



Accelerating Progress on Nutrition in India: What Will it Take?

THIRD PROGRESS REPORT



NITI AAYOG, WCD DIVISION | JULY 2020

AUTHORS:

This Report is prepared by team at WCD Division, NITI Aayog **(Led by-Shri Alok Kumar,** Dr Supreet Kaur, Ms. Anamika Singh) along with a team from International Food Policy Research Institute (IFPRI) led by Dr Punima Menon.

NITI Aayog acknowledges the contributions of the Ministry of Women and Child Development and Ministry of Health and Family Welfare for sharing the updated information to prepare the report.

CONTENT

Exe	Executive Summary				
1.	INTRODUCTION				
	1.1.	Overview of POSHAN Abhiyaan			
	1.2.	Objective of POSHAN Abhiyaan 3rd report	17		
2.	WHAT	WHAT WILL IT TAKE TO ACCELERATE REDUCTIONS IN			
	UNDERNUTRITION IN INDIA?				
	2.1	About the LiST model and use of the model for projecting			
		the impact of scaling up interventions in India	22		
	2.2.	Potential impact of scaling-up of interventions on wasting			
		(LiST modeling)	25		
		2.2.1. Stunting reduction: Insights on "how" from			
		State success stories			
	2.3.	Potential impact of scaling-up of interventions on			
		wasting (LiST modelling)	29		
	2.4.	Potential impact of scaling-up of interventions on anaemia			
		among women of reproductive age (LiST modeling)	30		
	2.5	Summary	31		
3.	PERFO	RMANCE OF POSHAN ABHIYAAN PILLARS AND STATUS			
	OF DEL	IVERY PLATFORMS	33		
	3.1	Core pillars of POSHAN Abhiyaan	34		
	:	3.1.1. Technology	34		
	;	3.1.2. Convergence	38		
	;	3.1.3. Behavior change communication	40		
	;	3.1.4 Capacity building	44		
	3.2.	Core platforms for intervention delivery	47		
	;	3.2.1. Integrated Child Development Services	47		
	:	3.2.2. Pradhan Mantri Matru Vandana Yojana (PMMVY)	48		
	:	3.2.3. National Health Mission	52		
	3.3	Summary	57		

4.	ADDRE	SSING MAJOR CHALLENGES ON THE ROAD TO A	
	WELL-N	IOURISHED INDIA	59
	4.1.	Complementary feeding	60
	2	4.1.1. Status	60
	2	4.1.2. Recommendations for key actions	62
	4.2.	Anaemia	64
	2	4.2.1. Status	64
	2	4.2.2. Recommendations for key actions	65
	4.3.	Micronutrient deficiencies [1 to 19-year-old population only]	66
	2	4.3.1. Status	66
	2	4.3.2. Recommendations for key actions	68
	4.4.	Emerging cross-cutting challenges	69
	2	4.4.1. Urbanization	70
	2	4.4.2. Overweight, non-communicable diseases and the	
		food environment	72
5.	LOOKING AHEAD FOR TRANSFORMING NUTRITION IN INDIA		
	5.1.	Recommendations for accelerating current trends in	
		addressing key undernutrition goals	76
	5.2.	Recommendations for strengthening key POSHAN Abhiyaan	
		pillars	77
	5.3.	Recommendations for interventions delivery through	
		core platforms (ICDS & NHM)	78
	5.4.	Addressing challenges (old and new) for transforming	
		nutrition in India	79
Ref	erence Li	st	

Annexures

LIST OF FIGURES

Figure 1:	Targets of the POSHAN Abhiyaan			
Figure 2:	The LIST framework			
Figure 3:	Baseline coverage of interventions included in the modelling for India			
Figure 4:	Stunting and wasting reduction by scaling-up nutrition interventions (2016-2025)			
Figure 5a:	Changes in the immediate determinants of nutrition in Chhattisgarh, Gujarat, Odisha and Tamil Nadu (2006-16)			
Figure 5b:	Factors contributing to changes in height-for-age Z-scores (stunting) among 6-59-month-old children between 2006 and 2016			
Figure 6:	Evolution and innovation of nutrition-related State-specific policy and programme initiatives in Chhattisgarh, Gujarat, Odisha and Tamil Nadu (2006-16)			
Figure 7A:	Wasting reduction by scaling-up nutrition interventions (2016-2025)			
Figure 7B:	Projected prevalence of wasting in 2025, by intervention			
Figure 8:	Anaemia reduction by scaling-up nutrition interventions (2016-2025)			
Figure 9:	Pillars of POSHAN Abhiyaan			
Figure 10:	Effective household convergence in Andhra Pradesh: Pregnancy versus postnatal/ childhood			
Figure 11:	Trends in infant and young child feeding practices in India			
Figure 12.	Anaemia among children & adolescents, India, CNNS			
Figure 13.	Percentage of adolescents with Vitamin A, Vitamin D, and Zinc deficiency, India, CNNS			
Figure 14.	Percentage of adolescents with Vitamin B12 and Folate deficiency, India, CNNS			
Figure 15.	Prevalence of nutrition outcomes among children (0-59 months old), by place of residence, NFHS-4 2016			
Figure 16.	Prevalence of nutrition outcomes among adolescent girls (15-19-year-old) and women (15-49-year-old), by place of residence, NFHS-4 2016			
Figure 17.	Prevalence of immediate determinants of nutrition, by place of residence, NFHS-4 2016			

LIST OF BOXES

- Box A: Malnutrition and COVID19: No time to waste
- **Box 1:** Modelling tools in Nutrition
- **Box 2:** State-specific case study on ICDS-CAS roll-out (Madhya Pradesh)
- Box 3: Jan Aandolan Poshan Maah 2019
- **Box 4:** Implementation status of POSHAN Abhiyaan in Rajasthan
- **Box 5:** Take-home ration How to optimize its use?
- **Box 6:** Growth monitoring
- **Box 7:** Quality monitoring of maternal, infant and young child nutrition service delivery at village health, sanitation and nutrition days and community-based events
- **Box 8:** Key insights on health outcomes: Aspirational Districts Programme

LIST OF TABLES

- **Table 1:**Projected number of stunting cases averted among children under 5 years by
type of interventions
- Table 2:
 Platform-wise reach and recall rates



Background

POSHAN Abhiyaan, or National Nutrition Mission, is the Government of India's flagship program to improve nutritional outcomes for children, pregnant women and lactating mothers. Launched in 2018, it strives to reduce the levels of stunting, undernutrition, anaemia and low birth weight babies and address the problem of malnutrition in a mission-mode. POSHAN Abhiyaan's third progress report takes stock of the roll-out status of the Mission on the ground and implementation challenges encountered at various levels.

The initial Report I and II, focuses majorly on the POSHAN Abhiyaan preparedness and implementation by States and UTs, respectively. For the preparation of the earlier Reports data from States and UTs WCD and Health Department was collated with the help of pre-structured format. Further, analysis and ranking of States was done on the data received.

POSHAN Abhiyaan's third progress report (October 2019-April 2020) takes stock of the roll-out status on the ground and implementation challenges encountered at various levels through large scale datasets already available at public domain like National Family and Health Survey (NHFS-4) and Comprehensive National Nutrition Survey (CNNS).

What will it take to accelerate reductions in undernutrition in India?

To assess how POSHAN Abhiyaan can accelerate current trends of decline in stunting, wasting and anaemia by scaling up coverage of key interventions, a modelling analysis was done using the Lived Saved Tool (LiST). Given the ambitions of POSHAN Abhiyaan and activities underway already to accelerate actions, the model assumed that the coverage of all interventions will reach 90% in 2022 and 95% in 2025. Insights were also drawn from an in-depth retrospective mixed methods analysis of selected States (Chhattisgarh, Gujarat, Odisha and Tamil Nadu) that had successfully accelerated stunting reductions in the decade between 2006 and 2016.

The mixed methods stunting reduction success cases in selected States highlighted that in addition to the scaling up of interventions, **important investments in social determinants**, especially related to the status of girls and women (education during childhood, reducing early marriage and early pregnancy, improving care during and after pregnancy), poverty and food security, were important for reducing stunting. States also offer important lessons on **how these changes were facilitated** – ownership of a common vision, capable and well-supported administration and technical partners, adequate and flexible financing, strengthening implementation systems to enable intervention delivery, working with a range of partners and civil society, and finally, using data and evidence to track progress and learn. Currently, POSHAN Abhiyaan actions to address social determinants other than sanitation, which is well covered under national priorities, need to gain momentum.

In this third report, our assessment also covers the status and roll-out of systems strengthening efforts, as well as successes and challenges related to the core platforms of Integrated Child Development Scheme (ICDS) and National Health Mission (NHM) – which implicate focused attention to accelerate intervention coverage and convergence to meet the goals of POSHAN Abhiyaan.

What are some major challenges and key recommendations for transforming nutrition in India

Addressing the complex problem of malnutrition in India is a colossal task that needs a meticulous and multi-pronged approach. Through implementing POSHAN Abhiyaan, the Government of India aims to reduce child **stunting, underweight** and **low birth weight** by 2 percentage points per annum and **anaemia** among children (and young females) by 3 percentage points per annum. In addition, new findings from the Comprehensive National Nutrition Survey (CNNS 2016-18) have again highlighted the role of micronutrient malnutrition - anaemia and other micronutrient deficiencies.

To state the emerging challenges like micronutrient deficiencies, and the cross-cutting challenges of **urbanization** and of growing **overweight and obesity**, our primary recommendation is to first acknowledge that the new findings, as documented in this report, need attention. Deeply investing in improving dietary quality – through a primary focus on dietary diversity and diet quality – will help achieve multiple nutrition goals. In addition, following the path already laid out on **fortification** of key staples will help mitigate, at least partially, some micronutrient deficiencies. The focus of work on **urban nutrition** must go well beyond catering to the challenges of the urban poor and must engage stakeholders across the board to address issues of overweight and obesity as well.

Thus, it can be interpreted that for solving the malnutrition challenge in India requires the nutrition policy and program having lasting and old challenges, as well as on keeping pace with new and emerging challenges. Following this, to strengthen POSHAN Abhiyaan for improving key nutrition outcomes, we offer the following recommendations:

A. Recommendations for accelerating current trends in addressing key undernutrition goals

(Based on Lived Saved Tool modelling analysis and insights drawn from an in-depth retrospective mixed method analysis of selected States that successfully accelerated stunting reductions, especially in the decade between 2006 and 2016)

Stunting

- For **stunting**, In the aspirational scenario model, the models predict a stunting decline from 37.5% in 2016 to 31.9% in 2022 and 30.1% in 2025. The projected number of **stunting** cases to be averted among children under 5 years was ~7 million in 2022 and 9 million in 2025.
- The LiST model emphasises **improving complementary feeding** using both behaviour change interventions and the complementary food supplements in ICDS, for stunting reduction. Appropriate complementary feeding would avert about 60% of the total stunting cases.
- The success cases in selected States highlighted the importance of investments in girls and women (education during childhood, reducing early marriage and early pregnancy, improving care during and after pregnancy) along with other social determinants for reducing stunting.
- Improved water, sanitation, hand washing with soap and hygienic disposal of children's stools were other effective interventions which would avert about a quarter of the stunting cases.

Wasting

- The LiST model suggested including interventions that go beyond the treatment of severe acute malnutrition (SAM) and include those that also address moderate wasting, have the potential to achieve larger declines in wasting than by tackling SAM alone.
- Facility-based treatment of SAM, implemented by the MoHFW, needs to scale-up to reach all those needing in-patient care. The ICDS already includes interventions to address moderate malnutrition but the quality and reach of ICDS food supplements and the improvements in screening and referral are imperative to ensure that interventions work as well as they should.
- Overall, it is urgent that a full strategy for prevention and integrated management of wasting be released nationally.

Anaemia

- The LiST model estimated that a scale-up scenario that focuses only on health sector interventions will achieve modest improvements in anaemia among women of reproductive age. Therefore, more attention is needed on other determinants and interventions.
- B. Recommendations for strengthening key POSHAN Abhiyaan pillars:
- Technology
 - Many States still need to accelerate the procurement of phones and training of providers and managers.
 - Supportive efforts to scale-up technology servers, network issues, capacity building, help desks need attention.
 - A State-by-State assessment, using the findings of this report, should drive Statespecific action to close gaps.

Convergence

- The vision of effective household convergence needs translation from national to district-level stakeholders. Without a clarity of vision, efforts related to convergent action planning will remain tokenistic exercises.
- New models for diagnosis, planning and closing of gaps in effective convergence are needed.

Behavioral change

- Efforts must be focused on extending the reach of routine platforms, like home visits, supported by community-based events and mass media, since these have higher reach.
- Interpersonal counselling to support good nutrition practices must reach every family that has a child in the first two years of life, using existing frontline worker platforms and all available platforms. All evidence suggests this is important for impact, while the overall campaign itself works to create a buzz of awareness.

Capacity building

- Investment in the quality of capacity building needs to be a central goal, especially on growth monitoring and quality of counselling.
- To accelerate the roll out of e-ILA, procurement process of smartphones needs to be expedited, and training prioritized.
- C. Recommendations for strengthening core delivery platforms for POSHAN Abhiyaan (ICDS & NHM)

ICDS platform

- Key governance challenges related to financing, supervision vacancies, infrastructure and more, must be addressed.
- Core interventions such as home visits, THR and growth monitoring need significant quality improvements. All of these are important to detect and support care and referrals for wasting and to prevent stunting.

NHM platform

- Ongoing efforts should continue to focus both on the quality of nutrition interventions in health services and on routinizing/integrating fully these efforts to reduce missed opportunities for service delivery. Like, strengthening nutrition interventions into the existing health platforms, such as Antenatal Care (ANC), Home Based Newborn Care (HBNC) and Home Based Young child Care (HBYC).
- A key challenge is the use of private care platforms, especially for curative care, and this will need attention for key interventions, such as diarrhea control and use of zinc.

D. Recommendations for addressing old and new challenges for transforming nutrition in India

Addressing complementary feeding, anaemia and micronutrient deficiencies

- Complementary feeding
- o Use all existing program platforms to emphasize complementary feeding at every possibly contact with families with children under two years of age.
- o Ensure strong linkages between counselling and take-home rations in ICDS and ensure that they reach all the households with a child below two years.
- o Improve the composition and quality and then do everything possible to increase the reach of the take-home rations.
- o Address the systems challenges both in ICDS and in the health sector that are currently preventing adequate reach and quality of counselling services, in particular.

11

- Anaemia and micronutrient deficiencies
- o Scale-up and strengthen some of the existing interventions in the health system to address anaemia, including micronutrient supplements, deworming, prevention and treatment of malaria.
- o Accelerate other focus actions of the Anaemia Mukt Bharat (AMB) mission and social determinants of anaemia.
- A range of other micronutrient deficiencies have been identified, but these do not require piecemeal, single micronutrient solutions. Invest in improving dietary quality – through a primary focus on dietary diversity through the food system – to achieve multiple nutrition goals.
- o Staying the course on fortification of key staples will help mitigate, at least partially, some micronutrient deficiencies.

E. Recognizing and mobilizing to address the emerging and cross-cutting challenges of urbanization and overweight/obesity

- Identify and acknowledge the new challenges posed by urban food systems and food environments and urban health service delivery. The focus of work on urban nutrition must go well beyond catering to the challenges of the urban poor and must engage stakeholders across the board.
- In both food and health systems in urban contexts, engaging private health care providers and a range of actors who can help create healthier food environments for a range of consumers is essential.
- The challenge of overweight, obesity and non-communicable diseases must be confronted by tackling the food and physical environments in homes, workplaces and institutions.
- Connect the existing movements, like Eat Right and Fit India with the POSHAN Abhiyaan's mission of improving diets for all stakeholders.

Conclusions

As pointed out above, while POSHAN Abhiyaan continues to play an important role in India's endeavour against malnutrition; we need to now accelerate actions on multiple fronts. As the LiST tool modelling study shows, we need to quickly graduate to a POSHAN-plus strategy which apart from continued strengthening the four pillars of the Abhiyaan also requires renewed focus on other social determinants in addition to addressing the governance challenges of NHM/ ICDS delivery mechanisms.

Box A: Malnutrition and COVID19: No time to waste

India is rallying a range of efforts to tackle and stay ahead of the COVID19 pandemic. Current efforts are focused on protecting the health work force, diagnostics, treatment, contact tracing, and providing optimal care for patients. However, this is no time to lose focus on India's efforts to tackle malnutrition. The reason is that India is the world's first large country with a high burden of malnutrition to face the COVID 19 challenge. Although other countries have recognized the added risks that overweight and non-communicable diseases pose to severity of health outcomes related to COVID 19, no countries that have experienced the pandemic to date have had an undernourished population.

Undernutrition matters tremendously in the context of infectious disease, especially for vulnerable populations like children. Although children have been largely protected from the risks of COVID19 in other countries, these countries, including China did not have a burden of child undernutrition. Children, in particular, are more vulnerable to infection if they are undernourished. In addition, India has a burden of pneumonia deaths among children under five years of age that is almost five times higher than China's burden of pneumonia deaths among children. India's burden of pneumonia deaths is attributed substantially to the high levels of undernutrition. Adult populations that are undernourished are also at greater risk of infection and of severe outcomes when infected; this is apparent in the context of other infectious diseases like tuberculosis and HIV.

What does this mean for POSHAN Abhiyaan in the context of COVID19? It means that efforts to secure good nutrition must be a strong part of the COVID19 prevention. Ensuring that high impact interventions remain in place is key, but may require changes to how they are delivered. For instance, food supplements in the ICDS or IFA tablets for pregnant women may need to be home-delivered; cash transfers in the context of PMMVY may need to be made smoother or expanded; counselling and support for breastfeeding and complementary feeding may need to be delivered at distance or via telephone. Last, but not least, given the importance of underlying social determinants such as poverty and food insecurity, ensuring that social protection programs function well, and without interruption, to support households in a time of crisis is going to be very important.

Government of India has already taken important steps towards adapting health and nutrition service delivery and expanding the social safety net. In the next POSHAN Abhiyaan monitoring report, we will review these efforts.

CHAPTER 1: INTRODUCTION

POSHAN Abhiyaan (or, National Nutrition Mission) is the Government of India's flagship programme to improve nutritional outcomes for children, pregnant women and lactating mothers. Launched by Hon'ble Prime Minister Shri Narendra Modi on March 8, 2018, with the motto 'Sahi Poshan Desh Roshan', the acronym POSHAN (PM's Overarching Scheme for Holistic Nourishment) spelt the Government's commitment to tackle the issue of malnutrition with well-defined policies and support from the highest level. The programme aims to ensure service-delivery and interventions by using technology, behavioural change through convergence and lays down specific targets to be achieved across different monitoring parameters over the next few years.

The Abhiyaan focuses on strengthening policy implementation (at central and State levels) to improve targeting (identification of high burden districts), enhance multi-sectoral convergence, develop innovative service delivery models and rejuvenate counselling and community-based monitoring. It aims to reduce child stunting, underweight and low birth weight by 2 percentage points per annum and anaemia among children (and young females) by 3 percentage points per annum (Figure 1).



Figure 1 : Targets of the POSHAN Abhiyaan

POSHAN Abhiyaan aims to address malnutrition in a mission-mode through a holistic life-cycle approach. NITI Aayog has played a critical role in shaping the POSHAN Abhiyaan. As a part of its mandate, NITI Aayog is required to submit Reports on the Status of Implementation of the POSHAN Abhiyaan bi-annually to the PMO/Cabinet Secretary. It is almost two years since the launch of POSHAN Abhiyaan, and this is the third bi-annual progress report of its implementation. Earlier two Reports prepared were based on the data collated from States and UTs WCD and Health Departments. Based on the data received, computation scores were calculated to assess the preparedness and implementation status of POSHAN Abhiyaan in States and UTs.

In view of POSHAN Abhiyaan's current roll-out status, implementation challenges and in-depth analyses to accelerate reductions in undernutrition, third report draws together insights from a range of data sources and experiences and aims to offer constructive recommendations to strengthen the effectiveness of POSHAN Abhiyaan in transforming India's nutritional status. In addition, present report also projects estimated impacts using the Lives Saved Tool to model the potential impact of improving and scaling up intervention coverage.

It encapsulates detailed insights from data, evidence and inputs from multiple stakeholders and assesses the current nutritional status of the country, on the basis of the latest available national level datasets. Of the seven pillars of POSHAN Abhiyaan, this report focuses on four (technology, convergence, behavioural change and capacity building) and provides an update on their current status of roll-out and perceived challenges in implementation. The Abhiyaan's success rests on the ability to engage and transform core program platforms of ICDS and NHM, such that the health and nutrition interventions can reach households, women and children in the first 1,000 days of life. This report examines the State of these core platforms and summarizes recent research on what is needed to engage these platforms effectively to achieve the Abhiyaan's objectives.

Addressing the complex problem of malnutrition in India is a colossal task that needs a meticulous and multi-pronged approach. Recent findings from India's Comprehensive National Nutrition Survey (CNNS 2016-18) have highlighted the role of micronutrient malnutrition - anaemia and other micronutrient deficiencies. Along with examining these challenges, this report also looks at the cross-cutting challenges of urbanization and of growing overweight and obesity.

Present Report is prepared with the capacity to assess current nutrition status of the country keeping in view the recent or available national level datasets. The outcome indicators influencing the nutritional status of the target population are also discussed in this Report. The report is organized as follows: **Chapter 2** lays out the findings of the modelling of the potential impact of scaling up interventions and reviews insights from successful State examples of stunting reduction, offering insights on what strategies might deliver the most impact; **Chapter 3** compiles insights both on the progress on scaling up key components of POSHAN Abhiyaan as well as insights on the core implementation platforms – the ICDS and the NHM; **Chapter 4** reviews a set of old and new challenges that are essential to consider for POSHAN Abhiyaan to have impact, and finally **Chapter 5** offers recommendations on a range of actions to magnify and expand the impact of the range of actions currently underway under POSHAN Abhiyaan.

17

CHAPTER 2: W CCELERATE Ε K Δ CTIONS IN D UTRITION R Ξ D INDIA?

How can POSHAN Abhiyaan accelerate current trends in addressing its key undernutrition goals? To assess this, we draw on insights from two bodies of work.

First, to identify interventions and to assess the impact of scaling them up to accelerate reductions in undernutrition for India, particularly **stunting, wasting and anaemia,** we implemented a modelling analysis. Several modelling tools on nutrition exist **(Box 1)** and of these, we chose the Lived Saved Tool (LiST) for its wide-spread use and applicability.

LiST, a computer-based model, estimates the impact of scaling up on maternal, newborn, and child health, and nutrition interventions in low- and middle-income countries. The model maps changes in the coverage of specific interventions into changes in outputs such as wasting or stunting. It has been used globally for modelling and planning maternal and child health interventions by more than 90 governments, UN agencies, donors. Interventions in the model cover the first 1000 days and were selected based on the evidence in the Lancet series on maternal and child undernutrition

(Bhutta et al., 2013).

In present analysis the additional, interventions pertaining to hygiene and sanitation were added.

Second, we drew on state-level success cases in addressing stunting. States within India that had successfully accelerated stunting reductions, especially in the decade between 2006 and 2016, were studied using in-depth retrospective mixed methods analyses. The analysis of exemplars or success States or countries has been gaining traction in recent years. We summarize findings from success case analyses of four States – Odisha, Chhattisgarh, Gujarat and Tamil Nadu.

Box 1: Modelling tools in nutrition

There are a range of modelling tools in nutrition for various purposes. These include the Lives Saved Tool (LiST) and Optima Nutrition for projecting the impact of scaling-up health and nutrition interventions, Cost of the Diet to identify optimal combinations of available foods that meet the nutritional requirements of households, Optifood to provide information on food-based recommendations to achieve nutritional adequacy for children, Intake Modelling and Prediction Program (IMAPP) to estimate optimal amount of nutrients for fortification, and Minimod to identify cost-effective solutions to specific- nutrient related problems (See Annexure I for details). The two modelling tools that can project the impact of scaling up of health and nutrition interventions on maternal and child health outcomes are (1) Lives Saved Tool (LiST); and (2) Optima Nutrition.

The Lives Saved Tool (LiST) is a publicly available computer-based modelling tool that can be used to estimate the impact of scaling up intervention coverage on undernutrition and mortality. The model maps changes in the coverage of specific interventions into changes in outputs such as wasting or stunting. The modelling is affected by the available data and the quality of available data. LiST does not consider the feasibility of achieving the estimated targets for coverage within a context.

Optima Nutrition is a quantitative tool that can provide practical advice to governments to assist with the allocation of current or projected budgets across nutrition programs. The model contains a geospatial component to determine funding allocations that minimize stunting, wasting, anaemia or under-five mortality at both the national and regional levels. It can provide estimates of minimum level of funding required to achieve the nutrition targets. This modelling tool requires estimates on the costs of scaling-up interventions in addition to coverage data.

The LiST software was utilised to estimate reductions in stunting, wasting, and anaemia between 2016 and 2025 because the goal of the modelling was not on resource allocation but on assessing the impact of an available, already-financed package of interventions. The LiST software has been used widely for projections of improvements in maternal and child mortality and for models of changes in child undernutrition. Therefore, it was used to model the impact of increasing coverage of interventions on nutrition outcomes in India by 2022 and 2025.

2.1. About the LiST model and use of the model for projecting the impact of scaling up interventions in India

The Lives Saved Tool (LiST), version 5.63, was used to project the potential impact of changes in intervention coverage from 2016 to 2025 on child stunting and wasting as well as anaemia among pregnant women and women of reproductive age.

This version of the modelling tool is built into a demographic software package (Spectrum) by the tool developers. For the present analysis, multiple **data sources** were used. These included data from the Census of India, 2011, Sample Registration System (SRS) and the fourth round of the National Family Health Survey (NFHS). The base for demographic, nutrition and health outcomes were projected using over **190 indicators**. The demographic projection was based on 2011 Census data. Baseline intervention coverage data was taken from NFHS-4 (2015-16), the most recent survey in India that sampled 601,509 households and provided estimates of most indicators for the country. **Figure 2** presents the list of interventions that were used. Some interventions that were not available for India were set to zero at baseline (**Figure 3**).

The interventions included in the model cover a range of interventions included in the POSHAN Abhiyaan framework of interventions, and those already delivered by the ICDS and the health system, but not include all interventions.

Three interventions for pregnant females included are:

- · tetanus toxoid vaccination,
- iron folic acid (IFA) supplementation, and
- food supplementation during pregnancy.

Two key interventions for **covering births** included are:

- skilled birth attendance and
- · health facility delivery.

Four interventions for infants are:

- immunization,
- vitamin A supplementation,
- ORS and
- zinc provision during diarrhea.

In **addition**, the LiST included **Infant and Young Child Feeding (IYCF)** practices as a proxy for effective programs to support optimal IYCF.

Coverage indicators were available for the most recent birth in the five years preceding each survey.

Assumptions about changing in intervention coverage: given the ambitions of POSHAN Abhiyaan and activities underway, we assumed that the coverage of all interventions will increase to **90% in 2022 and to 95% in 2025.** Rate of changes were equal for each year between 2016-2022 and 2022-2025. However, the results have not accounted increase in efforts towards the rigour that has now come since the launch of POSHAN Abhiyaan, PMMVY, Anaemia Mukt Bharat, HBNC etc. as no national level dataset captures the improvement of indicator post launch of POSHAN Abhiyaan.

With the upcoming NFHS-5 the analysis will be re-looked keeping in view the various efforts being put under the ambit of POSHAN Abhiyaan.



Figure 2: The LIST framework

Source: https://www.livessavedtool.org/resources

Figure 3: Baseline coverage of interventions included in the modelling for India



Note 1: *Ministry of Health and Family Welfare - Children Enrolled Under Nutritional Rehabilitation Centres https://pib.gov.in/newsite/PrintRelease.aspx?relid=160827 (April 2017) and correspondence with MoHFW that notes that 1.7 lakh children were covered by NRC treatment; this forms 20% of the approximately 8 lakh children estimated to need in-facility treatment, and 2% of the overall number of wasted children (8 million). In the absence of a community-based program to manage acute malnutrition, the total coverage of children treated for SAM in India is estimated based only on the reach of the in-patient treatment program.

Note 2: NFHS-4 (2016) was used as the baseline for all intervention coverage, except for SAM treatment, which was obtained from MoHFW, as noted above. ANC - Antenatal care; IFA - iron and folic acid; MAM - Moderate acute malnutrition; SAM: Severe acute malnutrition.

