



Early Life Interventions for Intergenerational Prosperity

INTRODUCTION

A resounding testimony to India's modest achievements on human development is the poor state of child nutrition in the country. India is home to the largest number of malnourished children in the world. Economic growth and poverty reduction haven't led to commensurate improvements in child health outcomes. Almost one-third of children under the age of 5 years are stunted (less than required height-for-age) and underweight (weight-for-age), while one in fifth is wasted (weight-for-height) (See Fig. 6.1). More than half of the pregnant women, at the same time, are anemic—with low levels of iron supplement intake—which makes them likely to give birth to the children at non-institutional health centers, exacerbating mortality risks—to the child as well as the mother—and further nutritional deprivations.

If development resilience is defined as an enhancement in "...the capacity over time of a person, household or other aggregate unit to avoid poverty in the face of various stressors and in the wake of myriad shocks" (Barrett and Conostas 2014, p. 14,626), undernourishment among children becomes a source of economic fragility.¹ Undernourished children are less likely to suffer from adverse functional consequences which

¹ In this book, we have framed the *scope* of safety nets as an enabler of development resilience. See Chapter 2.

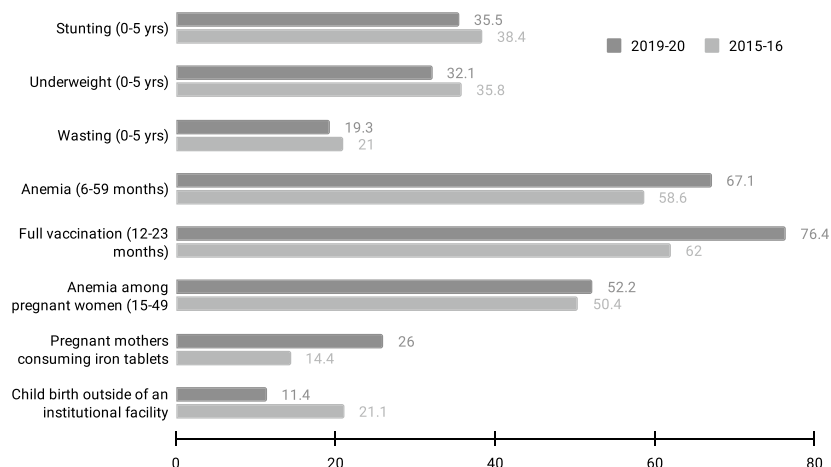


Fig. 6.1 State of maternal and child malnutrition in India (in %) (*Source* National Family Health Survey [2019–2020, 2015–2016])

limit their cognitive potential and impair human capital accumulation depriving them of the potential economic opportunities which they would have otherwise commanded—had it not been for their undernourished status—leading to intergenerational poverty.² Since the seeds of future individual economic achievements and interpersonal disparities germinate early in life, appropriate interventions correcting this imbalance in the formative years of children is essential to build resilience.³ These interventions are often along the maternal–child biological pathway—in the form of nutritional supplements to the pregnant mother, encouragement for safe institutional child birth delivery, vaccinations to mother and children,

² See Alderman et al. (2006), Behrman (1993), Hoddinott et al. (2008), Maluccio et al. (2009), and the references cited therein.

³ In his classical introductory textbook of economics, *Principle of Economics*, Alfred Marshall labeled child poverty as an “evil [that] is cumulative,” because the more undernourished children are, “the less they earn when they grow up, and the less will be their power of providing adequately for the material wants of their children; and so on to following generations” (Marshall 1980). For a review on the economic effects of early childhood influences on adult life outcomes, see Currie and Almond (2011).

and nutritional supplementation to the infant—along with the provision of free school meals to the young children.⁴

To address the inequalities which develop early in life—and are likely to persist across generations—the Indian government, like many other developed and developing nations, has a range of social welfare programs with a *focus* on maternal and child health. These interventions take the *form* of targeted nutritional assistance to pregnant and lactating women and infant children, cash transfers as maternity benefits to mothers, free and compulsory primary schools, free meals to schoolchildren in public schools, and cash payment to mothers for institutional childbirth. The *scope* of these independent schemes is not only to improve child and maternal nutrition but also to stem higher levels of child and maternal mortality. Yet, despite the active presence of these programs, poor nutritional outcomes continue to be a blot on India's progress on human development.

In this chapter, we will discuss the relevance of social safety nets along the maternal–child biological pathway and early childhood for long-term gains for India. We begin with a global review of evidence on early life intervention hypothesis, followed up by a discussion of India's strategy of reducing early life nutrition—its *form*, *focus*, and *scope*—and its impact. We conclude the chapter with some suggestions on how to improve the current programs to build development resilience through improving mother and child nutritional outcomes.

EARLY LIFE RISKS AND ADVERSE INTERGENERATIONAL OUTCOMES

Early life economic disadvantage leads to deprivation on two of the most fundamental human capital inputs to long-term developmental outcomes—nutrition and education. Children growing up in poverty

⁴ Among the developed countries, Scandinavian nations provide a comprehensive set of early life health programs—which include prenatal, maternity, and well-infant care—to all families. In the USA, Supplemental Nutrition Program for Women, Infants, and Children (WIC) is provided to pregnant mothers and children and free school meals through the National School Lunch Program (NSLP). Early life assistance programs have been instrumental in reducing infant mortality in the short term with significant long-run benefits which include greater adult mortality, lower morbidity, and improved education, and labor market outcomes (Aizer et al. 2022; Wüst 2022). In the developing world, preschool nutrition component of Mexico's *Progresar/Oportunidades* and Brazil's *Bolsa Família* are prominent examples of early life interventions.

are less likely to attend school and, therefore, to be cognitively disadvantaged, which further lowers labor productivity and dampens earning capacity as an adult.⁵ Undernourished children are therefore likely to be poorer adults, who in turn, would give birth to poorer children. Child undernutrition and poverty therefore perpetuate a vicious cycle of intergenerational poverty created and sustained through the poor's inability to invest in their children's nutrition and education during early and later stages in life.

There is a unanimous agreement in the scientific community on the importance of investing during a “critical window” in early child life—in utero and beyond—for long-term development.⁶ This line of argument draws upon the influential *fetal origins* hypothesis, which posits that long-term health outcomes of an individual depend upon a critical period in fetal life and early childhood (Barker 1990).⁷ *Lancet*, a premier scientific journal in the field of epidemiology and medicine subsequently published a special series on early childhood development in 2007, 2011, and 2017.⁸ One of the studies finds that 39 percent of children under the age of 5 in low-income and middle-income countries (LMICs) are at the risk of remaining below their developmental potential, which implies, on average, a deficit of 19.8 percent of annual income in adulthood (Grantham-McGregor et al. 2007). Newer estimates pitch the numbers at an even higher level—43 percent (250 million children) of children under the age of 5 in LMICs are the risk of not being able to “develop the intellectual skills, creativity, and wellbeing required to become healthy and productive adults” (Black et al. 2017). Recent research has further expanded the idea of the “critical window” of early life to include middle

⁵ See Almond et al. (2018) and Case et al. (2002).

