

SCALING UP NUTRITION (SUN) 2.0 / FIRST 1000 MOST CRITICAL DAYS PROGRAM (MCDP II) CONVERGENCE OF NUTRITION INTERVENTIONS

WHY IS CONVERGENCE OF INTERVENTIONS IMPORTANT FOR IMPROVING CHILD STUNTING?

Child malnutrition is a multifaceted problem^{1, 2} determined by numerous factors, including dietary intake, risk of infections, household food security, living environment, health care access and practices, education, and economic factors. Worldwide, there is a growing strategic focus on implementing multi-sectoral interventions³—both nutrition-specific⁴ and nutrition-sensitive⁵—to address the multiple determinants of malnutrition, so as to attain rapid reductions in malnutrition prevalence.

Conventionally, convergence in nutrition has been understood as the provision of a common platform for different organizations and stakeholders to come together and ensure better coordination.

“Effective convergence,” however, is the successful reach of nutrition-related programs from relevant sectors to address the key determinants of poor nutrition for the same household, same woman, and same child in the first 1,000 days, from conception until the child’s second birthday.

International Food Policy Research Institute, 2019¹

Evidence shows that the convergence of both nutrition-specific interventions (primarily health interventions) and nutrition-sensitive interventions (i.e., agriculture; water, sanitation, and hygiene [WASH]; education; livelihoods; and women’s empowerment) has a high impact on reducing stunting^{6, 7} (Figure 1). Particularly for nutrition-specific interventions, the 2013 *Lancet* series on maternal and child nutrition⁸ found that stunting could be reduced by 20% if 10 nutrition-specific interventions were each scaled up to 90% coverage.

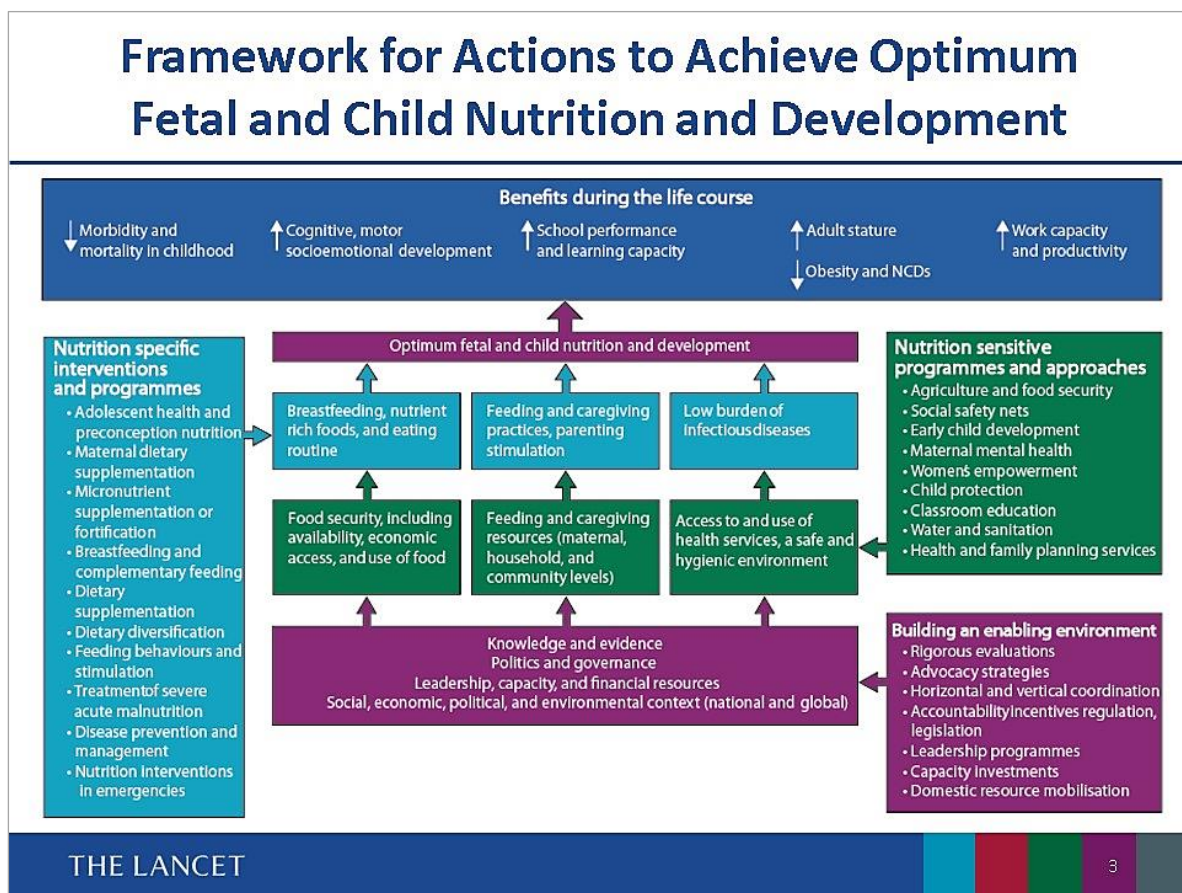
In Zambia, the First 1000 Most Critical Days Program (MCDP II) aims to reduce stunting among children under 2 years of age by 2% per year (from 2018 to 2022) by delivering 10 nutrition-specific and 7 nutrition-sensitive interventions to the household, the pregnant mother, and the child under 2 years of age (Figure 2). The 2019 MCDP II Baseline Survey assessed the delivery of 14 of these 17 interventions. This summary report analyses the coverage and convergence of MCDP II interventions.

