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ACRONYMS

CHW	Community health worker
ENA	Essential nutrition actions
IDP	Internally displaced person
IFAS	Iron-folic acid supplements
MAM	Moderate acute malnutrition
MMS	Multiple micronutrient supplements
МОН	Ministry of Health
MUAC	Mid-upper arm circumference

NGO	Non-governmental organisation
ORS	Oral rehydration solution
PHCC	Primary healthcare centre
RUSF	Ready-to-use supplementary food
RUTF	Ready-to-use therapeutic food
SAM	Severe acute malnutrition
WHO	World Health Organization

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EXECUTIVE SUMMARY

The purpose of this essential nutrition actions (ENA) assessment was to examine ENA service delivery in front-line health facilities in low-resource settings to improve maternal and child health and nutrition outcomes. The assessment was conducted across 268 health facilities in nine countries, in areas with the poorest child health and nutrition outcomes to understand the status of supply chain, workforce competency, and service delivery as required by the World Health Organization (WHO) ENA framework.

Health facilities were randomly selected within each country, and then key facility respondents were purposively selected to guide this observational assessment. A diverse range of facilities were targeted to understand the nuances of ENA implementation.

The following summarises the findings from the assessment across the three areas of focus as guided by the research questions:

- **1. ENA supply availability:** Do health facilities have adequate supplies to effectively deliver and sustain the integration of ENAs within the health system in low-resource settings?
 - 33.6% of the facilities surveyed did not have essential ENA supplies, especially in primary care facilities.
 - 25.3% of facilities lacked an effective facility-based supply chain management system, impacting the sourcing of health supplies.
 - In facilities providing treatment for wasting/acute malnutrition:
 - ▶ Ready-to-use therapeutic food (RUTF) was unavailable in 29.3% of facilities.
 - ▶ Ready-to-use supplementary food (RUSF) was unavailable in 61.2% of facilities.
 - High functionality rates (over 90%) were reported for available ENA equipment; however, lower-level facilities reported significant unavailability and non-functionality.
 - 16% of facilities lacked appropriate storage conditions, 24% failed to meet the required storage standards, and over 14% lacked inventory systems.
 - 1 in 3 healthcare providers disagreed that their facility had adequate ENA equipment.

- 2. Workforce competencies: What capacity do health workers have to deliver ENA services?
 - 20.5% of health workers did not receive any ENA-related pre-service training.
 - 34% reported no in-service training, indicating insufficient skills refresher training.
 - 28% lacked recent in-service training (training in the previous 24 months).
 - 51.9% of health workers indicated no training received in ENA supply chain management.
 - 36.6% reported no training in addressing micronutrient deficiencies and supplementation.
 - 37% of the facilities did not have ENA guidelines.
 - 32% of the facilities did not have job aids.
 - Micronutrient supplementation shows the highest lack of guidelines (approximately 50%).
 - 50.2% of respondents reported a lack of regular planned supervisory visits.
 - 31.2% indicated they did not receive feedback post-supervision.
 - 11.9% of facilities had violations of the International Code of Marketing of Breast-milk Substitutes (BMS Code).
- 3. Service delivery: Are health workers conducting ENA services effectively?
 - Outpatient treatment of severe acute malnutrition (SAM) without complications is offered by only 47% of providers.
 - Outpatient treatment of moderate acute malnutrition (MAM) is offered by 54.2% of providers.
 - Of those health facilities with inpatient capabilities, only 11.3% provided treatment for children with SAM with complications.
 - 98.9% of facilities did not offer micronutrient powder sachets for children with mild to moderate malnutrition.
 - 96.3% of facilities reported no calcium supplements for women.
 - 62.3% of facilities did not provide iron-folic acid supplements (IFAS) for adolescents.
 - 60.4% of facilities did not have multiple micronutrient supplements (MMS) for women in stock.
 - 21.6% of facilities did not provide zinc supplementation for diarrhoea in children.
 - 18.3% of facilities reported not offering vitamin A supplementation to children.
 - Only 49.3% of providers felt that caregivers had adequate knowledge regarding ENAs.

These findings highlight the necessity for targeted interventions to enhance ENA service delivery in low-resource settings. Strengthening supply chains, expanding workforce training, and ensuring consistent, quality ENA services are vital for addressing the identified gaps. Policy reforms should focus on the efficient distribution of key supplies such as RUSF and micronutrient supplements and the implementation of in-service training programmes for healthcare providers. By concentrating on these areas, policymakers and programme managers can develop a more effective ENA system that supports health workers and aims to improve nutrition outcomes in vulnerable communities.



1. BACKGROUND

Nutrition has a reciprocal relationship with health; malnutrition drives ill health, and other illnesses drive malnutrition and mortality. Malnutrition contributes to up to 45% of preventable deaths among children under 5 years old.¹ The health system is vital for delivering nutrition-specific interventions, such as WHO's essential nutrition actions (ENA).² The WHO states, 'No country can achieve universal health coverage without investing in essential nutrition actions, and good nutrition for all cannot be achieved without universal health coverage'.³

The WHO ENA framework is an approach for managing the advocacy, planning, and delivery of an integrated package of nutrition interventions by promoting a 'nutrition through the life cycle' approach to deliver the right nutrition services and messages to the right person at the right time.⁴ WHO has developed guidance on mainstreaming the ENAs through the primary healthcare system.⁵ However, a significant barrier to integrating the ENAs into the health system is a lack of ENA supplies and inventory to deliver these services effectively – one of the six health systems' building blocks. (The six health systems building blocks include service delivery, workforce, governance, financing, information, and supplies/technology.)⁶