2.2. What is the potential impact of scaling-up of interventions on stunting?

In the aspirational scenario model, where coverage of selected interventions was targeted to be at 90% by 2022, stunting decline was projected from 37.5% in 2016 to 31.9% in 2022 and 30.1% in 2025 (Figure 4). The projected number of stunting cases averted among children under 5 years was ~7 million in 2022 and 9 million in 2025 (Table 1). Appropriate complementary feeding would avert about 60% of the total stunting cases. Improved water, sanitation, hand washing with soap and hygienic disposal of children's stools were other effective interventions which would avert about a quarter of the stunting cases.



Figure 4: Stunting reduction by scaling-up nutrition interventions (2016-2025)

Tabla 1. Dua	lostod number	of alumling accord	s avarlad amaana	, ahilduan undau E i	veeve hu hune of	into wyo ntiono
IANIE I. Pro	lecten numner i	NI SHINHINA CASPY	s averien amono	i couoreo unoer o	vears ov ivoe of	interventions
		or oraning ouoor			yould by type of	

Interventions	2022	2025
Pregnancy		
Calcium supplementation	30,400	39,192
Iron supplementation	296,196	365,161
Food supplementation during pregnancy	71,052	95,491
Infancy		
Age-appropriate breastfeeding practices	161,247	243,111
Appropriate complementary feeding	4,246,409	5,696,655
Vitamin A supplementation	93,116	119,892
Rotavirus vaccine	935	896
WASH		
Improved water source	11,897	41,209
Improved sanitation	450,061	566,394
Hand washing with soap	946,808	1,136,549
Hygienic disposal of children's stools	357,052	430,238
Others		
Households protected from malaria	263,417	339,089
Total	6,928,590	9,073,877

2.2.1. Stunting reduction: Insights on "how" from State success stories

Remarkable reduction in stunting was noted in **Chhattisgarh, Gujarat, Odisha and Tamil Nadu**, between 2006 and 2016, mostly among older infants (6 months and above). Insights from the success stories of these States can help understand what factors contributed to stunting declines. They also help understand how policy and program elements led to changes in high-impact interventions and determinants.

Changes in immediate determinants were mixed across the four States. The timely introduction of complementary foods declined in all the States, except Chhattisgarh and the proportion of undernourished women (with body mass index <18.5 kg/m2) decreased in all four States. There was consistent improvement in several underlying determinants – household assets, sanitation, electricity - but to differing extents. The coverage of nutrition and health interventions improved in all the four States. In the case of Tamil Nadu, along with some improvements in coverage there were some declines too (Figure 5a and b).

Results of a regression decomposition analysis showed that **changes in intervention coverage** and **improvements in socio-economic status (SES)** were the main contributing factors to changes in stunting among children (6-59-month-old) in all the four States. In the case of Odisha, village electrification and in Tamil Nadu maternal education and sanitation also played a role.

The way State policies and programs evolved and innovated was also a notable feature in these success stories (Figure 6). Major national efforts in the form of **ICDS and N(R)HM** introduction and scale-up were complemented by State responsiveness. The four States responded differently but added State-specific innovations on to the national efforts. The nature and timing of State innovations and add-ons were also key enablers.

These policy changes were further supported by the individual State's vision for change and key le enabling policy environments. Each State had a vision to address an outcome. Chhattisgarh, being a new State, was geared towards the reduction of infant mortality rate (IMR). In Odisha, the goal was to reduce both infant and maternal mortality rates (IMR and MMR). Gujarat and Tamil Nadu were driven by the vision of improving child nutrition and health. The State-level efforts were sustained by capable and stable administration that was given space and time. There was adequate financing for the implementation of systems. Stakeholders from various fields, like media, civil society, human rights commissions, politicians and bureaucrats, acted as catalysts and champions to support and sustain these positive changes.



Figure 5a: Changes in immediate determinants of nutrition in Chhattisgarh, Gujarat, Odisha & Tamil Nadu (2006-16)

Source: NFHS-4 analysis

Figure 5b: Factors contributing to changes in height-for-age Z-scores (stunting) among 6-59-month-old children between 2006 and 2016



Source: IFPRI study: Stories of Change

Figure 6: Evolution and innovation of nutrition-related state-specific policy and program initiatives in Chhattisgarh, Gujarat, Odisha and Tamil Nadu (2006-16)

ODISHA

- Launch of IMR mission (2001)
- Positive deviance approach (Ami bhi paribhu)
- Navajyoti scheme (2005)
- Odisha State Health Mission launched (2005)
- E-pragati (2006)
- Janani express (2008)
- Mo Mashari program (2009)
- Nutrition operation plan (2010)
- MAMATA scheme (2011)
- CMAM initiated (2014)

CHHATTISGARH

- State formed in 2000
- Mitanin program launched (2001)
- Public Distribution System reforms (2004)
- Integrated Health and Population Policy (2006)
- Kuposhan Mukhto Abhiyaan (2009)
- Fulwari scheme (2012)
- Vajan Tyohar (2012)
- Nava Jatan Yojana (2012)

GUJARAT

- Chiranjeevi Yojana (2005)
- Mobile health units (2005)
- Synchronization of ICDS and health boundaries (2007)
- Nand Ghars (2010)
- Anna Prashan Diwas guidelines released (2010)
- Gujarat State Nutrition Mission (2012)
- *Mamta Ghar (2012)*
- Gati Sheel Gujarat programme (2014)

TAMIL NADU

- Tamil Nadu Integrated Nutrition Project (1980 1997)
- State Plan of Action child growth and development (1993)
- Kishori Shakti Yojana (2001)
- Pulse polio campaign (1995) Polio free in 2005
- Malnutrition-free Tamil Nadu –Multi-sectoral strategy (2003)
- Tamil Nadu health systems development project to reach marginalized and tribal population (2005)
- Dr. Muthulakshmi Reddy Maternity Benefit Scheme (2006)
- Universal PDS

Source: IFPRI study: Stories of Change

2.3. What is the potential impact of scaling-up of interventions on wasting?

The only two interventions available in the LiST tools for estimating the impact on wasting are treatment of severe acute malnutrition (SAM) and moderate acute malnutrition (MAM). As coverage data for these two interventions were not collected as part of NFHS-4, the 2016 coverage estimates, which are treated as the baseline estimates.

While scaling-up MAM treatment to 90% coverage showed significant impact on reducing wasting from 22% in 2016 to 13.3% in 2022, scaling-up of SAM treatment did not show any marginal impact on wasting reduction (Figure 7A and Figure 7B). It is possible that SAM treatment would only be able to move wasted children from SAM to MAM categories, thus would not contribute to overall reduction in wasting. Given that the World Health Assembly (WHA) target for wasting is at 5% in 2025, additional preventive nutrition and health sensitive strategies are required to achieve further reductions in wasting to meet WHA target for India.



Figure 7A: Wasting reduction by scaling-up nutrition interventions (2016-2025)



Figure 7B: Projected prevalence of wasting in 2025, by intervention

2.4. What is the potential impact of scaling-up of interventions on anaemia among women of reproductive age (LiST modelling)?

For anaemia, the numbers and proportions of women with anaemia that could be prevented were estimated by scaling-up the three key interventions from their most recent coverage level in 2016 to 90% in 2025. These included:

- · Coverage of iron supplementation and/or fortification during preconception;
- · Coverage of iron or multiple micronutrient supplementation during pregnancy; and
- Coverage of households protected from malaria (percent of households owning at least one insecticide treated bednet (ITN) and/or protected by indoor residual spraying (IRS).

Coverage data for iron supplementation during preconception period and proportion of households protected from malaria were not collected as part of NFHS-4 and hence were unavailable for India. Therefore, these intervention coverage estimates were set to zero at baseline. Baseline coverage for using iron-folic acid (IFA) during pregnancy in India was 30.3%.

In the LiST model, where coverage of selected interventions was ensured to be at 90% by 2022, anaemia among pregnant women was projected to decline from 50.3% in 2016 to 34.4% in 2022, and among women of reproductive age (WRA) it was projected to reduce from 52.9% in 2016 to 39.6% in 2022 (Figure 8a and b). In numbers, this corresponds to ~4 million and 49 million cases of anaemia prevented among pregnant women and WRA in 2022, respectively. Preconception blanket iron supplementation/fortification has the highest impact among WRA, and both preconception IFA and pregnancy IFA supplementation have impact on anaemia reduction among pregnant women. Given the WHA target of 50% reduction of anaemia in WRA by 2025, India will need to mobilize other strategies to achieve the WHA target.

Figure 8: Anaemia reduction by scaling-up nutrition interventions (2016-2025)



A. Among pregnant women





30

Summary

For POSHAN Abhiyaan to accelerate impacts on stunting, the LiST modelling re-emphasises the critical importance of focusing on improving complementary feeding using both behaviour change interventions and the complementary food supplements in the ICDS as routes. The models predict that improving complementary feeding is the single most important intervention to help accelerate reduction in stunting in the future. In addition, other research, including the stunting reduction success cases in the four selected States, have highlighted the importance of investing in girls and women (education during childhood, reducing early marriage and early pregnancy, improving care during and after pregnancy) along with other social determinants for reducing stunting. The LiST model does not include all these actions, but the collected insights from the LiST modelling and the success case analyses point in the direction of especially scaling up interventions for complementary feeding and addressing some critical underlying social determinants.

For **wasting** reductions, the LiST model suggests that including interventions that go beyond treatment of SAM to include those that also address moderate wasting, are necessary to help achieve larger declines in wasting than by tackling SAM alone. Notably, the ICDS already includes interventions to address moderate malnutrition but the quality and reach of ICDS food supplements and improvements in the screening and referral are both imperative to ensure that interventions work as well as they should. The current interventions from the MoHFW, to ensure in-facility care for SAM children, are currently reaching around 20% of those who are estimated to need such care. Even as these need expansion, what is imperative is stronger linkages with community-based programs to reach the large majority of wasted children before they require in-patient facility care.

For **anaemia**, the models estimate that a scale-up scenario that focuses only on health sector interventions will achieve modest improvements in anaemia among women of reproductive age. Therefore, more attention is needed to other determinants and interventions as well.

Last, but not least, the LiST model, based on MNCH intervention scale-up, tends to underestimate changes in stunting, compared to wasting. Therefore, it is **plausible that stunting gains could be stronger than those seen in these models.** Again, in view of the insights from the successful States on stunting reduction, it is imperative to consider investments in known social determinants of stunting along with scaling up interventions. Currently, POSHAN Abhiyaan actions to address social determinants need to gain momentum alongside a continued focus on scaling up health and nutrition interventions.

CHAPTER 3:

PERFORMANCE OF POSHAN ABHIYAAN PILLARS AND STATUS OF DELIVERY PLATFORMS

POSHAN Abhiyaan aims to address malnutrition in a mission-mode through a holistic life-cycle approach.

3.1. Core pillars of POSHAN Abhiyaan

For implementation of POSHAN Abhiyaan, the core strategy/pillars of the mission are:

- ICDS-CAS (Common Application Software)
- Convergence
- Behavioural change, IEC Advocacy
- · Training and Capacity building
- Innovations
- Incentives
- Grievance Redressal.





This report will focus on four pillars of POSHAN Abhiyaan and provide an update on the current status of activities under the components/pillars of convergence, technology (ICDS-CAS) and training & capacity building. The details are provided in the following sub-sections. Details of the Major accomplishment under the POSHAN Abhiyaan are placed as Appendix I and II.

3.1.1. Technology (ICDS-CAS)

POSHAN Abhiyaan introduced ICDS-Common Application Software – an innovative web and mobile-phone based application to improve service delivery and program management. The application facilitates Anganwadi workers (AWWs) in their daily tasks, helps supervisors to assess and provide feedback to the workers, and helps other program officials to track service delivery and take informed decisions. The ICDS-CAS has three components – a mobile-based application for AWWs, a mobile-based application for supervisors, and a web-based dashboard for other program officials.

34

Current status of ICDS-CAS roll-out

According to the POSHAN Abhiyaan monthly progress Report for December 2019 shared by MWCD, ICDS-CAS has been launched in 27 States and union territories (UTs). Overall, a total of 6,11,369 AWWs and 12,646 supervisors are using this technology, and 9,85,00,183 households have been registered. A total of 26,56,284 pregnant women, 41,32,763 lactating mothers and 4,74,98,539 children (0-6 years) have been registered.

As seen in Table 1 (Annexure II), of the 27 States/UTs, in 20 of them ICDS-CAS has been rolled out in all the districts. In Assam, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, Telangana and Uttar Pradesh, it has been rolled-out in fewer than 35% of the districts (POSHAN Abhiyaan monthly progress report December 2019, MWCD).

Of the 27 States/UTs, in 17 States ICDS-CAS has been rolled out in more than 90% Anganwadi Centers (AWCs), in 8 States in nearly all (>99%) centers, and in Chandigarh, Dadra & Nagar Haveli and Mizoram in all the centers. In Assam, Chhattisgarh, Jharkhand, Madhya Pradesh, and Uttar Pradesh fewer than 30% of AWCs have ICDS-CAS (Ministry of Women and Child Development, 2019b).

Procurement process of smartphones for ICDS-CAS is progressing well in most States/UTs. In 23 States/UTs, 60% or more smartphones, as required for ICDS-CAS, have been procured. In Karnataka, Odisha, Punjab, and Haryana tender for procurement is in process but no smartphones have been procured as yet. Only in West Bengal neither there is any procurement, nor has any tender been placed as yet. Overall, nationwide out of the required 14.94 lakh smartphones for ICDS-CAS, 7.94 lakh have been procured, which is nearly 50% (Update on Procurement of Smart Phones and Growth Monitoring Devices May 2020, MWCD).

Similarly, procurement of Growth Monitoring Devices like-Infantometer, Stadiometer, Weighing Scale (Infants) and Weighing Scale (Mother & Child) is also under process. In 28 States/UTs more than 60% of Infantometer and in 27 States/UTs more than 60% of Stadiometer are procured; and in 26 States/UTs more than 60% of Weighing Scale (Infants) and Weighing Scale (Mother & Child) are procured. Overall, around 65%, 64%, 62% and 65% of Infantometer, Stadiometer, Weighing Scale (Infants) and Weighing Scale (Mother & Child) are procured, respectively. (Update on Procurement of Smart Phones and Growth Monitoring Devices May 2020, MWCD).

Setting up of **State Program Management Unit (SPMU)** at the State level and help desks at the district and block levels is an important part of ICDS-CAS roll-out. According to the POSHAN Abhiyaan monthly progress report (Ministry of Women and Child Development, 2019b), of the 35 States/UTs from where data was received¹, only in Nine States and UTs (A&N Island, Bihar, Chandigarh, Dadra & Nagar Haveli, Gujarat, Madhya Pradesh, Meghalaya, Mizoram and Rajasthan) all the sanctioned posts for SPMU were filled and in four States >90% posts were filled. None of the posts were filled in UT of Ladakh.

District and block-level help desks are the key supporting structures for implementing ICDS-CAS. There continue to be a high proportion of vacancies at both levels in several States. Only in A&N Island, Assam, Dadra & Nagar Haveli, Meghalaya, Mizoram, Nagaland, Rajasthan, Telangana and Uttarakhand all the district and block help desk positions were filled. In Andhra Pradesh, Gujarat, and Maharashtra while all the district help-desk positions were filled, not all the block positions within these districts were filled. In 11 States/UTs none of the positions were filled at both the levels. In the remaining States, there were vacancies at both the district and the block levels (Ministry of Women and Child Development, 2019b).

¹ Data not received from West Bengal

Use of ICDS-CAS

The ICDS-CAS roll out can be considered complete when AWWs and their supervisors use their mobile applications, and the remaining project staff use the web-based dashboard for assessing service delivery and make data-driven decisions.

The usage of ICDS-CAS by supervisors was varied across the 27 States/UTs. In Chandigarh and Dadra and Nagar Haveli, all supervisors and in Andhra Pradesh, Gujarat, Himachal Pradesh and Maharashtra more than 90% supervisors were using ICDS-CAS (Annexure II). In 7 States, less than 25% supervisors were using ICDS-CAS and in 10 States (Andaman & Nicobar Island, Assam, Daman & Diu, Delhi, Goa, Kerala, Lakshadweep, Puducherry, Sikkim and Uttarakhand) none of them were using it (Ministry of Women and Child Development, 2019a).

A process **evaluation** of the ICDS-CAS, conducted between September 2017 and February 2018 in Madhya Pradesh and Bihar, showed that a majority of workers preferred the mobile application to the paper registers (World Bank, n.d.-c).

The **training of workers** was effective and overall AWWs demonstrated good knowledge of the application. Nearly 80% of AWWs used the application daily. The AWWs found the application to be useful in prioritizing home visits, in counselling during home visits, and in plotting growth charts. The dashboard has undergone design changes to make it user-friendly and to make relevant data available to improve service delivery. Nearly all AWWs reported at least one challenge in using the application. These challenges were primarily related to infrastructure – for example, hardware, application and network issues (World Bank, n.d.-c).

A recent field visit to the World Bank priority States² indicated that AWWs were using CAS easily and have begun using the new module on community-based events. **A few areas for strengthening were identified** –

1. Replacement of smartphone: In places where CAS was rolled out during the original phase of the project, there is a need for phones to be replaced. In some cases, AWWs are using their personal phones.

2. Use of data: At present, focus is limited to whether the AWCs are open or not and not on service delivery. Data quality is also not being examined effectively ((World Bank, 2019).

² World Bank priority States - Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Gujarat, Rajasthan, Karnataka, Tamil Nadu, Uttar Pradesh
Box 2: State-specific case study on ICDS-CAS roll-out (Madhya Pradesh)

A process evaluation was conducted by independent evaluators, between September 2017 to February 2018, on ICDS-CAS roll-out in the State of Madhya Pradesh (MP). Some State-specific results are presented here to provide insights on ICDS-CAS roll-out in MP.

In MP, CAS was implemented without any major impediments. The State's existing information technology infrastructure, staff capabilities, motivation to roll-out CAS, and presence of human resources enabled the roll-out. State-level leadership, governance aspects of overall ICDS and multiple-partner collaboration were found to be the key enabling factors for ICDS-CAS roll-out in MP.

Frontline workers' training: For the ICDS-CAS app training, first LS were trained on the AWW app and then they trained the AWWs. LS were then trained on the LS app. In terms of training, all AWWs and LS were satisfied with the training. More than a third of AWWs (34%) reported receiving refresher training in the 3 months prior to the survey and nearly two-thirds (64%) expressed the need for further training on the AWW app.

Device and app functionality & helpdesk: A majority of AWWs (81%) contacted LS and more than half of the AWWs (58%) contacted the helpdesk (BC/DC) for help regarding the issues they faced with their mobile/app. Of the 27 AWWs who had contacted the helpdesk, 21 reported that their issues were resolved within a week. Only 9 AWWs (19%) faced issues in reaching out to the authorities regarding mobile or app challenges.

Use of ICDS-CAS app: Around 96% AWWs reported using the AWW app and nearly all of them used the app daily. Among the 49 AWWs, a majority (85.7%) preferred using mobiles over registers. Nearly all CDPOs were using dashboard data for analysis, monitoring, and providing feedback. All DPOs reported monitoring data and providing feedback on them. However, they shared concerns regarding report generation and data quality.

Impact of ICDS-CAS on service delivery: For 81.6% AWWs home visit planning and growth monitoring had become easier, and more than 80% reported using videos during home visits. Nearly half of the AWWs (48.9%) felt that access to data has become easier, and nearly 47% perceived an improvement in their relationship with the beneficiaries. Of the 50 AWWs in the intervention areas, more than half (58%) reported changes to the planning and organization of the VHND since the introduction of the ICDS-CAS app.

Impact of ICDS-CAS on utilization of services: More than 70% women in intervention and comparison areas reported that their children were weighed and nearly 60% reported receiving information on their child's growth. More than 90% of women reported receiving THR in both intervention and comparison areas. Approximately, only one in two women were aware of VHNDs and only 50% of women attended VHND.

Strengthening ICDS-CAS implementation: Some of the recommendations from this study to strengthen the implementation of ICDS-CAS in MP include increased investments in building staff capabilities, and improved hardware capacities (e.g., server space) to support the app usage. The helpdesk is an important support structure for AWWs and LS in using the ICDS-CAS app and therefore needs to be fully supported with training, tools, and staffing. It is important to examine the reasons for AWWs' and LS' felt need for periodic refresher trainings. There is a need to train the State, district, and block ICDS officials on dashboard and institute a culture of data use for action in the ICDS system.

Source: Avula R., S. Bajaj, P. Pramanik, S. Mani, N. George, L. Gopalakrishnan, N. Diamond-Smith, L. Buback, S. Patil, S. Nimmagadda, D. Walker, L. Fernald, and P. Menon. 2018. "Integration of the Common Application Software (CAS) into the Integrated Child Development Services (ICDS) in Madhya Pradesh and Bihar: A process evaluation report". Unpublished report.

3.1.2. Convergence

POSHAN Abhiyaan recognizes the multisectoral nature of the challenge of malnutrition and identifies convergence as one of its key pillars. The convergence pillar, through the convergent nutrition action plans at State, district, and block levels, aims to promote coordination and cross-sectoral efforts involving all important line departments that contribute to nutrition.

POSHAN Abhiyaan sees convergence at two levels:

- i) Governance level, which creates institutional mechanisms to ensure coherent response from multiple departments; and
- ii) Impact level where "effective convergence" implies successful reach of programs from relevant sectors that address the key determinants of undernutrition for the same household, same woman and same child in the first 1,000 days from conception until the child's second birthday.

Current status of convergent action planning

At the governance level, POSHAN Abhiyaan brings about convergence of various nutrition related schemes by identifying and bringing under one framework all key nutrition related interventions, indicators and targets to be monitored and achieved by the relevant line ministries/departments implementing the schemes. Convergence Action Plan (CAP) committees have been constituted to facilitate the operationalization of this framework.

As of December 2019, 29 out of 36 States/UTs, submitted State-level CAPs for 2019-20. Arunachal Pradesh, Assam, Jammu & Kashmir, Karnataka, Odisha, Ladakh and West Bengal have not submitted their CAPs (West Bengal is not on-board at present and Odisha has joined only in September, 2019). Among the States that have submitted their CAPs, in 21 States, all the districts have prepared district-level plans and in 22 States all the blocks in all the districts have prepared their block-level plans ((Ministry of Women and Child Development, 2019b).

Implementation challenges

At the implementation level, after the development of CAPs, States, Districts and Blocks are expected to conduct quarterly review meetings to examine progress and identify actions to meet the targets specified in the action plans. However, during such meetings, there is a lack of focus and the discussions are generic. Therefore, it is important to identify a core set of indicators that can be monitored and supported through CAP so that the review meetings become meaningful and enable them to track progress (World Bank, 2019).

In addition, CAP committees at lower levels are less empowered to take financial and operational decisions to close implementation gaps. It is challenging to monitor the multiple data reporting structures across different departments, using multiple data platforms, for the same set of beneficiary children (Institute of Economic Growth 2019).

Need for effective convergence

Although the overarching intent of convergence is clear, the operational guidance does not make it explicit how stakeholders could ensure that multiple programs reach the same mother-child dyad in the first 1,000-day period. Given the multiple determinants of malnutrition, to effectively tackle this problem it is essential that it is approached through a range of inputs across various sectors. For delivering nutrition-specific and nutrition-sensitive interventions various sectors will need to

come together at critical points and in meaningful ways to ensure delivery of key nutrition-related actions for communities and households (Ved and Menon 2012, IFPRI Discussion Paper).

The success of POSHAN Abhiyaan's convergent action planning efforts will lie in the ability of the convergence-related processes to trigger the within- and across-sector actions that lead to effective reach of an agreed upon core set of interventions to all households in the 1,000-day period. Convergence can only be deemed successful when all interventions reach all target households in the right timeframes.

The use of empirical analyses, data visualization and sensitization processes to help all stakeholders identify gaps in effective household convergence is likely necessary to help achieve the goal of convergent action planning – i.e., that all relevant services and interventions reach households in the first 1000 days effectively and with high quality. For example, Figure 10 below highlights that in Andhra Pradesh in 2016, the effective convergence is higher during pregnancy – with much higher coverage of all key interventions in that life stage – than during infancy/ early childhood, when there are gaps in many different interventions. Gaps in the reach of each intervention/sector affect the overall household-level convergence of interventions. Strategic diagnostic work at the district level and State-level are necessary to prioritize what interventions and actions need the most attention to accelerate coverage, and thereby, close gaps both in coverage and in effective convergence.



Figure 10: Effective household convergence in Andhra Pradesh: Pregnancy versus postnatal/childhood



Convergence, as a process, is most useful, and most effective at the most local level, where frontline providers can collaborate to ensure adequate service delivery of all necessary interventions to target client households. Various studies have highlighted how the process of convergence can be supported (Figure 10). However, co-location of multiple interventions and actions on the same households in the first 1000 days can likely also be achieved efficiently if all actors and sectors deliver services independently, but with clear targeting and coverage goals. "Plan together, act sectorally, review together" has often been a key recommendation for multi-sectoral programs, however few examples exist of effective and efficient efforts to ensure effective convergence. This is a critical need to enable this pillar of POSHAN Abhiyaan to deliver on its outcome goals of reaching all 1000-day households with necessary interventions and services.

3.1.3. Behaviour change communication

Improving nutrition outcomes through strategies of behaviour change communication (BCC) and community mobilization is an important focus of POSHAN Abhiyaan. For this, **Jan Andolan** (or people's movement) was initiated to carry out media campaigns for awareness generation on 12 key themes³ using communication materials disseminated through various platforms involving multiple stakeholders, such as the ministries of health and family welfare, drinking water and sanitation, school education, rural development, panchayati raj institutions/ village organisations/ self-help groups (SHGs) ensuring wide public participation (World Bank, n.d.-a).

³ Key themes of Jan Andolan: 1. Overall nutrition,2. Breastfeeding, 3. Complementary feeding, 4. Immunization, 5. Growth monitoring, 6. Food fortification and micronutrients, 7. Diarrhea, 8. Hygiene, water, sanitation, 9. Anaemia, 10. Adolescent education, diet and age at marriage, 11. Antenatal check-up, 12. Early Childhood Care and Education (ECCE).

As a part of social and behaviour change communication (SBCC) under Jan Andolan, in March 2019, Poshan Pakhwada was observed with two-weeks intensive campaign to celebrate the anniversary of POSHAN Abhiyaan's launch. Evidence on SBCC was generated from four States (Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh), in July 2019, to inform the observance of second Poshan Maah in September 2019, and long-term programming. Of the multiple platforms used for media campaigns and awareness generation, highest reach was attained by home visit (81%), television (69%), village health sanitation and nutrition days (66%), community-based events (60%), and posters, hoardings, or wall paintings (59%). Platforms such as community radio, street plays and social media had limited reach. The recall rates of messages varied according to the platform used and was highest for home visits and television (Table 2). The knowledge level and behaviour practice around complementary feeding and child dietary diversity were found to be low. It was observed that during counselling, the frontline health workers merely conveyed information about how to practice behaviors, without explaining the associated rationale and reason (IDinsight, 2019a).

Of the 11 World Bank priority States (mentioned in section 3.1.2.), the annual Jan Andolan plans of nine States have been approved. Tamil Nadu and Karnataka are yet to develop their plans. These plans are critical for creating an enabling environment around nutrition-related BCC. From among the remaining 25 States/UTs, Haryana, Odisha, Telangana have not yet developed their Jan Andolan plans (World Bank, 2019).

For a targeted and effective BCC, it is therefore important that the right platforms are selected based on both reach and recall levels. Messages should be targeted towards behaviors that still have low knowledge or practice levels, like the timely introduction of complementary feeding, child dietary diversity, and appropriate hand washing practices. It is also important to improve the quality of nutrition-related messages in community-based events and village health sanitation and nutrition days. Frontline workers can improve counselling by emphasizing on the rationale and reason of behaviors. Since poorer and less educated women have less exposure to most SBCC platforms, frontline workers should prioritize home visits to ensure that nutrition-related messages reach them (IDinsight, 2019a).

Table 2: Platform-wise reach and recall rates

(from IDinsight phase II survey findings, July 2019)

Platform	Reach (%)	Recall (%)
Health Facility	84	64
Home Visit	81	66
Television	69	57
Village Health Sanitation Nutrition Day	66	25
Community-based Event	60	29
Poster, Hoarding, Wallpainting	59	27
Poshan Mela	53	15
Growth Monitoring Session	49	13
ASHA Mothers' Meeting	44	42
Other Event	40	21
Text Message	39	13
Voice Message	39	8
Print Ad	33	39
Audiovisual Van/Camp	32	10
Video Shown by FHW	32	36
WhatsApp	29	22
Nukkad Natak	24	8
Facebook	21	17
Radio	11	17
Community Radio	8	4

47

High Reach, High Recall Rate High Reach, Low Recall Rate

Very Low Reach, Very Low Recall Rate

Source: Reproduced from POSHAN SBCC Policy Brief 2, IDinsight 2019

Box 3: Jan Aandolan - Poshan Maah 2019

The first 1000 days of a child's life are most crucial in terms of health and well-being. Right nutrition interventions lay the foundation of a healthy childhood and rewarding adolescence and adulthood. With similar leitmotif, Poshan Maah was observed in September 2019. It aimed to raise the consciousness on the importance of right nutrition for self, family, community and the country. During Poshan Maah, the efforts to engage with the community were intensified, as multiple sectors and partners ensured that messages related to health, nutrition and WASH should reach the masses.