Coverage of MCDP II Nutrition-specific and Nutrition-sensitive Interventions

The 2019 Baseline Survey measured the coverage of 14 MCDP II interventions and found the following:

- Only three interventions aimed at pregnant women reached 90% coverage as recommended by *The Lancet*: iron and folic acid micronutrient supplementation and social and behaviour change communication on “diet during pregnancy.”
- No interventions targeting the child directly or the household reached 90% coverage.
- Generally, children received only 60% of the interventions intended for them (either directly or indirectly through the mother or household); less than 1% of children were reached with **all** intended interventions.
- The shortfall in convergence across all interventions can be explained by poor coverage of WASH interventions to the household, inadequate vitamin A supplementation and deworming to the child, and poor coverage of social and behaviour change communication and family planning to the mother.
- Stunted children received fewer services (directly or indirectly) than normal growth children.

Figure 1: Role of nutrition-specific and nutrition-sensitive interventions in child development⁹



The Lancet series on maternal and child nutrition defines nutrition-specific and nutrition-sensitive interventions and programmes as follows:

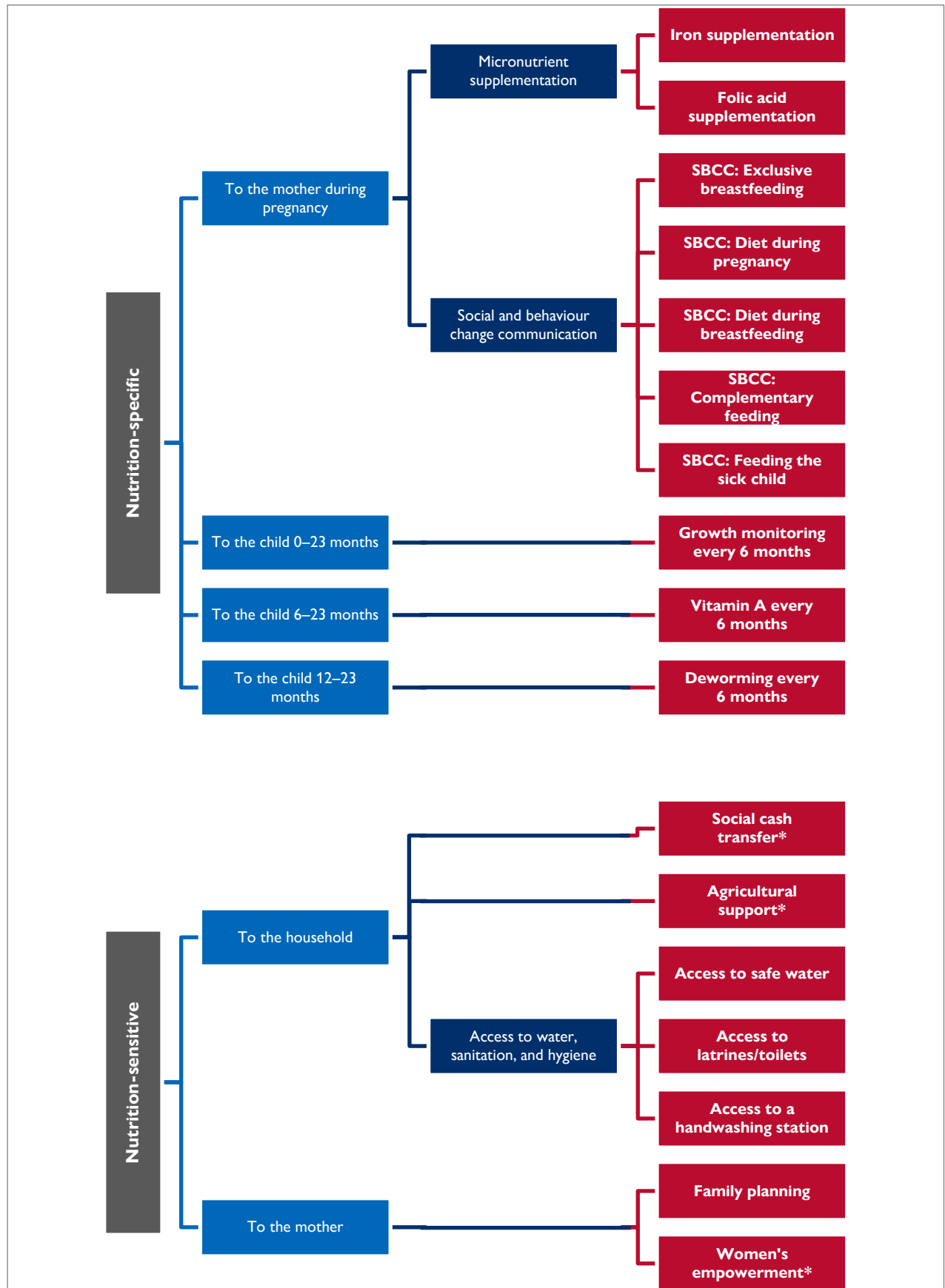
- **Nutrition-specific** interventions and programmes address the **immediate determinants** of foetal and child nutrition and development: adequate food and nutrient intake, feeding, caregiving and parenting practices, and low burden of infectious diseases.

Intervention examples: adolescent, preconception, and maternal health and nutrition; maternal micronutrient supplementation; promotion of optimal breastfeeding; complementary feeding and responsive feeding practices and stimulation; dietary supplementation; micronutrient supplementation or fortification for children; treatment of severe acute malnutrition; disease prevention and management