Within the World Vision partnership, there is anecdotal evidence that many of the health facilities we support struggle to deliver ENA services, which can strain community trust in front-line healthcare. Health facilities often face instability of nutrition commodities and a lack of growth monitoring tools and equipment.⁷ Additionally, workforce challenges, including inadequate training, support, and capacity building for health workers, further hinder effective service delivery. Addressing these challenges is essential for ensuring the consistent delivery of ENA services, supporting health systems, and improving nutrition outcomes at the community level.⁸

This study aimed to evaluate the ENA framework at the downstream level to better understand barriers and opportunities in service delivery, supply chains, and health worker capacities during routine ENA service delivery. Exploring barriers and opportunities around management and policies at the upstream level is beyond the scope of this study.



2. METHODS

2.1 Study design and scope

This study was conducted as a descriptive survey to quantify key parameters related to the availability of ENA supplies, workforce competencies, and service delivery. Utilising frequencies and percentages as the primary analytical tools, the research sought to capture an overview of the current landscape. The emphasis was on delineating 'what is happening' within the subject matter rather than exploring the underlying causes for these phenomena. This methodological approach facilitated a snapshot of the operational dynamics of ENA, contributing insights to the field of inquiry.

2.2 Ethical considerations

Study approvals were obtained from the Ministry of Health (MOH) in each participating country through the relevant World Vision field offices. Before conducting the assessment, signed consent forms for participation and signed photo and release forms were obtained from the respondents for all photos taken for this report, ensuring ethical compliance in participant involvement and visual materials.

2.3 Research aim and questions

The study aimed to assess the availability of essential ENA equipment and resources and the ability of health workers to effectively deliver ENA services among World Vision-supported health facilities in low-resource settings.

Key research questions:

- 1. ENA supply chains: Do health facilities have adequate supplies (anthropometric equipment, mid-upper arm circumference (MUAC) tapes, child health cards, WHO growth charts, micronutrients, therapeutic foods) to effectively deliver and sustain the integration of ENAs within the health system in low-resource settings?
- **2. Workforce competencies:** What capacity (i.e., training, job aids, supportive supervision) do health workers have to deliver ENA services?
- 3. Service delivery: Are health workers conducting ENA services effectively?

2.4 Sampling description

Data was collected from health facilities in nine countries across Africa, Asia, and Latin America: Bangladesh, Ethiopia, Indonesia, Kenya, Mali, Somalia, Tanzania, Uganda, and Venezuela. Each of the nine field offices purposively selected a minimum of five World Vision coverage areas (i.e., World Vision area programmes or other geographically distinct units) by applying the following criteria:

- poor exclusive breastfeeding and infant and young child feeding practices
- high infant mortality rates and poor maternal mortality rates in regions/districts
- high prevalence of childhood illnesses
- high rates of child wasting and stunting
- insufficient government resources and support from global and local partners
- logistical feasibility and the ability to achieve measurable child health and nutritional outcomes.

Front-line health facilities were selected through purposive sampling from different districts, considering:

- the ability to leverage World Vision staff and resources for the assessment
- accessibility per World Vision's security protocols.

A list of health facilities was then generated for each selected World Vision coverage area to capture the range of ENA perspectives and practices. Health facilities were stratified by facility type, such as primary healthcare centres (PHCCs) or health posts. Government and private hospitals and mobile health posts were excluded from the sample. Probability systematic sampling was used to select 10 PHCCs (or higher-level health facilities) and 10 health posts (or lower-level health facilities) from each country to assess. While the sampling method was not randomised, this approach was deemed feasible for 20 health facilities in each sample from each country). [Please note that some countries decided to increase their sample size, which strengthened the scope of the study.]

Purposive sampling was used to identify health service providers who provide child health consultation services and counselling as respondents for individual interviews. One health provider for each health facility participated in the assessment (i.e., an MOH nurse at the PHCC and an MOH nurse or a community health worker [CHW] in the absence of a nurse at the health post).

2.5 Data collection

Data was collected across the nine countries between 12 July and 9 September 2024. A closedended questionnaire tailored to each country's specific context was employed. This structured approach facilitated consistency in data collection while allowing for necessary adjustments based on local circumstances.

2.6 Analysis methods

We employed an iterative approach to data analysis that included several rounds of review and refinement. Initially, we conducted exploratory analysis to identify key patterns and trends. Following this, we further explored these findings to gain deeper insights, revisiting the data to validate and cross-check results.

To address the first research question regarding ENA supply chains, we analysed the availability of essential supplies and equipment in the facilities. We calculated the percentage of facilities possessing various ENA supplies, assessed the presence of supply chain management systems, and evaluated whether appropriate storage areas were available. Regarding functionality, we compared the available equipment rates against those functioning during the assessment visits.

The second research question focused on workforce competencies, where we assessed the capacity of health workers to deliver ENA services. This included analysing the percentage of health workers who received pre-service and in-service training on relevant ENA topics and the availability of job aids and guidelines. Additionally, we evaluated supportive supervision by examining the frequency and quality of supervision visits reported by health workers.

The third research question concerned service delivery. We assessed the extent to which health workers were involved in providing ENA services. This included evaluating their involvement in growth monitoring, malnutrition assessment, nutrition education (e.g., infant and young child feeding practices and micronutrient supplementation), and systems for regular data collection on nutrition services.