⁶ Refer to Prentice et al. (2013) for more details.

⁷ In an exhaustive summary of the empirical work that investigates this hypothesis (Currie and Almond 2011) showed that events in children's lives before their fifth years *do* have an enormous impact on their economic outcomes well into adulthood and beyond.

⁸ The 2017 series, *Advancing Early Childhood Development*, notes that the “The science of early childhood development and its underlying neurobiology are increasingly invoked in the global discourse on education, health, social and child protection, and human capital formation” (Shonkoff et al. 2017, p. 14). The series provided in-depth reviews of existing evidence around early childhood development and health and well-being later in life, in the context of developing countries (Grantham-McGregor et al. 2007; Lake and Chan 2015).

childhood and adolescence, too, when physical growth consolidates itself, and cognitive and intellectual development stabilize (Bundy et al. 2018).

However, scholars studying the fetal origins hypothesis or the science of early childhood development strongly believe that the early life disadvantages can be remedied through appropriate investments “across health, nutrition, education, child protection, and social protection sectors that should be accessible to all families and young children...[through appropriate interventions] particularly in the first 1000 days of a child’s life” (Machel 2017).⁹ Most countries, including India, therefore, have a range of early childhood intervention programs that work to break the intergenerational cycle of deprivation and promote more inclusive economic growth and development. Examples of such intervention include free and compulsory primary schooling, prenatal and antenatal care, provision of free meals in schools, and tying together of many other public benefits, conditional on such programs ensuring that nutritional and educational needs of children are met.

A simplistic representation of the early life risks and a potential amelioration through appropriate interventions during the critical window are presented in Fig. 6.2. Early life deprivation begins from a mother’s womb. In most developing countries, children born into poor households suffer from poor access to quality nutrition and health care for the mother. Essential routine visits to the doctor during and after pregnancy is not a common practice. In many cases such as in India, the quality of public health care is absent, poor, or unaffordable that mothers give birth to children outside of institutional facilities at home which increases the risks of maternal and child mortality. Lack of immunization facilities and access to nutrition further undermine the growth potential of a child. Further into adolescence, lack of access to quality schooling is commonplace which hinders cognitive development and labor market outcomes. This intergenerational transmission of poverty could, however, be stymied through strong public action early in the life cycle through improved neonatal and antenatal care along with better educational facilities for children. Such a reversal of fortune for those deprived early in life—with a *focus* on women and children—has the transformative potential for human development.

⁹ The first 1000 days are counted as the child’s life from conception until the age of 2 years.

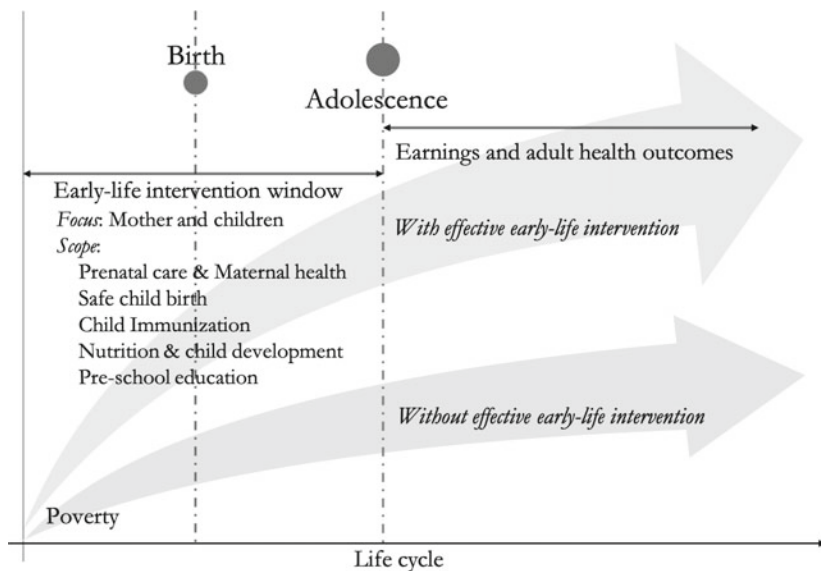


Fig. 6.2 Early life intervention and its long-term effects

The Role of Women as Primary Caregivers and Empowered Economic Agents

Women play an important role in the maternal–child biological pathway to improve nutritional outcomes. This pathway essentially relies upon the physical and economic status of women. If human capital investments determine long-term human achievements, then women as primary caregivers for children are most influential in shaping their health, cognitive ability, and future life outcomes. It is widely known that poorer economic conditions of women lead to worse child health in utero and at birth, thereby contributing to intergenerational poverty (Aizer and Currie 2014).¹⁰ Similar, nutritional status of mothers is key for infant child health. Women who are underweight before pregnancy and do

¹⁰ To quote Alfred Marshall, “*The most valuable of all capital is that invested in human beings; and of that capital the most precious part is the result of the care and influence of the mother*” (Marshall 1980). As a result, conditional transfers are mainly targeted toward women, because they are more likely to use the resources on children with respect to food, education, or health. Studies have shown that this targeting has not only led to

not gain sufficient weight during pregnancy are likely to give birth to children who are less likely to survive infancy, and if they do, the children are prone to undernourishment later, which further comprises their cognition and economic productivity in adulthood (Coffey 2015). This situation becomes particularly ominous in countries like India, where ‘son preference’ continues to be rife despite increase in education and overall growth.¹¹ Gender-based discrimination is therefore a societal norm leading to inequitable intra-household allocation of resources including those as basic as food, lowered agency, and overall disempowerment for women. This is particularly common for the young and newly married women who fall at the bottom of household hierarchies, are expected to acquiesce to the household cultural norms of doing most of the daily chores, keeping quiet, and eating little.¹²

Apart from their caregiving role, greater economic opportunity for women in the ability to command employment, assets, and social status is also an essential part of the intergenerational development process (Duflo 2012; Mammen and Paxson 2000). Research suggests that, even in developed countries, women are more likely to live in poverty than men (Casper et al. 1994). Children born to poorer women are likely to suffer from the adverse consequences of poverty in terms of acquiring the requisite human capital to succeed in life. Further, improving the educational status of the women, which affects decision-making in health care, family planning, and spousal communication, adds to their own health outcomes, thus contributing to the initial health stock, and thus

better child outcomes, but also improved bargaining power among women and reduced domestic violence (Bardasi and Garcia 2014).