In September 2019, the power of convergent outreach was demonstrated in the activities of Poshan Maah. They were centered around the key theme of **POSHAN KE PANCH SUTRA**. Around 3.6 crore activities across 12 themes were coordinated across the country, where AWWs, ANMs and ASHAs, along with their helpers and supervisors, came together to spread the nutrition messages among families and communities.



3.1.4. Capacity Building

Capacity building through Incremental Learning Approach (ILA) is a key program pillar under POSHAN Abhiyaan. The ILA is an innovative learning-by-doing approach. It aims at building the capacity and motivation of program functionaries. Under ILA, the learning is broken down into small portions for AWWs. They are oriented on one topic every month, followed by a month of practice to follow-up on actions. The ILA trainings are given in a cascade manner, from State to sector level, by the ICDS officials and supervisors (World Bank, n.d.-b).

To implement the ILA training, resource groups are formed at the State, District and Block levels. These groups and the sub-groups that follow, help to roll-out ILA modules in a standardized and systematic manner, across all the States. The content of ILA modules focuses on maternal and child health and nutrition issues. So far, a total of 21 such modules have been developed in Hindi, English, Marathi and Telugu (World Bank, n.d.-b).

Current status of roll-out of ILA

Of the 21 ILA modules, in Andhra Pradesh, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Gujarat, Haryana, Madhya Pradesh, Mizoram, Tamil Nadu all of them were covered at the Statelevel (Annexure III). In Arunachal Pradesh, Assam, Jammu & Kashmir, Karnataka, Ladakh, Lakshadweep, Odisha, Punjab and Telangana, less than 10 modules were covered. In the remaining States/UTs 10 or more modules were covered. The ILA training has not yet started in West Bengal (Ministry of Women and Child Development, 2019b). In the 11 World Bank priority States (mentioned in section 3.1.2.), the ILA rollout is progressing systematically. Across these 11 States, approximately 7.6 lakh AWWs were oriented on at least one module (World Bank, 2019).

In addition, an online adaptation of the incremental learning modules, known as 'e-ILA', has been launched for both web and mobile-based platforms to complement the face-to-face incremental learning sessions (World Bank, n.d.-b). All 21 ILA modules are now available in 13 regional languages on the online platform http://www.e-ila.gov.in(World Bank 2019).

A snapshot of State-wise e-ILA training status among AWWs and lady supervisors (LS) shows that much needs to be done in most States/UTs (Annexure III). In Andaman & Nicobar Islands, Assam, Delhi, Goa, Jammu and Kashmir, Meghalaya, Mizoram, Nagaland, Puducherry, Telangana and Tripura none of the AWWs enrolled for e-ILA have completed their training. However, in Andhra Pradesh, Daman & Diu, Gujarat and Rajasthan, of the total AWWs enrolled for e-ILA, 80% or more have completed their training. At the level of LS, in Andaman & Nicobar Islands, Arunachal Pradesh, Assam, Delhi, Goa, Jammu and Kashmir, Meghalaya, Mizoram, Nagaland, Puducherry, Telangana and Tripura, none of the LS enrolled for e-ILA have completed their training. Only in Andhra Pradesh, Gujarat and Rajasthan, of the total LS enrolled for e-ILA, 65% or more have completed their training (Ministry of Women and Child Development, 2019a).

The delays in the roll out of e-ILA were attributed to delays in the procurement of smartphones for AWWs and low priority for this modality of training. Only two of the 11 World Bank priority States - Andhra Pradesh and Gujarat - have reported more than 50% AWWs and supervisors completing all 21 e-ILA modules (World Bank, 2019).

Challenges in ILA implementation

To ensure that the ILA trainings are delivered with quality, there are pre-and post- training assessments as well as visits by the ICDS officials. During the initial implementation of ILA, there was a dilution in the training quality down the cascade(World Bank, n.d.-b). In the 11 World Bank priority States, it was found that increasing the frequency of ILA trainings from once per month to twice a month was compromising the quality of the trainings(World Bank, 2019). However, MWCD specifies that the periodicity of ILA guidelines were revised for all States/UTs based on the demand from some States.

To retain the quality of ILA trainings, it is essential to strengthen the systematic monitoring and supervision of ILA sessions by State, district and block level, and provide clear guidance and tools to facilitate the same(World Bank, n.d.-b).

In a study conducted across 11 aspirational districts⁴ to assess the implementation of ILA trainings and the resultant AWWs' practice, the quality of ILA training at the sector level was observed to be poor. For improvement in quality, it was suggested that sector level training should be planned such that one training session deals with only one module with smaller batch size. This will make the training more interactive and effective. Refresher trainings were recommended for AWWs since a majority of trained AWWs could not demonstrate the steps of growth monitoring, as observed during this study. To sustain the learning from ILA trainings, it is important that growth monitoring tools are procured and made available with each AWW. It was also recommended that the trainings should be conducted by a pool of both government and development partners' functionaries, under the leadership of State Resource Group (SRG). It is important to enhance the capacity of government trainers and they should be engaged in training. This study also found that participation from the health department is limited so far, whereas ILA training guidelines demand a strong convergence between the departments of health and WCD(Piramal Foundation, 2020).

⁴ Damoh, Barwani (Madhya Pradesh), Nandurbar (Maharashtra), Pakur, Sahibganj (Jharkhand), Katihar, Sitamarhi (Bihar), Shrawasti, Chitrakoot (Uttar Pradesh), Jaisalmer, and Baran (Rajasthan)

Box 4: Implementation status of POSHAN Abhiyaan in Rajasthan and Jharkhand

IDinsight conducted a study in 12 selected districts of Jharkhand and Rajasthan to understand the POSHAN Abhiyaan implementation status. The districts included: **Rajasthan**-Ajmer, Baran, Bhilwara, Bikaner, Jhalawar, Jodhpur and Tonk; **Jharkhand**-Garwha, Hazaribagh, Khunti, Pakur, Simdega. These districts were broadly representative of the State and captured the relevant diversity of Rajasthan. Within each of the selected districts, IDinsight used voter rolls that were updated in December 2019, and built a sample frame. Then they used a two-stage stratified random sampling method to draw the sample. The process included approximately 4-6 completed surveys per polling station (≅168 per district) and covered a total sample size of about 2100 households.

Some of the preliminary findings of implementation status of POSHAN Abhiyaan in Jharkhand (with Rajasthan comparison):

- Most respondents (59%) registered their pregnancy at the Anganwadi Center during their first trimester. This is similar to Rajasthan, where 63percent of respondents registered in the first trimester.
- 29% reported receiving pregnancy-related financial assistance from either Janani Suraksha Yojana (JSY) or Pradhan Mantri Matritva Vandana Yojana (PMMVY).
 For comparison, in Rajasthan, a higher percentage of women reported receiving pregnancy-related financial assistance (49 percent),
- In Jharkhand, Women reported using the financial assistance on a variety of needs, with approximately 1/3 of women primarily spending in categories explicitly related to pregnancy or childcare. But a smaller percentage (33 percent) reported their primary spending area to be pregnancy- or child child-related in Rajasthan.
- **Institutional delivery** in the Jharkhand districts is 71%, almost 20% points lower than in Rajasthan (89%).
- Across both states, only 48% of women received the full schedule of ASHA home visits.
- The proportion of women receiving ASHA visits as part of Home-Based Newborn Care in Jharkhand is low, but notably higher than in Rajasthan. 29% received a home visit within one day of delivery in Jharkhand, compared to 9% in Rajasthan. However across both States, only 48% of women received the full schedule of ASHA home visits.
- **Early initiation of breastfeeding** is more than 70%, across both states.
- Approximately 60% of respondents in Rajasthan **initiated complementary feeding** between 6 and 8 months as compared to 52% respondents in Jharkhand.
- Access to **supplementary nutrition under ICDS** appears to be higher in Jharkhand than in Rajasthan, though access is still not universal. About 58% of pregnant women and mothers received take home rations under ICDS for themselves in the last 30 days, and 49 percent received take home rations for their child.

- For **growth monitoring** weight is the most commonly measured (65 percent) across both the States.
- **ORS** distribution by a frontline health worker was low in Jharkhand and Rajasthan (29% and 35%). Household availability of zinc and ORS was also low (only 3% of households had ORS available and zinc).
- Approximately half of pregnant women and young children were diagnosed with **anaemia** in both the States. **IFA consumption** was higher amongst women (67%) than children (34%).
- More than 38% of respondents report receiving **deworming medicine** from any source in Rajasthan as compared to 32% in Rajasthan. Of the respondents who attended a National Deworming Day event, around 85 percent received a deworming pill at that event.

Source: Insights on POSHAN Abhiyaan in Jharkhand and Rajasthan, Preliminary Analysis for NITI Aayog February 2020

3.2. Core platforms for intervention delivery

POSHAN Abhiyaan's success rests on the ability to engage and transform core program platforms in India that can reach households, women and children in the first 1000 days of life. The secore delivery platforms for these health and nutrition interventions across the country are the Integrated Child Development Services and the National Health Mission. In this section we examine the State of these platforms and summarize recent research on what is needed to engage these platforms effectively to achieve the mission's objectives.

3.2.1. Integrated Child Development Services

Integrated Child Development Services (ICDS) program, the largest program of its kind in the world, was initiated by the Government of India in 1975 and universalized in 2008-09. It continues to be India's flagship program to tackle undernutrition, and key actions under the POSHAN Abhiyaan are anchored in this program. It provides food, pre-school education, and primary healthcare to children under six and pregnant and lactating women.

Reach, coverage, and equity of ICDS interventions, and impact of the platform

Data from the third and fourth rounds of the National Family Health Survey (2005-06 & 2015-16), showed a significant increase in the utilization of ICDS services from 2006 to 2016 in four key areas: supplementary food (9.6 to 37.9%); health and nutrition education (3.2 to 21%); health check-up (4.5 to 28%); and child-specific services (10.4 to 22%). The frequency of monthly supplementary food for children also increased during this period by eight percentage points. However, in 2016, at the national level, less than 60% of women and children received any of the key ICDS interventions.

At the State level, there was an increase in utilization of ICDS services between the two survey rounds. With the exception of Tamil Nadu, Chhattisgarh and Jharkhand, the coverage of food supplementation during pregnancy and lactation was less than 25% in most States in 2006, but increased in almost all States by 2016. The greatest expansion in ICDS services was seen in food supplementation during childhood, which reached more than 50% coverage in the central and southern States of Jharkhand, Madhya Pradesh, Uttaranchal, Tamil Nadu and Andhra Pradesh.

However, it was found that both historically disadvantaged castes and pregnant women with low education levels were less likely to receive ICDS services than other groups. Even though households in the poorest quintile were better reached by the services in 2016, the wealth inequality in use widened over the decade. Most of the poor who were left behind were from States such as Uttar Pradesh and Bihar. Also, there was a high variability in program use, both across and within States(Chakrabarti et al., 2019).

Facilitators and challenges to service delivery through ICDS platform

In an assessment, the key processes, implementation structure, program monitoring and the motivations and engagement of the human resources under ICDS were critically reviewed by the Institute of Economic Growth (IEG). One of the main challenges to service delivery through ICDS platform is that AWWs, being the village-level point-of-contact for all government schemes, are left with little time to carry out tasks related to the ICDS. In urban areas, AWWs sometimes also have to take on the work of ANMs/ASHAs if their post is vacant(Institute of Economic Growth, 2019).

Upgradation of physical infrastructure of AWCs is instrumental to improve program coverage, uptake and service delivery. There are huge gaps in provisioning of drinking water, toilet facilities and electricity supply across States/UTs. Since each of the items are dealt by different line departments, therefore convergent action at the highest level is necessary for universal provision of these basic facilities(Institute of Economic Growth, 2019).

In terms of **finance**, the developmental funds available with the gram panchayats (GPs) that can facilitate the functioning of AWCs do not get used appropriately. For AWC construction-related problems, it is important that the ICDS budgeting for AWC construction should be sensitive to regional variations(Institute of Economic Growth, 2019).

There needs to be a change in perception in the district and State administration, regarding the importance of listening to and solving the problems faced by the frontline workers. With an increased reliance on digital technology in the ICDS system, frontline workers often experience difficulties in operating these apps, both due to direct (such as illiteracy) and indirect factors (such as internet). A strong and functioning feedback mechanism for the AWWs is recommended. Till this is done, there will be a mismatch between inputs (technology and digital infrastructure) and outputs (erroneous/incomplete data, deliverables not being met)(Institute of Economic Growth, 2019).

3.2.2. Pradhan Mantri Matru Vandana Yojana (PMMVY)

Since the roll-out of the Scheme (till 31st December, 2019), in total around **1.37 Crores** Beneficiaries have been registered out of which around **87%** of the registered beneficiaries have received 1st installment, **83%** registered beneficiaries have received 2nd installment and **56%** registered beneficiaries have received 3rd instalment with cumulative payment of **Rs. 4,894 Crore**. The average time taken in payment of 1st installment from the date of registration is around 30 days, however when calculated with respect to the Last Menstrual Period (LMP) the average time taken is 293 days. Only 17% of the 1st installments have been paid within 150 days with respect to the date of LMP.



Trend of Beneficiary Registration (All India Progress)

The per day registration figure (of new Beneficiaries) has shown a record increase over all previous quarters, registered around 23,570 beneficiaries per day in the Quarter October-December, 2019. This is a short of validation to the efforts of MoWCD as they organized the Matru Vandana Saptah (MVS) from 2nd- 8th December 2019 with various objectives like enrolling new beneficiaries, increasing awareness about the scheme, clearing backlog cases and clearing correction queue.



65% of the total transfers were made through Aadhaar based payments out of which 67% matched with the Bank Accounts provided by the Beneficiaries. However, 33% of Aadhaar based payments (i.e. in case of 69.71 lakh payments) had gone to a different Bank Account than what was provided by the Beneficiaries, which has substantially increased over last quarters.

Box 5: Take-home ration – How to optimize its use?

The supplementary nutrition program (SNP) is one of the six services provided under ICDS. Within this, the Take Home Rations (THR), provided to pregnant and lactating mothers and children (6–36 months) is a crucial component of the supplementary nutrition program. A substantial proportion of the ICDS budgetary allocation is for this component of the program. Guidelines from the ministry of women and child development (MoWCD) outline the nutrition norms of THR.

However, as identified in recent research efforts and program experiences, several challenges remain in ensuring that the ICDS THR is effective in its quality, reach and impact. To optimize the use of THR, the challenges related to its composition, production, distribution and consumption by client populations, need to be unravelled and overcome.

Composition & Quality: It is important to give utmost care and attention to the composition and quality of THR. Evidence suggests that the nutrient content and food composition of the foods offered within ICDS, specifically foods offered to children 6–36 months of age, need to be reviewed and revised. Given the variability across India, it is also crucial to test different formulations of THR or associated commodities, such as eggs, for their ability to meet the critical nutrient gaps in the diets of infants in ways that also address safety, palatability, and acceptability (Vaid et al. 2018).

Production of THR: Majority of the States in India have a centralized model for production of THR. Just in nine States there is a decentralized modality. Looking at the pros and cons of different THR production modalities, the key opportunities in the centralized model are lower production cost, high quality product with high nutrient value and quality assurance/quality control. The challenges of this model include pilferage, leakage, need for efficient transport arrangements and product acceptability. In the case of decentralized model, procurement of food from local sources, promotion of income-generation activities, women's empowerment and enhanced community ownership are the key opportunities. The challenges of this model are limited quality control, higher cost of production and challenges with fortification (**Review of Take-Home Rations under the Integrated Child Development Services in India WFP 2019)**.

Reach and Consumption: It is crucial to look at the reach and use of THR by client populations. From a survey conducted in 27 districts across 8 States of the Aspirational Districts Programme (ADP), a 17-pp increase was seen in pregnant and lactating women (PLWs) receiving any THR. In children 7-36 months old receiving any THR, there was an 11-pp increase. However, there was no improvement in adequate provision of THR in a month for both these groups (**Round 3 Survey Insights, IDinsight 2019).**

Since SNP has a targeted value chain, backed by the State, it has the potential for impact on nutritional outcomes at scale. There is a scope for public-private partnerships and a role for private business engagement in improving nutrition outcomes. An examination of the value chain of SNP under ICDS in the States of Tamil Nadu and Telangana, suggests innovative pathways for consideration. The State private-cooperative sector partnership model in Tamil Nadu and a State enterprise dedicated to manufacturing pro-nutrition agri-foods to address undernutrition through government food distribution programmes in Telangana, as seen in this study, both have lessons to offer for other States to emulate and adopt for delivery under the nationally-mandated food distribution program. To optimize the use of THR, it is essential to take steps in the direction of strengthening its composition, production, coverage and consumption.

Box 6: Growth monitoring

Growth monitoring is a key activity conducted under the Integrated Child Development Services (ICDS), since it is essential to detect growth faltering and assess nutritional status. Based on the children's nutritional status, special supplementary food is given and /or children are referred for health check-up. Much emphasis is given to the measurement of children's height at the Anganwadi Centres (AWCs).

For a systematic surveillance of child growth, it is important to ensure the quality of growth monitoring data. Given the salience of growth monitoring in POSHAN Abhiyaan and ICDS program, IFPRI team conducted a multi-State observational study to examine the growth monitoring process in Bihar, Chhattisgarh, Madhya Pradesh and Uttar Pradesh. This study did not directly examine the data quality of the growth measures, but observed growth monitoring process and compared it to the standard anthropometric measurement guidance.

For **weight measurements**, study results showed that correct instrument was used for a majority of children in Chhattisgarh (weighed using baby scale) and Madhya Pradesh (salter scale). Weighing instruments were placed accurately, or hung from a stable surface, for more than 90% children in Chhattisgarh, Madhya Pradesh and Uttar Pradesh, but only for 57% in Bihar. Positioning of the child and layers of clothes on the child during weighing varied across all four States.

For **height measurements**, it was observed that the choice of measuring instrument was flawed for a high proportion of infants, except in Madhya Pradesh. Height measuring instruments were placed accurately for a majority of children in Chhattisgarh (87%), Madhya Pradesh (98%) and Bihar (66%). Variable ways were adopted while positioning children for height measurement. Overall, measuring of height was found to be more flawed than weighing in all the four States, including choice of instrument and positioning of the child.

The accuracy of growth monitoring data is very crucial. Along with detecting growth faltering, it is also used to generate prevalence estimates for stunting, wasting and underweight. Hence, it is important to consider how inaccurate measures can influence prevalence estimates using NFHS data. Steps need to be taken to raise awareness about the quality of growth monitoring process. It is also important to examine the caregivers' perceptions of the utility of growth monitoring for them.

Source: Bajaj, S., A. Pant, R. Avula, and P. Menon. 2019. "Assessment of the growth monitoring process in the Integrated Child Development Services program: An observational study conducted across four States in India (Chhattisgarh, Madhya Pradesh, Bihar and Uttar Pradesh)" Unpublished

3.2.3. National Health Mission

The National Health Mission (NHM) is focused on the main programmatic components of reproductive, maternal, newborn, child and adolescent health (RMNCH+A); health systems strengthening; non-communicable disease control programs; communicable disease control program; and infrastructure maintenance. From the NHM platform, Anaemia Mukt Bharat (AMB), Defeat Diarrhea (D-2), Mother's Absolute Affection Programme (MAA), immunization, Home-Based Newborn Care (HBNC) and Home-Based Care of Young Children (HBYC) are some of the key programs that are being implemented. This report focuses on the roll-out and implementation of AMB and HBYC and presents an overview of other interventions to understand their reach and coverage.

A. Status of the roll-out and implementation of Anaemia Mukt Bharat

Under **AMB**, six key interventions are delivered: prophylactic iron and folic acid supplementation; deworming; intensified year-round behaviour change communication campaign and delayed cord clamping in new-borns; testing of anaemia using digital methods and point of care treatment; mandatory provision of iron and folic acid fortified foods in government funded health programmes; and addressing non-nutritional causes of anaemia in endemic pockets with special focus on malaria, hemoglobinopathies and fluorosis. From AMB dashboard (https://anaemiamuktbharat.info/) data on indicators and relevant resource material on anaemia can be accessed.

For the coordination of AMB, in all the States/UTs a State-level nodal officer has been designated for AMB Program Management Unit (PMU). S/he looks after the implementation of AMB through the existing systems under NHM. There is no provision of constituting a separate State-level AMB steering committee. Instead, the State level nodal officer reviews the progress.

A comprehensive AMB training tool kit was developed for capacity building of the service providers and programme managers. First batch of National Training of Trainers was completed, and State level trainings were initiated. In Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand, the State resource pool of master trainers was trained by the National Centre of Excellence and Advanced Research on Anaemia Control (NCEAR-A).

A pan India IFA Supply Chain Diagnostic assessment was completed to identify bottlenecks in the existing IFA Supply chain. The States which have started procuring 60 mg sugar coated IFA, against 100 mg and enteric coated tablets, include Assam, Chhattisgarh, Goa, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan and Telangana. However, all the States/UTs have been instructed by MoHFW to continue with the existing stock of 100 mg IFA till new stocks are available, to ensure uninterrupted supplies under the program. Fourteen States /UTs have opted for centralised procurement of IFA supplies.

In all the States/UTs, except Andaman & Nicobar Islands, a 2019 State communication/IEC plan (solid body smart mind) was developed. In only 14 States/UTs the AMB communication package was printed. These included Andhra Pradesh, Assam, Bihar, Chhattisgarh, Haryana, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Telangana and Uttar Pradesh. In all the States/UTs where AMB communication package was printed, it was distributed to health facilities, ANMs and ASHAs, except in Andhra Pradesh, Meghalaya and Rajasthan.

B. Status of the roll-out and implementation of Home-Based Care of Young Child

Launched in 2018, as an extension of HBNC, the objective of **HBYC** is to extend community-based care by ASHA workers till the 15th month of life. Budget was approved for 242 districts (including aspirational districts) to implement HBYC across all States/UTs, except in Lakshadweep, Goa and Puducherry. An amount of Rs. 217.68 crore was sanctioned during 2018-19 and 2019-20.

Currently, in 27 States and 5 UTs, there are a total of 28 National Resource Team members (NRTs) and 166 State-level trainers. Overall, there are 2,050 district-level trainers. In 22 States/UTs a total of 30,672 frontline workers have been trained. In 21 States/UTs, revised MCP cards have been provided to all the beneficiaries (instead of HBYC cards). The process is underway in Andaman and Nicobar Island, Andhra Pradesh, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Manipur, Mizoram, Odisha, Puducherry, Sikkim, Telangana, Tripura and Uttar Pradesh. Child-wise tracking for HBYC program monitoring is done through Reproductive Child Health (RCH) portal (https://rch.gov.in/).

Coverage and reach of other interventions under National Health Mission

- **National Deworming Day (NDD):** In August/September 2019, ninth round of NDD was conducted and 25.5 crore children/adolescents were covered. Tenth round of NDD will be conducted in February 2020.
- Intensified Diarrhoea Control Fortnight (IDCF) was conducted in June 2019, and further extended till September 2019 as Defeat Diarrhoea (D-2) campaign. More than 10 crore under-five children (75%) were covered. Orientation activities for the management of childhood diarrhea were conducted for 9 lakh ASHAs, 2.1 lakh ANMs and 1.2 lakh medical officers and staff nurses. To generate awareness among caregivers and encourage appropriate use, a total of 4,20,949 ORS and Zinc corners were established.
- Under **Mothers' Absolute Affection (MAA)** program, capacity building of health workers on lactation management was done at both community and facility levels. A 360-degree IEC campaign was conducted to create awareness regarding breastfeeding.
- In 2018-19, around 1.98 lakh children with severe acute malnutrition (SAM) were admitted in Nutrition Rehabilitation Centres (NRCs). In 2019-20 more than 2.2 lakh children were admitted in NRCs.
- **Immunization:** During various phases of Mission Indradhanush, a total of 3.76 Crore children and 94.6 lakhs pregnant women vaccinated. Under Intensified Mission Indradhaunsh 2.0, 37.09 lakhs children and 7.41 lakhs pregnant women were vaccinated.
- **Newborn week** was celebrated in November 2019, where home-based care of newborn was focused with the involvement of National Neonatology Forum (NNF) and Indian Academy of Paediatrics (IAP), with support from development partners.
- Social Awareness & Action Plan to Neutralise Pneumonia Successfully (SAANS initiative) was launched during the best practice summit in November 2019 and a national level training of trainers was conducted in December 2019.

Box 7: Quality monitoring of maternal, infant and young child nutrition service delivery at village health, sanitation and nutrition days and community-based events

India has seen some promising improvements in maternal, infant and young child nutrition (MIYCN) and health outcomes in the past decade. To further accelerate this momentum, along with various other stakeholders, medical institutions and colleges have a vital role to play. To tap on this crucial link, a strategic partnership was established among the **Indian Association of Preventive and Social Medicine (IAPSM)** and **nine government medical colleges in Uttar Pradesh (UP) and Bihar**, under the guidance of **NITI Aayog**, with support from **Alive & Thrive (A&T)**. The objective is to strengthen the role of medical colleges (especially community medicine departments) in supporting State and district health systems in monitoring and review of public health and nutrition intervention delivery in first 1000 days of life. Some key findings of a quality monitoring exercise on MIYCN service **delivery** are presented below, that was undertaken during July–December 2019 in the catchment districts of Muzaffarpur (Bihar) and Kannauj (UP). Attention was focused on some critical themes during Village Health, Sanitation and Nutrition Days (VHSNDs), and Community-Based Events (CBEs), like 'Annaprashan Diwas' and 'Godbharai Diwas'.

Key services and counselling at VHSNDs:

For pregnant women (PW):

- In all VHSNDs, registration of PW & TT vaccination was done; & IFA supplements provided (when available).
- In 75% of VHSNDs, calcium supplement was provided (when available).
- In 50% of VHSNDs, blood pressure was measured, Hb estimated, & deworming tablets were provided.
- Services that were lagging included weight measurement, urine examination, abdominal examination of pregnant women, and counselling on appropriate weight gain and diet.

For mothers and young children:

- In all VHSNDs, immunization services were provided to young children.
- In 75% of VHSNDs, IYCF messages related to exclusive breastfeeding, continued breastfeeding during illness and introduction of complementary feeding were provided.
- In 50% of VHSNDs, weight monitoring and screening for malnutrition was done and ORS for diarrhoea was provided.
- In 25% of VHSNDs, measured weight was plotted on Mother & Child Protection card; there was communication on child's weight and its appropriateness for age; and ORS for diarrhoea was provided.
- There was no support or communication for addressing breastfeeding difficulties.

Key services and counselling at CBEs:

During 'Godbharai Diwas':

- In 75% instances, all eligible pregnant women were mobilized and reached by AWWs, appropriate IEC materials were displayed, and locally available food items were available for demonstration.
- In more than 60% of events, diet quantity and diversity for pregnant women were discussed.
- In 50% of events, functional adult weighing machine was there.
- Only in about 30% instances, proactive engagement and support of husbands was observed to ensure adequate health & nutrition care of their wives.
- Only 25% of the AWWs had received the stipulated funds (Rs 250/-) for organizing the event.

During 'Annaprashan Diwas':

- In close to 80% of events, functioning weighing scales, reporting formats and registers were available.
- More than 75% AWWs had maintained updated list of eligible children for the 'Annaprashan Diwas' and were mobilizing beneficiaries as per the list.
- In close to 60% of events, counselling was done on child's weight, complementary feeding, etc. However, only 14% AWWs used any aids/tools for counselling and it was suboptimal.

Some of the key barriers that were identified included:

- Women's inability to attend VHSNDs due to their time poverty.
- Poor education status of PW/mothers.
- Poor compliance to IFA by PW due to metallic taste, side effects.
- Local practice of giving water along with breastmilk.
- Bottle feeding & formula milk prescribed by local practitioners (including unqualified)

(Source: Quality Monitoring of Public Health and Nutrition Intervention Delivery in the 'First 1000 Days of Life' Under the POSHAN Abhiyaan: Summary Report on Findings from Monitoring Visits July-October 2019)

Box 8: Key insights on health outcomes: Aspirational Districts Programme

Three rounds of surveys were conducted by IDinsight in 27 districts across 8 States for the Aspirational Districts Programme, between May 2018 and November 2019. Steady improvements in health outcomes were observed over these three survey rounds. Key insights from these surveys, in relation to maternal & child care, child feeding & nutrition, Take Home Ration (THR) program, village health, sanitation & nutrition day (VHSND), child health services & health seeking behaviors have been presented here.