Data analysis was done using SPSS version 29 and Excel. Visualisations, including grouped and stacked bar charts, area maps, pie charts, and combo charts, were used to effectively present findings on the availability and functionality of ENA supplies, workforce training, and service delivery patterns.

A health worker recording information in the record book while meeting with a mother and her baby. (Indonesia)



3. RESULTS

3.1 Facility characteristics

A tiered model of healthcare systems was used to classify facilities systematically across the various countries. This framework organises healthcare delivery into six distinct levels across four tiers.⁹ The first tier is community services, which constitute level 1 community units, focusing on grassroots units that facilitate community engagement and demand generation. In tier 2, essential primary medical care services are offered, divided into levels 2 (dispensaries and community clinics) and 3 (health centres). In tier 3, levels 4 (district hospitals) and 5 (regional hospitals) offer specialised treatments and serve as referral points for primary healthcare. The highest tier is tier 4, which includes level 6 facilities characterised by advanced hospitals that deliver specialised medical care and function as national referral centres.

Table 1. Classification of health facilities
--

Tier	Health facility level	Types of health facilities		
Tier 1 (Community services)	Level 1	Community unit (CHWs and community health volunteers)		
	Level 2	Dispensaries and community clinics		
Ther 2 (Primary care)	Level 3	Primary care health centres		
Tion 2 (Cocondom (coro)	Level 4	Hospitals (district hospitals)		
Tier 3 (Secondary care)	Level 5	Regional hospitals		
Tier 4 (Tertiary care)	Level 6	National hospitals		

Considering each country's complex health systems, this structured approach allows for a standardised and thorough categorisation of healthcare facilities. It enhances our ability to compare and analyse healthcare delivery across national contexts.

The majority of facilities assessed were level 2 and 3, because the target was primary healthcare facilities and purposively excluded tertiary health facilities. Outpatient services are offered in 57.1% of the health facilities, and both outpatient and inpatient services are provided in 42.5%. Facility descriptives are presented in Table 2.

Facility target distribution is as follows: Uganda (n=79), Venezuela (n=35), Bangladesh (n=20), Ethiopia (n=20), Indonesia (n=30), and Kenya (n=20). Mali (n=21) aimed for 21 facilities but exceeded this target by reaching 26. In Somalia/Somaliland (n=21), only 19 facilities were reached due to three facilities not providing consent. In Tanzania (n=20), one facility was excluded from the assessment because it operated under a regional hospital, which complicated independent evaluation, resulting in a total of 19 facilities assessed.

Regarding ownership, most facilities, specifically 263 out of 268 (98.1%), were classified as government/public. Less than 1% (1) of health facilities were mission/faith-based, while 1.5% (4) were categorised as a non-governmental organisation (NGO)/private not-for-profit.

Regarding location, 74.3% (199) of facilities were situated in rural areas. There were 10 facilities (3.7%) in unconsolidated urban settings, while 55 facilities (20.5%) were classified as urban. Additionally, 1.5% (4) facilities were in internally displaced persons (IDP) camps.

Concerning facility levels, 42.2% (113) were classified as level 2, 47% (126) facilities were classified as level 3, 10.1% (27) facilities were designated level 4, and 0.7% (2) facilities were classified as level 5.



Table 2. Summary of facilities sampled

Country	Selected facilities (n)	Assessment facilities (n)	Ownership type	Location type	Service provision	Facility levels
Bangladesh	20	20 (100%)	Government 20 (100%)	Rural 20 (100%)	Outpatient only 20 (100%)	Level 2: 20 (100%)
Ethiopia	20	20 (100%)	Government 20 (100%)	Rural 16 (80%), Urban 4 (20%)	Outpatient only 9 (45%), Both 11 (55%)	Level 2: 10 (50%) Level 3: 10 (50%)
Indonesia	30	30 (100%)	Government 30 (100%)	Rural 28 (93%), Urban 2 (7%)	Outpatient only 20 (67%), Both 10 (33%)	Level 2: 15 (50%) Level 3: 15 (50%)
Kenya	20	20 (100%)	Government 20 (100%)	Rural 19 (95%), Unconsoli- dated urban 1 (5%)	Outpatient only 15 (75%), Both 5 (25%)	Level 2: 10 (50%) Level 3: 8 (40%) Level 4: 2 (10%)
Mali	21	26 (124%)	Government 24 (92%), Mission 1 (4%), NGO 1 (4%)	Rural 25 (96%), Urban 1 (5%)	Outpatient 18 (69%), Both 8 (31%)	Level 3: 26 (100%)
Somalia/ Somaliland	21	19 (90%)	Government 17 (89%), NGO 2 (11%)	Rural 2 (11%), Urban 13 (68%), IDP 4 (21%)	Outpatient 15 (79%), Both 4 (21%)	Level 1: 15 (79%) Level 2: 4 (21%)
Tanzania	20	19 (95%)	Government 20 (100%)	Rural 18 (95%), Urban 1 (5%)	Outpatient only 14 (74%), Both 5 (26%)	Level 2: 14 (74%) Level 3: 2 (11%) Level 4: 2 (11%) Level 5: 1 (5%)
Uganda	79	79 (100%)	Government 79 (100%)	Rural 64 (81%), Urban 15 (19%)	Outpatient 21 (27%), Both 58 (73%)	Level 2: 18 (23%) Level 3: 44 (56%) Level 4: 17 (22%)
Venezuela	35	35 (100%)	Government 34 (97%), NGO 1 (3%)	Rural 7 (20%), Urban 19 (54%), Un- consolidated urban 9 (26%)	Outpatient only 21 (60%), Both 13 (37%), Inpatient only 1 (3%)	Level 2: 11 (31%) Level 3: 17 (49%) Level 4: 6 (17%) Level 5: 1 (3%)
Total	266	268	98.1% government facilities 1.5% NGO/ private not- for-profit 0.4% mission/ faith-based	74.3% rural 20.5% urban 3.7% unconsoli- dated urban setting 1.5% IDP camp	57.1% outpatient only 42.5% out- patient and inpatient 0.4% inpatient only	Level 2: 113 (42.2%) Level 3: 126 (47%) Level 4: 27 (10.1%) Level 5: 2 (0.7%)