¹¹ Preference for a boy child is common in patriarchal societies. While countries like South Korea—with similar preference for sons few decades ago—have undergone a reform, India continues to lag with ‘missing women’ from all aspects of daily life (Sen 1992, 2003). Preference for son has led to considerable disempowerment for the girl child in terms of poor girl child health (Pande 2003), nutrition (Behrman 1988; Jayachandran and Kuziemko 2011), higher fertility (Drèze and Murthi 2001), adverse sex ratios (Jha et al. 2006), poor educational outcomes (Azam and Kingdon 2013), persistence of dowry system (Bhalotra et al. 2020), and overall intra-household inequality (Rosenzweig and Schultz 1982).

¹² To understand the role of family structure on female autonomy, see Debnath (2015).

improving the future health outcomes of their children, too (Chen and Li 2009; Heckert et al. 2019).¹³

Global Evidence on Effective Interventions Targeting Women and Children

Recognizing the importance of women and children in the development process, economically advanced nations introduced cash transfer programs targeted at widows with young children in the early twentieth century. This was backed by constitutional legislation that assured minimum years of schooling, and restricted child labor and unsafe working environments for children. In the United States, Mothers' Pension was expanded across the country in the form of welfare transfers as cash payments to poorer widows and single mothers with dependent children.¹⁴ Currently, the Supplemental Nutrition Assistance Program (SNAP), Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and the National School Lunch Program (NSLP) form the three pillars of food and nutrition-related schemes in the United States (Currie 2003). The scope of WIC is limited to the early life nutritional challenges with a focus on pregnant, postpartum, or lactating women, along with infants and children less than five years of age. Through WIC, the policy tries to address specific nutritional goals, and therefore, hot cooked, vitamin-rich meals are provided for immediate consumption along with nutrition education and access to basic health services.¹⁵ Under NSLP, on the other

¹³ Similarly, the provision of a public works program, as discussed in an earlier chapter, is another example where betterment of women's agency through social and economic empowerment could add to the initial health endowment, with its positive intergenerational effect throughout the life of their children, well into adulthood.

¹⁴ Long-term evaluation by Aizer et al. (2016) found that children, whose mothers benefited from the pensions program, attained better schooling outcomes, lived longer, and earned a higher wage in the labor market.

¹⁵ WIC, in principle, is similar in spirit to the Integrated Child Development Scheme (ICDS) in India, albeit with a slightly different design. WIC is a federally run program and has a cap on the amount of money allocated to it. Many deserving women and children, despite suffering from "nutritional risk," could be deprived of the benefits when the allocated money runs out. ICDS, on the contrary, is a universal scheme in which any child or women can have access to it.

hand, meals are provided to students at the school, similar to India's Mid-day Meal Scheme (MDMS), with the scope of providing minimum daily requirements of key nutrients, focusing on only those classified as poor.¹⁶

These safety net programs were instrumental in ameliorating the "early origin" disadvantages in the United States. In his seminal work on human capital formation, Heckman notes that early life interventions are a 'rare public policy initiative' which 'promotes fairness and social justice and at the same time promotes productivity in the economy and in society at large' by investing in the human capital development potential of disadvantaged children. In his assessment, "early interventions targeted toward disadvantaged children have much higher returns than later interventions such as reduced pupil-teacher ratios, public job training, convict rehabilitation programs, tuition subsidies, or expenditures on police" (Heckman 2006, p. 1902). Evaluating the effect of Food Stamps program in the United States, Hoynes et al. (2016) find that in utero exposure to nutrition from mothers with who participated in the Food Stamps program, and hence, acquired access to food, had a significant long-term effect into adulthood for the offspring, with improved health outcomes, such as with decreased incidence of NCDs. Mothers, exposed to this program, exhibited an increase in economic self-reliance through greater educational outcomes and earning capacity. Similarly, children with access to the food stamps benefited from long-term improvements on an expansive set of development outcomes, such as increase in human capital, self-sufficiency, neighborhood quality, longevity, and reduced likelihood of incarceration (Bailey et al. 2020). Among the range of social welfare policies in the United States, those targeted at low-income children's health and education have historically proven to have useful return (Aizer et al. 2022; Hendren and Sprung-Keyser 2020). Social expenditures on such policies, therefore, pay themselves off in the long run through additional taxes collected from the beneficiaries later in their lives, as more productive adults, which also led to reduced transfers for the next generation.

Developing countries have gradually learned from this experience, as they have taken on the challenge of reducing child malnutrition in the last two decades. Prominent among them are Bangladesh, Ethiopia, and countries from Latin America like Brazil, which successfully adopted a

¹⁶ Recently, NSLP also recognized the reduction in the incidence of overweight as a program goal.

combination of targeted nutrition-specific and nutrition-sensitive interventions that addressed the issue of malnutrition as well as its causes (Webb et al. 2018). Brazil and Mexico experienced a decline in child stunting through their flagship *Bolsa Familia* and *Oportunidades/Progres*a programs, in addition to a decline in poverty and income stability generally (Falcão et al. 2022; Farfán et al. 2022). The suite of welfare measures designed around the conditional cash transfers (conditional on school enrollment and visits to public health centers) also engendered greater gender equity through female education and lower fertility levels. Ethiopia, albeit still with a high level of undernourishment among its population, considered nutrition to be a multisector challenge and employed numerous ministries, along with improved sanitation infrastructure (Berhane et al. 2017). Bangladesh has been a torch bearer in reducing child malnutrition—57 percent in 1997 to around 36 percent in 2014—despite low levels of income. The decrease was brought about not only by an increase in rural income, but also through community nutrition-sensitive interventions, with a concerted focus on the poor, including education of young girls, greater gaps between births, smaller family size, and an overall improved access to health care infrastructure (Headey et al. 2015).

INDIA'S PERFORMANCE ON EARLY LIFE INTERVENTION

Persistence of child undernutrition in India emanates from multiple social, behavioral, and infrastructural factors.¹⁷

State action on eradicate undernutrition however has traditionally suffered from the limited *scope* of India's social safety nets in controlling hunger through the Public Distribution System (PDS) or protecting livelihoods through the public works program. For quite a long time in independent India's history, nutrition (child's or mother's) was not particularly an area of importance. The *scope* of safety nets remained limited to addressing some of the manifestations of poverty without regard to its

¹⁷ Lack of a direct correspondence between income and child undernutrition gathers a lot of attention (Deaton and Drèze 2009; Ramalingaswami et al. 1997). Less nutritive diets (Maitra et al. 2013), poor sanitation practices, and prevalence of open defecation (Spears 2013, 2020), son preference leading to intra-household resource inequality (Jayachandran and Pande 2017), and short birth spacing (Dhingra and Pingali 2021) have been proposed as some of the reasons behind lower height of Indian children.

long-term implications. Hence, any explicit focus on women and children was largely missing. It was only in 2013, with the National Food Security Act (NFSA) passed in the parliament, that the life-cycle approach to food and nutritional well-being gained more prominence.