- **Nutrition-sensitive** interventions and programmes address the **underlying determinants** of foetal and child nutrition and development—food security; adequate caregiving resources at the maternal, household, and community levels; and access to health services and a safe and hygienic environment—and incorporate specific nutrition goals and actions. Nutrition-sensitive programmes can serve as delivery platforms for nutrition-specific interventions, potentially increasing their scale, coverage, and effectiveness.

Intervention examples: agriculture and food security, social safety nets, early child development, maternal mental health, women's empowerment, child protection, schooling, WASH, health and family planning services

Figure 2: The 17 nutrition interventions under MCDP II (far right column)



* These interventions were not measured during the 2019 MCDP II Baseline Survey.

WHAT DID THE 2019 MCDP II BASELINE SURVEY FIND?

The 2019 Baseline Survey was a cross-sectional survey carried out in 30 priority MCDP II/Scaling Up Nutrition (SUN) 2.0 districts between May and July 2019. The survey collected data from 7,486 households with a child under 2 years of age and assessed the reach of 14 MCDP II nutrition-specific and nutrition-sensitive interventions (of 17 interventions overall, per Figure 2). This report aims to show the coverage, and the degree of convergence, of these interventions to children under 2 years of age.

Nutrition-specific Interventions

In MCDP II, nutrition-specific interventions are targeted to the following:

- Pregnant and post-partum women, who should receive seven interventions (two micronutrient supplements and nutrition messages around five key practices)
- Children 0–23 months of age, who should receive one to three interventions, depending on their age

Convergence of nutrition-specific interventions is achieved when a child receives 8–10 nutrition-specific interventions (depending on his or her age) either directly or through the mother (Table 1).