4. RESEARCH QUESTION 1: ENA SUPPLY CHAINS

QUESTION: Do health centres and health posts in World Vision operational areas have adequate supplies (anthropometric equipment, MUAC tapes, child health cards, WHO growth charts, micronutrients, therapeutic foods) to effectively deliver and sustain the integration of the ENAs within the health system in low-resourced settings?

4.1 Availability of ENA supplies

The assessment revealed that the average availability of ENA supplies was approximately 66.4%. One in three facilities was not adequately equipped with ENA supplies.

Gaps were also identified in the availability of specific supplies. Ready-to-use supplementary food (RUSF) was reported as unavailable in 68.3% (183) of facilities, and ready-to-use therapeutic food (RUTF) was missing in 47.4% (127). Treatment of moderate acute malnutrition (MAM) is part of the ENA guidelines,¹⁰ yet among the facilities where healthcare providers indicated they provide treatment for wasting/acute malnutrition, RUTF was not available in 29.3% (55), RUSF was not available in 61.2% (115), and oral rehydration solution (ORS) measuring jars were not available in 55.2% (148).

Some items were reported as available but could not be confirmed by the enumerator. For example, pulse oximeters were reported by 9% (24) of facilities as available but were not readily available to be confirmed during the assessment. Figure 1 below presents the findings in detail.





Figure 1. ENA supplies availability

<image>

4.1.1 ENA supplies availability per country

About one-third of the facilities had limited availability of essential ENA supplies, with significant variation across countries. Bangladesh had the highest average unavailability rate (43.9%), followed by Kenya (37.2%) and Venezuela (29.8%). Although Mali and Somalia/Somaliland reported lower unavailability rates, they are still considerable, at 21.2% and 18.4%, respectively, as shown in Figure 2. Infant weighing scales, length boards for infants under 6 months, and pulse oximeters are the least available equipment.



Figure 2. Rates of unavailable ENA supplies per country



4.1.2 Availability versus functionality

We assessed the functionality of available ENA equipment and found generally high functionality rates across all items. While equipment availability across facilities varied, the functionality rates were consistently high, with most items functioning in or above 90% of the facilities. Although available in fewer facilities, pulse oximeters still showed excellent functionality. Further details of each item's overall availability and functionality rates are presented in Figure 3 below.



Figure 3. Available versus functioning equipment



4.1.3 ENA equipment functionality per country

Functionality across the assessed countries is consistently high. However, equipment availability varies, indicating gaps in resource allocation for effective ENA service provision. For example, while functionality rates in countries such as Tanzania and Indonesia are high, their availability rates differ. This variation underscores the necessity for targeted resource allocation to enhance the provision of ENA services, as illustrated in Figure 4.





Availability and functionality of ENA equipment varies among the countries, with Bangladesh, Uganda, and Venezuela showing the lowest availability and Bangladesh having the lowest functionality.

4.1.4 Availability and functionality at the health facility level

According to health facility levels, ENA equipment is less available and less functional in lowerlevel health facilities, especially level 2, as presented in Figure 5.



4.2 Supply sourcing

As presented in Figure 6, about a quarter of the facilities reported not having an organised supply chain management system. Concerns extend to storage practices, with 16% of facilities lacking appropriate storage conditions and 24% failing to meet the required storage standards. Moreover, the absence of inventory systems in over 14% of facilities suggests a significant gap in resource management.





When broken down by facility level, the availability of a supply chain management system was higher in higher-level facilities, with 85.2% of facilities at level 4 and 79.4% at level 3 affirming availability.

Regarding designated storage areas, higher-level facilities showed better results. For instance, level 4 facilities had 96.3% with appropriate ENA supply storage areas.

Similarly, the percentage of facilities with inventory systems was highest among level 4 facilities, with 96.3% confirming the existence of such systems.

These findings suggest that better practices in supply chain management, appropriate storage, and inventory systems are associated with higher-level facilities and indicate a need to focus on improvements at lower-level facilities.

4.3 Perceptions of healthcare providers on ENA supply availability

As shown in Figure 7, 1 in 3 healthcare providers disagreed or strongly disagreed that their facility had adequate ENA equipment. Additionally, 22% of respondents were neutral regarding this issue, indicating uncertainty about the adequacy of the supplies.

Additionally, we assessed healthcare providers' perceptions regarding the adequacy of specific supplies, including vitamin A, iron-folic acid supplements, multiple micronutrient supplements (MMS), and RUTF. The assessment found that 20% of respondents disagreed with the statement

that their facility had adequate supplies. An additional 23% expressed uncertainty or lacked a definitive view on the issue, as shown in Figure 7.



Figure 7: Do ENA providers agree that ENA equipment or other essential supplies are adequate in their facilities?