Maternal and child care

- There was an increase in antenatal care (ANC) registrations (21-pp); and 93% coverage was achieved. This was accompanied with improvements in the quality of antenatal care being provided.
- There was improvement in levels of women receiving 4+ ANC check-ups (6-pp).
- There was an increase in institutional deliveries (16-pp)
- Only 57% of below poverty line (BPL) mothers (of children 0-6 months) were aware of Janani Suraksha Yojana (JSY); only 30% of BPL mothers (of children 0-6 months) who delivered at an institution received financial assistance under JSY.
- Home-base newborn care (HBNC) was poor; a third of all newborns did not receive any visit from an ASHA in the first 6 weeks after birth; only 12% of all newborns received the required number of home visits by an ASHA; maternal care was not prioritised.

Child nutrition

- There was an increase in early initiation of breastfeeding (21-pp) and exclusive breastfeeding (4-pp). However, 43% of mothers did not exclusively breastfeed.
- There was a 5-pp improvement in diet adequacy of breastfed children and all children; but no improvements for non-breastfed children.
- Only 9% of children consumed eggs and only 7% consumed an iron-rich diet (meat, fish and other flesh foods).

Take Home Ration (THR) program

- There was an increase in pregnant and lactating women (PLWs) registered at the AWC (7-pp); 85% coverage was achieved.
- There was an increase in PLWs receiving any THR (17-pp), however 38% of PLWs received no THR.
- There was an increase in children (7-36 months old) registered at the AWCs (4-pp) and receiving THR in the last month (11-pp); however, 27% children were still not registered.

Village health, sanitation and nutrition day (VHSND)

- There was an increase in the awareness about VHSND (5-pp) and its attendance (5-pp); however, 60% PLWs were still unaware and 78% PLWs were still not attending.
- In terms of quality, 56% of VHSNDs have all ANC services available; 42% have distribution of supplementary nutrition; 18% have availability of vitamin A supplements and 77% have height & weight measurement services available for children 0-5 years.

Child health services

- ORS treatment and Zinc treatment for diarrhoeal children had stagnated between the second and third rounds of the survey.
- There was no improvement in levels of children with ARI taken to a health facility.

Health seeking behaviors

- 72% of all adults seeking medical care chose to visit a private health provider for factors of reputation and distance; only 27% went to a government health provider. Long waiting time and inconvenient timings were reasons for not visiting a government health provider.
- 14% of adults did not visit a health provider even when sick; primary reasons were perceived lack of seriousness of illness & expensive healthcare.

Summary

The success of POSHAN Abhiyaan rests on effective implementation of high-impact interventions using the core implementation platforms of ICDS and NHM, as well as by engaging other service providers and all of society through the behaviour change campaigns. Strengthening coverage, consistency, intensity and quality of interventions, as well as convergence, are key goals, and a range of systems strengthening efforts have been put in place to help achieve these goals. In this third report, our assessment covers both the status and roll-out of these systems strengthening efforts, as well as successes and challenges related to the core platforms of ICDS and NHM – many of these still require focused attention to help further accelerate intervention coverage and convergence.

• On the use of **technology**, i.e., ICDS-CAS, many States must still accelerate procurement of phones and training of providers and managers. At the same time, insights from the evaluations of this component indicate that other supportive efforts to scale up the technology itself also need attention. In each State, specific areas related to the scale-up of the technology platform need attention. Therefore, a State-by-State assessment, using the findings of this report, should drive State-specific action to close gaps.

- On convergence, much remains to be done. Although the goal of convergence is clear from the guidance documents, it is apparent from convergence action planning, that the vision of effective household convergence itself needs translation from national to district-level stakeholders, and new models for diagnosis, planning and closing of gaps are needed.
- On behaviour change communication, the campaign mode is well-supported by rounds of data that now highlight that even though the campaigns are being implemented effectively, the key platforms to reach households and children in the first 1000 days remain the routine platforms of home visits, community-based events and mass media. All other platforms have both lower reach and lower message retention. Thus, efforts must now double down on extending the reach of the core platforms.
- On **capacity building**, a range of issues have been highlighted in recent assessments that suggest that investments in quality of capacity building will need to be a central goal. This is critical to address the quality component of all POSHAN Abhiyaan interventions.
- On the ICDS platform, a range of evidence indicates that although the program platforms have expanded reach, in high burden States, they are still not reaching as many women and children as they should. Even in Aspirational Districts, overall reach is moving slower than needed. New research affirms that key governance challenges must be addressed as they relate to financing, supervision vacancies, infrastructure and more. In addition, core interventions delivered by the ICDS program such as THR and growth monitoring need significant quality improvements these are both core interventions that bring client populations into the program platforms. These are also important to help strengthen community-based prevention, detection and treatment of uncomplicated severe undernutrition and strengthen referrals with the health system for those requiring in-patient care.
- On the health platforms, a range of efforts are underway to improve the integration of nutrition interventions into the existing health platforms such as ANC and HBNC and HBYC. In addition, campaigns such as Anaemia Mukt Bharat are bringing visibility to issues within the health sector. Ongoing efforts should continue to focus both on the quality of nutrition interventions in health services and on routinizing/integrating fully these efforts so as to reduce missed opportunities for service delivery. One key challenge in the health sector is the use of private care platforms, especially for curative care, and this will need attention for key interventions such as diarrhea control and use of zinc.

Overall, further improvements in both the specific systems-strengthening efforts of POSHAN Abhiyaan, and in the core program platforms for reach of all POSHAN Abhiyaan interventions are needed. States need to closely assess where they stand both on the specific components of POSHAN Abhiyaan and on the core platforms and accelerate efforts to close specific gaps.

ADDRESSING MAJOR CHALLENGES ON THE ROAD TO A WELL-NOURISHED INDIA

CHAPTER 4:

Addressing the complex problem of malnutrition in India is a colossal task that needs a meticulous and multi-pronged approach. Through implementing POSHAN Abhiyaan, the Government aims to reduce child stunting, underweight and low birth weight by 2 percentage points per annum and anaemia among children (and young females) by 3 percentage points per annum. However, to do so, as the LiST modelling in Chapter 2 highlights, actions to improve complementary feeding are going to be among the most important actions to help reduce stunting. In addition, new findings from the Comprehensive National Nutrition Survey (CNNS 2016-18) have highlighted again the role of micronutrient malnutrition - anaemia and other micronutrient deficiencies - are new major areas of challenge. Last, but not least, the changing context of India is one of increasing urbanization, an issue that is receiving attention in terms of its salience for development but where solutions are still limited.

In this chapter, therefore, we discuss the lingering challenge of complementary feeding, as well as the new insights on micronutrient malnutrition and the cross-cutting issue of urbanization as a set of focus issues that need to be addressed in a targeted manner to achieve the targets set by POSHAN Abhiyaan.

4.1. Complementary feeding

Complementary feeding interventions are usually targeted at the age range of 6-24 months, because feeding practices over these first few crucial months of a child's life can critically influence development. Evidence shows the significant impacts of complementary feeding interventions on children's growth, morbidity, development, micronutrient intake and micronutrient status (Dewey & Adu-Afarwuah, 2008). Evidence also highlights associations between feeding practices and growth and neurodevelopmental outcomes at 36 months of age among children from low- and low-middle-income countries and emphasizes the importance of adequate food quantity and quality (Do et al., 2018). Last, but not least, in this report, we highlight using the LiST model how improving complementary feeding by scaling up existing evidence-based interventions is critical to help achieve the stunting targets of POSHAN Abhiyaan. Therefore, complementary feeding interventions that are effective at reducing malnutrition during this vulnerable period should be a high priority.

4.1.1. Status

Complementary foods should be introduced to infants at 6 months of age, and from then onwards, infants and young children need to be fed a diverse set of foods, frequently during the day and in enough quantities so as to achieve a high quality diet that contributes to additional nutrients over and above what infants and young children get from continued breastfeeding. A set of accepted indicators are used to assess the extent to which these practices are adequate at the population level. We summarize insights on these below.

 Timely introduction at 6 months: According to the results of the Comprehensive National Nutrition Survey (CNNS 2016-18), there was timely introduction of complementary food for over half (53%) of the children (6 to 8 months), as compared to 45% as reported in NFHS-4 (Figure. 11). A higher proportion (59%) of children residing in urban areas were given complementary foods from six months of age, compared to their rural counterparts (51%). The proportion of children who were introduced to complementary food in a timely manner, increased with household wealth, from 42% in the lowest wealth quintile to 68% in the highest wealth quintile. In cases where women had no schooling, only 37% of 6-8 months children were introduced to complementary food on time whereas if women had completed 12 years of schooling, then 67% of 6-8 months children were introduced to it.

Quality, frequency and adequacy of complementary foods: We examine three complementary feeding indicators that together, bring together insights on the dietary quality, frequency, and overall adequacy of complementary feeding - minimum dietary diversity, minimum meal frequency, and minimum acceptable diet. According to CNNS results (2016-18), 42% of children aged 6 to 23 months were fed minimum number of times per day for their age, whereas according to NFHS-4 the minimum meal frequency for this age group was reported to be slightly lower (36%). Both CNNS (2016-18) and NFHS-4 results show that only 21% of children aged 6 to 23 months were fed an adequately diverse diet containing four or more food groups. The CNNS suggests that fewer children (6-23 months) consumed iron-rich food (8.5%) compared to the NFHS-4 (22.5%) (Figure. 11).

Complementary feeding varies tremendously by State. In Meghalaya, Sikkim and Kerala, a high proportion of children aged 6 to 23 months received a minimally diverse diet whereas in Jharkhand, Rajasthan and Andhra Pradesh a lower proportion received it (Annexure IV). The proportion of 6-23 months children receiving at least as many meals as recommended for their age was highest in Sikkim (67.4%), Kerala (65.9%) and Tripura (62.5%) and lowest in Andhra Pradesh (22%), Punjab (22.4%) and Goa (23%) (Annexure IV). The highest percentage of children (6-23 months) in Sikkim, Kerala and Arunachal Pradesh received minimum acceptable diet, whereas it was the lowest in Andhra Pradesh, Maharashtra and Mizoram (Annexure IV). In Meghalaya, Manipur and Sikkim a greater proportion of children consumed iron-rich foods; the lowest proportion were in Haryana, Rajasthan, Gujarat, Madhya Pradesh and Punjab (Annexure IV).



Figure 11: Trends in infant and young child feeding practices in India

4.1.2. Recommendations for key actions

Meeting the nutritional needs of children aged 6 to 23 months can be particularly challenging in resource poor settings. Complementary feeding practices for children 6–23 months old in South Asia are far from optimal (Aguayo, 2017). Complementary foods for children aged 6–23 months are primarily cereal based diets and are lacking in the essential growth promoting nutrients provided by fruits and vegetables (only 1 in 3 children 6–23 months old is fed fruits and vegetables) and foods of animal origin (less than 1 in 5 children is fed meat, fish, poultry, and/or eggs). This is of great concern given the high levels of child stunting in South Asia (Aguayo, 2017).

India has a supportive policy environment to improve infant and young child feeding (IYCF) interventions and multiple operational platforms exist that can deliver counselling and complementary food supplements. India's policies are well aligned with the scientific evidence on what it takes to improve complementary feeding – i.e., **counselling interventions** for food-secure populations and **counselling combined with food or cash transfers** for food-insecure populations (Avula et al., 2017). The ICDS program includes provision both for counselling and for food supplements, and the new efforts by the MoHFW around the Home-Based Young Child program include provisions for counselling; finally, the Jan Andolan can play a key role in broadening the conversations around complementary feeding. However, the reach of these programs is not as widespread as it should be, especially in the States with the highest burden of stunting and the poorest complementary feeding practices (Map 1 and Map 2). In addition, although we know that the reach of the ICDS THR is variable across States and districts, we know less about the quality, uptake and use of this major component of the program's interventions to improve complementary feeding.



Map 1: Percentage of women with children under five years of age who received health and nutrition education/counselling during lactation, by district, 2016





To further scale-up interventions to improve infant and young child feeding in India, it is recommended that:

- Content on complementary feeding in existing counselling and behaviour change interventions needs to be focused, salient and sharp
 - o In the ICDS, health and nutrition education via interpersonal counselling to lactating women should address complementary feeding, and counselling services to mothers in the context of growth monitoring and home visits needs to be strengthened to address complementary feeding robustly.
 - o In services offered by MoHFW, specific aspects of complementary feeding that can be addressed or reinforced by the home visits under the HBYC program should be strengthened
 - o Community-based events and mass media should be used to expand coverage and reach of messages on complementary feeding
- Composition and quality of food in the form of THR and Hot-Cooked meals to be examined clearly
 - o Re-examine current guidelines on composition and quality of food in the ICDS program.
- To scale up both counselling and complementary food supplements, the following need attention
 - Substantial gaps need to be closed to ensure higher contact of interpersonal counselling between frontline workers and 1000-day households, especially in high population States. ICDS-CAS and other coverage/reach monitoring approaches can help with this.

- o Systems challenges related to capacity, finance, and governance need to be addressed, prioritizing those geographies where the greatest numbers are currently being left out.
- To generate evidence rapidly on what can work in the Indian context
 - o Formative research to understand what constraints families are facing in feeding their infants and young children appropriate complementary foods is essential; this is what will help tailor locally salient strategies across India.
 - o Specific aspects of counselling and complementary food supplement interventions need to be tested urgently.

Overall, investments in program innovations, in learning and evaluation, financing research, and strengthening of governance of existing programs to support complementary feeding are needed to support the scale up of high impact interventions to improve IYCF in India.

4.2. Anaemia

Anaemia, a condition marked by low haemoglobin (Hb) concentration, affects approximately 2.36 billion individuals globally, and India carries its largest burden. Even though anaemia declined in India between 2006 and 2016, it remained highly prevalent in children and pregnant women.

4.2.1. Status

Anaemia is highly prevalence among India's youth, affecting 41% of 1-4-year olds, 24% of 5-9-year olds, and 28% of 10-19-year olds (Figure 12). Anaemia prevalence is highest in central and eastern States, iron deficiency is highest in western States across the entire north-south range. This underscores the complex etiology of anaemia and suggests that addressing iron deficiency will not solve India's anaemia problem. More work is needed to better understand the relative contribution of causal factors to the overall anaemia burden in the country.



Figure 12: Anaemia among children & adolescents¹, India, CNNS

¹ WHO guidelines for hemoglobin (Hb) concentrations for the diagnosis of anaemia in children and adolescents were used. Hb levels were adjusted for altitude in areas >1000 meters. Hb levels referred to diagnose anaemia among children and adolescents are: a.) Children aged 1-4 years
- Hb level < 11g/dl; b) Children aged 5-11 years – Hb level < 11.5 g/dl; c) Adolescents aged 12-14 years – Hb level < 12.0 g/dl; d) Adolescent girls aged 15-19 years – Hb level < 12.0 g/dl; e) Adolescent boys aged 15-19 years – Hb level < 13.0 g/dl

4.2.2. Recommendations for key actions

Public health strategies to prevent and control anaemia generally include a suite of interventions targeted across the life cycle:

- During pre-pregnancy and pregnancy: iron and folic acid supplementation (Map 6), deworming (Map 7), and malaria prevention strategies.
- In newborns, infants and in early childhood: delayed cord clamping, exclusive breastfeeding for infants, iron and folic acid supplementation (Map 8), and deworming (Map 9).
- Across the life-course: fortification or biofortification of staple foods with micronutrients, consumption of diverse diets that include sources of iron and other micronutrients.
- Addressing social determinants such as water and sanitation, education, and poverty alleviation.

As seen in the maps of intervention coverage, the reach of key interventions already in India's programs was highly variable in 2016. Further insights are needed on how coverage may have changed in the context of the policy emphasis offered by the Anaemia Mukt Bharat. A key use of NFHS-5 will be to examine changes in coverage and reach of some of these programs between 2016 and 2019-20.

In addition to existing health sector programs, nutrition-sensitive interventions (Nguyen et al., 2018) and school-based interventions (Adelman et al., 2019) may be opportunities for India, particularly given the nearly universal enrolment and massive safety nets that exist in the country. However, any intervention requires behavior change. Changing social norms has been a constant challenge for uptake of iron folic acid supplements and other interventions that require behaviour change. Research is underway to inform policymakers about the value of adopting a socionormative approach to anaemia reduction (Sedlander et al., 2018).

For India, the CNNS data show that anaemia affects youth of all ages. The 6x6x6 strategy of Anaemia Mukt Bharat (AMB) is a positive step and is ambitious in its goal to reduce the prevalence of anaemia by three percentage points per year. The Government of India has also included staple food fortification (including rice fortification) as part of its comprehensive strategy to address anaemia in multiple States, including Andhra Pradesh, Gujarat and Karnataka (PATH, 2019). Although internal monitoring of supply-side interventions (e.g. IFA and deworming) is in place, the success of AMB in the long run would be best measured using an experimental or quasi-experimental approach.

4.3. Micronutrient deficiencies [1 to 19-year-old population only]

Micronutrient deficiency is a major challenge in India, affected both by diet quality and inflammation/infection. A multipronged approach is needed to address deficiencies of key vitamins and minerals, such as vitamin A, iron, iodine and zinc, that continue to coexist and interact with protein and energy deficits (NITI Aayog, n.d.). In an academic review focused on the current scenario of micronutrients' status in the country (anaemia, vitamin A, iodine, vitamin B12, folate, ferritin, zinc, copper and vitamin C), Gonmei and Toteja have emphasized that deficiencies related to iron, vitamin A, iodine and zinc are of high public health importance among children and adolescents (Gonmei & Toteja, 2012). Recent research also points to the significance of folate, vitamin B12 and vitamin D in maternal and child health.

Global evidence suggests that micronutrient deficiencies are an important cause of morbidity and mortality, accounting for a considerable loss of Disability Adjusted Life Years (DALYs), especially in infants and pre-school children. Micronutrients deficiencies among children can also lead to impaired cognitive development, poor physical growth, increased morbidity and decreased work productivity in adulthood (WHO, 2009). In this report we will look at the prevalence of vitamins A, D, B-12, folate and zinc deficiencies among 1 to 19-year-old children in India.

4.3.1. Status

Vitamin A deficiency

According to the CNNS results (2016-18), 22% school-age children (5–9-year-olds) were vitamin A deficient, as compared to 18% pre-school children (1–4-year-olds) and 16% adolescents (10–19-year-olds). State-wise data shows that among 1-4-year-old children, in Goa only 2% had vitamin A deficiency, whereas in Jharkhand nearly 43% children in this age group were vitamin A deficient, which is a serious public health concern. Among 5–9-year-olds, vitamin A deficiency was most prevalent in Mizoram (47%), and among adolescents (10–19 years) it was most prevalent in Jharkhand (30%) and is considered a serious public health problem (Figure 13).

Vitamin D deficiency

Vitamin D deficiency was noted to be lower among pre-school children (14% in 1–4-year-olds), as compared to school-going children (18% in 5–9-year-olds) and adolescents (24% in 10–19-year-olds) (CNNS results 2016-18). In the States of Punjab, Uttarakhand and Manipur, vitamin D deficiency was particularly high among children of all age groups (Figure 13).

Vitamin B-12 & folate deficiencies

Data from CNNS 2016-18 show that vitamin B-12 deficiency was higher among adolescents aged 10–19 years (31%) as compared to school-age children aged 5–9 years (17%) and pre-school children aged 1–4 years (14%). A similar pattern was noted for folate deficiency; 37% among 10-19-year-olds, 28% among 5–9-year-olds, and 23% among 1-4-year-olds. State-wise analysis shows that vitamin B-12 deficiency was highest in Gujarat among children aged 1–4 years (29%) and adolescents aged 10–19 years (48%); whereas for children aged 5–9 years it was highest in Punjab (32%). In Kerala and West Bengal, prevalence of vitamin B-12 deficiency was lowest. Folate deficiency was found to be highest in Nagaland among children aged 1–4 years (74%)

and adolescents aged 10–19 years (89%); whereas for children aged 5–9 years it was highest in Andhra Pradesh (69%). In Sikkim and West Bengal, prevalence of folate deficiency was lowest (Figure 14).

Zinc deficiency

According to CNNS results (2016-18), zinc deficiency was found in nearly one-third of adolescents aged 10–19 years (32%). Fewer pre-school children aged 1–4 years (19%) and school-age children aged 5–9 years (17%) were found to be zinc deficient. In Himachal Pradesh zinc deficiency is a serious concern; 41% of pre-school children (1-4-year-olds) and 38% of school-age children (5-9-year-olds) were found to be zinc deficient. States with a high burden of zinc deficiency among adolescents (10–19-year-olds) were Gujarat (55%), Manipur (53%), Himachal Pradesh and Punjab (both 52%) (Figure 13).



Figure 13: Percentage of adolescents with Vitamin A¹, Vitamin D², and Zinc deficiency³, India, CNNS

¹ For Vitamin A deficiency diagnoses, WHO guidelines were used. Children aged 1–9 years and adolescents aged 10-19 years old were defined to have Vitamin A deficiency if serum retinol concentration in blood was <20 μ g/dL.

²For Vitamin D deficiency cut-offs, Institute of Medicine (IOM) guidelines were used. Children aged 1–9 years and adolescents aged 10-19 years old were defined to have Vitamin D deficiency if the concentration of serum 25(OH)D was <12ng/mL (30 nmol/L).

³For Zinc deficiency cut-offs, International Zinc Nutrition Consultative Group guidelines were used. Children aged 1–9 years were defined to have Zinc deficiency if serum zinc concentration was < 65 μ g/dl. Adolescents aged 10-19 years old were defined to have define Zinc deficiency if serum zinc concentration was < 70 μ g/dl (morning fasting) and < 66 μ g/dl (morning non-fasting) in non-pregnant girls and < 74 μ g/dl (morning fasting) and < 70 μ g/dl (morning non-fasting) in boys.



Figure 14: Percentage of adolescents with Vitamin B12¹ and Folate² deficiency, India, CNNS

¹For Vitamin B12 deficiency diagnoses, WHO guidelines were used. Children aged 1–9 years and adolescents aged 10-19 years old were defined to have Vitamin B12 deficiency if serum Vitamin B12 was <203pg/ml.

²For folate deficiency diagnoses, WHO guidelines were used. Children aged 1–9 years and adolescents aged 10-19 years old were defined to have folate deficiency if the concentration of serum erythrocyte folate was <151ng/mL.

4.3.2. Recommendations for key actions

The most commonly used strategies to control micronutrient deficiency are supplementation and fortification, because they are cost-effective and relatively easy to deliver. However, little emphasis has been placed on food-based approaches to address micronutrient malnutrition. To improve dietary quality for poor populations, more interactions are needed among the nutrition, agriculture and development communities (Allen, 2003). Inadequate dietary intake is also dependent on inadequate household food insecurity. Hence it is necessary to focus attention on improving household food security. It is also necessary to address other contributing factors of micronutrient deficiencies, like poverty, lack of purchasing power and limited knowledge about appropriate nutritional practices (Khan & Bhutta, 2010).

In the context of India, micronutrient deficiencies are being addressed under the Anaemia Mukt Bharat initiative through the provision of iron and folic acid (IFA) fortified foods and IFA supplements. There are directives from central ministries for schemes/programs such as ICDS, MDM and PDS about the fortification of five staples - wheat flour, rice, oil, milk, and salt. In addition, the new initiatives such as the Bharat Poshan Kisan Kosh, led by the MWCD, will shed more light on local strategies for diversifying diets.

Key recommendations to improve and strengthen actions on addressing micronutrient deficiencies, which emerged at a vision-setting exercise, with the consensus of key nutrition stakeholders, include the following (International Food Policy Research Institute & NITI Aayog, 2019):

- Address data needs on outcomes, determinants and on food consumption:
 - o Bring together all micronutrient-related data, tools, aids, etc. in a single accessible space for convenience and enhanced usage.
 - o Ensure that deep-dive nutrition surveys may be conducted every 3-5 years to generate adequate data on micronutrient malnutrition outcomes and determinants.
- Use a range of behaviour change strategies to increase awareness and make better and more diverse diets and better nutrition itself aspirational
- Improve policy guidance, policy coordination and monitoring of existing programs on supplementation and fortification:
 - o Have guidelines on areas, like diet diversification, multiple micronutrient supplementation (MMS) and folic acid supplementation.
 - o Increase the micronutrient content of staples delivered through ICDS, MDM, PDS either through fortification or biofortification.
 - o Have policies to make fortification mandatory.
 - o Appoint an expert in micronutrient deficiencies at the State-level as the key contact person.
 - o Strengthen the capacity of service providers and manufacturers to address micronutrient deficiencies.
 - o Standardize monitoring mechanisms for micronutrient interventions across States and have common targets.
 - o Strengthen the quality monitoring of fortified products that reach the consumers and vulnerable groups in particular:
 - Assess and strengthen the capacity of national and State level laboratories for micronutrient testing and train regulatory personnel on appropriate sample collection, testing and related protocols.
 - o Develop appropriate quality monitoring data at State and national levels.
- · Invest in addressing food systems issues to ensure diet diversity:
 - Increase the production, availability and accessibility of diversified food commodities across the country with the full-scale engagement of agriculture and food & civil supplies sectors.
 - o Assess and strengthen policies to address the prices of healthy foods to address the affordability issues of nutritious food.

4.4. Emerging cross-cutting challenges

With changes in the income and lifestyle of populations, both globally and in India, there is a rapid shift in the diet patterns and average caloric intake of people. While undernutrition continues to demand attention, there is a significant rise in obesity/overweight, non-communicable diseases and micronutrient deficiencies. A number of inter-related factors are driving these emerging challenges.

4.4.1. Urbanization

70

Urban population is expanding worldwide. With it, the burden of malnutrition, in the form of child undernutrition, persistent micronutrient deficiencies, and rising overweight and obesity, has shifted from rural areas to cities. Globally, the proportion of stunted children living in urban areas rose from 23 to 31%—meaning that approximately one in three stunted children now lives in an urban area. Overweight and obesity, at the global level, have also risen rapidly in both children and adults. The number of overweight children rose by more than 50% in 20 years (1990– 2011). Limited access to healthcare, safe water, and sanitation in cities leads to severe health and nutrition inequalities for the urban poor—especially slum dwellers. The urban poor face a challenging food environment too. Extremely poor urban households in many developing countries spend more than half their budget on food (Ruel et al., 2017).

In a fast-growing economy like India, every year about 7.5 million population is added to urban areas (Kumar and Saiyed 2019). An analysis of **nutrition outcomes in urban versus rural areas**, among children (0-59 months old), showed that in 2016 the proportions of stunting (30% vs 38%), underweight (30% vs 38%), and wasting (22% vs 24%) were not hugely different (Figure 15). A similar analysis among adolescent girls (15-19-year-old) and women (15-49-year-old), showed that anaemia among adolescent girls was above 50% in both urban and rural areas and the gap between them was small, but low BMI was significantly higher among girls from urban areas (44% vs 38%). The prevalence of obesity was almost two times higher among women from urban areas compared to those living in rural areas (31% vs 15%) (Figure 16).

Urban areas performed better than rural areas for most **immediate determinants** of nutrition, except exclusive breastfeeding. However, both in urban and rural areas, very low percentage of children receive the minimum acceptable diet (11% in urban and 9% in rural) (Figure 15). Among **underlying determinants,** women's literacy, schooling and marriage age were higher in urban areas compared to rural areas. At the household-level, more than 95% urban and 83% rural households were electrified. Open defecation was much larger in rural areas (more than 50%).

In terms of coverage of **interventions,** during pregnancy 21% women in urban areas received deworming medicine as compared to 16% in rural areas. Women in urban areas received less food supplements, health and nutrition education and counselling than rural areas (37% vs 60%)). More than 90% of women in urban areas had an institutional delivery by skilled birth attendant. Compared to rural, lesser urban women received food supplements and health and nutrition education during lactation period.

A new approach is required to tackle the complex and complicated urban health scenario. National Urban Health Mission (NUHM), which was launched in 2013, systematically works towards meeting the regulatory, reformatory, and developmental public health priorities. However, there is huge shortage of primary healthcare services in the urban areas. There is a need to expand the scope of primary care to preventive and promotive healthcare services along with curative (Kumar & Saiyed, 2019).



Figure 15: Prevalence of nutrition outcomes among children (0-59 months old), by place of residence, NFHS-4 2016

*** p-value < 0.001, ** p-value <0.01, * p-value <0.10

Note: All indicators except anaemia were calculated among children aged 0-59 months. Indicator for anaemia was calculated among children in the age group 6-59 months.