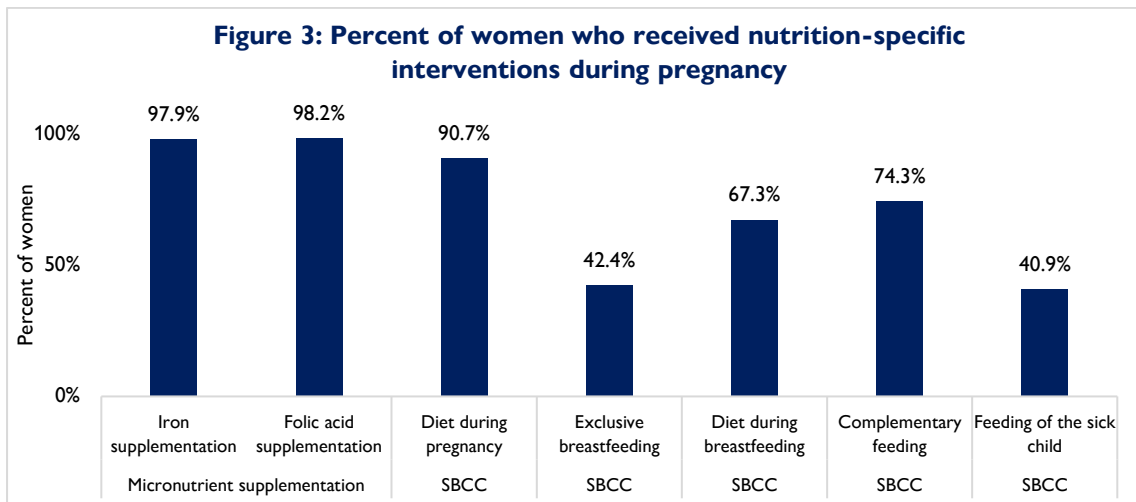
Table 1: MCDP II nutrition-specific interventions for pregnant women and children

Nutrition-specific interventions	Target group			
	Pregnant women	Children 0–5 months	Children 6–12 months	Children >12 months
Micronutrient supplementation				
- Iron supplementation	X			
- Folic acid supplementation	X			
- Vitamin A supplementation			X	X
Social and behaviour change communication				
- Diet during pregnancy	X			
- Exclusive breastfeeding	X			
- Diet during breastfeeding	X			
- Complementary feeding	X			
- Feeding of the sick child	X			
Other				
- Growth monitoring in the preceding 6 months (weighed and weights plotted on health cards)		X	X	X
- Deworming				X
TOTAL no. interventions by target group	7	1	2	3
Convergence of nutrition-specific interventions to the child: Expected number by child age group		7+1=8	7+2=9	7+3=10

The coverage of nutrition-specific interventions to children under 2 years of age was very low—only 9.9% of children received all nutrition-specific interventions intended for them (directly or indirectly through the mother) based on their age group. The low rate observed is because only a small proportion of mothers (12.7%) received all seven services meant for them, although a moderate proportion of children (59.4%) received the services meant for them.

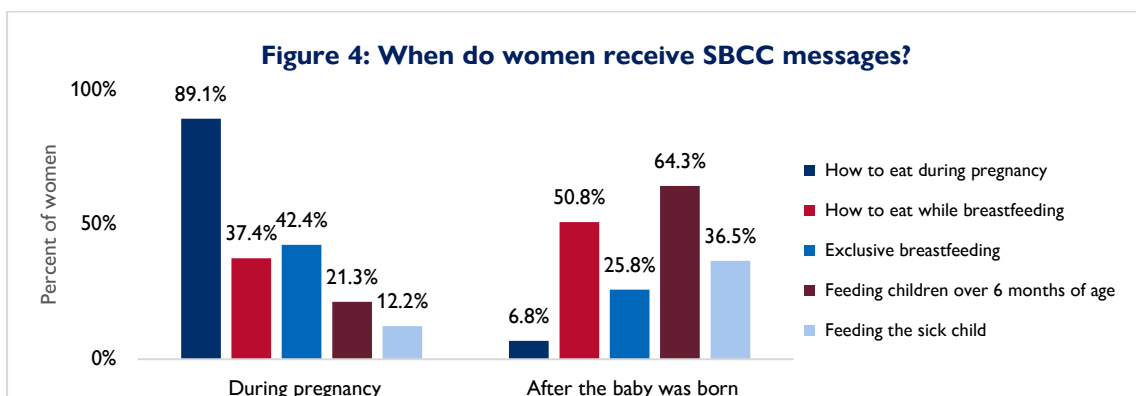
Nutrition-specific interventions to the mother: During their pregnancies, most women received micronutrient supplementation (in a combined iron and folic acid supplement) and social and behaviour change (SBCC) messages on diet during pregnancy (Figure 3).