4.4 Perceptions of healthcare providers on ENA supply availability per country

As presented in Figure 8, the assessment of healthcare providers' perceptions regarding the adequacy of ENA equipment and supplies reveals a high proportion of respondents who selected 'disagree' or 'uncertain' on a three-point Likert scale, which included the response options: 'disagree', 'uncertain', and 'agree'. Kenya shows the highest level of disagreement, with 40% of respondents indicating dissatisfaction with supply adequacy. Following closely, Venezuela reported 39.4% of respondents expressing disagreement. In Uganda, 21.5% of respondents also disagreed about supply adequacy. In Bangladesh and Ethiopia, 30% of respondents disagreed about supply adequacy, with 55% in Bangladesh and 60% in Ethiopia remaining neutral, suggesting uncertainty about the available supplies. Indonesia demonstrated a more favourable outlook, with only 6.9% of respondents disagreeing, indicating that most providers felt more confident about supply adequacy.



Figure 8. Perceptions of healthcare providers on ENA supply availability per country

4.4.1 Perceptions of healthcare providers on ENA supply availability per facility levels

The assessment revealed that lower facility levels had higher disagreement regarding the adequacy of supplies. Level 2 facilities had the highest disagreement at 31.3%, followed by level 4 with 19.2% and level 3 with 16%. In contrast, level 2 had 22.4% agreement, while level 3 showed 45.6% agreement. Level 4 facilities had the highest agreement at 57.7%.

4.4.2 Perceptions of healthcare providers on ENA supply availability per facility service provision category

Among facilities providing inpatient and outpatient services, 15% of respondents disagreed with the adequacy of supplies, while 38.9% remained neutral and 46% agreed. In contrast, facilities offering only outpatient services reported a higher disagreement rate of 28.4%, with 41.7% remaining neutral and only 29.8% agreeing on the adequacy of supplies. These findings highlight the differences in perceptions regarding supply adequacy based on the service provision type. Health workers in inpatient and outpatient facilities expressed more agreement with the supply's adequacy than in outpatient-only facilities, which expressed higher disagreement.





5. RESEARCH QUESTION 2: WORKFORCE COMPETENCIES

QUESTION: What capacity (i.e., training, job aids, supportive supervision) do health workers have to deliver ENA?

5.1 Pre-service and in-service training on nutrition

Figure 9 highlights gaps in pre-service and in-service training among healthcare providers. Overall, 20.5% (55) of respondents did not receive pre-service training on nutrition. Uganda reported the highest gap, with 44.3% of providers lacking training, followed by Somalia/ Somaliland (26.3%), Ethiopia (25%), and Indonesia (23.3%). These findings contrast with Bangladesh and Mali, where all providers reported receiving pre-service training.

In-service training gaps were even more pronounced. Over half of the respondents, 51.9% (139), lacked training in supply chain management, and 36.6% (98) had no training in addressing micronutrient deficiencies. Other critical areas, such as complementary feeding at 28.7% (77) of respondents and nutritional assessment at 22.8% (61), also showed substantial gaps. Among those trained, many had not received refresher sessions in over two years, particularly in nutritional assessment, treatment of wasting, and micronutrient deficiencies, where over 30% of providers reported a lack of recent in-service training.



Figure 9. Pre-service and in-service training

Have ENA providers received any pre-service training and/or in-service training to enhance their competencies in delivering ENA?

5.1.1 What proportion of healthcare providers indicated they had not received ENA in-service training per country?

Kenya had the highest percentage of providers missing in-service training, at 64%, followed by Tanzania (53%) and Uganda (44%). Venezuela reported 40%, while Ethiopia and Indonesia each reported 31%. Somalia/Somaliland had 10%, Bangladesh 7%, and Mali reported the lowest rate at just 2%.



Figure 10. Proportion of ENA providers reporting no in-service nutrition training

5.1.2 What proportion of healthcare providers indicated they have received ENA in-service training per facility level?

When looking at facility levels, an average of 34% of providers reported no in-service training in various ENA aspects – 34% for level 2, 34% for level 3, and 33% for level 4. This indicates a consistent lack of in-service training across all facility levels.

5.1.3 How frequently do healthcare workers receive in-service training on ENA services?

Recent in-service training (within the past 24 months) was most reported for breastfeeding (44.8%), nutritional assessment (41.8%), and complementary feeding (41.4%). Training on treating wasting/acute malnutrition, and micronutrient deficiencies and supplementation was reported by 40.3% and 32.8% of respondents, respectively. ENA supply chain management had the lowest proportion of providers with recent training (28.4%).

In-service training	Nutritional assessment	Treatment of wasting/ acute malnutrition	Micronutri- ent deficiencies and supple- mentation	Breastfeed- ing	Comple- mentary feeding	ENA supply chain management	ENA data collection and reporting
Over 24 months ago	35.4%	31.0%	30.6%	26.9%	29.9%	19.8%	22.4%
Within 24 months	41.8%	40.3%	32.8%	44.8%	41.4%	28.4%	36.9%

Table 3: Proportion of healthcare providers receiving in-service training in the past 24 months

5.1.4 What proportion of healthcare providers indicated they did not receive pre-service training and have also not received in-service training?