By recognizing that overall food and nutrition security must begin earlier, the NFSA provides constitutional guarantees to women to complete schooling and to be empowered enough to participate in household decision-making, leading to smaller, healthier, and well-nourished families. Such a conceptualization makes investment in women transformative, as an educated and healthy woman not only raises well-nourished children but is also better equipped to pursue business or employment opportunities that contribute to overall well-being. While the effective implementation of NFSA is still ongoing, it is useful to visit the many milestones, successes, and failures along the road to the historic NFSA legislation as we aim to think about its future. We will be focusing on the four central schemes (Table 6.1) while also discussing some of the state-level initiatives.

Table 6.1 India's safety net programs that focus on early life interventions

<i>Schemes</i>	<i>Focus</i>	<i>Scope</i>	<i>Form</i>
Integrated Child Development Scheme (ICDS)	<6-year-old children Pregnant/lactating mothers	Nutritional supplements Immunization Primary health check-up Non-formal education	Take-home food at the Anganwadi (ACW)
Mid-day Meal Scheme (MDMS)	6–14-year-old students in public schools	Reduction in “classroom hunger”	Free primary school Free hot cooked meal
<i>Pradhan Mantri Matru Vandana Yojana</i> (PMMVY)	Pregnant women	Maternity benefits Immunization	Conditional cash transfer
<i>Janani Suraksha Yojana</i> (JSY)	Pregnant women	Institutional child birth (reduced mother and child mortality)	Cash transfers

Integrated Child Development Scheme

The earliest initiative that focused on women and child development was the Integrated Child Development Scheme (ICDS), which aimed at ensuring child survival. It was introduced in 1975, at a time during when child mortality in India was at an unacceptably high level. One must keep in mind that it was only by the 1970s, that India was close to achieving self-sufficiency in food production and combatting hunger (as conceptualized in overall availability of food) was beginning to be less of a policy concern. Yet, policies largely focused on food, and so did ICDS. At the time of its introduction, ICDS had the following stated objectives:

- Improve the nutritional and health status of children in the age-group 0–6 years
- Lay the foundation for proper psychological, physical, and social development of children
- Reduce the incidence of mortality, morbidity, malnutrition, and school drop out
- Achieve effective coordination of policy and implementation among the various departments to promote child development
- Enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education

To achieve these objectives, ICDS offered a package with six kinds of services, which included supplementary nutritional assistance, preschool non-formal education, nutrition and health-related education, immunizations at centers, routine health check-ups, and hospital referral services. These services were to be provided through designated village focal points known as *Anganwadi* centers (AWCs).¹⁸ Local women (educated up to 8th or 10th grade) would be selected to be the principal functionaries, in charge of the service provisioning, and were called Anganwadi Workers (AWWs).¹⁹

ICDS is now the world's largest mother-and-child welfare program in the world under which supplementary nutrition (once daily for 25 days

¹⁸ A village *Anganwadi* implies a courtyard of the village.

¹⁹ In areas that were difficult to reach or more backward, the educational requirements for an *Anganwadi* worker could be relaxed.

each month) is provided to every eligible person. By September 2016, its outreach had expanded to 101.06 million children and mothers. Under the scheme, children under the age of 3 and their mothers are provided with take-home rations (THR), and home-cooked food is provided to children between the age of 3 and 6 years at the designated AWCs. Food rations are mandated to provide 500 kilocalories (kcal) of energy and 12–15 g of protein to each child per day and 600 kcal of energy and 18–20 g of protein per day to pregnant or lactating mothers.²⁰ In addition to the supplementary nutrition, AWCs, under the ICDS, also provide immunization, health check-ups, and referral services with the aim of reducing short-term morbidity. AWCs, therefore, have become the node where preschool children, pregnant women, and lactating mothers come to receive health, nutrition, and education services.²¹ AWCs, along with the Accredited Social Health Activist (ASHA), who is part of the local health infrastructure, are responsible for the services.

In the initial years, ICDS suffered from severe underperformance. A review of ICDS, as part of the appraisal of the 11th Five-Year Plan (2007–2012), highlighted its low impact on reducing child malnutrition. It was criticized for the poor infrastructure at the AWCs, overworked but unskilled staff, inadequate nutritional supplies, poor targeting of beneficiaries, misappropriation of funds, and abysmal monitoring systems in place. In order to address many of these concerns, the government increased its allocation and put better systems in place during the 12th Five-Year Plan, with the aim of “strengthening and restructuring” the ICDS (Government of India 2010, 13[1]). It brought institutional and management reforms, which in combination with judicial activism in the country, led to substantial improvement in the performance of ICDS (Balarajan and Reich 2016). There was a massive turn around in its performance, because of these changes, which were also abetted by the “right to food” campaigns. Between 2005–2006 and 2015–2016 (the two rounds of the National Family Health Surveys [NFHSs]), the share of people benefiting from the supplementary food assistance from ICDS increased from a mere 9.6 percent to 37.9 percent. Similarly, the usage

²⁰ Severely malnourished children are provided extra take-home rations (800 kcal and 20–25 g of protein content).

²¹ In 1975, ICDS was introduced in 33 blocks, which covered 4891 Anganwadi centers. Each administrative block loosely consisted of 100 rural villages with a total population of approximately 100,000 people.

of child-specific services, such as immunization and growth monitoring, increased from 10.4 percent to 24.2 percent. These benefits accrued to the marginalized social groups, yet their outreach to the poorest of the poor lags behind yet. Similarly, there has been a substantial variation in the coverage of ICDS across states, with the poorer states who need early life assistance the most, lagging behind.

However, ICDS has improved overall in its performance, leading to substantial short-term and long-term developmental gains to welfare outcomes, such as improved nutrition, educational attainments, and cognitive ability. Using the 2005–2006 NFHS data, (Kandpal 2011) found that the presence of an ICDS center in a village improved the height-for-age z-score for children by 5 percent (4 and 6 per cent for boys and girls, respectively).²² Similarly, (Jain 2015) found that girls (0–2 years) who received food from the ICDS grew up to be 1.2 cm taller and 0.48 standard deviation less likely to be stunted (higher height-for-age), compared to those who did not have access to ICDS (Dhamija and Sen 2020) extended the analysis further using the second round of the India Human Development Survey (IHDS), to find that the positive effects of ICDS on nutrition persists into later ages. For example, the Andhra Pradesh Child and Parents Study (APCAPS) conducted in one of the districts found that children exposed to ICDS in early life, when observed in their teenage (13–18 years) were likely to be 1.4 cm taller and of better cardiovascular health (Kinra et al. 2011; Kulkarni et al. 2014; Nandi et al. 2015).