*** p-value < 0.001, ** p-value <0.01, * p-value <0.10





*** p-value < 0.001, ** p-value <0.01, * p-value <0.10

Note: Exclusive breastfeeding was computed among infants aged 0-6 months, timely introduction of complementary foods was computed among infants aged 6-8 months, minimum acceptable diet, minimum dietary diversity, and minimum meal frequency was computed among children aged 6-23 months. Indicators of experiencing ARI symptoms and diarrhoea were computed among children 0-59 months old.

4.4.2. Overweight, non-communicable diseases and the food environment

Evidence shows that, like many other low and middle-income countries (LMICs), India is facing a dual burden of undernutrition and overweight/obesity. Between 2006 and 2016, the prevalence of overweight/obesity among adult women increased from 15.1% to 24.1% and among adolescents from 3.0% to 5.2% (Young et al., 2019). Almost 1 in 5 men and women were identified with body mass index greater than 25 kg/m2, which is a sign of overweight. From NFHS-4 data, it was clear that districts with the highest levels of overweight/obesity were located in Punjab, southern States of India as well as coastal part of Goa, Maharashtra and Gujarat. Some urban districts in Andhra Pradesh were on top of the list of districts with the highest prevalence of overweight/obesity among women (Punima Menon et al., 2017).

In terms of non-communicable diseases, close to 14% of men and 10% of women in India were identified with high blood pressure according to the NFHS-4 survey. In a majority of districts across India, over 1 in 10 men were diagnosed with high blood pressure. In 121 districts, mostly concentrated in the north-east, parts of south and some districts in the north-west, 1 in 5 men had high blood pressure. The proportion of women with high blood pressure was lower as compared to men. On average, 8% of men and 6% of women had high blood sugar level (above 140 mg/dl), with considerable variability across districts. The districts with prevalence of high blood sugar among men were mostly in the southern parts of India, and the eastern and western coastal areas, including Gujarat, West Bengal, and the north-east (Punima Menon et al., 2017).
Studies show that rapid changes in the food system, particularly the availability of cheap ultraprocessed food and beverages in LMICs, and major reductions in physical activity at work, transportation, home, and even leisure due to introductions of activity-saving technologies, are widely responsible for growing challenge of overweight and non-communicable diseases (Popkin et al., 2020). Hence it is important to look at the drivers of food choices and overall adopt a systems perspective that can help in developing effective policies for agriculture, food and nutrition (International Food Policy Research Institute & NITI Aayog, 2019). Double-duty actions, which aim to simultaneously tackle both undernutrition and problems of overweight, obesity, and diet-related non-communicable diseases, will be needed. Double-duty actions are based on the rationale that all forms of malnutrition share common drivers that can be leveraged for double impact. These drivers include early life nutrition, diet diversity, food environments, and socioeconomic factors. Putting a double-duty approach into operation involves assessing the potential harm of existing actions and redesigning programmes and policies with a focus on double-duty actions. Changes in governance, financing, and capacity building will be needed to put the approach to use (Hawkes et al., 2020).

Summary

Solving the malnutrition challenge in India requires that the nutrition policy and program community work both on some lingering deep and old challenges, as well as on keeping pace with new and emerging challenges. In this chapter, we have focused in on two lingering, but deep challenges, and a set of emerging challenges that need foresight, experimentation and new thinking to ensure that robust actions can be put in place.

On lingering critical challenges, we highlight first the importance of investing in improving complementary feeding, focusing on key interventions in existing program platforms. Our main recommendations are to ensure strong linkages between the counselling and the take home rations in the ICDS and ensure that together, they reach all households with a child under two. Why? Because together, these two interventions provide a package of known evidence-based interventions for vulnerable, food insecure households. Specifically, the following actions are critical:

- (1) Improve the composition and invest in ensuring that everything is done to increase the reach and quality of the take home rations
- (2) Ensure that the behaviour change counselling reaches every family that has a child in the first two years of life, using existing frontline worker platforms and all available platforms to create a buzz of awareness.
- (3) Address the systems challenges that are currently preventing adequate reach and quality of counselling services, in particular

The second lingering challenge is that of anaemia. India has had programs to address anaemia for decades now. These programs have been only partially successful. The Anaemia Mukt Bharat, however, offers a new impetus to strengthen, focus and amplify work to address anaemia. However, much more is needed to scale-up and strengthen some of the existing interventions in the health system – micronutrient supplements, deworming, prevention and treatment of malaria. In addition, the other focus actions of the AMB mission require acceleration, as do the social determinants of anaemia.

On the new challenges outlined in this chapter – newly identified micronutrient deficiencies, and the cross-cutting challenges of urbanization and of emerging overweight and obesity – our primary recommendation is to first acknowledge that these new findings need attention. At the same time, challenges like single micronutrient deficiencies do not require single micronutrient solutions. Deeply investing in improving dietary quality – through a primary focus on dietary diversity and diet quality – will help achieve multiple nutrition goals. In addition, following the path already laid out on fortification of key staples will help mitigate, at least partially, some micronutrient deficiencies. Urban food systems and food environments pose new challenges, as does urban health service delivery. In both food and health systems in urban contexts, engaging private health care providers and a range of actors who can help create healthier food environments for a range of consumers is going be essential. The focus of work on urban nutrition must go well beyond catering to the challenges of the urban poor and must engage stakeholders across the board.

Last, but not least, the challenge of overweight, obesity and non-communicable diseases must be confronted. It is a force to reckon with and without full-scale and dedicated attention and action, it will be too late. Tackling these challenges requires also tackling the food and physical environments in homes, workplaces and institutions. Existing movements like the Eat Right and Fit India movements must be connected strongly with the POSHAN Abhiyaan mission of improving diets for all stakeholders.

LOOKING AHEAD FOR TRANSFORMING NUTRITION IN INDIA

CHAPTER 5:

The Government of India is committed to improving the nutritional status of children, adolescents, pregnant women and lactating mothers through POSHAN Abhiyaan. Adopting a life-cycle approach, POSHAN Abhiyaan is well positioned to transform the nutritional status of India. Resting on the key pillars of technology, multisectoral convergence, behavioral change and capacity buildings, it aims to ensure that intensified health and nutrition services are delivered from the core platforms, and its specific nutrition targets are met over the next few years. To strengthen POSHAN Abhiyaan for improving key nutrition outcomes, the following recommendations have been made on the basis of progress and challenges, as documented in this report.

5.1. Recommendations for accelerating current trends in addressing key undernutrition goals

To assess how POSHAN Abhiyaan can accelerate current trends in addressing its key undernutrition goals, particularly for stunting, wasting and anaemia, a Lived Saved Tool (LiST) modelling analysis was done in this report. Insights were also drawn from an in-depth retrospective mixed method analysis of selected States that had successfully accelerated stunting reductions, especially in the decade between 2006 and 2016. Some of the specific recommendations that emerged are as follows:

Stunting

For POSHAN Abhiyaan, the LiST modelling emphasised the critical importance of focusing on **improving complementary feeding** using both behaviour change interventions and the complementary food supplements in ICDS, as routes to reducing stunting. The model predicted that improving complementary feeding is the single most important intervention to help accelerate stunting reduction in the future. In addition, other research, including the stunting reduction success cases in selected States, highlighted the importance of **investments in girls and women** (education during childhood, reducing early marriage and early pregnancy, improving care during and after pregnancy) along with other **social determinants** for reducing stunting.

Wasting

For wasting reduction, the LiST model suggested that including interventions that go beyond the treatment of severe acute malnutrition (SAM) to include those that also address moderate wasting, have the potential to help achieve larger declines in wasting than by tackling SAM alone. Notably, the ICDS already includes interventions to address moderate malnutrition but **the quality and reach of ICDS food and improvements in the screening and referral** are both imperative to ensure that interventions work as well as they should.

Anaemia

The LiST model estimated that a scale-up scenario that focuses only on health sector interventions will achieve modest improvements in anaemia among women of reproductive age. Therefore, more attention is needed on other determinants and interventions as well.

5.2. Recommendations for strengthening key POSHAN Abhiyaan pillars

Technology

With the introduction of ICDS-Common Application Software (ICDS-CAS), POSHAN Abhiyaan intends to improve service delivery and program management through an innovative web and mobile-phone based application. On the use of technology, it is evident from the report that many States still need to **accelerate the procurement of phones and training of providers and managers**. At the same time, insights from the evaluations of this component indicate that other **supportive efforts to scale-up technology** itself also need attention. In each State, specific areas related to the scale-up of technology platform need attention. Therefore, a **State-by-State assessment**, using the findings of this report, should drive **State-specific action** to close gaps.

Convergence

POSHAN Abhiyaan recognizes the multisectoral nature of the challenge of malnutrition and identifies convergence as one of its key pillars. From the progress so far, however, much remains to be done on convergence. Although the goal of convergence – i.e., that programs and services converge on all households in the first 1000 days - is clear from the guidance documents, this is not as clear in the planning of actions. A critical need is that the **core vision of effective household convergence be translated from national to district-level stakeholders,** and **that models for diagnosis, planning and closing of gaps** in convergence be tested.

The success of POSHAN Abhiyaan's convergent action planning efforts lies in the ability of the convergence-related processes to trigger the within- and across-sector actions that lead to the effective reach of an agreed upon core set of interventions to all households in the 1,000-day period. The **use of empirical analyses, data visualization and sensitization processes** are recommended to help all stakeholders **identify gaps in effective household convergence** and ensure that all relevant services and interventions reach households in the first 1,000 days - effectively and with high quality.

Behavioral change

Improving nutrition outcomes through strategies of behaviour change communication and community mobilization is an important focus of POSHAN Abhiyaan. On behavior change communication, the campaign mode is well-supported by rounds of data that now highlight that even though the campaigns are being implemented effectively, the key platforms to reach households and children in the first 1,000 days remain the **routine** platforms of home visits, supplemented by **community-based events and mass media.** All other platforms have both lower reach and lower message retention. Thus, efforts must double down on **extending the reach of the core platforms, especially of home visits.** This is especially critical for home-based behaviours such as complementary feeding.

Capacity building

Capacity building through Incremental Learning Approach (ILA) is a key program pillar under POSHAN Abhiyaan. On capacity building, a range of issues have been highlighted in recent

assessments that suggest that **investments in the quality of capacity building** will need to be a central goal. This is critical to address the quality component of all POSHAN Abhiyaan interventions. Since the delays in the roll out of e-ILA were attributed to delays in the procurement of smartphones for AWWs and low priority for this modality of training, it is essential that the procurement process of smartphones is expedited, and the training is prioritized. Priority areas for capacity building include strengthening the quality of growth monitoring and the quality of home-based counselling.

5.3. Recommendations for interventions delivery through core platforms (ICDS & NHM)

POSHAN Abhiyaan's success rests on the ability to engage and transform core program platforms of ICDS and NHM, such that the health and nutrition interventions can reach households, women and children in the first 1,000 days of life. Strengthening the coverage, consistency, intensity and quality of health and nutrition interventions that are delivered from the core platforms of ICDS and NHM is a key goal of POSHAN Abhiyaan, and a range of systems strengthening efforts have been put in place to achieve it. From the assessment of the status and roll-out of these systems strengthening efforts, as well as successes and challenges related to the core platforms of ICDS and NHM, it is apparent that many of these still require focused attention, as recommended below:

ICDS platform

On the ICDS platform, a range of evidence indicate that although the program platforms have expanded their reach, in high burden States, they are still not reaching as many women and children as they should. Even in Aspirational Districts, the **overall reach is moving slower** than needed. New research affirms that **key governance challenges** must be addressed as they relate to **financing, supervision vacancies, infrastructure** and more. In addition, core interventions delivered by the ICDS program, such as **THR** and **growth monitoring, need significant quality improvements** – these are both core interventions that bring client populations into the program platforms.

NHM platform

On the NHM platform, a range of efforts are underway to improve the integration of nutrition interventions into the existing health platforms such as ANC, HBNC and HBYC. In addition, campaigns such as Anaemia Mukt Bharat are bringing visibility to issues within the health sector. Ongoing efforts should continue to focus both on the **quality of nutrition interventions in health services** and on **routinizing/integrating fully these efforts to reduce missed opportunities for service delivery.** A key challenge in the health sector is the use of private care platforms, especially for curative care, and this will need attention for key interventions, such as diarrhea control and use of zinc.

Overall, further improvements in both the specific systems-strengthening efforts of POSHAN Abhiyaan, and in the core program platforms for reach of all POSHAN Abhiyaan interventions are needed. States need to closely assess where they stand, both on the specific components of POSHAN Abhiyaan and on the core platforms and accelerate efforts to close specific gaps.

5.4. Addressing challenges (old and new) for transforming nutrition in India

Solving the malnutrition challenge in India requires that the nutrition policy and program community work both on some lingering deep and old challenges, as well as on keeping pace with new and emerging challenges. For emerging challenges, foresight, experimentation and new ways of thinking are required to ensure that robust actions can be put in place.

Complementary feeding

To address some of the lingering challenges of undernutrition, it is important to **invest in improving complementary feeding** and **focus on key interventions in existing program platforms.** One of the main recommendations is to **ensure strong linkages between counselling and take-home rations** in ICDS and ensure that they reach all the households with a child below two years. It is very significant because together, these two interventions provide a package of known evidence-based interventions for vulnerable and food insecure households. Specifically, the following actions are critical:

- 1. Improve the composition and invest in ensuring that everything is done to increase the reach and quality of the take-home rations.
- 2. Ensure that the behavior change counselling reaches every family that has a child in the first two years of life, using existing frontline worker platforms and all available platforms to create a buzz of awareness.
- 3. Address the systems challenges that are currently preventing adequate reach and quality of counselling services, in particular.

Anaemia and other micronutrient deficiencies

Anaemia is also a lingering challenge in India, despite having programs for decades to address it. These programs have been only partially successful. The recently launched Anaemia Mukt Bharat (AMB) offers a new impetus to strengthen, focus and amplify work to address anaemia. However, much more is needed to scale-up and strengthen some of the existing interventions in the health system, like **micronutrient supplements, deworming, prevention and treatment of malaria.** In addition, the other focus actions of the AMB mission require acceleration, as do the social determinants of anaemia (as shown by LiST analysis).

New analysis highlight that a range of micronutrient deficiencies are a challenge too. Some of these also affect outcomes such as anaemia. We note that single micronutrient deficiencies do not require single micronutrient solutions. Deeply investing in **improving dietary quality in rural and urban India and for all age groups** – through a primary focus on dietary diversity via food systems – will help achieve multiple nutrition goals. In addition, following the path already laid out on **fortification of key staples** will help mitigate, at least partially, some micronutrient deficiencies.

Urbanization and overweight/obesity

To address cross-cutting challenges of **urbanization** and of growing **overweight and obesity**, our primary recommendation is to first acknowledge that the new findings, as documented in this report, need attention.

Urban food systems and **food environments** pose new challenges, as does **urban health service delivery.** In both food and health systems in urban contexts, **engaging private health care providers** and a range of actors who can help create healthier food environments for a range of consumers is going be essential. The focus of work on urban nutrition must go well beyond catering to the challenges of the urban poor and must engage stakeholders across the board.

Last, but not least, the challenge of overweight, obesity and non-communicable diseases must be confronted. It is a force to reckon with and without full-scale and dedicated attention and action, it will be too late. Tackling these challenges requires also tackling the food and physical environments in homes, workplaces and institutions. Existing movements like the Eat Right and Fit India movements must be connected strongly with the POSHAN Abhiyaan's mission of improving diets for all stakeholders.

These recommendations are expected to navigate and further strengthen the ongoing actions under POSHAN Abhiyaan. It is evident that there is no single magic bullet. However, with a systems perspective and multisectoral approach, high-impact interventions need to be effectively implemented with the synergistic engagement of stakeholders from various sectors and an overall involvement of the society. With all of the above in place, POSHAN Abhiyaan will continue to play a pivotal role in transforming India's nutritional status.

REFERENCE LIST

- Adelman, S., Gilligan, D. O., Konde-Lule, J., & Alderman, H. (2019). School feeding reduces anaemia prevalence in adolescent girls and other vulnerable household members in a cluster randomized controlled trial in Uganda. Journal of Nutrition, 149(4), 659–666. https://doi.org/10.1093/jn/nxy305
- Aguayo, V. M. (2017). Complementary feeding practices for infants and young children in South Asia. A review of evidence for action post-2015. Maternal Child Nutrition, 13(January), 1–13. https://doi.org/10.1111/mcn.12439
- Allen, L. H. (2003). Animal Source Foods to Improve Micronutrient Nutrition and Human Function in Developing Countries Interventions for Micronutrient Deficiency Control in Developing Countries: Past, Present and Future. American Society for Nutritional Sciences, 133, 3875–3878.
- Avula, R., Oddo, V. M., Kadiyala, S., & Menon, P. (2017). Scaling up interventions to improve infant and young child feed in India: What will it take? Maternal Child Nutrition, 13(S2) (e12414). https://doi.org/https://doi.org/10.1111/mcn.12414
- Avula, R., Sarswat, E., Chakrabarti, S., Nguyen, P. H., Mathews, P., & Menon, P. (2018). District level Coverage of Interventions in the Integrated Child Development Services (ICDS)
 Scheme During Pregnancy, Lactation and Early Childhood in India : Insights from the National Family Health Survey 4 (Issue 4).
- Bhutta, Z. A., Das, J. K., Rizvi, A., Gaffey, M. F., Walker, N., Horton, S., Webb, P., Lartey, A., & Black, R. E. (2013). Evidence-based interventions for improvement of maternal and child nutrition: What can be done and at what cost? The Lancet, 382(9890), 452–477. https://doi.org/10.1016/S0140-6736(13)60996-4
- Chakrabarti, S., Raghunathan, K., Alderman, H., Menon, P., & Nguyen, P. (2019). India 's Integrated Child Development Services programme; equity and extent of coverage in 2006 and 2016. Bulletin of the World Health Organization, January, 270–282. https://doi. org/http://dx.doi.org/10.2471/BLT.18.221135
- Dandona, L. (2017). Nations within a nation : variations in epidemiological transition across the States of India , 1990 2016 in the Global Burden of Disease Study. Lancet, 390, 2437–2460. https://doi.org/10.1016/S0140-6736(17)32804-0
- Dewey, K. G., & Adu-Afarwuah, S. (2008). Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries. Maternal and Child Nutrition, 4, 24–85.
- Do, B. T., Hansen, N. I., Bann, C., Lander, R. L., Goudar, S. S., Pasha, O., Chomba, E., Dhaded, S. M., Thorsten, V. R., Wallander, J. L., Biasini, F. J., Derman, R., Goldenberg, R. L., & Carlo, W. A. (2018). Associations between feeding practices and growth and neurodevelopmental outcomes at 36 months among children living in low- and low-middle income countries who participated in the BRAIN-HIT trial. BMC Nutrition, 4(1), 1–12. https://doi.org/10.1186/s40795-018-0228-9
- Gonmei, Z., & Toteja, G. S. (2012). Micronutrient status of Indian population. Indian Journal of Medical Research, 76(11), 1532–1539. https://doi.org/10.4103/ijmr.IJMR
- Hawkes, C., Ruel, M. T., Salm, L., Sinclair, B., & Branca, F. (2020). Double-duty actions: seizing programme and policy opportunities to address malnutrition in all its forms. The Lancet, 395(10218), 142–155. https://doi.org/10.1016/S0140-6736(19)32506-1
- IDinsight. (2019a). POSHAN Abhiyaan Social and Behaviour Change Communication: What is the status one year later? (Vol. 2018, Issue November 2018).

IDinsight. (2019b). Round 3 Survey Insights Aspirational Districts Programme (Issue December).

- Institute of Economic Growth. (2019). Integrated Child Development Services (ICDS): An Evaluation of Governance, Processes and Implementation.
- International Food Policy Research Institute, & NITI Aayog. (2019). A Common Vision for Tackling Malnutrition in India : Building on Data, Evidence and Expert Opinion.
- Kassebaum, N. J. (2016). The Global Burden of Anaemia. 30(2), 247–308. https://doi. org/10.1016/j.hoc.2015.11.002.
- Khan, Y., & Bhutta, Z. A. (2010). Nutritional Deficiencies in the Developing World: Current Status and Opportunities for Intervention. 57(6), 1409–1441.
- Kumar, A., & Saiyed, K. (2019). Does India Need New Strategies For Improving Urban Health And Nutrition?
- Menon, Punima, Mani, S., & Nguyen, P. H. (2017). How Are India's Districts Doing on Nutrition-Related Non-Communicable Diseases? Insights from the National Family Health Survey-4 (Issue 2).
- Menon, Purnima, Avula, R., Sarswat, E., Mani, S., Jagid, M., Kumar, A., Singh, A., Kaur, S., Dubey, A. K., Gupta, S., Nair, D., Agarwal, P., & Agarwal, N. (2020a). Tracking India's progress on addressing malnutrition: What will it take? POSHAN Policy Note 34.
- Menon, Purnima, Avula, R., Sarswat, E., Mani, S., Jagid, M., Kumar, A., Singh, A., Kaur, S., Dubey, A. K., Gupta, S., Nair, D., Agarwal, P., & Agarwal, N. (2020b). Tracking India's progress on addressing malnutrition and enhancing the use of data to improve programs.
- Ministry of Women and Child Development. (2019a). POSHAN Abhiyaan Monthly Progress Report, December 2019.
- Ministry of Women and Child Development. (2019b). POSHAN Abhiyaan Monthly Progress Report, December 2019 (Issue December).
- Nguyen, P. H., Scott, S., Avula, R., Tran, L. M., & Menon, P. (2018). Trends and drivers of change in the prevalence of anaemia among 1 million women and children in India, 2006 to 2016. BMJ Global Health, 3(5), 1–12. https://doi.org/10.1136/bmjgh-2018-001010
- NITI Aayog. (n.d.). Nourishing India, National Nutrition Strategy, Government of India.
- NITI Aayog. (2019). Transforming Nutrition in India: POSHAN Abhiyaan.
- NITI Aayog. (2020). Weekly Update on Procurement of Smart Phones and Growth Monitoring Devices.
- Parasar, R., & Bhavani, R. (2018). Supplementary Nutrition Programme under ICDS : Case Study of Telangana and Tamil Nadu (Vol. 2018, Issue 30).
- Pasricha, S. R., Black, J., Muthayya, S., Shet, A., Bhat, V., Nagaraj, S., Prashanth, N. S., Sudarshan, H., Biggs, B. A., & Shet, A. S. (2010). Determinants of anaemia among young children in rural India. Pediatrics, 126(1), 140–149. https://doi.org/10.1542/peds.2009-3108
- PATH. (2019). Improving nutrition and anaemia through promoting rice fortification as part of comprehensive strategy in multiple States in India.
- Petry, N., Olofin, I., Hurrell, R. F., Boy, E., Wirth, J. P., Moursi, M., Angel, M. D., & Rohner, F. (2016). The Proportion of Anaemia Associated with Iron Deficiency in Low , Medium , and High Human Development Index Countries : A Systematic Analysis of National Surveys. Nutrients, 8(693), 1–17. https://doi.org/10.3390/nu8110693

Piramal Foundation. (2020). Assessment of ILA Training (Issue January).

- Popkin, B. M., Corvalan, C., & Grummer-Strawn, L. M. (2020). Dynamics of the double burden of malnutrition and the changing nutrition reality. The Lancet, 395(10217), 65–74. https://doi. org/10.1016/S0140-6736(19)32497-3
- Ruel, M., Garrett, J., & Yosef, S. (2017). Food Security and Nutrition: Growing Cities, New Challenges. In Global Food Policy Report (pp. 24–33). International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/9780896292529
- Sedlander, E., Rimal, R. N., Talegawkar, S. A., Yilma, H., & Munar, W. (2018). Designing a socionormative intervention to reduce anaemia in Odisha India: A formative research protocol. Gates Open Research, 2(May), 15. https://doi.org/10.12688/gatesopenres.12808.1
- Vaid, A., Avula, R., George, N. R., John, A., Menon, P., & Mathews, P. (2018). A Review of the Integrated Child Development Services ' Supplementary Nutrition Program for Infants and Young Children : Take Home Ration for Children (Issue 7).
- Ved, R., & Menon, P. (2012). Analyzing Intersectoral Convergence to Improve Child Undernutrition in India Development and Application of a Framework to Examine Policies in Agriculture, Health, and Nutrition. IFPRI Discussion Paper 01208.
- WHO. (2009). Global Health Risks. http://www.who.int/healthinfo/global_burden_disease/ GlobalHealthRisks_report_full.pdf
- World Bank. (n.d.-a). Behaviour Change Communication and Community Mobilisation for Improved Nutrition Outcomes: Learning Note 4.
- World Bank. (n.d.-b). Building Capacity Through the Incremental Learning Approach (ILA): Learning Note 3.
- World Bank. (n.d.-c). Using Mobile Technology to Strengthen Service Delivery and Monitor Nutrition Services: Learning Note 1.
- World Bank. (2019). Mission Report 2.
- World Food Programme. (2019). Review of Take-Home Rations under the Integrated Child Development Services in India.
- Young, M. F., Nguyen, P., Tran, L. M., Avula, R., & Menon, P. (2019). A Doubled Edged Sword ? Improvements in Economic Conditions Over a Decade in India Led to Declines in Undernutrition as Well as Increases in Overweight Among Adolescents and Women. The Journal of Nutrition, 1–9. https://doi.org/https://doi.org/10.1093/jn/nxz251.