However, the coverage of SBCC messages around infant and young child feeding—particularly exclusive breastfeeding and feeding of the sick child—was extremely low. These findings are concerning, given that suboptimal infant and young child feeding practices were identified in the 2019 Baseline Survey as a major weakness—only 28.5% of children under 2 years of age met minimum infant and young child feeding standards.



There was little difference between rural and urban women in terms of the coverage of these interventions. The only difference seen in the coverage of services delivered to mothers of stunted children compared to mothers of normal growth children was in SBCC on exclusive breastfeeding, in which more mothers of normal growth children (43.7%) reported receiving information on exclusive breastfeeding, compared to mothers of stunted children (38.9%) ($p < 0.001$).

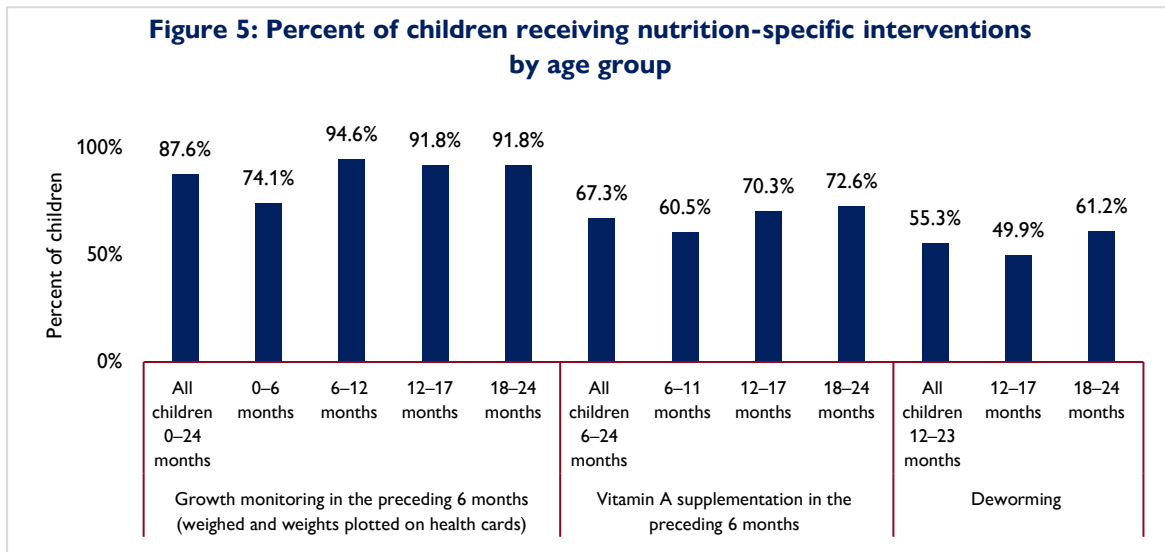
When a woman received SBCC messages, the most common source was from a health facility (91.0% of all messages), as compared to from family, friends, or neighbours (19.7%) or from a community health worker (15.2%). The timing of SBCC messages appears appropriate, with messages about eating during pregnancy emphasised during pregnancy, and messages around feeding children emphasised after the child is born (Figure 4).