While these studies might look at the short-term *prevention* or *promotional* aspects of the ICDS, others have looked at its *transformational* aspects, which are greater educational outcomes or cognitive abilities for children who benefited from ICDS. When adults within the ages of 20–25 years are observed, those born in villages that had ICDS were 9 and 11 percent more likely to complete secondary and graduate-level education, respectively (Nandi et al. 2018). The combination of services at the ICDS centers—food supplementation, immunizations, and health interventions—also leads to an improvement in the cognitive abilities of children benefiting from these services (Vikram and Chindarkar 2020). The beneficiary children were more likely to be employed or enrolled

²² A previous evaluation of ICDS by (Lokshin et al. 2005) found no significant impact on children's nutrition. Positive effects of the ICDS, therefore, are a result of the improvements in its functioning, of late.

in higher education, suggesting long-term benefits (Nandi et al. 2018). A more detailed, subsequent study reiterated the educational benefits of ICDS—for men 15–54 years and women 15–49 years, exposure to a ICDS center during the first three years of their lives led to an increase 0.1–0.3 grades of schooling (Nandi et al. 2019). The early life benefit accrued more to women of comparable ages. ICDS not only improved the cognitive abilities of children, with improvements in reading and math scores, but also improved health and employment outcomes as adults, including higher wages (Ravindran 2018). ICDS has also led to positive spillovers in the family. Older siblings (6–14 year olds) of children, who benefited from ICDS, are more likely to enroll and complete primary schooling, especially their sisters (Jain 2018).²³ The educational benefits of ICDS are particularly important, not only for the individual's long-term welfare but also for India's human capital, in general. School drop-out rates, though on the increase, especially among women, remain a particularly important challenge. The draft National Educational Policy (NEP), therefore, recognizes the critical role of early childhood care and education.

Yet, despite its success, ICDS only addresses one of the contributors to malnutrition. ICDS focuses on the narrow *critical window* from pregnancy until the age of 6 years. While potential gains to child nutrition are most fecund during this period, malnourishment results from a number of other factors, such as poor diets in terms of calories and micronutrient content, water and sanitation facilities, or poor status of mother's health emanating from poverty and other associated factors. Most importantly, ICDS does not address the mortality risks that emanate from low levels of institutional birth delivery in the country.²⁴

Encouraging Institutional Childbirth and Improving Maternal Health

Higher rates of pregnancy-related complications and maternal mortality are a common occurrence in developing countries, including India.

²³ However, some concerns around the positive net effects of ICDS have been the negative spillovers on siblings, as parents reallocated their investments away from other siblings (Ravindran 2018).

²⁴ Birth deliveries at home through poorly trained midwives have traditionally led to higher maternal and child mortality.

Recognizing this issue, a safe motherhood intervention scheme was introduced by the government called *Janani Suraksha Yojana* (JSY) with the scope of incentivizing access to institutional care during childbirth for the poor.²⁵ Since non-institutional childbirth is more common among the poor, JSY provides cash transfers to mothers in lieu of institutional delivery and post-delivery care. The impact of JSY has been encouraging. The incidence of institutional delivery in rural India has trebled from an abysmally low 18 percent of childbirths in 2005–2006 to 52 percent in 2015–2016. Evaluation of JSY found a significant impact on institutional delivery and antenatal care for both the newborn and the mother (Lim et al. 2010; Powell-Jackson et al. 2015). It has also led to a reduction in perinatal and neonatal deaths—progress on two of the most critical health indicators.

Another important aspect of India's maternal health status is the high rate of anemia among women. Because of high levels of poverty, many women continue to work late into their pregnancies or are unable to procure sufficient nutritious food, which affects not only their health but that of their unborn child. In cognizance of the in utero nutritional risks, the Government of India introduced a maternity benefits program, *Indira Gandhi Matritva Sahyog Yojana* (Indira Gandhi Maternity Support Scheme, IGMSY) in 2011 which was later renamed as *Pradhan Mantri Matru Vandana Yojana* (Prime Minister's Maternity Assistance Scheme, PMMVY) in 2017. PMMVY now is a part of the National Food Security Act, 2013 as part of its life-cycle focus. Under the PMMVY, a cash transfer of Rs. 6000 (USD 80) is provided (in three installments) to the mother, conditional on the registration of birth, antenatal check-up, and the appropriate vaccination of the child. Together with this central scheme, some of the states introduced their own maternity benefit programs, like *Mamata* in Odisha and *Kasturba Yojana* in Gujarat. Tamil Nadu, however, has had its own *Muthulakshmi Maternity Benefit Scheme* since 1987. Short-term evaluation of the nationwide

²⁵ JSY forms one of the initiatives under the National Rural Health Mission (NRHM), which was introduced in 2005. NRHM was aimed at integrating and improving the poor and fragmented health infrastructure in the most backward regions of the country. Under NRHM, many reforms were introduced with the aim of establishing an integrated but decentralized health delivery system. The idea was to create inter-sectoral convergence at all administrative and departmental levels to ensure a simultaneous attack on the main determinants of poor health outcomes in India—water, sanitation, education, nutrition, and social and gender parity.

expansion of PMMVY suggests modest effect. While it has led to greater access to the health system, immunization rates (especially among girls)—which was the *scope* of the scheme—did not have much effect on the long-term health outcomes of children, such as underweight, stunting, or anemia (von Haaren and Klønner 2021). The state-level schemes have higher payments and have been more effective in delivering benefits.

POSHAN Abhiyan or the National Nutrition Mission

Continuing its *focus* on mother-and-child nutrition, and the importance of early life intervention, the government launched the National Nutrition Mission (NNM) as the apex body in 2018, with the aim to “monitor, supervise, fix targets and guide the nutrition-related interventions across the Ministries,” with the aim of reducing stunting, undernutrition, anemia, and underweight incidence at the annual rates of 2, 2, 3, and 2 percent, respectively. NNM was introduced with the idea of creating a synergy between the suite of schemes that sought to improve the nutritional status of children and pregnant and lactating women. It was realized that the schemes lack synergy with one another, despite having a common goal. NNM would, therefore, become an umbrella mission that worked toward such a convergence. The mission proposal aimed at several targets, including mapping these schemes, creating synergies across them, and using better means of monitoring the workers as well as the beneficiary performance of regular health measurements at the AWCs. It seeks to improve greater accountability of the AWCs and AWWs through regular social audits, setting up regular community meetings (*Jan Andolan*) and Nutrition Resource Centers, while also incentivizing the subnational governments to effectively work toward meeting the nutrition targets. The Nutrition Mission was later rechristened as the Prime Minister’s Overarching Scheme or Holistic Nourishment (POSHAN).