A key finding is that many providers who did not receive pre-service training on ENA also lack in-service training, as illustrated in Figure 11. The highest percentage of those with no pre-service training reported no in-service training in ENA supply chain management at 78.2%, followed by micronutrient supplementation training at 65.5%, treatment of wasting/acute malnutrition at 60%, ENA data collection and reporting at 60%, breastfeeding at 58.2%, complementary feeding at 54.5%, and nutritional assessment at 49.1%. Among those who received pre-service training, the area lacking the most refresher training was ENA supply chain management at 41.7%, followed by data collection at 32.2%, and micronutrient supplementation at 27.2%. Conversely, most of those who received pre-service training also reported higher in-service training.



Figure 11. Do ENA providers who did not receive pre-service training have access to more in-service training?

Yes, more than 24 months ago

Yes, within the past 24 months

5.2 Perceptions of healthcare providers on receiving adequate ENA training

We asked the respondents if they felt adequately trained to deliver ENA services by rating them strongly agree, agree, neutral or don't know, disagree, and strongly disagree. The results showed that 56% (150) felt they had received adequate training; this is a combination of those who agreed and strongly agreed. In contrast, 22% (59) felt they had not received adequate training, which includes those who disagreed and those who strongly disagreed. Notably, 20.9% (56) of healthcare providers remained neutral in assessing the adequacy of training they received.

5.2.1 Perceptions of healthcare providers on receiving adequate ENA training per country

There were differing perception rates of adequacy across the nine countries. Ethiopia had the highest disagreement rate at 20%, followed by Uganda at 18% and Venezuela at 14%. Kenya reported a disagreement level of 13%, while Bangladesh had 10%. Tanzania showed a lower percentage disagreement rate at 5%, with Indonesia at 2%. Mali and Somalia/Somaliland notably reported no disagreement (0%).

5.2.2 Perceptions of healthcare providers on receiving adequate ENA training per level of health facility

Overall, there is not much difference between the facility levels in terms of the adequacy of training. Levels 2, 3, and 4 providers disagreed with the adequacy of ENA training by 14%, 13% and 8%, respectively.

5.3 Guidelines and job aids

ENA guidelines (protocols and manuals) and job aids (images, graphics, or other visual elements to communicate instructions and processes) are used to help health workers comply with ENA delivery standards. The average missing rate for guidelines across the four categories of ENA services is 37%, a considerable gap in the availability of (physical) ENA guidelines. The most missing guidelines within the facilities were micronutrient supplementation guidelines, which were absent at 47.5% (104) of facilities, followed by maternal, infant, and young child feeding promotion at 35.8% (96) of facilities. Growth and monitoring guidelines were missing in 32.5% (79) of facilities. The assessment and management of wasting or acute malnutrition had the lowest at 30.3% (74) missing guidelines rate among the facilities, as displayed in Figure 12.

The average missing rate for job aids among the facilities is 32%. The highest absence was observed in micronutrient supplementation job aids at 51.1% (112) of facilities, followed by complementary feeding job aids at 27.2% (73). Job aids for growth and monitoring were reported missing by 29.2% (71) of health facilities, while the treatment of wasting or acute malnutrition showed the lowest percentage at 20.1% (49). These findings emphasise the need for targeted efforts to improve the availability of guidelines and job aids to guide health workers in adhering to ENA service delivery standards.

It is important to note that micronutrient supplementation is the ENA service with the highest lack of guidelines and job aids, at around 50% (47.5% and 51.1%, respectively), a clear gap compared to other ENA services.



Figure 12. Are ENA guidelines and job aids available?

Growth monitoring and promotion

Maternal infant and young child feeding promotion

Wasting/acute malnutrition assessment and management
 Micronutrient supplementation

5.3.1 Proportions of missing guidelines per country

Uganda had the highest percentage of missing guidelines (ENA written protocols) at 61%, followed by Bangladesh at 45% and Ethiopia at 41%. Kenya reported a missing guideline rate of 38%, while Somalia indicated 33%. Venezuela showed 29% missing guidelines, and Indonesia had 18%. Tanzania reported 14%, with Mali having the lowest at just 4%.

We observed the highest missing rates in ENA job aids among healthcare providers in Uganda, where 55% reported lacking access to these resources. Bangladesh followed with a missing rate of 40%, while Ethiopia had 31%. Kenya reported 28% missing job aids, and Venezuela had 26%. Somalia indicated a lower rate of 22%, with Indonesia at 18% and Tanzania at 16%. Mali had the least missing job aids at just 5%.

5.3.2 Proportions of missing guidelines per facility level

We observed the highest percentage of missing guidelines in level 2 facilities at 43%, followed by level 3 at 34% and level 4 at 31%. For job aids, level 2 had the highest missing rate at 37%, with level 4 at 35% and level 3 at 29%.

The pattern for missing guidelines and job aids was consistent across countries, suggesting increased unavailability for both resources. Level 2 health facilities reported slightly higher gaps.

5.4 Supportive supervision

Most facilities, specifically 88.4% (237), reported receiving external supervision from district, regional, zonal, or national offices. Only 8.6% (23) indicated they received no external supervision, and 3% (8) were unsure.

However, the consistency of supervision visits raises concerns, as 50.2% (119) of respondents stated that supervision visits did not occur according to a schedule, while 44.7% (106) reported scheduled visits.

When asked about the timing of the last supervisory visit, 82.7% (196) indicated that a supervisor had visited within the past six months, whereas 17.3% (41) had not seen a supervisor for more than six months. Of those who had not received a visit in over six months, 92.7% (38) were levels 2 and 3 (primary care facilities), while 7.3% (3) were level 4 (secondary care facilities).