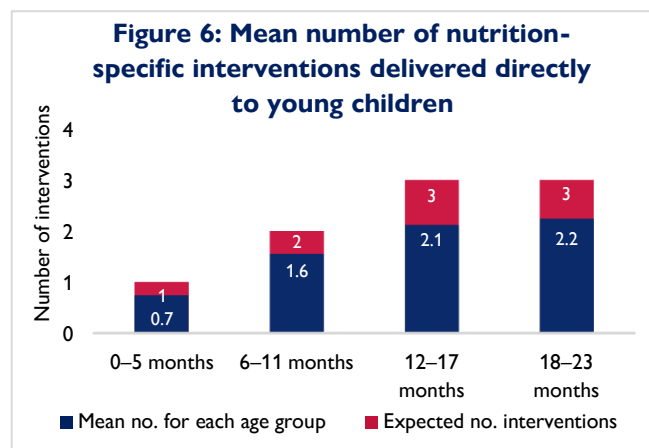
Overall, convergence of nutrition-specific interventions to the mother was low, with only 12.7% of women reporting having received all seven interventions. On average, women received 4.9 interventions during pregnancy (or 70.0% of the intended seven nutrition-specific interventions). There was no difference between women living in rural and urban areas.

Nutrition-specific interventions to the child (0–23 months): MCDP II prioritises three nutrition-specific interventions to children under 2 years of age: growth monitoring, vitamin A supplementation (starting at 6 months), and deworming (starting at 12 months).

Figure 5 shows that most children (particularly after 6 months of age) had their growth monitored in the preceding 6 months, as evidenced by weights plotted on health cards (seen in two-thirds of cases) or by mother’s recall. The lower coverage of growth monitoring in the 0–6-month age group may be due in part to the child’s age, or in part to shortages of health cards at the clinic level during 2019. Although the coverage of growth monitoring is relatively high, significantly fewer children received vitamin A supplementation and deworming services.

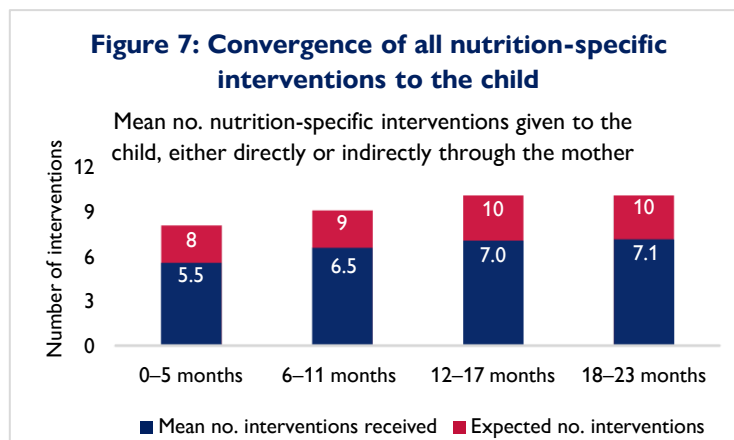


Overall, convergence of nutrition-specific interventions directed to the child was moderate, with 59.4% of children receiving all the relevant services for their age group. On average, a child receives three-quarters of expected nutrition-specific interventions (Figure 6).



Convergence of all 10 nutrition-specific interventions: MCDP II aims to deliver between 8 and 10 nutrition-specific interventions to children under 2 years of age (either directly or through the mother), but convergence is low—**only 9.9% of children received all the nutrition-specific interventions intended for them.**

Most children received 70% of intended nutrition-specific interventions (Figure 7), depending on their age group. The shortfall in convergence can be largely explained by insufficient coverage of vitamin A supplementation to children over 6 months and deworming to children over 12 months, as well as poor coverage of SBCC to mothers.



Children who are exposed to the full range of nutrition-specific interventions intended for them are less likely to be stunted (26.0%) ($p=.009$); conversely, children who do not receive the intended interventions are more likely to be stunted (30.7%).

