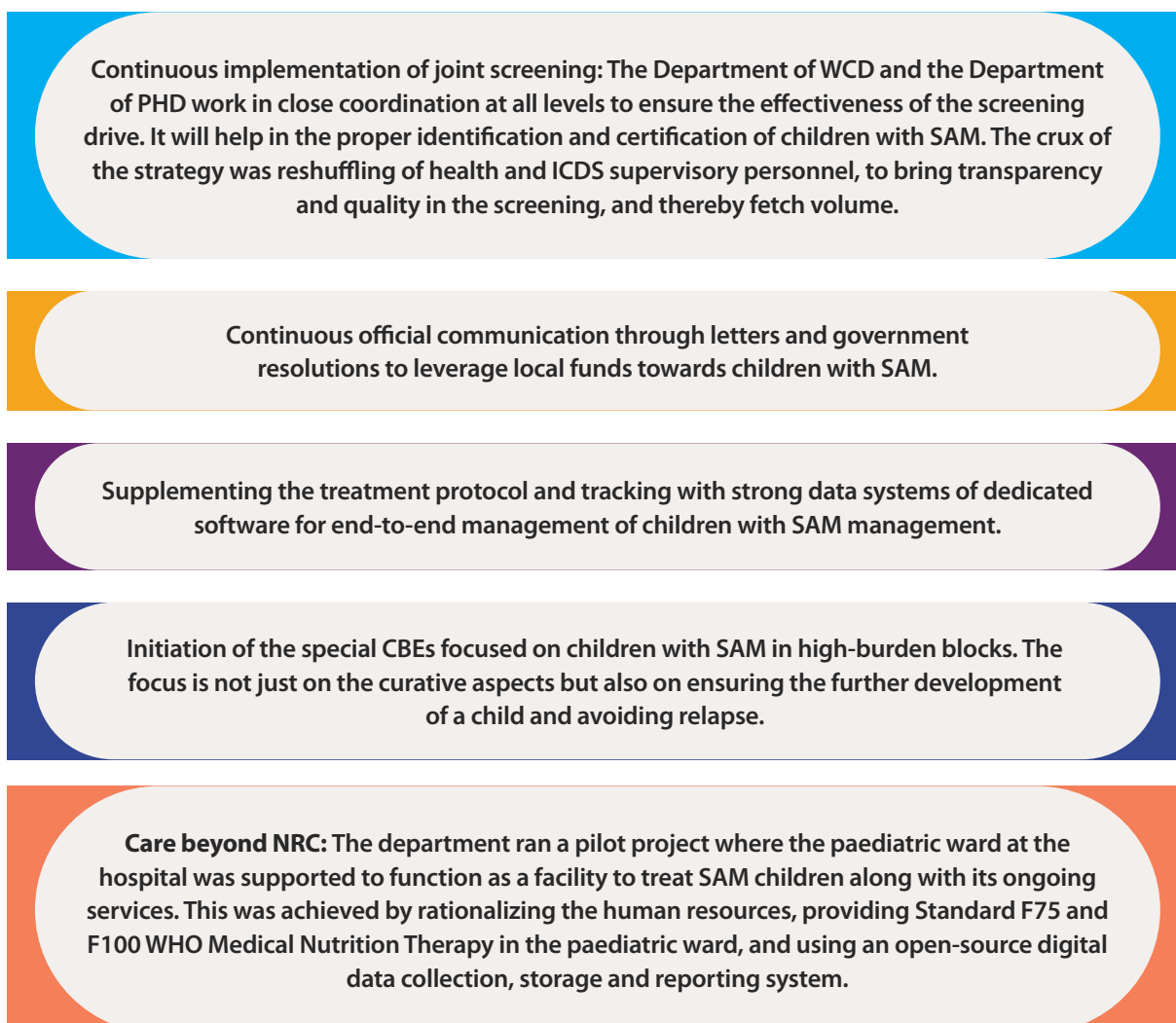
In **Chhattisgarh**, engagement of frontline workers in COVID-19 vaccine duties led to disruption of CCSAM services. Additionally, limited ownership of Health Department and convergence for CCSAM programme and reluctance of workers due to new protocols defined under the programme also posed numerous challenges in the implementation of CCSAM programme in the state. The proposed solution is conducting regular intersectoral meetings, with the involvement of higher district officials like DM and SDM in TLs to ensure convergence and overcoming of reported challenges.