Free School Meals Through the Midday Meal Scheme

Although early life interventions like ICDS and JSY *focus* on the critical window from pregnancy until the age of 6 years, school feeding programs have been employed to address nutritional needs of children in school. Once a child is beyond infancy, safety nets focused upon enabling human capital accumulation through incentivizing school

enrollment and ensuring that pupils receive quality education can have long-term economic gains. With due recognition of the role of education, the Government of India launched the District Primary Education Programme (DPEP) in 1993–1994, which expanded public primary schools across the country. Later in 2001, primary education was declared “free and compulsory” to all children between the ages of 6 and 14. Immediately following the DPEP, the government launched the school meals program, the Mid-day Meal Scheme (MDMS), in a bid to encourage greater enrollment in primary schools.²⁶ MDMS is the largest school feeding program in the world for primary and upper primary schoolchildren and has led to substantial reduction in “classroom hunger.” Currently, MDMS provides meals that contain 300 cal and 8–12 g of protein daily to all children who attend primary schools. However, it took a while for the MDMS to bring kids to school, which it eventually did leading to almost 100 percent primary school enrollment in India.²⁷ The program struggled with hot-cooked meals and could only obtain “cooked meals,” and “dry ration” for distribution in the schools. Owing to pressures from the judicial system and civil society organizations, hot-cooked meals became mandatory, which brought in many students to attend classes.

There has been a substantial improvement in school enrollment with the institution of the MDMS. Even before school meals were made mandatory by the SC, they were shown to be particularly effective, especially for making education accessible to girls (Drèze and Khera 2009; Drèze and Kingdon 2001).

MDMS has led to a substantial increase in the nutrient intake of schoolgoing children, in terms of calories as well as dietary iron content,

²⁶ The name of MDMS has been changed to PM-POSHAN (*Pradhan Mantri Poshan Shakti Nirman*) Scheme, in the beginning of September 2021. We, however, continue to use the term MDMS for the school meals program to prevent confusion for the readers who have been more familiar with the earlier nomenclature.

²⁷ The *focus* on children and their ability to continue in school has been an important policy objective. Similarly, it is important to understand how the policymakers thought about it. One of the primary reasons why children drop out of school is the inability of parents to pay for the fees during times of adverse income shocks; another is when children work instead of attending school if the household needs more working hands. The Supreme Court (SC) of India, therefore, passed an order in 2004, directing all public schools in drought-affected areas to serve midday meals, even when schools are closed during regular vacations.

and the nutritional gains outweigh the costs of cooked meals (Afridi 2010). One might ask if the school lunches provided could be just substitutes for a similar meal at home, leading to little or no nutritional gains. However, Afridi (2010) found the opposite to be true. MDMS supplements the home-cooked meal at home, as the quantity of school meal is too small from the perspective of a household resource allocation.²⁸ MDMS has been particularly successful among poor households, prone to exogenous livelihood shocks. By acting as a transfer—of money through free schooling and nutrition through meals—MDMS has been able to arrest the nutritional poverty trap for farming households in times of drought. Child poverty is often due to adverse household shocks, which lead to lower resources affecting the schooling and nutrition of children. MDMS has acted as an important safety net for children's nutrition, especially in times of adverse weather shocks. Observing the same cohort of children at multiple points in time, (Singh et al. 2014) found that in drought, in which there is an expected height and weight loss of 0.77 and 0.44 standard deviations from average, MDMS could entirely correct for the losses. The gains from MDMS are not restricted to compensating for the likelihood of stunting or underweight among children when the household is affected by livelihood risks; the program also facilitates growth in heights and catch-up and remediation of nutritional deprivations, previously considered impossible at the first 2–3 years of age.

Once children can attend school and access nutrition there, intergenerational persistence of poverty could be further alleviated through improvements in cognitive ability of children. Long-term evaluation of the MDMS provides credible evidence for its continuation. Using the multi-year Annual Status of Education Report (ASER) data set on child learning outcomes, (Chakraborty and Jayaraman 2019) found that MDMS increases test scores by 18 and 9 percent, respectively, pertaining to reading and math ability for those exposed to 5 years of MDMS, compared to those with a single year of exposure.²⁹ The intergenerational *transformational* gains from MDMS have been realized through

²⁸ Afridi (2010) argued that the calorie content of the meal from the program was too small from the perspective of the average family's needs, with almost seven members (including four adults), to lead to resource redistribution within households.

²⁹ Based upon a field experiment, Afridi et al. (2019) arrive at the same finding. Children who benefited from the MDMS performed better on cognition tests by 13–16 percent, compared to those who did not.

greater nutritional support to girls who benefited from school meals. The exposure of schoolgirls to MDMS led to a reduction in malnutrition among their children, as it increased the girls' ability to learn, control their fertility decisions, and utilize the institutional health system when they reached maturity (Chakrabarti et al. 2021b). Nutritional supplementation through MDMS, therefore, remains a very useful source of long-term gains, but probably not sufficient for all children, especially those at the economic margins.

THE WAY FORWARD

Well-nourished and healthy mother and children are the key to development resilience as pathways to progress need to be unlocked early in life. India has a long way to go, both in improving the status of women in the society—which contributes to a large share of the developmental challenge—and reducing undernutrition among young children. Having said that, one must highlight the greater focus on these issues in recent years. Nutrition has emerged as a major policy *scope* which has led to an expansion of the various social safety nets *focused* on maternal and child health. The congratulatory aspect of these schemes—ICDS, MDMS, and JSY—is that they have the desired impacts when they are functioning well. An improvement in their performance, especially in recent years, has been instrumental in preventing and promoting human development outcomes in the short run. There is also evidence for their transformational roles in the long run. However, for a truly transformational impact, which ensures that the development process is resilient, these schemes need to function better through enhancement in the quality of their services and by building greater state capacity and generating a renewed political commitment to deliver and sustain these services *across* the country. Each of these schemes, given their individual *scope*, *focus*, and *form*, face a distinct challenge.

Integrated Child Development Scheme

The effectiveness of ICDS is hindered by poor institutional capacity of the government to provide the basic services and monitor child growth. Certain improvements in the functioning of ICDS could greatly reduce India's malnutrition problem. To begin with, *Anganwadis* need an infrastructural upgrade and expanded coverage. AWCs, the first centers of care

and learning for children, are often not child-friendly. They function out of buildings with poorly built infrastructure—dilapidated, cramped, and rented buildings—with poor health and hygiene provisions. Out of almost 14,00,000 AWCs in the country, 3,62,940 do not have a toilet and 1,59,568 do not have drinking water facilities. The Union Budget of 2021 has recognized this deficit with an extra allocation for infrastructure upgrade, as part of the *Saksham Anganwadi* initiative. In terms of coverage, there is still a long way to go. Only 53.6 percent of eligible children (0–6 years) and 54.7 of pregnant mothers availed benefits from the program.