Annexure I

Review of Nutrition Modelling Tool

Model	Features	Advantages	Disadvantages	Sources
Lives Saved Tool (LiST)	It is a computer-based modelling tool that can be used to estimate the impact of scaling up health and nutrition inter- ventions on maternal and child health outcomes. It can estimate reduction in mortality due to change in the coverage of interven- tions.	 Ability to look at the impact of multiple inter- ventions aimed to improve maternal, newborn and child health. It covers sev- eral interventions (more than 70 maternal, newborn and child health and nutri- tion interventions), which can be modelled individu- ally or in combination. LiST's complementa- ry tools can be used to model on a sub-national basis; produce costing estimates; and generate 'missed opportunities' to show where the coverage is low and could poten- tially be maximized for increasing the number of lives saved. Evidence based. Validated and pub- lished. Regularly updated and maintained. Free and available in public domain. 	 Depends on data availability and quality. Does not deter- mine whether cover- age scale up targets are feasible (in terms of acceptability and cost). Interventions must be feasible in low-middle income countries, otherwise they can't be includ- ed in the model. 	https://academic.oup.com/jn/ article/147/11/2132S/4743210 https://www.ncbi.nlm.nih.gov/ pmc/articles/PMC3847271/ cle/147/11/2132S/4743210
Optifood	It is an optimization tool that can be used to inform (and test) food-based recommendations, for behavior change pro- gramming; to assess nutritional adequacy of local food environments; and to determine affordability of a nutri- tious diet for specific tar- get groups at the individ- ual (not household) level. Optifood models can also identify 'problem nutri- ents' (i.e. those whose requirements are diffi- cult to meet using local foods), and the most expensive nutrients and food sources in a given diet. It provides informa- tion on products (such as fortified foods or micro- nutrient powders) that could be added to the local diet to result in an adequate diet.	 It has a broad scope in terms of coverage. One can select and evaluate food-based recommenda- tions (FBR) for any group (by age, sex, life stage) in any country. There is flexibility in operation. Country specific reference nutrient intake (RNI) and food composi- tion data can be used in the analyses; and from the list of nutrients users can select the RNIs that they would like to model. Once the model param- eters are set-up, the model can be run quickly. All model parameters are locked after setting them up. This ensures comparability across all module outputs. 	Does not model im- pact on malnutrition outcomes.	https://www.nyas.orng/me- dia/19786/optifood.pdf https://www.spring-nutrition. org/publications/tool-summa- ries/optifood

Model	Features	Advantages	Disadvantages	Sources
Optima Nutrition	It is a mathematical modelling tool that assists users to allocate most recent or projected budgets across a range of nutrition-specific (e.g. vitamin supplementation) and nutrition-sensitive (e.g. family planning) pro- grams. It conducts alloca- tive efficiency analyses and projects trends in malnutrition under differ- ent intervention coverage or funding scenarios.	 Can provide quantitative evidence for the prioritiza- tion of nutrition programs in the context of limited funding. The model can also assist in the develop- ment of investment cases and national planning. Data required is easily available. The model has a flexible intervention set that includes a variety of interventions. 	 The model is heav- ily influenced by the effect size estimates of each program, which are obtained from the sparse (but growing) academic literature and are not always setting-spe- cific. Analyses also require estimates on the costs of scaling up interventions, which have inherent uncertainty. Data intensive. It is not an estab- lished model, still new. Not designed to determine alloca- tions between differ- ent diseases. 	https://bmcpublichealth. biomedcentral.com/arti- cles/10.1186/s12889-018- 5294-z https://www.nyas.org/me- dia/19779/optima-nutrition.pdf http://optimamodel.com/ docs/Optima%20Nutrition%20 User%20Guide%20Feb2019.pdf
Cost of the Diet	It is an optimization tool that analyzes the amount, combination, and cost of local foods needed to provide families with a nutritious diet. The software uses linear pro- gramming to find optimal combinations of available foods that meet energy, macronutrient, and micro- nutrient needs.	 Can estimate the min- imum cost of a local- ly-specified diet at both individual and household levels. Considers seasonal variation in prices when costing the diet. Identifies nutrients for which it may be hard to meet requirements. Software is easy to use, and not very data inten- sive. 	Does not model im- pact on malnutrition outcomes.	https://www.securenutrition. org/resource/cost-diet-tool-v2 https://www.spring-nutrition. org/publications/tool-summa- ries/cost-diet
Intake Model- ling and Prediction Program (IMAPP)	IMAPP looks at the current consumption patterns of certain foods that might be used as 've- hicles' for fortification and provides the user with the optimal amount of a nu- trient to add for a targeted prevalence of inadequacy. It estimates how much nutrient one needs to add to a food vehicle to achieve that prevalence. It is an optimization tool that operates at the level of the individual and- calculates what is needed to 'close the nutrient gap'.	 It can estimate the population at risk of inadequate or excessive intakes. Usable by almost any- one (i.e. dietary assess- ment knowledge is not necessary). 	Does not model im- pact on malnutrition outcomes.	https://www.nyas.org/me- dia/20840/nutritionmodelin- greport-final-21june2017-up- dated-logo.pdf

Model	Features	Advantages	Disadvantages	Sources
Profiles	It is a spreadsheet-based nutrition advocacy tool used to calculate conse- quences if malnutrition does not improve or change over a defined time period and the benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains.	 Addresses a range of different nutrition prob- lems individually. Is flexible and allows the user to choose the specific nutrition problem they would like it to deal with. Is imbedded in a broad- er advocacy process in the country. 	Does not model im- pact on malnutrition outcomes.	https://www.fantaproject.org/ sites/default/files/resources/ Nutrition-Advocacy-PRO- FILES-Manual-Apr2018_0.pdf https://www.nyas.org/me- dia/20840/nutritionmodelin- greport-final-21june2017-up- dated-logo.pdf
MINIMOD	It is a mathematical mod- elling tool that can identify cost-effec- tive solutions to specific micronutrient-related problems. It provides estimates of the impacts of alternative micronutri- ent intervention programs and their combinations (in collaboration with LiST), costs of micronutrient in- tervention programs and their combinations and identifies the least-cost method for achieving a pre-specified micronutri- ent objective, or, the max- imum impact for a given budgetary constraint.	 Addresses a range of different nutrition prob- lems individually. Is flexible and allows the user to choose the specific nutrition problem they would like it to deal with. Is imbedded in a broad- er advocacy process in the country. Flexible framework: A broad array of national and subnational policy scenarios can be devel- oped. Robust. Multiple indicators of impact. Multiple beneficiary groups. Multi-program focus. Multi-year timeframe. 	 The nutrition ben- efits model requires detailed, nationally representative data on dietary intakes and biomarkers. Relatively high lev- els of technical ex- pertise are required to run the nutrition benefits and eco- nomic optimization models. Limited to only micronutrient de- ficiency outcomes (other malnutrition outcomes such as stunting, wasting not covered). 	https://www.nyas.org/me- dia/19782/minimod.pdf
Nutrition Interna- tional MMS Cost Benefit Tool	It is designed to help governments to deter- mine health benefits and budget impact of transi- tioning from iron and folic acid supplementation (IFAS) to multiple micro- nutrient supplementation (MMS) in their maternal health programs.	 Novel in concept: Re- cent evidence has encour- aged low-middle income countries to consider transitioning from long standing IFAS to MMS, however, global guidance to facilitate this transition is limited. Simple to use yet pro- vides meaningful results. 	Does not model im- pact on malnutrition outcomes.	https://www.nyas.org/me- dia/19782/minimod.pdf https://www.nutritionintl.org/ content/user_files/2019/10/ MMS-cost-benefit-tool-user- guide-2019-10-09-final-web. pdf

Table 1: State-wise overview of ICDS-CAS roll-out and usage

S. No.	States / UTs	District roll-out %	AWCs roll-out %	% of supervisor using ICSD-CAS
1	Andaman & Nicobar	100	99.31	0
2	Andhra Pradesh	100	99.96	99
3	Assam	27.3	20.13	0
4	Bihar	100	82.49	11
5	Chandigarh	100	100	100
6	Chhattisgarh	25.9	19.96	21
7	Dadra & Nagar Haveli	100	100	100
8	Daman & Diu	100	95.33	0
9	Delhi	100	91.62	0
10	Goa	100	96.28	0
11	Gujarat	100	99.96	95
12	Himachal Pradesh	100	99.70	99
13	Jharkhand	29.2	29.14	15
14	Kerala	100	99.38	0
15	Lakshadweep	100	62.62	0
16	Madhya Pradesh	31.4	28.63	14
17	Maharashtra	100	99.23	95
18	Meghalaya	100	98.90	81
19	Mizoram	100	100	52
20	Nagaland	100	93.72	67
21	Puducherry	100	99.18	0
22	Rajasthan	27.3	33.85	20
23	Sikkim	100	62.77	0
24	Tamil Nadu	100	99.95	67
25	Telangana	32.3	31.25	12
26	Uttar Pradesh	33.3	27.27	4
27	Uttarakhand	100	97.52	0

<25% 25-<50% 50-<75% ≥75%</p>

Source: Information based on POSHAN Abhiyaan monthly progress report, December 2019, MWCD

Annexure III

Table 2: State-wise coverage of ILA modules & e-ILA training status

			<25%	25-<50%	50-<75%	≥ 75%
		ILA modules		e-ILA training		
S. No.	States / UTs	Coverage at state- level (out of total 21 modules)	% of en AWV who h compl e-ILA tra	rolled Vs ave eted aining	% of enrol supervise have con e-ILA tr	lled lady ors who npleted aining
1	Andaman & Nicobar Islands	1-13	0		0	
2	Andhra Pradesh	1-21	86.3	38	77.	19
3	Arunachal Pradesh	1-6	0.1	9	0	
4	Assam	1-6 & 8	0		0	
5	Bihar	1-15	0.0	3	1.6	57
6	Chandigarh	1-21	75.7	78	55.	56
7	Chhattisgarh	1-16	18.1	17	19.	31
8	Dadra & Nagar Haveli	1-21	72.9	94	18.	18
9	Daman & Diu	1-21	80.3	39	20)
10	Delhi	1-18 (except 8)	0			
11	Goa	1-10	0		0	
12	Gujarat	1-21	97.8	30	96.	22
13	Haryana	1-21				
14	Himachal Pradesh	1-15	5.4	7	5.5	52
15	Jammu and Kashmir	1-6	0		0.0	0
16	Jharkhand	1-16	2.4	1	10.	50
17	Karnataka	1-6 & 8				
18	Kerala	1-12				
19	Lakshadweep	1-6				
20	Madhya Pradesh	1-21	19.8	36	15.	48
21	Maharashtra	1-17	28.	17	16.	90
22	Manipur	1-13 (Except 8)				
23	Meghalaya	1-19	0		0	
24	Mizoram	1-21	0		0	
25	Nagaland	1-19	0		0	
26	Odisha	1-6				
27	Puducherry	1-16	0		0	
28	Punjab	1-6&8				
29	Rajasthan	1-16	87.7	13	65.	92
30	Sikkim	1-19				
31	Tamil Nadu	1-21	42.3	31	25.	00
32	Telangana	1-6 & 8	0		0	
33	Tripura	1-18	0		0	
34	Uttar Pradesh	1-21 (Except 8)	5.1	1	7.3	30
35	Uttarakhand	1-19	0.7	5	0.7	8
36	West Bengal	Not yet started				

Source: Information based on POSHAN Abhiyaan monthly progress report, December 2019, MWCD

Annexure IV



Figure 2: Minimum dietary diversity



Figure 3: Minimum meal frequency

% of 6-23 month-old children

Figure 4: Minimum acceptable diet





Figure 5: Consumption of iron rich foods

APPENDIX 1

Major accomplishment under the POSHAN Abhiyaan

 National Nutrition Mission (POSHAN Abhiyaan) was approved on 18th December, 2017 for a three year time frame commencing from 2017-18 with an overall budget of ₹9,046.17 Crore. Except West Bengal, all the States/ UTs have started activities under POSHAN Abhiyaan. Odisha has decided to join the Abhiyaan only in September, 2019 and has started rolling out of activities.

2 Major Steps taken for effective roll-out of POSHAN Abhiyaan during the period is as under :

- 2.1.1 Hon'ble Speaker, Lok Sabha, graciously accepted inclusion of the matter "POSHAN Abhiyaan" for discussion on 2nd August, 2019 during Zero Hour in the House and reiterated that all of us need to join hands in the mission.
- 2.1.2 Hon'ble Prime Minister has talked about POSHAN Abhiyaan during his 'Mann Ki Baat' programme on 25th August, 2019 in which he has stated that under the POSHAN Abhiyaan campaign, nutrition made available with the help of modern scientific methods is being converted into a mass movement all over the country. People are fighting a battle against malnutrition in innovative and interesting ways.
- 2.1.3 Bharatiya Poshan Krishi Kosh (BPKK): On 18th November, 2019 MWCD announced an innovative project in partnership with the Bill & Melinda Gates Foundation named the "Bharatiya Poshan Krishi Kosh". The "Kosh" will be a repository of diverse crops across 127 agro-climatic zones in India for better nutritional outcomes and aims to make India nutrition secure. Traditional dietary practices and Social Behaviour Change Communication Messages around them will also be documented as a part of the project.
- 2.1.4 **Hon'ble Vice President Shri M Venkaiah Naidu** had launched the '**Bharatiya Poshan Anthem'** in New Delhi on 3rd December, 2019, which aims to inspire people to join the movement to fight the scourge of malnutrition. The Anthem has been written by Sh Prasoon Joshi and composed and sung by Sh Sankar Mahadevan.
- 2.1.5 As per the directions of Hon'ble Speaker of Lok Sabha, MWCD has prepared diet charts for pregnant women in collaboration with the National Institute of Nutrition, Hyderabad for six different regions of the country.
- 2.2 **Steps taken for effective monitoring and expediting progress:** Following steps are taken by MWCD for effective monitoring of POSHAN Abhiyaan activities and expediting progress:
- 2.2.1 A number of Orientation workshops have been held at Central level, States/UTs. Series of Video Conferences have also been held under the Chairmanship of Secretary, MWCD.
- 2.2.2 Constant review and monitoring of activities at all levels is being done.

- 2.2.3 Top leadership in the States is being associated with the POSHAN Abhiyaan. In the last ten months, Hon'ble Minister, Women & Child Development has reviewed the progress of POSHAN Abhiyaan with the Chief Ministers of 16 States in which apart from the senior officers of Ministry, representatives of Ministry of Health & Family Welfare and NITI Aayog also participated.
- 2.2.4 **Secretary, MWCD** has also reviewed the progress of POSHAN Abhiyaan with the Chief Secretaries of the States during his visits to the States. Video Conferences are also held on regular intervals with State Secretaries for speedy implementation of all the activities.
- 2.2.5 Letters are bein regularly written by the Secretary, MWCD to the Chief Secretaries of Sates/UTs drawing their attention to the performance of the States/UTs under POSHAN Abhiyaan and requesting them to review the POSHAN Abhiyaan regularly.
- 2.2.6 District Magistrates are also involved in POSHAN Abhiyaan activities through Video Conferences and WhatsApp Group.
- 2.2.7 Ministry also participated in the Common Review Mission with MoHFW for Joint Review of NHM and POSHAN Abhiyaan to facilitate better convergence at all levels.
- 2.2.8 Visits of the Officers of the Ministry to the States/UTs regularly.
- 2.2.9 National Council under the Chairmanship of Vice Chairman, NITI Aayog and the Executive Committee under the Chairmanship of Secretary, Ministry of Women & Child Development (MWCD) also monitor the progress of POSHAN Abhiyaan. During the period one meeting of Executive Committee and one meeting of National Council held.
- 2.2.10 A National Conference was organised on 13th and 14th November, 2019 with State/ UT Secretaries of Women and Child Development for in-depth review of POSHAN Abhiyaan and other Schemes.
- 2.2.11 The Ministry of Women and Child Development established a call centre under POSHAN Abhiyaan. A toll-free number '14408' is allocated to Ministry of WCD for POSHAN Abhiyaan Helpline. The Call Centre is enabled with both Inbound & Outbound calls. Call Centre is operated multi-lingual and its expansion is synchronised with Roll-out of ICDS-CAS Application. A total number of 33.17 Lakh outbound calls have been made to the frontline workers and beneficiaries up to March, 2020.
- 2.2.12 A Calendar of the year 2020 covering Poshan Ke Panch Sutra was prepared and disseminated to Members of Parliament, Ministries/Departments, partners etc.
- 2.2.13 A joint implementation support Mission (JISM) was also organised during 16-20 December, 2019. The objectives of the Joint JISM were to: (i) review implementation progress of the POSHAN Abhiyaan, (ii) review progress and achievement against agreed Disbursement Linked Indicators targets in 11 priority states, (iii) facilitate cross-learning amongst states through inter-state field visits during the mission; (iv) discuss technical support in different areas of POSHAN Abhiyaan; and (v) identify bottlenecks in implementation and agree on next steps and priorities moving forward. Filed visits were also undertaken as part of JISM.
- 2.2.14 National Stakeholder Consultation with Development Partners, Line Ministries/ Departments and States/UTs on identifying Promising Dietary Practices for Social & Behavioral Change Communications (SBCC) strategies and Jan Andolan in partnership with Harvard T.H. Chan held on 21st January, 24th January and 28th January, 2020.

2. Components of POSHAN Abhiyaan and update are as under.

- 2.1 Human Resources: A National Nutrition Resource Centre-Central Project Management Unit (NNRC-CPMU) has been set up to strengthen the quality of program implementation, monitoring and systems in the country. The NNRC-CPMU is supervised and guided by Joint Secretary MWCD as Ex-officio Mission Director. Two Executive Directors manage the day to day operations, supported by Project Managers, Consultants and Project Associates. Akin to the CPMU at the Government of India, the SPMU at State level functions as the State Nutrition Resource Centre. In addition, there are staff placed at district and block level. There are substantial numbers of vacancies in POSHAN which impact rollout and provisioning of services. Under POSHAN Abhiyaan, 190 (37%) positions at the State, 633 (45%) positions at the district and 6469 (51%) positions at the block level are yet to be filled up. The progress of recruitment of manpower in POSHAN Abhiyaan is being monitored through the meetings and video conferences with the State Secretaries. This issue was also highlighted in the recent National Conference of State Secretaries of Women & Child Development held on 13th-14th November, 2019. DO letters are being sent regularly by the Secretary, MWCD to the Chief Secretaries/ Administrators of States/UTs and the issue is also flagged during his visits to the State/UT.
- 2.2 Training & Capacity Building: The Abhiyaan focuses on augmenting capacity of front-line ICDS functionaries in effective and consistent manner by using Incremental Learning Approach (ILA). Under ILA, functionaries are being trained on 21 thematic modules following the cascade of training of State Resource Group (SRG), District Resource Groups (DRGs) and Block Resource Groups (BRGs). These modules have also been designed in e-learning format and a web-based learning portal has been developed. A total of 10.00 lakhs AWWs have been trained so far in different ILA modules. Moreover, 9.16 lakh AWWs and Supervisors have been enrolled and 3.64 lakh have completed e-ILA Modules.
- 2.3 Information and Communication Technology enabled Real Time Monitoring: The Abhiyaan empowers Anganwadi Workers (AWWs) and Lady Supervisors with smartphones loaded with ICDS-Common Application Software (ICDS-CAS). The software application is available in 15 languages and is aimed at improving service delivery and nutrition outcomes through effective monitoring and timely intervention. ICDS-CAS replaces 8.2 kg of paper registers with 173 gms of smartphone. It enables growth monitoring of children with auto plotting of growth chart on the mobile application; auto-generates task list and home visit scheduler for enabling AWWs to focus on the beneficiaries based on priority. More than 6.30 lakh Anganwadi workers in 347 districts of 28 States/ UTs are using smartphones. They have surveyed 11.02 crore households and enrolled 5.33 crore children of 0- 6 years, 34.29 lakh pregnant women, 40.50 lakh lactating mothers and 2.02 lakh adolescent girls. In addition, more than 78000 approx. smartphones are available with the States for roll out and 2.73 Lakhs smartphones are under procurement. In order to ensure accurate records of weight and height, Growth Monitoring Devices (GMDs) are being provided at Anganwadi Centres (AWCs). Children of 6 months to 6 years are weighed and their height is measured by the Anganwadi workers every month to monitor growth. System generated SMS alerts are sent to parents of children recording static growth.

- 3.1 Community Mobilization & Behaviour Change Communication (BCC): Organization of Community Based Events (CBEs): In order to strengthen processes for community engagement, empowerment of beneficiaries and increased social accountability of ICDS, the POSHAN Abhiyaan provides for organizing Community Based Events (CBEs) twice in a month on a fixed day of week at each Anganwadi Centre. The processes under this component also encompass outreach visits by Anganwadi Worker to prioritized households to promote Infant and Young Child Feeding (IYCF) practices. So far, 3.24 crore CBEs like Annaprasan Diwas, Suposhan Diwas, celebrating coming of age, meeting of pregnant women have been conducted. Anganwadi Centres are also paid ₹250 per CBE for 2 CBEs per month. Till 31st December, an expenditure of ₹598.73 crores is incurred for Community Based Events.
- **3.2** Information, Education & Communication (IEC): Development of well-researched, designed and tested communication plan & IEC materials on Nutrition is being undertaken to refute myths and misunderstandings prevalent in the society and to generate demand for various services being provided. The objective is to build-up better health seeking behaviour among the masses. IEC campaigns have been taken up both by the Ministry and by the State governments.
- 3.3 Jan Andolan: The Abhiyaan is focusing on converting the agenda of improving nutrition into a "Jan Andolan" through involvement of Panchayati Raj Institutions/ Village Organizations/SHGs etc. and ensuring wide public participation. The month of September is celebrated across the country as **Poshan Maah**. The second edition of Poshan Maah was celebrated in September, 2019, during which more than **3.66 crore** activities were organized which inter-alia included home visits, CBEs, Village Health Sanitation and Nutrition Days (VHSNDs), Poshan Melas, Poshan Rallies etc. Poshan Maah received a massive response in the social media too. A total number of 3.4 million impressions are generated on Twitter during the month. Governors/ Chief Ministers/Administrators of 21States/UTs have participated in Poshan Maah activities. Awareness campaign on Doordarshan, Digital Cinemas and Community Radio was also taken up. Overall Performance in Poshan Maah 2018, Poshan Pakhwada and Poshan Maah 2019 is at **Annexure-I.**
- 3.4 Innovations and Flexi Funds: POSHAN Abhiyaan provides funds for the development and implementation of innovations and pilots particularly showing the convergent nutrition action to achieve one or more desirable nutritional results. For this, ₹27.85 Lakhs per district is provided to the States/UTs. A total number of 22 States/UTs have taken up various Innovative projects like Mobile Anganwadis, Nutri Gardens, Swachhata Kits etc. Besides this, States/UTs can use 7% of total allocation towards Flexi activities. 29 States/UTs have taken up activities from Flexi funds which include wall paintings at Anganwadis, providing water purifier, solar lights and fans at Anganwadis, training of Panchayati Raj Functionaries, growing vegetables through hydroponic technique at Anganwadis etc.
- 3.5 Performance Incentives: POSHAN Abhiyaan provides performance based incentives to the field functionaries for service delivery. Anganwadi Workers are provided Rs. 500 per month for using ICDS-CAS on achieving certain parameters like opening of Centres, Home Visits and Weighing of Children. Till 31st January 2020, an amount of ₹56.54 crores was paid as incentive for this purpose. Anganwadi Helper is paid incentive of ₹250 per month for opening of Anganwadi Centre. Ministry of Women and Child Development (WCD) recognized significant contributions of

State Governments, District teams, Block level teams and Field Functionaries at the POSHAN Abhiyaan Award Ceremony for 2018-19 held on 23rd August, 2019. Total 363 POSHAN Abhiyaan Awards were given away with total cash prize of **₹22 crore**.

3.6 Financials :- Funds have been released to the States regularly to implement various activities under the Abhiyaan. In 2017-18 ₹644.54 crores, in 2018-19 ₹2,555.94 crores and in 2019-20 ₹1,845.13 crore (as on 30.04.2020) have been released to the States. The expenditure had been slow initially with only ₹29.47 crores utilized in 2017-18 and ₹596.92 Crore in 2018-19. The pace of expenditure has picked up now and in 2019-20, ₹2057.39 Crore have been utilized till 31st March, 2020. Details of State/UT wise funds released and utilization is given at Annexure-II. States are regularly asked to push fund utilization through meetings and DO letters.

4 Details about Convergence:

- **4.1** POSHAN Abhiyaan strives to converge various Schemes/Programmes of Ministries having impact on nutrition. These include schemes of many other Ministries like MoH&FW, Ministry of Jal Shakti, Ministry of Consumer Affairs, Food & Public Distribution, Ministry of Rural Development, Ministry of Panchayati Raj, Ministry of Housing and Urban Affairs and Ministry of New and Renewable Energy.
- 4.2 Convergence at National level is being achieved through the National Council on India's Nutrition Challenges, chaired by the Vice Chairman of NITI Aayog and Executive Committee of POSHAN Abhiyaan under Secretary, MWCD. Both of them draw members from all stakeholders of the Abhiyaan. Similarly, the Convergence at State and District level is ensured through Convergence Action Plans formulated under the Chairmanship of the Chief Secretary and District Magistrate respectively. Due to concerted efforts, 30 States/UTs have now submitted Convergence Action Plans (CAPs) to the Ministry. The matter has now been taken up States/UTs to prepare and submit CAPs for the year 2020-21.
- 4.3 The Village Health Sanitation and Nutrition Day (VHSND) provides the convergence platform at village level, for participation of all frontline functionaries of the Departments of Health, WCD, Drinking Water and Sanitation. So far **1.79 crore** VHSNDs have been organized since the launch of POSHAN Abhiyaan.

Annexure-I

Performance in Poshan Maah 2018, Poshan Pakhwada and Poshan Maah

Total Activities						
Maah	2019	3,66,55,410				
Maah	2018	22	2,58,542			
Pakhwa	da 2019	82	2,75,845			
Total Participation						
Maah 2	2019	24	0 + Cr			
Maah 2	2018	45	5 + Cr			
Pakhwad	a 2019	25	5 + Cr			
Bifurcation	Maah 2019 (01-30 September 2019)	Maah 2018 (01-30 September 2018)	Pakhwada 2019 (08-22 March 2019)			
Female	41%	40%				
Male	23%	18%				
Male Child	17%	20%				
Female Child	19%	22%				
Number of Ministries Converged	15	8	14			
Aspirational Districts Activities	97.7 Lakhs	4.8 Lakhs				
Aspirational Districts Activities	49 Lakhs	3 Lakhs				

THEMES PROMOTED

Themes Name	Maah 2019	Maah 2018	Pakhwada 2019
Poshan (Overall Nutrition)	23%	37%	21%
Hygiene, Water, Sanitation	10%	10%	9%
Anaemia	10%	5%	7%
Breastfeeding	9%	6%	7%
Growth Monitoring	8%	7%	8%
Compl. Feeding	7%	8%	7%
Food Fortification & Micronutrients	6%	5%	7%
Diarrhoea	6%	2%	5%
Immunisation	6%	4%	7%
Antenatal Checkup	6%	6%	7%
Adolescent Ed, Diet, Age of Marriage	5%	4%	8%
ECCE	4%	6%	7%

ACTIVITIES STATUS

Activity Name	Maah-2019	Maah-2018	Pakhwada-2019	Total
Total	3,66,55,410	22,58,542	82,75,845	4,71,89,797
Home Visits	2,17,42,194	98,694	18,48,045	2,36,88,933
Others	26,09,270	4,18,647	14,74,270	45,02,187
CBE-Community Based Events (ICDS)	19,74,098	3,91,730	9,07,040	32,72,868
PoshanMela	13,41,679	2,63,743	8,12,711	24,18,133
Poshan Rally	8,65,163	1,66,705	4,01,613	14,33,481
School Based Activities	10,03,989	85,292	2,82,763	13,72,044
VHSND	7,86,748	1,50,359	4,12,891	13,49,998
Anaemia Camp	8,48,511	20,412	2,85,164	11,54,087
Poshan Workshop/Seminar	5,47,452	1,26,514	2,26,815	9,00,781
Cycle Rally	5,75,219	15,805	2,51,569	8,42,593
DAY-NRLM SHG Meet	5,97,348	92,737	76,825	7,66,910
Poshan Walk	4,94,291	56,376	2,05,209	7,55,876
Prabhat Faree	4,09,163	67,441	1,41,603	6,18,207
Panchayat Meeting	3,39,842	41,063	1,81,719	5,62,624
Youth Group Meeting	2,95,564	21,941	2,00,315	5,17,820
Haat Bazaar Activities	2,64,271	21,469	1,39,697	4,25,437
Safe Drinking Water in Anganwadi Centres	3,15,652	35,678	57,904	4,09,234
Community Radio Activities	3,36,471	3,380	33,734	3,73,585
Farmer Club Meeting	2,27,437	10,883	1,27,102	3,65,422
Cooperative/Federation	2,62,036	4,124	50,849	3,17,009
Local Leader Meeting	1,92,790	24,065	51,280	2,68,135
Safe Drinking Water in Schools	1,85,771	39,998	22,187	2,47,956
Providing Water to the Toilets	1,23,920	65,670	20,443	2,10,033
Harvest Festival	1,44,582	12,441	30,109	1,87,132
Nukkad natak/ Folk Shows	1,22,414	23,375	33,988	1,79,777
Defeat Diarrhoea Campaign (D-2)	49,535			49,535

Convergence activities by Ministry	Individual Activities
MoW&CD	2,36,87,265
MoH&FW	19,84,349
MoHRD	4,64,939
MoRD	4,33,132
MoPR	1,02,607
MoA&FW	59,288
MoAYUSH	37,754
MoDW&S	35,552
MoYA&S	22,527
ΜοΜΑ	16,283
MolB	11,247
MoD	9,893
MSDE	9,580
MoHUA	8,378
ΜοΤΑ	4,110
Activities under Convergence	97,68,506
Total Activities Occurred	3,66,55,410

Annexure-II

Status of Fund Released and Utilization under POSHAN Abhiyaan (as on 31.03.2020)

Amount in lakhs

S. No.	State/UTs	Released in FY 2017 - 18 + Unspent balance of ISSNIP	Released in FY 2018- 19	Released in FY 2019-20	Total Released	Total Central fund Utiliza- tion as on 31.03.2020	% Cen- tral share Utiliza- tion of funds released till date
1	Andhra Pradesh	2,572.41	8,604.68	13296.52	24473.61	10682.46	43.65
2	Bihar	7,063.44	15,001.67	25465.00	47530.11	21040.65	44.27
3	Chhattisgarh	1,668.12	9,629.51	0.00	11297.63	5364.23	47.48
4	Delhi	945.95	2,206.88	0.00	3152.83	1811.94	57.47
5	Goa	238.07	197.78	0.00	435.85	192.46	44.16
6	Gujarat	3,036.66	11,228.04	14863.00	29127.69	14348.53	49.26
7	Haryana	400.97	5,992.46	0.00	6393.43	3259.17	50.98
8	Himachal Pradesh	1,557.26	4,153.15	4960.00	10670.41	5633.73	52.80
9	Jammu & Kashmir	388.59	8,343.52	0.00	8732.11	3865.21	44.26
10	Jharkhand	2,429.59	5,110.45	0.00	7540.04	3214.03	42.63
11	Karnataka	3,351.05	9,870.89	0.00	13221.94	3945.42	29.84
12	Kerala	1,273.37	6,491.91	0.00	7765.28	4483.53	57.74
13	Madhya Pradesh	4,067.20	15,894.17	17883.00	37844.37	14209.57	37.55
14	Maharashtra	2,572.31	20,989.28	33061.47	56623.06	32037.00	56.58
15	Odisha	4,600.46	10,571.65	0.00	15172.11	1201.13	7.92
16	Puducherry	39.24	393.70	497.00	929.94	202.70	21.80
17	Punjab	819.51	6,090.33	0.00	6909.84	1544.89	22.36
18	Rajasthan	4,216.26	9,680.99	8941.00	22838.25	7319.03	32.05

19	Tamil Nadu	1,340.51	12,210.93	11509.00	25060.44	14144.35	56.44
20	Telangana	1,736.94	8,595.70	7003.00	17335.64	4601.71	26.54
21	Uttar Pradesh	8,440.60	29,582.87	16166.00	54189.47	18273.15	33.72
22	Uttarakhand	1,866.25	4,301.57	7086.00	13253.82	5250.08	39.61
23	West Bengal	5,545.27	19,294.11	0.00	24839.38	0.00	0.00
24	Arunachal Pradesh	52.93	2,663.35	0.00	2716.28	257.68	9.49
25	Assam	2,298.27	15,492.36	14171.00	31961.63	14433.87	45.16
26	Manipur	340.46	3,865.37	0.00	4205.83	2138.40	50.84
27	Meghalaya	462.98	1,713.27	2802.80	4979.05	3883.05	77.99
28	Mizoram	119.38	957.65	1498.00	2575.03	1731.32	67.23
29	Nagaland	163.74	1,251.97	2298.17	3713.88	3221.33	86.74
30	Sikkim	98.59	328.47	923.00	1350.06	962.82	71.32
31	Tripura	277.91	3,695.72	0.00	3973.63	633.53	15.94
32	Andaman & Nicobar	100.22	416.89	307.62	824.73	313.57	38.02
33	Chandigarh	158.88	306.82	526.97	992.67	406.76	40.98
34	Dadra & Nagar Haveli	108.83	129.32	681.16	919.31	307.52	33.45
35	Daman & Diu	42.06	197.66	446.98	686.70	612.66	89.22
36	Ladakh	-	-	-	-	-	-
37	Lakshadweep	60.00	138.90	126.75	325.65	211.14	64.84
	TOTAL	64,454.28	2,55,593.99	184513.44	504561.7	205738.62	40.78
	CPMU Expenses	2,827.00	3,877.00	1,857.00	8,561.00	8,561.00	-
	Grand Total	67,281.28	2,59,470.98	186,370.44	513,122.7	214,299.62	41.76



1. Implementation of ICDS-CAS

1.1. National Overview



6,07,423 AWCs Launched



12646

Supervisor Launched



9,85,00,183 Households Registered



27 State/UTs



332

Districts



3,664 Blocks

Ĩ

43.05%*

THR>=21 days

12.13%

PSE>=21 days



Home Visits
1.2. Program Summary

AWC Infrastructure

AWCs Reported Clean Drinking Water

73.29% (2,77,324 / 3,78,392) AWCs Reported Functional Toilet 54.28% (2,05,383 / 3,78,392)

AWCs Reported Weighing Scale: Infants 80.85% (3,05,923 / 3,78,392) AWCs Reported Weighing Scale: Mother and Child

73.30%

(2,77,363 / 3,78,392)

AWCs Reported Medicine Kit

45.16% (1,70,870 / 3,78,392) AWCs Reported Infantometer

69.49%

(2,62,948 / 3,78,392)

Demographics

Aadhaar-seeded Beneficiaries

30.66%

(1,66,46,331 / 5,42,87,586) Children enrolled for Anganwadi Services

98.49%

(4,74,98,539 / 4,82,27,124)

Pregnant women enrolled for Anganwadi Services

99.29%

(26,56,284 / 26,75,333)

Lactating women enrolled for Anganwadi Services

99.74%

(41,32,763 / 41,43,591)

Maternal and Child Nutrition

Underweight (Weightfor-age) 13.56%

> (29,76,400 / 2,19,45,138)

Wasting (Weight-for-Height) 7.07% (12,70,119 / 1,79,53,764)

Stunting (Height-for-Age) 32.49% (58,69,601 / 1,80,64,423)

> Early Initiation of Breastfeeding

> > 62.66%

(2,83,681 / 4,52,730)

Newborns with Low Birth Weight

11.69% (36,784 / 3,14,607)

Exclusive Breastfeeding 58.14% (23,85,098 / 41,02,022)

Children initiated appropriate Complementary Feeding

> 68.44% (11,13,735 / 16,27,217)

Institutional Deliveries 89.02% (2,81,196 / 3,15,875)

1.3. Anganwadi Worker using ICDS-CAS

The following graph ranks the 27 ICDS-CAS launched States / UTs in terms of districts and AWCs launched in each State / UT having an equal weightage for both the indicators.