In **Maharashtra**, the following challenges were observed: lack of convergence between health and ICDS functionaries at all levels for ensuring accurate identification of children with SAM, lack of continuous support from health functionaries at all levels in terms of certification and timely delivery of medicines, lack of additional financial support from Gram Panchayat Development Plan (GPDP), PESA and DPDC for delivery of medicines and other logistics, and inadequate data systems for end-to-end management of children with SAM and understanding child-wise progress.

These affect the overall process of review, monitoring, and programme improvement. Need-based counselling of caregivers concerning the management of children with SAM and the requirement of flexibility in CBEs and SBCC campaign are also needed.

Lastly, strong linkages with NRCs through referral system for children with medical complications and those who have not recovered through VCDCs need to be established. Following measures have been actioned in the state to overcome these challenges (Figure 37).

Figure 37: Challenges observed in Maharashtra



In **Rajasthan**, challenges were faced while conducting offline training sessions due to COVID-19 pandemic and GMP activities due to lack of GMDs and increased reliance on MUAC. There was a need for integrating Joint Monitoring plans of Health and ICDS in existing system for speeding up data collection.

To overcome these challenges, refresher training of FLWs on COVID-19-appropriate behavior was conducted. Frequency of online trainings was increased to compensate for the lack of offline trainings due to COVID-19. Mapping of inventory and convergence with other departments and civil society organizations for action on lack of GMDs were also undertaken. Continuous troubleshooting through social media messaging channels and regular refresher and review meetings with block and district officials were also held.

v. Challenges related to the system, field functionaries and community

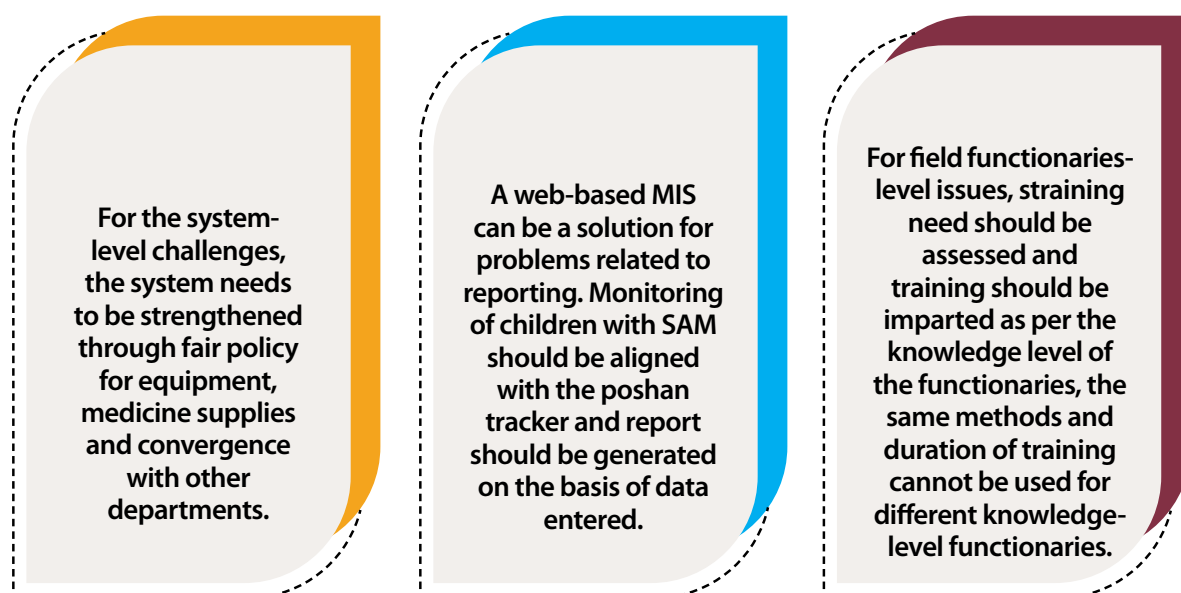
In **Bihar**, the following challenges came up in GMP activities: lack of functional GMDs, lack of knowledge regarding the usage of machines and care of equipment, no system for calibration of equipment in ICDS, lack of fair policy for annual maintenance of equipment, issues regarding identification and follow-up of children with SAM. Regarding medicine supplies, distribution system is weak with respect to availability of medicines at block level and ANM at field level.