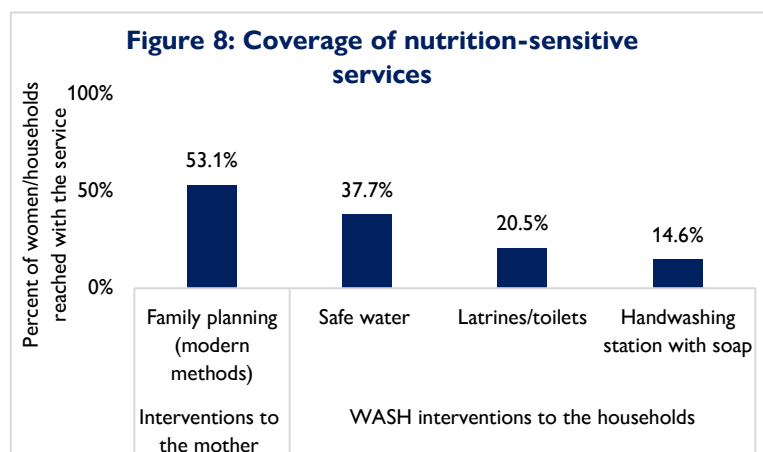
Nutrition-sensitive Interventions

As highlighted in Figure 2, MCDP II emphasises the delivery of seven nutrition-sensitive interventions either to the household (agricultural support, safe water, latrines/toilets, handwashing station, cash transfers) or to the mother (family planning and women’s empowerment support).

In the 2019 Baseline Survey, only four of the seven interventions were assessed (family planning and access to safe water, sanitation, and handwashing services). For the purposes of this analysis, convergence of nutrition-sensitive interventions is achieved when a child indirectly benefits from these four interventions delivered through the mother or household.

As shown in Figure 8, of the four nutrition-sensitive interventions, family planning had the highest coverage, albeit still low, with only half of mothers reporting the use of modern family planning methods.¹

WASH had very poor coverage. Most children under 2 years of age live in environments with limited access to WASH amenities, and only a small minority (5.6% of all children)



had access to all three WASH interventions. Safe water was the WASH service that was mostly available (37.7% of all households), and a handwashing station with soap and water was the least available (14.6% of all households). This low coverage of WASH interventions is concerning because it means that a large proportion of young children are exposed to disease-causing pathogens and will be more

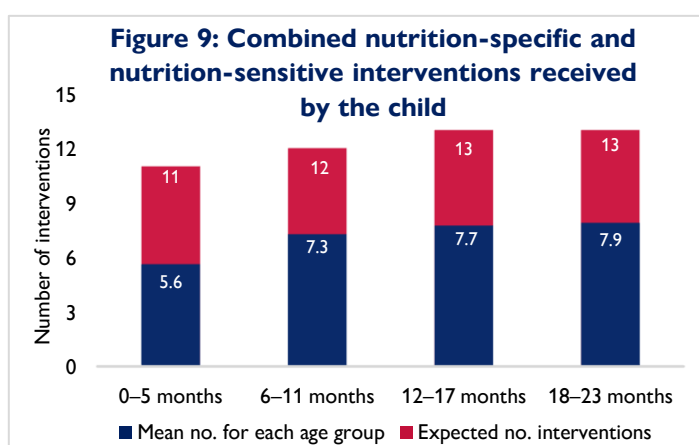
¹ The baseline survey did not ask about unmet need for family planning services.

susceptible to illness due to an unsanitary community environment and poor household hygiene practices.

Convergence of the four nutrition-sensitive interventions: Overall, only 2.8% of all children benefited from all four nutrition-sensitive interventions. On average, a child under 2 years of age is reached with only 1.2 out of the four interventions. Moreover, children who benefit from two or more nutrition-sensitive interventions are significantly less likely to be stunted (22.4%) than children who do not benefit from these interventions (31.9%) ($p < .001$).

COMBINED CONVERGENCE OF NUTRITION-SPECIFIC AND NUTRITION-SENSITIVE INTERVENTIONS

When combining nutrition-specific interventions with nutrition-sensitive interventions, children under 2 years of age in Zambia should receive 12–14 interventions, depending on their age, either directly, through the mother, or through the household. However, the 2019 Baseline Survey shows that children received only 60% of intended interventions (Figure 9).



The shortfall in coverage can be largely explained by low coverage of SBCC and family planning to the mother, poor coverage of WASH interventions to the household, and inadequate vitamin A supplementation and deworming to the child.

In addition, there is a clear pattern of normal growth children receiving more services than stunted children (Table 2).

Table 2: Number of combined nutrition-specific and nutrition-sensitive interventions

Child age group (months)	Expected no. interventions	Average no. interventions	
		Normal growth children	Stunted children
0–5	12	6.77	6.36
6–11	13	8.03	7.73
12–17	14	8.72	8.34
18–23	14	9.06	8.70

Overall, the expected convergence of all intended interventions reached less than 1% of children under 2 years of age (only 0.6%). Although slightly more children living in urban areas (1.8%) received all intended interventions, compared to children living in rural areas (0.1%), the rates are extremely low, making them essentially insignificant.