During the last supervision, 70.9% (168) of respondents confirmed that ENA/nutrition service delivery was discussed; 26.6% (63) reported that it was not. Regarding feedback on ENA implementation after the supervisory visit, 66.7% (158) stated they received feedback. In contrast, 31.2% (74), indicated they did not, and a small percentage, 2.1% (5), were unsure whether feedback was received.

These findings, shown in Figure 13, highlight a positive trend in external supervision but suggest improvements in visit scheduling and feedback provision to ensure effective ENA service delivery.



Figure 13: Supportive supervision

5.4.1 Proportion of supportive supervision per country

In examining the gaps in supportive supervision across countries, Venezuela had the highest gap at 56%. Following Venezuela, Bangladesh reported a gap of 36%, while Mali and Uganda reported a 33% lack of supportive supervision. Tanzania had a gap of 28%, closely followed by Indonesia at 27% and Ethiopia at 22%. Somalia had a lower rate of 9%, and Kenya exhibited the lowest gap in supportive supervision at just 5%. These findings show considerable variations in supportive supervision practices across countries, with Venezuela and Bangladesh reporting the highest gaps. This underscores the urgent need for targeted interventions to enhance supportive supervision, particularly in the worst-performing countries.

5.5 International Code of Marketing of Breast-milk Substitutes violations

Twelve per cent (32) of health facilities displayed formula marketing posters or promotional materials, indicating a violation of the International Code of Marketing of Breast-milk Substitutes (BMS Code).¹¹

Additionally, 9% (24) noted the presence of infant formula boxes or cans, and 9% (24) also indicated that feeding bottles or nipples were also displayed. These findings highlight the need for stronger enforcement of BMS Code legislation to support and promote breastfeeding practices effectively.

5.5.1 BMS Code violations per country

We observed varied BMS Code violations in each country. Tanzania reported the highest rate of violations, 33%, followed by Bangladesh at 15%. Somalia and Uganda both showed violation rates of 11%. Venezuela reported 10% of facilities in violation, while Ethiopia had an 8% violation rate. Mali had a lower violation rate, 4%, and Indonesia showed just 1%. Notably, Kenya exhibited no reported violations (0%). These findings suggest the need for further investigation and gathering best practice learning from countries reporting low or no BMS Code violations.

5.5.2 BMS Code violations per facility level

A key finding was that BMS Code violations were highest in level 4 facilities, with an average violation rate of 23.4%. This was followed by level 2 facilities, which reported an average violation rate of 9.7%. Level 3 facilities had the lowest average, at 7.4%, as illustrated in Figure 14. This finding points to the potential targeting of higher-level health facilities, which are hospitals offering more maternity services, and implies the need for strong implementation of the UNICEF and WHO Baby-Friendly Hospital Initiative.¹²







6. RESEARCH QUESTION 3: SERVICE DELIVERY

QUESTION: Are health workers conducting ENA services?

6.1 Availability of ENA services

Regarding the availability of various ENA services, we found that growth monitoring services were reported as unavailable in 24 facilities (9%), while assessments for wasting or acute malnutrition were lacking in 25 facilities (9%). Additionally, micronutrient supplementation services were missing in 49 facilities (18%). On a positive note, maternal, infant, and young child feeding promotion services were available in 93% of facilities (250). However, these gaps in service availability underscore the need for further optimisation of ENA services within the health system, which plays a pivotal role in delivering ENA services effectively, as presented in Figure 15.



Figure 15. ENA services availability

🗖 Yes 👘 🗖 No

6.1.1 Availability of ENA services per country

Bangladesh reported the highest rate of missing services, 33%, followed by Venezuela, 16%. Kenya had an unavailability rate of 13%, while Indonesia indicated 8%. Mali recorded an unavailability rate of 6%, with Uganda at 5%. Somalia showed a minimal unavailability of 3%. Notably, Ethiopia and Tanzania reported no missing services (0%).

6.1.2 Are services provided through facility or outreach?

In evaluating the availability of growth monitoring and screening for malnutrition, we found that 64.2% (156) and 69.7% (170) of facilities conduct growth monitoring and screening for wasting and acute malnutrition, respectively, both at the facility and through outreach sites. Conducting growth monitoring and screening for malnutrition only at the facility was 30.9% and 27.9%, respectively, while outreach sites accounted for 4.1% of growth monitoring and 2.5% of screening for wasting/ acute malnutrition. These findings could imply greater decentralisation of growth monitoring and screening for malnutrition is needed.

6.1.3 What assessment for wasting or acute malnutrition is done at the facility?

A combination of methods is used in terms of measurements to assess wasting or acute malnutrition at the facility. The majority, 59% (144), reported checking for bilateral pitting oedema, MUAC, and weight-for-height, indicating that these facilities provide a comprehensive assessment combining all three methods. Additionally, 29% (71) of facilities indicated they offer two assessments for wasting or acute malnutrition.

We found that 8% (20) of facilities provide MUAC screening, 2% (5) provide weight-for-height only, and 1% (2) indicated that they only refer patients without further assessments.

6.1.4 Who conducts assessments for wasting and acute malnutrition?

We observed that the majority of assessments for wasting or acute malnutrition at the facility are conducted by facility health workers, accounting for 92.2% (225) of the responses. CHWs conduct these assessments in 7.4% (18) of cases. A small fraction, 0.4% (1), indicated that assessments are done by volunteers who are not officially recognised as government CHWs.