Some medicines which are not a part of the essential drug list or which don't have a regular supply chain mechanism (like vitamin A, folic acid and multivitamin syrup) cannot be procured to be distributed to children. There is also limited knowledge and capacity of field functionaries which affects the quality of services delivered in the field.

There are issues in reporting, as preparing reports based on the recorded information and compilation from AWC level to District level is cumbersome. There is no demand at the community level regarding nutrition services like growth monitoring, nutrition counselling and *annaprashan*.

All these challenges can be divided in three categories i.e., system-level, field functionaries-level and community-level (Figure 38).

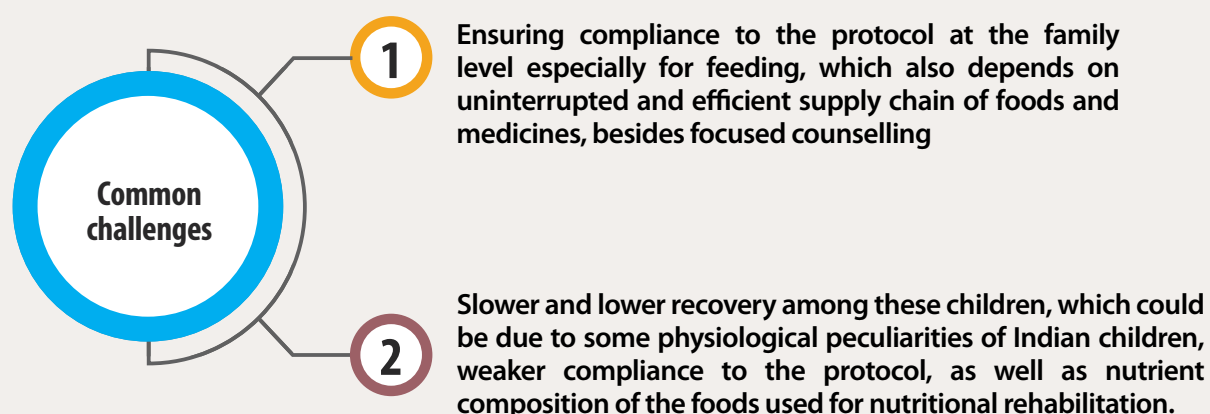
Figure 38: Challenges categorised at various levels in Bihar



In **Uttar Pradesh**, the community-based programme for SAM was scaled up across the state through the SAMBHAV campaign. At-scale implementation of the programme faced the following challenges: Closure of AWCs due to COVID-19, engagement of districts in COVID-19 management and vaccination, impact on the screening quality due to the late roll-out of GMDs, difficulty in ensuring capacities of 1.8 lacs AWWs across the state, Additionally, the transition of paper-based reporting to technology-driven reporting using the poshan tracker for AWWs is a challenging and time-consuming process, requiring considerable support and handholding.

Necessary programmatic adjustments are being made considering the challenges in the first phase of implementation of SAMBHAV programme. The next phase will continue to focus on strengthening the capacities of the FLWs on GMDs, the use of poshan tracker and quality of home visits to improve screening, service delivery and reporting; dedicated communication strategy to influence the demand and mobilization (Figure 39).