Table 1: Anganwadi Workers using ICDS-CAS

S.No.	States / UTs	Total AWCs	AWCs launched	AWCs rollout %	Rank
1	Andaman & Nicobar Islands	720	715	99.31%	6
2	Andhra Pradesh	55,607	55,586	99.96%	2
3	Assam	62,153	12511	20.13%	23
4	Bihar	115,009	94874	82.49%	15
5	Chandigarh	450	450	100.00%	1
6	Chhattisgarh	52,474	10,473	19.96%	24
7	Dadra & Nagar Haveli	303	303	100.00%	1
8	Daman & Diu	107	102	95.33%	12
9	Delhi	10,897	9,984	91.62%	14
10	Goa	1,262	1215	96.28%	11
11	Gujarat	53,029	53,010	99.96%	2
12	Himachal Pradesh	18,925	18,869	99.70%	4
13	Jharkhand	38,432	11,200	29.14%	20
14	Kerala	33,318	33110	99.38%	5
15	Lakshadweep	107	67	62.62%	17
16	Madhya Pradesh	97,135	27,811	28.63%	21
17	Maharashtra	110,486	109637	99.23%	7
18	Meghalaya	5,896	5,831	98.90%	9
19	Mizoram	2,244	2,244	100.00%	1
20	Nagaland	3,980	3,730	93.72%	13
21	Puducherry	855	848	99.18%	8
22	Rajasthan	62,010	20,991	33.85%	18
23	Sikkim	1,308	821	62.77%	16
24	Tamil Nadu	54,439	54,413	99.95%	3
25	Telangana	35,700	11,157	31.25%	19
26	Uttar Pradesh	190,145	51,847	27.27%	22
27	Uttarakhand	20,067	19,570	97.52%	10

1.4. Supervisors launched

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of number of launched lady supervisors in each State / UT.

S.No.	States / UTs	Total Supervisors	Supervisors with smartphone	Launched %	Rank
1	Andaman & Nicobar	28	0	0.00%	18
2	Andhra Pradesh	2227	2210	99.24%	3
3	Assam	2280	0	0.00%	18
4	Bihar	4210	451	10.71%	16
5	Chandigarh	18	18	100.00%	1
6	Chhattisgarh	1866	399	21.38%	11
7	Dadra & Nagar Haveli	11	11	100.00%	1
8	Daman & Diu	4	0	0.00%	18
9	Delhi	432	0	0.00%	18
10	Goa	50	0	0.00%	18
11	Gujarat	2122	2011	94.77%	6
12	Himachal Pradesh	735	727	98.91%	4
13	Jharkhand	1435	221	15.40%	13
14	Kerala	1327	0	0.00%	18
15	Lakshadweep	9	0	0.00%	18
16	Madhya Pradesh	3379	481	14.23%	14
17	Maharashtra	3899	3706	95.05%	5
18	Meghalaya	185	150	81.08%	7
19	Mizoram	90	47	52.22%	10
20	Nagaland	159	106	66.67%	9
21	Puducherry	34	0	0.00%	18
22	Rajasthan	2232	446	19.98%	12
23	Sikkim	52	0	0.00%	18
24	Tamil Nadu	1782	1230	69.02%	8
25	Telangana	1268	147	11.59%	15
26	Uttar Pradesh	6718	285	4.24%	17
27	Uttarakhand	598	0	0.00%	18

1.5. Districts covered

Number of Districts in 27 States/UTs where ICSD-CAS has been rolled-out in is given in Table 3 below:

Table 3: Number of districts using ICDS-CAS

S.No.	States / UTs	Total Districts	Launched Districts	District rollout %
1	A & N Islands	3	3	100.0%
2	Andhra Pradesh	13	13	100.0%
3	Assam	33	9	27.3%
4	Bihar	38	38	100.0%
5	Chandigarh	1	1	100.0%
6	Chhattisgarh	27	7	25.9%
7	Dadra & Nagar Haveli	1	1	100.0%
8	Daman & Diu	2	2	100.0%
9	Delhi	11	11	100.0%
10	Goa	2	2	100.0%
11	Gujarat	33	33	100.0%
12	Himachal Pradesh	12	12	100.0%
13	Jharkhand	24	7	29.2%
14	Kerala	14	14	100.0%
15	Lakshadweep	1	1	100.0%
16	Madhya Pradesh	51	16	31.4%
17	Maharashtra	36	36	100.0%
18	Meghalaya	11	11	100.0%
19	Mizoram	8	8	100.0%
20	Nagaland	11	11	100.0%
21	Puducherry	4	4	100.0%
22	Rajasthan	33	9	27.3%
23	Sikkim	4	4	100.0%
24	Tamil Nadu	32	32	100.0%
25	Telangana	31	10	32.3%
26	Uttar Pradesh	75	25	33.3%
27	Uttarakhand	13	13	100.0%

1.6. Opening of Anganwadis

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of number of Average days an AWC was open in the state.

S.No.	States / UTs	Avg. no. of Days AWCs open	Rank
1	Andaman & Nicobar	3	22
2	Andhra Pradesh	13	8
3	Assam	9	15
4	Bihar	38	1
5	Chandigarh	1	25
6	Chhattisgarh	7	18
7	Dadra & Nagar Haveli	1	25
8	Daman & Diu	2	23
9	Delhi	11	11
10	Goa	2	23
11	Gujarat	33	3
12	Himachal Pradesh	12	10
13	Jharkhand	7	18
14	Kerala	14	7
15	Lakshadweep	1	25
16	Madhya Pradesh	16	6
17	Maharashtra	36	2
18	Meghalaya	11	11
19	Mizoram	8	17
20	Nagaland	11	11
21	Puducherry	4	20
22	Rajasthan	9	15
23	Sikkim	4	20
24	Tamil Nadu	32	4
25	Telangana	10	14
26	Uttar Pradesh	25	5
27	Uttarakhand	13	8

1.7. Home Visits

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of home visits conducted by the AWWs for counselling the beneficiaries which is defined as *"of the total number of expected home visits, the percentage of home visits completed by AWWs".*

S.No.	States / UTs	Home Visits	Rank
1	Andaman & Nicobar Islands	78.99%	13
2	Andhra Pradesh	91.11%	2
3	Assam	35.05%	24
4	Bihar	29.51%	25
5	Chandigarh	97.93%	1
6	Chhattisgarh	84.67%	9
7	Dadra & Nagar Haveli	90.77%	4
8	Daman & Diu	82.10%	11
9	Delhi	40.78%	22
10	Goa	11.94%	27
11	Gujarat	90.45%	5
12	Himachal Pradesh	87.14%	7
13	Jharkhand	55.39%	20
14	Kerala	21.85%	26
15	Lakshadweep	39.67%	23
16	Madhya Pradesh	89.94%	6
17	Maharashtra	90.78%	3
18	Meghalaya	58.46%	19
19	Mizoram	77.90%	14
20	Nagaland	52.36%	21
21	Puducherry	74.18%	15
22	Rajasthan	82.39%	10
23	Sikkim	63.13%	16
24	Tamil Nadu	85.27%	8
25	Telangana	80.16%	12
26	Uttar Pradesh	62.18%	17
27	Uttarakhand	60.88%	18

1.8. Pre-School Education

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of attendance of children for Pre-School Education which is defined as "of the total children between 3-6 years of age and enrolled for Anganwadi services, the percentage of children who attended pre-school education for at least 21 days in the current month".

S.No.	States / UTs	PSE>=21 days	Rank
1	Andaman & Nicobar	22.34%	8
2	Andhra Pradesh	31.09%	5
3	Assam	0.15%	22
4	Bihar	7.92%	14
5	Chandigarh	20.28%	9
6	Chhattisgarh	27.68%	6
7	Dadra & Nagar Haveli	44.54%	3
8	Daman & Diu	47.07%	1
9	Delhi	0.02%	23
10	Goa	0.00%	24
11	Gujarat	32.12%	4
12	Himachal Pradesh	15.36%	12
13	Jharkhand	5.40%	16
14	Kerala	0.00%	24
15	Lakshadweep	0.00%	24
16	Madhya Pradesh	27.46%	7
17	Maharashtra	46.70%	2
18	Meghalaya	6.73%	15
19	Mizoram	1.59%	20
20	Nagaland	2.29%	18
21	Puducherry	2.25%	19
22	Rajasthan	9.74%	13
23	Sikkim	0.00%	24
24	Tamil Nadu	16.24%	11
25	Telangana	17.75%	10
26	Uttar Pradesh	1.46%	21
27	Uttarakhand	2.55%	17

1.9. Distribution of Take-Home Rations

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of THR distribution which is defined as "of the total number of pregnant women, lactating mothers (0-6 months children) and 6-36 months children enrolled for Anganwadi services, the percentage who were provided THR for at least 21 days in the current month".

S.No.	States / UTs	THR>=21 days	Rank
1	Andaman & Nicobar	59.24%	13
2	Andhra Pradesh	76.17%	6
3	Assam	12.36%	22
4	Bihar	21.74%	19
5	Chandigarh	43.79%	14
6	Chhattisgarh	69.64%	10
7	Dadra & Nagar Haveli	65.33%	11
8	Daman & Diu	81.99%	2
9	Delhi	0.19%	27
10	Goa	0.31%	26
11	Gujarat	78.05%	3
12	Himachal Pradesh	89.26%	1
13	Jharkhand	41.42%	15
14	Kerala	3.57%	25
15	Lakshadweep	10.63%	23
16	Madhya Pradesh	77.01%	4
17	Maharashtra	72.80%	8
18	Meghalaya	20.75%	20
19	Mizoram	39.15%	16
20	Nagaland	9.21%	24
21	Puducherry	72.99%	7
22	Rajasthan	35.67%	18
23	Sikkim	17.88%	21
24	Tamil Nadu	76.75%	5
25	Telangana	65.14%	12
26	Uttar Pradesh	37.63%	17
27	Uttarakhand	69.76%	9

1.10.Weighing and Height Measurement Efficiency

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of weighing efficiency and height measurement efficiency in each State / UT having an equal weightage for both the indicators, which is defined as "of the total children between 0-5 years of age and enrolled for Anganwadi services, the percentage of children who were weighed in the current month".

S.No.	States / UTs	Weighing Efficiency	Height Measurement Efficiency	Weighted Score	Rank
1	Andaman & Nicobar	65.54%	63.56%	64.55%	12
2	Andhra Pradesh	94.84%	92.96%	93.90%	2
3	Assam	15.46%	13.34%	14.40%	22
4	Bihar	15.12%	13.28%	14.20%	23
5	Chandigarh	99.35%	98.36%	98.86%	1
6	Chhattisgarh	74.74%	57.23%	65.98%	11
7	Dadra & Nagar Haveli	89.44%	88.54%	88.99%	5
8	Daman & Diu	93.31%	90.67%	91.99%	3
9	Delhi	3.20%	1.59%	2.40%	26
10	Goa	1.25%	0.52%	0.88%	27
11	Gujarat	91.96%	67.84%	79.90%	7
12	Himachal Pradesh	79.28%	42.30%	60.79%	13
13	Jharkhand	23.75%	19.10%	21.42%	19
14	Kerala	4.14%	2.31%	3.23%	25
15	Lakshadweep	15.38%	15.17%	15.28%	20
16	Madhya Pradesh	92.12%	88.22%	90.17%	4
17	Maharashtra	81.19%	71.64%	76.42%	8
18	Meghalaya	29.03%	22.74%	25.88%	17
19	Mizoram	47.28%	42.55%	44.91%	15
20	Nagaland	15.42%	12.41%	13.91%	24
21	Puducherry	50.94%	46.90%	48.92%	14
22	Rajasthan	86.77%	82.41%	84.59%	6
23	Sikkim	39.71%	9.06%	24.39%	18
24	Tamil Nadu	70.62%	64.26%	67.44%	10
25	Telangana	75.07%	70.98%	73.03%	9
26	Uttar Pradesh	24.99%	5.52%	15.26%	21
27	Uttarakhand	46.75%	23.43%	35.09%	16

1.11.Underweight Children

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of Underweight Children which is defined as "of the total children enrolled for Anganwadi services and weighed, the percentage of children between 0-5 years who were moderately/severely underweight in the current month"

S.No.	States / UTs	% Underweight Children (0-5 years)	Rank
1	Andaman & Nicobar	11.09%	13
2	Andhra Pradesh	10.05%	11
3	Assam	24.38%	23
4	Bihar	29.86%	26
5	Chandigarh	9.99%	10
6	Chhattisgarh	17.82%	18
7	Dadra & Nagar Haveli	42.94%	27
8	Daman & Diu	21.11%	20
9	Delhi	12.98%	15
10	Goa	29.02%	25
11	Gujarat	12.84%	14
12	Himachal Pradesh	6.64%	5
13	Jharkhand	14.28%	16
14	Kerala	22.14%	22
15	Lakshadweep	27.78%	24
16	Madhya Pradesh	21.54%	21
17	Maharashtra	15.11%	17
18	Meghalaya	10.80%	12
19	Mizoram	2.97%	1
20	Nagaland	6.07%	4
21	Puducherry	7.17%	6
22	Rajasthan	8.48%	7
23	Sikkim	3.70%	2
24	Tamil Nadu	8.72%	8
25	Telangana	18.16%	19
26	Uttar Pradesh	8.86%	9
27	Uttarakhand	4.30%	3

1.12.Wasting (Weight-for-Height)

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of Wasting (Weight-for-Height) which is defined as "of the total children enrolled for Anganwadi services, whose weight and height was measured, the percentage of children between 0-5 years who were moderately/ severely Wasted in the current month"

S.No.	States / UTs	% Children (0-5 years) with Wasting	Rank
1	Andaman & Nicobar	5.94%	12
2	Andhra Pradesh	4.52%	4
3	Assam	12.19%	25
4	Bihar	12.46%	26
5	Chandigarh	5.15%	6
6	Chhattisgarh	8.80%	18
7	Dadra & Nagar Haveli	14.05%	27
8	Daman & Diu	8.97%	19
9	Delhi	5.16%	7
10	Goa	11.27%	24
11	Gujarat	9.32%	21
12	Himachal Pradesh	5.65%	9
13	Jharkhand	7.43%	16
14	Kerala	10.78%	23
15	Lakshadweep	9.30%	20
16	Madhya Pradesh	9.55%	22
17	Maharashtra	5.79%	10
18	Meghalaya	5.81%	11
19	Mizoram	1.67%	1
20	Nagaland	3.87%	3
21	Puducherry	7.06%	14
22	Rajasthan	5.59%	8
23	Sikkim	4.56%	5
24	Tamil Nadu	7.11%	15
25	Telangana	8.07%	17
26	Uttar Pradesh	6.74%	13
27	Uttarakhand	3.42%	2

1.13.Stunting (Height-for-Age)

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of Stunting (Height-for-Age) which is defined as "of the total children enrolled for Anganwadi services, whose height was measured, the percentage of children between 0-5 years who were moderately/severely Stunted in the current month"

S.No.	States / UTs	% Children (0-5 years) with Stunting	Rank
1	Andaman & Nicobar	24.43%	7
2	Andhra Pradesh	28.21%	11
3	Assam	45.98%	24
4	Bihar	50.22%	25
5	Chandigarh	31.47%	13
6	Chhattisgarh	42.74%	20
7	Dadra & Nagar Haveli	64.27%	27
8	Daman & Diu	35.87%	16
9	Delhi	37.74%	18
10	Goa	44.52%	22
11	Gujarat	28.42%	12
12	Himachal Pradesh	19.19%	2
13	Jharkhand	37.05%	17
14	Kerala	43.63%	21
15	Lakshadweep	58.82%	26
16	Madhya Pradesh	45.59%	23
17	Maharashtra	33.90%	14
18	Meghalaya	35.38%	15
19	Mizoram	15.31%	1
20	Nagaland	25.36%	9
21	Puducherry	20.08%	3
22	Rajasthan	27.04%	10
23	Sikkim	23.01%	6
24	Tamil Nadu	24.67%	8
25	Telangana	42.70%	19
26	Uttar Pradesh	22.68%	5
27	Uttarakhand	20.82%	4

1.14.Newborns with Low Birth Rate

The following table ranks the 27 ICDS-CAS launched States / UTs in terms of Low Birth Rate which is defined as "of all the children born and weighed in the current month and enrolled for Anganwadi services, the percentage that had a birth weight less than 2500 grams"

S.No.	States / UTs	% Newborn with LBW	Rank
1	Andaman & Nicobar	23.33%	26
2	Andhra Pradesh	7.23%	3
3	Assam	17.99%	22
4	Bihar	14.81%	18
5	Chandigarh	13.13%	14
6	Chhattisgarh	10.83%	9
7	Dadra & Nagar Haveli	22.02%	25
8	Daman & Diu	8.48%	5
9	Delhi	21.05%	24
10	Goa	44.44%	27
11	Gujarat	8.28%	4
12	Himachal Pradesh	12.97%	13
13	Jharkhand	11.31%	10
14	Kerala	10.74%	7
15	Lakshadweep	0.00%	1
16	Madhya Pradesh	14.11%	16
17	Maharashtra	16.90%	21
18	Meghalaya	12.49%	11
19	Mizoram	6.22%	2
20	Nagaland	20.38%	23
21	Puducherry	15.16%	19
22	Rajasthan	12.86%	12
23	Sikkim	15.97%	20
24	Tamil Nadu	9.03%	6
25	Telangana	13.45%	15
26	Uttar Pradesh	10.75%	8
27	Uttarakhand	14.34%	17

2. Setting up of State Program Management Unit, District and Block Level Help Desk

		Sta	ate Level		Dist	trict Leve	el	I	Block Leve	el
SI.	State/UT	Sanctioned	Filled up	% Vacant	Sanctioned	Filled up	% Vacant	Sancti oned	Filled up	% Vacant
1	A&N Islands	10	10	0%	6	6	0%	10	10	0%
2	Andhra Pradesh	10	9	10%	26	26	0%	514	503	2%
3	Arunachal Pradesh	11	2	82%	50	1	98%	196	2	99%
4	Assam	19	16	16%	66	66	0%	460	460	0%
5	Bihar	19	19	0%	76	63	17%	1088	378	65%
6	Chandigarh	14	14	0%	2	0	100%	6	6	0%
7	Chhattisgarh	18	12	33%	54	15	72%	220	45	80%
8	Dadra & Nagar Haveli	12	12	0%	2	2	0%	4	4	0%
9	Daman and Diu	9	6	33%	4	2	50%	4	3	25%
10	Delhi	13	1	92%	22	0	100%	190	0	100%
11	Goa	13	1	92%	4	0	100%	24	0	100%
12	Gujarat	19	19	0%	66	66	0%	672	668	1%
13	Haryana	13	5	62%	44	23	48%	296	71	76%
14	Himachal Pradesh	13	10	23%	24	20	17%	156	107	31%
15	Jammu and Kashmir	16	3	81%	40	0	100%	256	0	100%
16	Jharkhand	16	6	63%	48	10	79%	448	45	90%
17	Karnataka	13	6	54%	60	0	100%	408	0	100%
18	Kerala	12	8	33%	28	21	25%	304	183	40%
19	Ladakh	10	0	100%	4	0	100%	26	0	100%
20	Lakshadweep	9	5	44%	2	0	100%	18	2	89%
21	Madhya Pradesh	23	23	0%	104	102	2%	906	906	0%
22	Maharashtra	17	15	12%	72	72	0%	1106	553	50%
23	Manipur	13	2	85%	32	0	100%	86	0	100%
24	Meghalaya	14	14	0%	22	22	0%	82	82	0%
25	Mizoram	10	10	0%	16	16	0%	54	54	0%
26	Nagaland	11	10	9%	22	22	0%	120	120	0%
27	Odisha	15	2	87%	60	0	100%	676	0	100%
28	Puducherry	9	1	89%	8	0	100%	10	0	100%
29	Punjab	16	1	94%	44	0	100%	310	0	100%
30	Rajasthan	19	19	0%	66	66	0%	608	608	0%
31	Sikkim	5	2	60%	8	4	50%	26	13	50%
32	Tamil Nadu	17	14	18%	64	54	16%	868	713	18%
33	Telangana	19	18	5%	62	62	0%	298	298	0%
34	Tripura	13	1	92%	16	0	100%	112	0	100%
35	Uttar Pradesh	27	11	59%	150	0	100%	1794	0	100%
36	Uttarakhand	15	14	7%	26	26	0%	210	210	0%
37	West Bengal				DATA NO	OT RECEI	VED			

3. Capacity Building through ILA Training and e-ILA

3.1 Coverage of Modules

S.No	State/UT	State Level	District Level	Block Level	Sector Level
1	A&N Islands	1-13	1-13	1-9	1-9
2	Andhra Pradesh	1-21	1-21	1-19	1-19
3	Arunachal Pradesh	1-6	1-3	1-3	1-3
4	Assam	1-6 & 8	1-6 & 8	1-6 & 8	1-6 & 8
5	Bihar	1-15	1-15	1-12	1-12
6	Chandigarh	1-21	1-21	1-21	1-21
7	Chhattisgarh	1-16	1-16	1-16	1-16
8	Dadra & Nagar Haveli	1-21	DRG & BRG in	cluded in SRG	1-21
9	Daman and Diu	1-21	DRG & BRG in	cluded in SRG	1-21
10	Delhi	1-18 (Except 8)	1-14 (Except 8)	1-13 (Except 8)	1-13 (Except 8)
11	Goa	1-10	1-6	1-6	1-6
12	Gujarat	1-21	1-19	1-19	1-19
13	Haryana	1-21	1-16 (Except 15)	1-11	1-11
14	Himachal Pradesh	1-15	1-12	1-12	1-12
15	Jammu and Kashmir	1-6	1-3	1-3	0
16	Jharkhand	1-16	1-13	1-13	1-12
17	Karnataka	1-6 & 8	1-6 & 8	1-4	1-4
18	Kerala	1-12	1-6	1-5	1-5
19	Ladakh	-	-	-	-
20	Lakshadweep	1-6	1-6	1-6	1-3
21	Madhya Pradesh	1-21	1-19	1-18	1-18
22	Maharashtra	1-17	1-14	1-13	1-12
23	Manipur	1-13 (Except 8)	1-10 (Except 8)	1-10 (Except 8)	1-7 (Except 8)
24	Meghalaya	1-19	1-15	1-15	1-15
25	Mizoram	1-21	1-21	1-21	1-21
26	Nagaland	1-19	1-19	1-17	1-17
27	Odisha	1-6	1-3	-	-
28	Puducherry	1-16	1-12	1-12	1-12
29	Punjab	1-6 & 8	1-4 & 8	1-4 & 8	1-4 & 8
30	Rajasthan	1-16	1-13	1-13	1-13
31	Sikkim	1-19	1-18	1-18	1-17
32	Tamil Nadu	1-21	1-21	1-21	1-20
33	Telangana	1-6 & 8	1-6 & 8	1-6 & 8	1-3 & 8
34	Tripura	1-18	1-15	1-14	1-14
35	Uttar Pradesh	1-21 (Except 8)	1-19 (Except 8)	1-16 (Except 8)	1-14 (Except 8)
36	Uttarakhand	1-19	1-18	1-18	1-16
37	West Bengal	Not Yet Started	Not Yet Started	Not Yet Started	Not Yet Started