A critical aspect of ICDS, especially in terms of its *scope*, is the nutritive value of food provided. Infants and young children need not only sufficient amounts of safe food but also high-quality nutrition, which ICDS, by focusing largely on the calorie content of the food, does not provide sufficiently yet. While ICDS is no longer just a calorie-assistance program, as envisaged in initial years, it still does not adequately address the most vexing issues of nutrition—the need for greater consumption of protein and micronutrients among children and mothers. Eggs, which could be a vital source of protein and almost all essential nutrients for children, are often missing from ICDS for political reasons in many states. Notions of ritual purity, which lead to the anti-egg sentiments, limit the possibilities ICDS has to offer in reducing undernutrition in the country.³⁰ It has also been observed that the take-home-ration (THR) component of ICDS leads to sharing of the food intended for lactating mothers.³¹ As a result, many states are now trying to incorporate a One Full Meal (OFM) program as part of the ICDS (see, for example, Kachwaha et al. [2021]). OFM is akin to a midday meal for women. These meals comprise of proteins and micronutrients in the form of milk and green leafy vegetables, which are relatively expensive if purchased from the market.³² Similar

³⁰ Only 9 states provide eggs as part of the ICDS. For details, see “In maps: India’s vulnerable children are paying the price of upper-caste prejudice with their bodies”: <https://scroll.in/article/983137/indias-most-vulnerable-children-are-paying-the-price-of-upper-caste-prejudice-with-their-bodies>. Accessed on July 7, 2022.

³¹ Andhra Pradesh, Telangana, and Karnataka were the earliest states to incorporate spot feeding, or wet meals, as part of ICDS for mothers.

³² There have also been debates around replacing the take home ration component of ICDS with cash transfers as it provides greater choice. For a detailed discussion, refer to Narayanan and Saha (2020) and Nair et al. (2021).

innovative initiatives that aim to address the various kinds of nutritional gaps in early life are key to the success of ICDS. Fortification of food with micronutrients is one such scheme, given the high incidence of micronutrient deficiencies in the population. While the government has issued advisories to the states to mandate the use of fortified wheat flour and edible oils in ICDS and MDMS, the adoption rates have been low.

Finally, the quality of services at ICDS depend significantly on the performance and motivation of the last-mile providers, that is, the AWWs. AWWs often complain of being overworked and underpaid. Duties and accountability of AWWs have increased substantially with the policy emphasis directed toward ICDS, as it has acquired multiple objectives, which go beyond its original conception as a source of take-home rations or daycare for children. AWWs are now expected to encourage vaccination among mothers and children and prepare meals for the children, in addition to administrative tasks and often home visits.³³ Greater duties, though, have not come with higher salaries. AWWs and their helpers (AWHs) are considered honorary workers with a monthly *honorarium* of Rs. 4500 and 2250 per month, respectively.³⁴ For AWWs, it amounts to US\$2 per day for a full-time job, which is less than the minimum wage rate and with low levels of social security. Since work at an *Anganwadi* is considered as honorary service (for about 4 h per day), the legal wage rule does not apply. AWWs have regularly staged protests and organized strikes demanding higher wages, without much policy change.³⁵ While many state governments have provided greater monetary incentives to the AWWs, it is still too low to ensure they provide their services with full enthusiasm and efficiency.³⁶

The neglect of the frontline workers addressing India's nutrition challenge poses a serious challenge in not only sustaining ICDS but also in

³³ Time use surveys of AWWs suggest that a significant portion of their time is spent on administrative duties, which undermines care for the children (Jain et al. 2020).

³⁴ There is an added component of performance-linked incentive under the *POSHAN Abhiyaan*. For details, refer to the 2019 government notification: <https://pib.gov.in/PressReleasePage.aspx?PRID=1602394>. Accessed January 26, 2022.

³⁵ See Krishnaprasad and Peer (2019).

³⁶ For instance, Karnataka has increased wages, but the AWWs are still unhappy on account of being overburdened with work and often receiving delayed payments. For a detailed field report, see: <https://thewire.in/health/icds-anganwadi-workers-helpers-mid-day-meals-minimum-wage-protest>.

undermining development resilience. Research has shown that financial incentives, such as fixed bonuses and performance pay, to the AWWs and adding more AWWs have long-term benefits for child outcomes.³⁷ AWWs are often demotivated as their aspirations of being teachers do not align with the beneficiary expectations, who want them to provide immunizations and food, rather than function as nutrition workers.³⁸ Delayed wage payments, lack of clarity in hiring, and corruption by their supervisors affect their job satisfaction (John et al. 2020). The other organizational challenge is to professionally train the AWWs with sufficient knowledge around health and nutrition for them to be the agents of transformation who could then bring about behavioral change in the community around maternal and childcare.

Given that ICDS involves continuous monitoring of children, it can only be assessed through regular check-ups on child growth (as measured through anthropometric indicators) and mother's health and immunization records. Recordkeeping and data management on a real-time basis form a key component of the success of ICDS. State capacity to maintain these records currently is low, with poor quality of data on children, mothers, and AWWs. Better recordkeeping would facilitate more robust empirical evaluation of the program, which requires fairly detailed longitudinal data on the households, particularly, for women and children, who received these benefits and their well-being—income, health, and nutrition. Such recordkeeping implies further time spent on it by AWWs, at the cost of time spent on caregiving and preschool education. Augmenting the state capacity at these local nutritional centers, through healthy and nutritive food, better infrastructure, better paid staff, and accountability, is therefore key to fulfilling the mission of ICDS.

Midday Meal Scheme

MDMS is doing reasonably well in terms of its reach. It is now a regular feature of all government schools in the county, spread throughout the country, with near-universal primary school enrollment—the *scope* of the

³⁷ See Ganimian et al. (2021) and Singh and Masters (2017) for a positive effect of AWW performance—as reflected in improved child nutrition—through experimental studies with added capacity and performance pay incentives, respectively.

³⁸ A smaller percentage of pregnant and lactating women seek health check-ups or health and nutrition education from the AWWs than receive supplementary food.

program. It has built in *prevention* and *promotional* aspects by encouraging children to attend school, addressing the issue of classroom hunger, and providing supplementary calories to poor children, so that they are not deprived of essential human capital inputs. Its *transformative* impact lies in engendering a virtuous cycle of improved health condition, higher labor productivity, and thereby, income gains, thereby building development resilience. Prioritizing not only education and nutrition, but also health through important messaging, could be key for MDMS in the future.