Figure 39: Common challenges faced during implementation of SAMBHAV programme



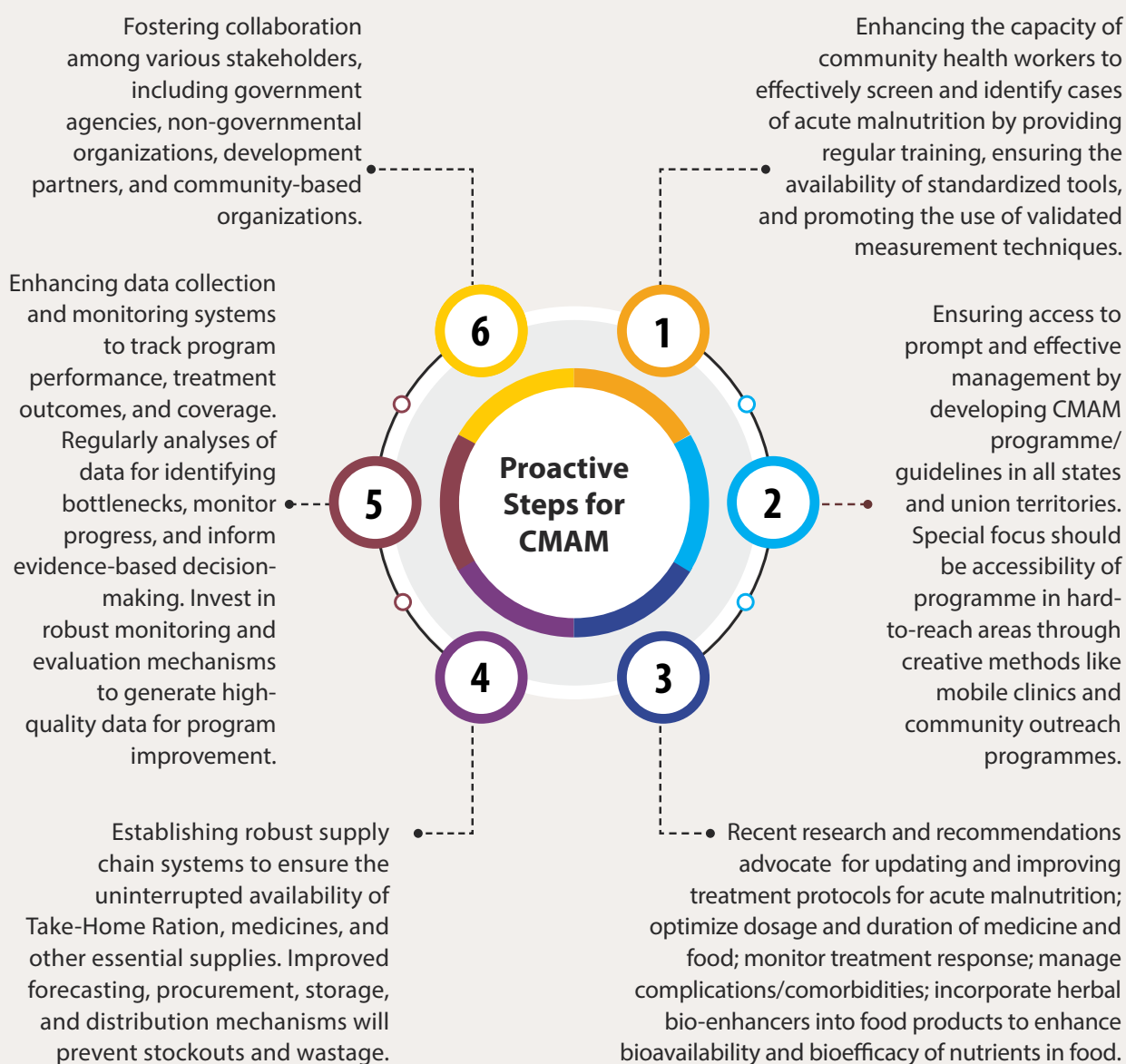
Further investigation for better understanding of these challenges is warranted to develop solutions to strengthen the programmes and improve the outcomes.