3.2 Performance of e-ILA

S.N o.	States/UTs	Total AWWs	En- rolled	% Achievem ent of En- rolment	Compl eted Traini ng	% Enrolled who have complet ed training	Total LS	En- rolled	% Achievem ent of En- rolment	Com pleted	% En- rolled who have com- pleted training
1	Andaman & Nicobar Islands	720	718	99.72%	0	0.00%	28	25	89.29%	0	0.00%
2	Andhra Pradesh	55607	55677	100.13%	48094	86.38%	2227	2240	100.58%	1729	77.19%
3	Arunachal Pradesh	6225	3148	50.57%	6	0.19%	249	101	40.56%	0	0.00%
4	Assam	61690	40515	65.68%	0	0.00%	2280	1552	68.07%	0	0.00%
5	Bihar	114718	104147	90.79%	30	0.03%	4210	2582	61.33%	43	1.67%
6	Chandigarh	450	450	100.00%	341	75.78%	18	18	100.00%	10	55.56%
7	Chhattisgarh	52474	50415	96.08%	9432	18.71%	1866	1642	88.00%	317	19.31%
8	Dadra & Nagar Haveli	303	303	100.00%	221	72.94%	9	11	122.22%	2	18.18%
9	Daman & Diu	102	102	100.00%	82	80.39%	4	5	125.00%	1	20.00%
10	Delhi	10897	10752	98.67%	0	0.00%	432	417	96.53%	0	0.00%
11	Goa	1262	1258	99.68%	0	0.00%	50	55	110.00%	0	0.00%
12	Gujarat	53029	52623	99.23%	51467	97.80%	2122	1850	87.18%	1780	96.22%
13	Himachal Pradesh	18925	18925	100.00%	1035	5.47%	735	670	91.16%	37	5.52%
14	Jammu and Kashmir	31938	742	2.32%	0	0.00%	1278	35	2.74%	0	0.00%
15	Jharkhand	38432	38068	99.05%	917	2.41%	1435	838	58.40%	88	10.50%
16	Madhya Pradesh	97135	86232	88.78%	17128	19.86%	3379	2791	82.60%	432	15.48%
17	Maharashtra	110486	109680	99.27%	30896	28.17%	3899	3976	101.97%	672	16.90%
18	Meghalaya	5896	5896	100.00%	0	0.00%	185	208	112.43%	0	0.00%
19	Mizoram	2244	2244	100.00%	0	0.00%	90	71	78.89%	0	0.00%
20	Nagaland	3980	3911	98.27%	0	0.00%	159	74	46.54%	0	0.00%
21	Puducherry	855	855	100.00%	0	0.00%	34	30	88.24%	0	0.00%
22	Rajasthan	62020	21523	34.70%	18754	87.13%	2232	763	34.18%	503	65.92%
23	Tamil Nadu	54439	54455	100.03%	23041	42.31%	1782	1532	85.97%	383	25.00%
24	Telangana	35700	34192	95.78%	0	0.00%	1268	256	20.19%	0	0.00%
25	Tripura	10145	9911	97.69%	0	0.00%	406	424	104.43%	0	0.00%
26	Uttar Pradesh	173718	160872	92.61%	8226	5.11%	6718	4016	59.78%	293	7.30%
27	Uttarakhand	20067	7630	38.02%	57	0.75%	598	256	42.81%	2	0.78%

4. Convergence Planning

S.No	State/UT	Status on Submission of SCAP to CPMU (FY 2019-20)
1	A&N Islands	Submitted
2	Andhra Pradesh	Submitted
3	Arunachal Pradesh	Not Submitted
4	Assam	Not Submitted
5	Bihar	Submitted
6	Chandigarh	Submitted
7	Chhattisgarh	Submitted
8	Dadra and Nagar Haveli	Submitted
9	Daman and Diu	Submitted
10	Delhi	Submitted
11	Goa	Submitted
12	Gujarat	Submitted
13	Haryana	Submitted
14	Himachal Pradesh	Submitted
15	Jammu and Kashmir	Not Submitted
16	Jharkhand	Submitted
17	Karnataka	Not Submitted
18	Kerala	Submitted
19	Ladakh	Not Submitted
20	Lakshadweep	Submitted
21	Madhya Pradesh	Submitted
22	Maharashtra	Submitted
23	Manipur	Submitted
24	Meghalaya	Submitted
25	Mizoram	Submitted
26	Nagaland	Submitted
27	Odisha	Not Submitted
28	Puducherry	Submitted
29	Punjab	Submitted
30	Rajasthan	Submitted
31	Sikkim	Submitted
32	Tamil Nadu	Submitted
33	Telangana	Submitted
34	Tripura	Submitted
35	Uttar Pradesh	Submitted
36	Uttarakhand	Submitted
37	West Bengal	Not Submitted

5. Jan Andolan (Community Based Events and VHSND)

5.1. Community Based Events

SI.	States/UTs	AWCs	Target for the quarter (FY: 2019-20)	Q1 Achieve- ment (FY: 2019-20)	Q1 %Achievem ent (FY: 2019-20)	Q2 Achieveme nt (FY: 2019-20)	Q2 % Achieve- ment (FY: 2019- 20)	Q3 Achieve ment (FY: 2019-20)	Q3 % Achieve- ment (FY:
1	A&N Islands	720	4320	1632	38%	3533	82%	3930	91%
2	Andhra Pradesh	55607	333642	275277	83%	331001	99%	331455	99%
3	Arunachal Pradesh	6225	37350	35616	95%	33832	91%	32950	88%
4	Assam	61690	370140	101722	27%	252314	68%	259505	70%
5	Bihar	115009	639504	528659	83%	541884	85%	493527	77%
6	Chandigarh	450	2700	2700	100%	2700	100%	2700	100%
7	Chhattisgarh	52474	307806	304424	99%	304059	99%	290482	94%
8	Dadra & Nagar Haveli	303	1818	1786	98%	1810	100%	1814	100%
9	Daman & Diu	107	612	612	100%	612	100%	612	100%
10	Delhi	10897	64524	61368	95%	76822	119%	66230	103%
11	Goa	1262	7560	3581	47%	6402	85%	6156	81%
12	Gujarat	53029	318174	523169	164%	629799	198%	631263	198%
13	Haryana	25962	155772	146972	94%	46438	30%	154836	99%
14	Himachal Pradesh	18925	113550	113181	100%	113181	100%	121790	107%
15	Jammu and Kash- mir	31938	177594	157342	89%	91721	52%	104708	59%
16	Jharkhand	38432	230592	168679	73%	123001	53%	158027	69%
17	Karnataka	65911	247506	100614	41%	119762	48%	117220	47%
18	Kerala	33318	198690	0	0%	0	0%	66230	33%
19	Ladakh	1139	6834	2402	35%	1216	18%	651	10%
20	Lakshadweep	107	642	0	0%	642	100%	642	100%
21	Madhya Pradesh	97135	576096	564623	98%	567359	98%	554702	96%
22	Maharashtra	110486	661290	640694	97%	646393	98%	647626	98%
23	Manipur	11510	69060	65957	96%	67366	98%	68113	99%
24	Meghalaya	5896	35376	20362	58%	24363	69%	27241	77%
25	Mizoram	2244	13464	9782	73%	11906	88%	13095	97%
26	Nagaland	3980	23880	13842	58%	20246	85%	23880	100%
27	Odisha	74154	444924	0	Nil	17619	4%	17905	4%
28	Puducherry	855	5130	5130	100%	5130	100%	5130	100%
29	Punjab	27314	163734	97893	60%	110979	68%	122009	75%
30	Rajasthan	62020	372120	345610	93%	347612	93%	346254	93%
31	Sikkim	1308	7848	5963	76%	6564	84%	6824	87%
32	Tamil Nadu	54439	326634	166890	51%	319953	98%	326634	100%
33	Telangana	35700	214200	193424	90%	217062	101%	204072	95%
34	Tripura	10145	60870	50824	83%	53950	89%	58212	96%
35	Uttar Pradesh	188259	1127982	969599	86%	1004557	89%	955448	85%
36	Uttarakhand	20067	120042	98507	82%	125150	104%	106609	89%
37	West Bengal	119481	716886	0	Not Submitted	0	Not Submitted	0	Not Submitted

5.2. Village Health, Sanitation and Nutrition Day

SI.	States/UTs	AWCs	No. of VHSND conducted (April, 2018 to March, 2019)	No. of VHSND conducted (April, 2019 to June, 2019)	No. of VHSND conducted (July, 2019 to Sep 2019)	No. of VHSND conducted (Oct to Dec, 2019)
1	A&N Islands	720	8640	2160	720	1438
2	Andhra Pradesh	55607	716514	165914	166433	166468
3	Arunachal Pradesh	6225	28341	17808	16916	16475
4	Assam	61690	311674	77372	80680	82051
5	Bihar	115009	662886	0	151794	171023
6	Chandigarh	450	144	1350	1350	1350
7	Chhattisgarh	52474	478564	137011	137794	128069
8	Dadra and Nagar Haveli	303	840	213	142	142
9	Daman and Diu	107	102	306	306	306
10	Delhi	10897	63753	21508	32262	32262
11	Goa	1262	9343	2265	1466	1733
12	Gujarat	53029	380605	154791	149537	149381
13	Haryana	25962	148703	46306	23488	0
14	Himachal Pradesh	18925	207662	56616	56616	55916
15	Jammu and Kashmir	31938	77164	43495	0	45032
16	Jharkhand	38432	360835	101479	75405	99731
17	Karnataka	65911	162305	0	0	35605
18	Kerala	33318	30909	0	2691	0
19	Ladakh	1139	Data Not Received	2512	0	1487
20	Lakshadweep	107	2568	0	214	321
21	Madhya Pradesh	97135	1151386	278635	277862	258238
22	Maharashtra	110486	1050041	267502	267499	265046
23	Manipur	11510	1643	5170.56	7194	6343
24	Meghalaya	5896	50666	15171	12708	13776
25	Mizoram	2244	15086	5341	2114	2224
26	Nagaland	3980	9430	2258	812	2874
27	Odisha	74154	Data Not Received	0	25374	69124
28	Puducherry	855	7317	855	2565	1688
29	Punjab	27314	104032	41584	30989	32062
30	Rajasthan	62020	770370	195938	194042	0
31	Sikkim	1308	1308	3369	3035	3225
32	Tamil Nadu	54439	206272	91585	163207	163228
33	Telangana	35700	542381	220724	192780	169937
34	Tripura	10145	1494	2166	2997	3158
35	Uttar Pradesh	188259	2113382	370106	383145	240618
36	Uttarakhand	20067	103363	37837	54400	44287
37	West Bengal	119481	Data Not Received	0	0	0

6. Flexi-Funds

SI.	State/UT	Flexi Fund Approved by SLSC Committee	Status of Implementation/Funds Earmarked (Rs. in lakh)
1	A&N Islands	Yes	Implementation Initiated (Rs.21.53)
2	Andhra Pradesh	Yes	Implementation Initiated (Rs.650.54)
3	Arunachal Pradesh	No	Proposal yet to be received
4	Assam	Yes	Implementation Initiated (Rs.1348.42)
5	Bihar	Yes	Implementation Initiated (Rs.943.904)
6	Chandigarh	Yes	Under Process
7	Chhattisgarh	No	Meeting to be held shortly
8	Dadra and Nagar Haveli	Yes	Implementation Initiated (8.16)
9	Daman and Diu	Yes	Implementation Initiated (Rs. 7.1)
10	Delhi	Yes	Under Process
11	Goa	No	Proposal yet to be received
12	Gujarat	Yes	Implementation Initiated
13	Haryana	Yes	Implementation Initiated
14	Himachal Pradesh	Yes	Implementation Initiated (Rs. 216.88)
15	Jammu and Kashmir	No	Proposal yet to be received
16	Jharkhand	Yes	Under Process
17	Karnataka	Yes	Under Process
18	Kerala	Yes	Implementation Initiated
19	Ladakh	No	-
20	Lakshadweep	Yes	Implementation Initiated
21	Madhya Pradesh	Yes	Implementation Initiated
22	Maharashtra	Yes	Implementation Initiated
23	Manipur	No	Proposal yet to be received
24	Meghalaya	No	Proposal yet to be received
25	Mizoram	Yes	Implementation Initiated (Rs.88.56)
26	Nagaland	Yes	Implementation Initiated (Rs.110.11)
27	Odisha	No	Proposal yet to be received
28	Puducherry	Yes	Implementation Initiated (10.95)
29	Punjab	Yes	Under Process
30	Rajasthan	Yes	Implementation Initiated (Rs. 1288.21)
31	Sikkim	Yes	Implementation Initiated (Rs 49.98)
32	Tamil Nadu	Yes	Implementation Initiated
33	Telangana	No	Meeting to be held shortly
34	Tripura	No	Meeting to be held shortly
35	Uttar Pradesh	Yes	Implementation Initiated
36	Uttarakhand	Yes	Under Process
37	West Bengal	No	Proposal yet to be received

7. Innovations

SI.	States /UT	Innovation Plan Approved	Amount Earmarked	Activities
1	A&N Islands	Yes	Rs.27.85	• To provide logistics support to the AWCs.
2	Andhra Pradesh	Yes	Rs.362.05	Intervention on Tribal nutrition
3	Arunachal Pradesh	No	-	
4	Assam	No	-	
5	Bihar	Yes	Rs. 284	 SAM Management Improved access to good quality nutrients for complimentary feeding for poor families. Nutri-garden (Potato, Munga, etc plantation) Iron fish supplies App development for real time monitoring Mushroom cultivation at village level Operationalization of community radio Supply of water filter
6	Chandigarh	Yes	Rs.27.85	Mobile Anganwadi Centres
7	Chhattisgarh	No	-	
8	Dadra and Nagar Haveli	Yes	-	 Provision of safe drinking water complete Providing fortified milk Distribution of Drumstick/Moringa Powder Uniform distribution to children Performance audit of AWCs under process
9	Daman and Diu	Yes	-	 Peanut Laddoo for SAM & MAM 3-6 yrs Children Anaemia Study of under 5-year children
10	Delhi	Yes	Rs. 306.35	Mobile Anganwadi Centres
11	Goa	Yes	-	Nutri-gardens
12	Gujarat	Yes	Rs 919.05	 Engagement of adolescent counselors to improve IYCF practices and adolescent girl health Anaemia prevention in pregnant and adolescent girls using iron utensils and promotion of kitchen-garden. Development of kitchen garden in AWC Designing & Installation of Appropriate Hand Washing Stations (HWS) for AWC and Demonstration of Hand wash to create Culture
13	Haryana	Yes	-	 Promotion of hygiene through nail cutting day Providing of Iron Utensils in AWC
14	Himachal Pradesh	Yes	Rs.29.21	 The prevention of Anaemia will be done by AYUSH as innovation under POSHAN Abhiyaan
15	Jammu and Kashmir	No	-	
16	Jharkhand	No	-	
17	Karnataka	No	-	

18	Kerala	Yes	Rs.311.92	 Fortification of rice with 12 micronutrients done Supply initiated of fortified milk with Vitamin A and Vitamin D and Flavored with natural flavorings to enhance the nutritive value as well as making it appealing and attractive to children. An app for the deaf and dumb pregnant women, lactating mothers, children to sensitize them about ways improve their nutritional and overall status. Dietary Diversification - Enhancement of Amrutham Nutrimix (THR) by addition of locally available low-cost fruits and vegetables into different forms like cookies, biscuits or cakes extruded in the form of English and Malayalam (local language) alphabhets which helps in the cognitive development of children
19	Ladakh	No	-	-
20	Lakshadweep	No		
21	Madhya Pradesh	Yes		 Management of underweight children in selected 18 districts. "Poshan Sopan" Poshan Sarokar (C-SAM) Sanjhi Sehat Running Shield
22	Maharashtra	Yes		 Training for sewing Godhadi and distribution of Godhadi to mothers after delivery. Monitoring System for THR Distribution. Pilot program on Model ICDS. Urban Health Sanitation and Nutrition Day (UHSND)
23	Manipur	No	-	
24	Meghalaya	Yes	-	Backyard Poultry & Kitchen Gardens
25	Mizoram	Yes	Rs.222.8	 Infant & Young Child Feeding (IYCF) Nuti-garden Nutri-plate Operation SAM
26	Nagaland	Yes	Rs.3.04	 Smokeless chulha and Nutri-gardens Anaemia screening Intervention for malnutrition children.
27	Odisha	No	-	
28	Puducherry	Yes	-	Haemoglobinometer at Anganwadi Centres to monitor anaemia status in Pregnant, Lactat- ing Mothers and Adolescent girls.
29	Punjab	No		
30	Rajasthan	Yes	-	
31	Sikkim	No	-	
32	Tamil Nadu	No	-	
33	Telangana	No	-	
34	Tripura	No	-	
35	Uttar Pradesh	Yes	Rs 1700	
36	Uttarakhand	Yes	-	Swacchta Kit
37	West Bengal	No	-	

8. Financial Performance under POSHAN Abhiyaan

Amount in lakhs

	Central fun	ds released	Total Central	Total Central fund	% Central share Utiliza- tion of funds	
State/UT	2017-18 & 2018-19*	2019-20	States/UTs	31.12. 2019	released till on 31.12. 2019	
Andhra Pradesh	11177.09	5582.52	16759.61	8677.99	51.78	
Bihar	22065.11	10000.00	32065.11	18373.30	57.30	
Chhattisgarh	11297.63	0.00	11297.63	3096.26	27.41	
Delhi	3152.83	0.00	3152.83	1254.14	39.78	
Goa	435.85	0.00	435.85	101.68	23.33	
Gujarat	14264.69	7531.00	21795.69	11222.25	51.49	
Haryana	6393.43	0.00	6393.43	2696.94	42.18	
Jharkhand	7540.04	0.00	7540.04	2065.05	27.39	
Karnataka	13221.94	0.00	13221.94	420.68	3.18	
Kerala	7765.28	0.00	7765.28	2455.31	31.62	
Madhya Pradesh	19961.37	17883.00	37844.37	12404.30	32.78	
Maharashtra	23561.59	33061.47	56623.06	23602.32	41.68	
Odisha	15172.11	0.00	15172.11	0.00	0.00	
Puducherry	432.94	497.00	929.94	224.71	24.16	
Punjab	6909.84	0.00	6909.84	306.50	4.44	
Rajasthan	13897.25	0.00	13897.25	6315.69	45.45	
Tamil Nadu	13551.44	0.00	13551.44	10464.20	77.22	
Telangana	10332.64	7003.00	17335.64	4579.10	26.41	
Uttar Pradesh	38023.47	0.00	38023.47	17132.35	45.06	
West Bengal	24839.38	0.00	24839.38	0.00	0.00	
Arunachal Pradesh	2716.28	0.00	2716.28	0.00	0.00	
Assam	17790.63	14171.00	31961.63	11591.74	36.27	
Himachal Pradesh	5710.41	2480.00	8190.41	4966.17	60.63	
Jammu & Kashmir	8732.11	0.00	8732.11	2188.33	25.06	
Manipur	4205.83	0.00	4205.83	1233.24	29.32	
Meghalaya	2176.25	1706.80	3883.05	2144.45	55.23	
Mizoram	1077.03	902.00	1979.03	1461.47	73.85	
Nagaland	1415.71	1445.17	2860.88	1561.92	54.60	
Sikkim	427.06	544.00	971.06	436.75	44.98	
Tripura	3973.63	0.00	3973.63	810.75	20.40	
Uttarakhand	6167.82	3696.00	9863.82	3768.19	38.20	
Total	318388.68	106502.96	424891.64	155924.08	36.70	

Amount in lakhs

	2017-18 & 2018-19				2019	Total utili-	
	Funds sanctioned			Utiliza-	Funds	Utilization	zation as on
UT without Legislature	2017-18	2018-19	Total	tion as on 31.03.2019	sanctioned during 2019-20	during 2019-20	51.12.2015
Andaman & Nicobar	100.22	416.89	517.11	109.27	307.62	115.22	224.49
Chandigarh	158.88	306.82	465.70	133.21	526.97	124.47	257.68
Dadra & Nagar Haveli	108.83	129.32	238.15	123.98	681.16*	681.16	805.14
Daman & Diu	42.06	197.66	239.72	65.68	446.98	131.98	197.66
Ladakh	-	-	-	-	-	-	-
Lakshadweep	60.00	138.90	198.90	72.15	126.75	126.75	198.90
TOTAL	469.99	1189.59	1659.58	504.29	2089.48	1179.58	1683.87

*Out of Rs. 681.16 lakhs sanctioned in 2019-20, Rs. 250 lakh given in POSHAN Award.

References

- Avula, Rasmi, Esha Sarswat, Suman Chakrabarti, Phuong Hong Nguyen, Pratima Mathews, and Purnima Menon. 2018. "District Level Coverage of Interventions in the Integrated Child Development Services (ICDS) Scheme During Pregnancy, Lactation and Early Childhood in India : Insights from the National Family Health Survey 4." New Delhi, India:
- Chakrabarti, Suman, Kalyani Raghunathan, Harold Alderman, Purnima Menon, and Phuong Nguyen. 2019. "India's Integrated Child Development Services Programme; Equity and Extent of Coverage in 2006 and 2016." Bulletin of the World Health Organization, no. January: 270–82. https://doi.org/http://dx.doi.org/10.2471/BLT.18.221135.

IDinsight. 2019a. "Behavioral Insights Unit: A Framework for Discussion."

———. 2019b. "POSHAN Abhiyaan Social and Behaviour Change Communication: What Is the Status One Year Later?" Vol. 2018.

———. 2019c. "Round 3 Survey Insights Aspirational Districts Programme."

- Institute of Economic Growth. 2019. "Integrated Child Development Services (ICDS): An Evaluation of Governance, Processes and Implementation."
- Menon, Purnima, Rasmi Avula, Shinjini Pandey, Samuel Scott, and Alok Kumar. 2019. "Rethinking Effective Nutrition Convergence: An Analysis of Intervention Co-Coverage Data." Economic & Political Weekly, no. 24: 18–21.
- Ministry of Women and Child Development. 2019a. "POSHAN Abhiyaan Monthly Progress Report, December 2019."

———. 2019b. "POSHAN Abhiyaan Monthly Progress Report, December 2019."

- NITI Aayog. 2019. "Transforming Nutrition in India: POSHAN Abhiyaan."
- Parasar, Rohit, and RV Bhavani. 2018. "Supplementary Nutrition Programme under ICDS : Case Study of Telangana and Tamil Nadu." Vol. 2018.
- Piramal Foundation. 2020. "Assessment of ILA Training."
- Vaid, Abhilasha, Rasmi Avula, Nitya Rachel George, Aparna John, Purnima Menon, and Pratima Mathews. 2018. "A Review of the Integrated Child Development Services ' Supplementary Nutrition Program for Infants and Young Children : Take Home Ration for Children."
- World Bank. n.d. "Behaviour Change Communication and Community Mobilisation for Improved Nutrition Outcomes: Learning Note 4."
- ———. n.d. "Building Capacity Through the Incremental Learning Approach (ILA): Learning Note 3."
- ———. n.d. "Using Mobile Technology to Strengthen Service Delivery and Monitor Nutrition Services: Learning Note 1."
- ———. 2019. "Mission Report 2."
- World Food Programme. 2019. "Review of Take-Home Rations under the Integrated Child Development Services in India."
- Ved, Rajani, and Menon, Purnima. 2012. "Analyzing intersectoral convergence to improve child undernutrition in India: Development and application of a framework to examine policies in agriculture, health, and nutrition". IFPRI Discussion Paper 1208. Washington,

D.C.: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/ collection/p15738coll2/id/127129

- Adelman, Sarah, Daniel O. Gilligan, Joseph Konde-Lule, and Harold Alderman. 2019. "School Feeding Reduces Anaemia Prevalence in Adolescent Girls and Other Vulnerable Household Members in a Cluster Randomized Controlled Trial in Uganda." Journal of Nutrition 149 (4): 659–66. https://doi.org/10.1093/jn/nxy305.
- Aguayo, Víctor M. 2017. "Complementary Feeding Practices for Infants and Young Children in South Asia. A Review of Evidence for Action Post-2015." Maternal Child Nutrition 13 (January): 1–13. https://doi.org/10.1111/mcn.12439.
- Allen, Lindsay H. 2003. "Animal Source Foods to Improve Micronutrient Nutrition and Human Function in Developing Countries Interventions for Micronutrient Deficiency Control in Developing Countries: Past, Present and Future." American Society for Nutritional Sciences 133: 3875–78.
- Avula, Rasmi, Vanesaa M. Oddo, Suneetha Kadiyala, and Purnima Menon. 2017. "Scaling up Interventions to Improve Infant and Young Child Feed in India: What Will It Take?" Maternal Child Nutrition 13(S2) (e12414). https://doi.org/https://doi.org/10.1111/ mcn.12414.
- Dandona, Lalit. 2017. "Nations within a Nation : Variations in Epidemiological Transition across the States of India , 1990 – 2016 in the Global Burden of Disease Study." Lancet 390: 2437–60. https://doi.org/10.1016/S0140-6736(17)32804-0.
- Dewey, Kathryn G., and Seth Adu-Afarwuah. 2008. "Systematic Review of the Efficacy and Effectiveness of Complementary Feeding Interventions in Developing Countries." Maternal and Child Nutrition 4: 24–85.
- Do, Barbara T., Nellie I. Hansen, Carla Bann, Rebecca L. Lander, Shivaprasad S. Goudar, Omrana Pasha, Elwyn Chomba, et al. 2018. "Associations between Feeding Practices and Growth and Neurodevelopmental Outcomes at 36 Months among Children Living in Low- and Low-Middle Income Countries Who Participated in the BRAIN-HIT Trial." BMC Nutrition 4 (1): 1–12. https://doi.org/10.1186/s40795-018-0228-9.
- Gonmei, Zaozianlungliu, and G.S. Toteja. 2018. "Micronutrient Status of Indian Population." Indian Journal of Medical Research 76 (11): 1532–39. https://doi.org/10.4103/ijmr.IJMR.
- Hawkes, Corinna, Marie T. Ruel, Leah Salm, Bryony Sinclair, and Francesco Branca. 2020. "Double-Duty Actions: Seizing Programme and Policy Opportunities to Address Malnutrition in All Its Forms." The Lancet 395 (10218): 142–55. https://doi.org/10.1016/ S0140-6736(19)32506-1.
- International Food Policy Research Institute. 2019. "A Common Vision for Tackling Malnutrition in India : Building on Data , Evidence and Expert Opinion."
- Kassebaum, Nicholas J. 2016. "The Global Burden of Anaemia" 30 (2): 247–308. https://doi. org/10.1016/j.hoc.2015.11.002.
- Khan, Yasir, and Zulfiqar A. Bhutta. 2010. "Nutritional Deficiencies in the Developing World: Current Status and Opportunities for Intervention" 57 (6): 1409–41.
- Kumar, Alok, and Khushboo Saiyed. 2019. "Does India Need New Strategies For Improving Urban Health And Nutrition?"
- Menon, Punima, Sneha Mani, and Phuong Hong Nguyen. 2017. "How Are India's Districts Doing on Nutrition-Related Non-Communicable Diseases? Insights from the National Family Health Survey-4." New Delhi.

- Nguyen, Phuong Hong, Samuel Scott, Rasmi Avula, Lan Mai Tran, and Purnima Menon. 2018. "Trends and Drivers of Change in the Prevalence of Anaemia among 1 Million Women and Children in India, 2006 to 2016." BMJ Global Health 3 (5): 1–12. https://doi.org/10.1136/ bmjgh-2018-001010.
- NITI Aayog. n.d. "Nourishing India, National Nutrition Strategy, Government of India."
- Pasricha, Sant Rayn, James Black, Sumithra Muthayya, Anita Shet, Vijay Bhat, Savitha Nagaraj, N. S. Prashanth, H. Sudarshan, Beverley Ann Biggs, and Arun S. Shet. 2010. "Determinants of Anaemia among Young Children in Rural India." Pediatrics 126 (1): 140–49. https://doi. org/10.1542/peds.2009-3108.
- PATH. 2019. "Improving Nutrition and Anaemia through Promoting Rice Fortification as Part of Comprehensive Strategy in Multiple States in India."
- Petry, Nicolai, Ibironke Olofin, Richard F Hurrell, Erick Boy, James P Wirth, Mourad Moursi, Moira Donahue Angel, and Fabian Rohner. 2016. "The Proportion of Anaemia Associated with Iron Deficiency in Low, Medium, and High Human Development Index Countries : A Systematic Analysis of National Surveys." Nutrients 8 (693): 1–17. https://doi.org/10.3390/ nu8110693.
- Popkin, Barry M., Camila Corvalan, and Laurence M. Grummer-Strawn. 2020. "Dynamics of the Double Burden of Malnutrition and the Changing Nutrition Reality." The Lancet 395 (10217): 65–74. https://doi.org/10.1016/S0140-6736(19)32497-3.
- Ruel, Marie, James Garrett, and Sivan Yosef. 2017. "Food Security and Nutrition: Growing Cities, New Challenges." In Global Food Policy Report, 24–33. Washington DC: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/9780896292529.
- Sedlander, Erica, Rajiv N Rimal, Sameera A. Talegawkar, Hagere Yilma, and Wolfgang Munar. 2018. "Designing a Socio-Normative Intervention to Reduce Anaemia in Odisha India: A Formative Research Protocol." Gates Open Research 2 (May): 15. https://doi.org/10.12688/ gatesopenres.12808.1.
- WHO. 2009. "Global Health Risks." http://www.who.int/healthinfo/global_burden_disease/ GlobalHealthRisks_report_full.pdf.
- Young, Melissa F, Phuong Nguyen, Lan Mai Tran, Rasmi Avula, and Purnima Menon. 2019. "A Doubled Edged Sword ? Improvements in Economic Conditions Over a Decade in India Led to Declines in Undernutrition as Well as Increases in Overweight Among Adolescents and Women." The Journal of Nutrition, 1–9. https://doi.org/https://doi.org/10.1093/jn/ nxz251.