The provision of safe and nutritive meals is the first step in that direction. The most common complaint is often captured in newspaper headlines about reports of illnesses and even deaths due to contaminated food. Lack of basic cooking infrastructure at the schools, such as cooking sheds, refrigeration, drinking water, and essential hygiene practices make poor children vulnerable to stomach-related diseases and food poisoning. What also characterizes MDMS are the monotonous meals provided. Greater community participation that monitors the quality of schooling infrastructure and the nature of food provided should be encouraged, as it leads to a great accountability among the school administrators and teachers.³⁹ Further, sensitizing children early in life to eat healthily is key to future prosperity. School Nutrition (kitchen) gardens through MDMS, giving children a first-hand experience with nature, along with an awareness of potential micronutrient deficiencies, has been a step in the right direction. Even if at a fledgling stage, such innovations serve as the right example in setting the agenda or the scope of MDMS to evolving nutritional needs and challenges of overweight children. Another important innovation has been to provide iron and folic acid (IFA) supplementation through MDMS, but with little success.⁴⁰ Fortification of food through MDMS is another consideration, given that micronutrient deficiency seems to be a major component of the triple-burden of malnutrition in the country. Experimental case studies, such as the one from Bihar, has shown that introduction of doubly fortified salt as part of the midday meal

³⁹ Global evidence around increasing educational outcomes suggest the importance of community participation in improving school performance and teacher accountability (Glewwe and Muralidharan 2016).

⁴⁰ (Berry et al. 2020) found no effect on the hemoglobin levels in children who experienced breaks in supplementation, either due to inconsistent distribution of IFA tablets or the constraints of a school calendar, which limits its long-term impact.

preparation has led to a significant reduction in iron deficiency among children, along with higher test scores (Krämer et al. 2020).

Finally, MDMS can truly be used to bring about a *transformational* change when the required nutritional gains and learning outcomes are sufficiently high (Alderman and Bundy 2012). While the nutritional and health gains are connected through food, educational gains also rely on complementary essential schooling inputs like high-quality teachers and educational infrastructure. As more and more children, even among poorer but aspirational households, are now switching toward private schools, the policy must also start thinking about providing nutrition for schoolchildren who opt out of public schooling.

Janani Suraksha Yojana and Pradhan Mantri Matru Vandana Yojana

The *scope* of JSY is to encourage institutional childbirth. Empirical studies have highlighted its success as having been largely driven by greater usage of the primary health centers or community health centers. Since there is a great amount of subnational variation in health services, the impact of JSY on health outcomes has been concentrated in regions with better institutional capacity and implementation of the program (Carvalho and Rokicki 2019). JSY, in fact, performs worst in regions where mortality rates are the highest (Das et al. 2011).⁴¹ In those regions, the program suffers from tardy and uneven implementation of the program, owing to corruption, inadequate quality, and substantial out-of-pocket expenditure on institutional delivery, which limits its success. The success of maternal cash entitlement depends upon the quality of maternity services and the referral system, which are of poor quality in the public sector. Emergency obstetric care in the public facilities, especially in the poorer region of the country has been the worst. As a result, the success in reducing maternal mortality has been four times faster in richer regions, compared to the poorest regions (Randive et al. 2014).⁴²

⁴¹ For instance, the infant mortality rate (IMR) in Kerala is similar to that of Mexico; in Madhya Pradesh, it is closer to that of Ethiopia.

⁴² Through JSY, while financial incentives for institutional delivery have encouraged safer childbirth and reduced mortality rates, it might have unintended health effects with an increase in fertility, which could potentially undermine the objectives of the program.

PMMVY has had little success in improving health-seeking behavior by women, principally because of low administrative capacity and reluctance of local bureaucrats in improving service delivery (von Haaren and Klonner 2021; Puri 2021).⁴³ In addition to improving the delivery system, it has been restrictive in scope, with the maternity benefits applying *only* for the first living child and discriminating against those with more than one child. The cumbersome application process, which requires a long list of documents to be submitted, often hinders timely payments (Drèze et al. 2021). Maternity benefits, to be successful, in their objective need to expand their *focus* to all women, that is, universalization of the program—and for every child. Given that the amount is not much to the well-off, they are expected to opt out of the detailed paperwork needed to avail themselves of the benefits.

SYNERGY ACROSS DEPARTMENTS AND SCHEMES

Addressing the issue of mother-and-child nutrition needs a continuum of action along the life cycle. Different schemes, therefore, need to function in synergy, complementing each other, and filling in for various deprivations. The holistic program of *Poshan Abhiyan*, under the National Nutrition Mission was launched with the idea of creating a synergy between different schemes and departments toward a common goal of better nutrition. It aimed at a multi-ministerial convergence in order to monitor, supervise, set nutritional goals as targets, and implement related interventions. The idea of convergence, however, has been slow to percolate right to the local level where schemes are often implemented. Local officials and departments, in a decentralized system, have been struggling with their respective roles, adversely affecting the implementation. For example, action on early life nutrition principally relies upon the *Anganwadi* workers, their helpers, and the local public health delivery systems, which include the ASHAs (Accredited Social Health Activists) and Auxiliary Nurse Midwives (ANMs), as the principal drivers of better health information and service delivery. The success of maternal and child nutrition programs in states like Karnataka or Odisha are illustrative of how

⁴³ In Odisha, where the coverage of a similar scheme is much better—with greater awareness levels, beneficiary application rates, and received benefits—it has increased access to health care, health outcomes, and food security (Chakrabarti et al. 2021a; Raghunathan et al. 2017).

convergence across government departments and ministries—Women and Child Development (MoWCD), Health (DoH), Rural Development and Panchayati Raj (MoRD), and Food (MoF)—have been instrumental in ensuring supplies and services.⁴⁴ There is a lot to learn in other states as well when it comes to bridging the gap between interdepartmental synergies in action and effective local delivery.⁴⁵

Finally, one must highlight the role of a robust healthcare system, from local public health centers to super-specialized hospitals, for all of these schemes to bring about a transformational change to human development. Globally, improvements in maternal and child health have come about from improvements in the health coverage structured around an array of schemes that constitute the health system (Bishai et al. 2016). For India, therefore, to surmount the challenge of intergenerational poverty in general and nutritional outcomes in particular—to facilitate a resilient development process—a robust health system is necessary in the first place.

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⁴⁴ Practitioners, like Uma Mahadevan, report from their experiences on how effectiveness of these programs depend upon how the DoH responds to the demands of MoWCD for micronutrient supplements at the AWCs, in the case of OFM. See “Community Action, with a Focus on Women’s Well-Being, Can Fight Malnutrition”: <https://indianexpress.com/article/opinion/columns/equal-wages-women-men-mgnrega-gender-equality-malnutrition-7132922/> Accessed on June 26, 2022.

⁴⁵ An internal review of the Poshan Abhiyan by the government accepts this under-performance and mentions that there are very few examples of effective and efficient convergence, in practice. For more details, see: <http://www.niti.gov.in/sites/default/files/2020-10/AbhiyaanMonitoringReport.pdf>.

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