8 The Way Forward

Community-Based Management of Acute Malnutrition (CMAM) is an effective tool for combating malnutrition. Several states have taken proactive steps in this direction by developing guidelines. Since malnutrition is prevalent across the country, it is imperative to develop national guidelines on Community-Based Management of Acute Malnutrition. In order to strengthen the existing CMAM programme in an effective manner, the states can take the following actions (Figure 40).

Figure 40: Actions followed-up for proactive steps in various states under CMAM programme



ANNEXURES

Annexure 1: Google form used to capture information from different states of India on CMAM

Community Based Management of children with Severe Acute Malnutrition(C-MAM) - Practices in India

* Required

Email *

Background Information

1. Name of the State
2. Geography of implementation *
State-wide
 - » Select districts
 - » Select blocks
If implemented in districts or blocks, mention the name of the districts
3. Title of the CMAM programme in the State (e.g., in Rajasthan it is called Acute Malnutrition Management Action AMMA programme) *
4. Background (Geographical information, Health and Nutritional status of U5Y children)
5. Baseline Situation (Situation before the introduction of the practice) *

Steps of Management of children with MAM and SAM in community

6. Describe community awareness/sensitization/mobilization process
7. Screening Process- Anthropometric parameters (Method adopted and Process involved)
8. Special effort/Practice for finding the SAM cases
9. Result of special efforts for finding the SAM cases
10. Medical Assessment process
11. Appetite test
12. Details of Nutritional Treatment
13. Place of nutritional treatment
14. Selected Anganwadi centers in an ICDS project are designated as VCDCs.
15. Nutritional Product Name (Ingredients, quantity, Nutritive value, frequency of distribution, dose, packets weight and packets distributed)
16. Mention the nutritional products details given to SAM children
17. Mention the nutritional products details given to MAM children
18. Medical treatment. Mention the condition that require medical management at community level, dose and duration

19. Follow-up while in CMAM programme (frequency and lasts how long, follow-up after discharge (where /who conducts)
20. Health and Nutrition education. (By whom, frequency of counselling, mode of counselling)

Capacity building

21. Capacity building process
22. Mention the frequency of training

Sectoral Integration

23. Involvement of multisectors, any integration happened /who are involved /Process and benefits of that integration

Monitoring and Reporting

24. Recording and reporting details
25. Mention if any methods of monitoring (telemedicine/helplines/ call center)
26. Please provide the details of monitoring (By whom, frequency, feedback and follow-up)

Practices

27. Describe practices on any of the components of community management and result of practice (400 words)
28. Scalability, replicability and sustainability plan
29. Challenges faced
30. Plans to overcome the challenge
31. Share hyperlinks/references to get more details, tools, background documents
32. Share appropriate Pictures – high resolution photographs as images
33. Share contact details of person for more information, details, guidance

Annexure 2: Nutrient composition of Balamrutham Plus used for children with SAM under CMAM programme in Telangana

Under the Supervised Supplementary Feeding Program (SSFP) protocol, 200 ml milk and one egg per day are also provided to MAM/SAM children along with the balamrutham plus ration, which meets the protein requirements. Balamrutham plus is a powder prepared by dissolving in equal amount of lukewarm water to form a paste.

Ingredient	Grams / 100 gram
Skimmed milk powder	13.3
Groundnut	3.3
Oil	20
Sugar	20
Roasted wheat	26.7
Bengal gram	3.3
Rice flakes	13.3
Nutrient	Per 100 gm
Energy (Kcal)	460
Protein (g)	11
Calcium (mg)	419
Iron (mg)	9.1
Zinc (mg)	6.3
Vitamin A (mg)	0.2
Vitamin B1 (mg)	0.5
Vitamin B2 (mg)	0.6
Vitamin C (mg)	15.7
Vitamin B12 (mcg)	0.7
Folic acid (mcg)	36.1
Niacin (mg)	5.5

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