In terms of district-level performance (Table 3), only 5 of 30 districts show convergence above 1% (green shaded cells in the table), with Ndola performing best of all districts. Again, these rates are extremely low.

Table 3: Convergence of all 14 interventions in children 0–23 months (by SUN 2.0 district)

Province	District	Percent convergence in children 0–23 months	Prevalence of stunting in children 0–23 months
Central (4 districts)	Chibombo	0.0%	28.9%
	Kabwe	1.7%	34.3%
	Kapiri Mposhi	0.4%	30.5%
	Mumbwa	0.0%	28.2%
Copperbelt (2 districts)	Kitwe	1.3%	28.9%
	Ndola	6.3%	15.8%
Eastern (4 districts)	Chipata	0.8%	33.1%
	Katete	0.8%	29.4%
	Lundazi	0.0%	34.7%
	Petauke	0.0%	29.8%
Luapula (3 districts)	Mansa	0.4%	37.5%
	Nchelenge	0.4%	43.1%
	Samfya	0.0%	43.0%
Lusaka (1 district)	Lusaka	1.4%	23.3%
Muchinga (3 districts)	Chinsali	0.8%	32.4%
	Isoka	0.0%	24.1%
	Mpika	0.4%	30.1%
Northern (4 districts)	Kaputa	0.0%	39.5%
	Kasama	0.0%	29.7%
	Luwingu	0.0%	30.0%
	Mbala	0.0%	32.3%
North-Western (3 districts)	Mwinilunga	0.0%	34.9%
	Solwezi	0.9%	25.8%
	Zambezi	0.9%	19.2%
Southern (2 districts)	Choma	0.0%	28.1%
	Monze	1.7%	25.7%
Western (4 districts)	Kalabo	0.0%	29.1%
	Kaoma	0.0%	34.1%
	Mongu	0.4%	17.8%
	Shang'ombo	0.0%	31.8%

WHAT DOES THIS MEAN FOR IMPROVING NUTRITION IN ZAMBIA?

Although both nutrition-specific and nutrition-sensitive interventions are being delivered in the 30 priority SUN/MCDP II districts, coverage rates are far too low to effect a significant reduction in child stunting. Much more emphasis in MCDP II should be placed on expanding coverage of all interventions, but particularly interventions with the lowest coverage overall—namely, micronutrient supplementation to children, all aspects of WASH interventions, and SBCC around exclusive breastfeeding and feeding of the sick child. In particular, coverage of nutrition-specific interventions to reach 90% of pregnant women and children (per *The Lancet*^{3,8}) and WASH interventions to the household (per evidence from other countries⁷) are needed to achieve MCDP II's desired impact of reducing stunting by 2% per year.

In addition, although not measured in the 2019 Baseline Survey, the final evaluation of MDCP I¹⁰ reported low coverage of nutrition-sensitive agriculture interventions, with only 5% of households benefiting from agricultural inputs—suggesting the need to further strengthen the agriculture sector’s role in addressing low dietary diversity and household food insecurity.

The Government of the Republic of Zambia is politically committed to reducing stunting in Zambia. But translating that political commitment to actual achievement of the MDCP II goal will require more attention to strategies that are central to scaling up interventions to achieve impact at scale,³ including ensuring routine monitoring of service delivery against targets and modifying job and organizational factors and resources that may contribute to poor coverage.

ENDNOTES

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ABOUT SCALING UP NUTRITION Zambia

The Government of the Republic of Zambia (GRZ) is a member of Scaling Up Nutrition (SUN)—a global movement uniting governments, civil society, businesses, and citizens in a worldwide effort to end undernutrition. Phase 1 of the Zambia SUN programme began in 2013 with the goal to reduce stunting among children less than 24 months old in 15 districts.

Currently in its second phase, SUN has increased from 15 to 30 districts, coordinated by the National Food and Nutrition Commission of Zambia, and supported by a variety of partners and donors, including USAID/Zambia who supports the SUN programme through the SUN Learning and Evaluation (SUN LE) project.

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