6.1.5 Conditions in which growth monitoring is provided in the facilities

We also determined the conditions under which growth monitoring services are offered in relation to child curative care services. The findings showed that 52.7% (128) of facilities provide growth monitoring in a different room or area from child curative care services. Conversely, 47.3% (115) of facilities offer growth monitoring in the same room or area as these services. This distribution suggests a slight preference for keeping growth monitoring separate from curative care, potentially enhancing focus and specialisation in service delivery, and preventing sick children from infecting healthy children.

6.1.6 What nutritional services are provided by facility staff?

While the services offered by the healthcare providers at their facility were perceived as beneficial, it is notable that 24.2% (59) of respondents indicated that they do not offer treatment for wasting and acute malnutrition as part of their current position and work for the facility.

6.1.7 What services are provided for treating wasting/acute malnutrition as part of the providers' work for the facility and through outreach sites?

The assessment highlighted gaps in the services for treating wasting and acute malnutrition. Severe acute malnutrition (SAM) without complications (outpatient) was provided by 47% (83) of providers as part of the work at the facility and through outreach sites. Moderate acute malnutrition (MAM) treatment was provided by 54.2% (96) of respondents as part of their facility and outreach work. A smaller proportion, 24.3% (43) of workers, reported providing treatment for SAM with complications. Among these workers, 79.1% were based in level 3 facilities, while 20.9% worked in level 4 facilities.

6.1.8 Maternal, infant, and young child feeding promotion

In assessing the maternal, infant, and young child nutrition practices of healthcare providers, it was found that the majority, 93.3% (250) of respondents, provide counselling about healthy eating and physical activity during pregnancy, while only 6.7% (18) do not. Regarding nutrition education for breastfeeding mothers, 95.1% (255) reported providing such education, compared to 4.9% (13) who did not. Additionally, 94% (252) of respondents indicated they provide counselling about breastfeeding during pregnancy, while 6% (16) do not. Regarding breastfeeding counselling or education for breastfeeding mothers, 94.8% (254) of providers affirmed they offer this service, with only 5.2% (14) not doing so. Finally, regarding complementary feeding education and promotion, 94.8% (254) provide this service, while 5.2% (14) do not.

6.1.9 Gaps in micronutrient supplement availability

Figure 16 illustrates the disparities in the availability of MMS services. The assessment of facilities providing micronutrient supplements revealed essential gaps in service availability. Notably, 98.9% (265) of facilities did not offer micronutrient powder sachets for children with mild to moderate malnutrition, indicating substantial unavailability in addressing the nutritional needs of children. Additionally, 96.3% (258) of facilities reported they do not provide calcium supplements for women.

Overall, 62.3% (167) of facilities did not offer iron-folic acid supplements for adolescents, while 60.4% (162) indicated they do not offer MMS for women. Furthermore, 57.1% (153) of facilities reported a lack of iron supplementation for women, highlighting potential issues in maternal health support and non-functioning supply chains.

The assessment found that 21.6% (58) of facilities did not provide zinc supplementation for managing diarrhoea in children. Also, 18.3% (49) of facilities reported not offering vitamin A supplementation to children, and 14.9% (40) indicated they do not supply iron and folic acid for women.



Figure 16. Do you provide the following micronutrient supplementation?

6.1.10 Gaps in micronutrient supplement availability per country

When we ran crosstabulations for country comparisons, we observed worrying gap rates in MMS service provision across different countries. The highest unavailability was noted in Kenya, with a rate of 76%, followed closely by Bangladesh at 68%. Mali exhibited an unavailability rate of 65%, while Venezuela showed 55%.

Further analysis revealed that Uganda had an unavailability rate of 50%, and Ethiopia and Somalia had rates of 49% and 48%, respectively. Tanzania presented an unavailability rate of 43%, with Indonesia reporting the lowest unavailability rate at 40%.

Figure 17 illustrates these findings, highlighting the varying MMS service provision deficiencies levels across the nine countries.



Figure 17. Proportion of facilities that do not provide specific ENA supplements in each country

6.2 Providers' perceptions of ENA service provision

As illustrated in Figure 18, evaluating ENA providers' sentiments regarding their services revealed varying levels of agreement on several key statements. Regarding the effectiveness of the MOH in prioritising ENA, 60.1% (161) of providers agreed, while 16.8% (45) disagreed, and 23.1% (62) remained neutral.

When asked about their personal feelings toward the ENA services they provide, 71.3% (191) expressed happiness, contrasted with 11.5% (68) who disagreed and 17.1% (46) who felt neutral. In terms of perceived community satisfaction with ENA services, 65.7% (176) of providers felt confident that their health facilities met community needs, while 11.9% (60) disagreed and 22.4% (32) remained neutral.

However, providers were less optimistic about caregivers' knowledge and adoption of ENA practices. Only 49.3% (132) felt that caregivers had adequate knowledge regarding ENAs, with 22% (59) disagreeing and 28.7% (77) neutral. Similarly, 48.9% (131) of providers believed that caregivers effectively adopted desired ENA practices, while 20.9% (56) disagreed and 30.2% (81) remained neutral.



Figure 18: How strongly do healthcare providers agree/disagree on ENA services provision?



7. LIMITATIONS AND STRENGTHS

A limitation of this assessment is that it was potentially subject to social desirability bias, with respondents expressing opinions that they thought the key informant interview facilitators wanted to hear. To minimise this potential limitation, the purpose of the assessment was explained to the participants during the consent process, and they were encouraged to share their points of view as truthfully as possible. Another limitation of the assessment is that we used a pre-determined set of criteria to purposively select the assessment catchment area in each country. Thus, the findings do not represent or generalise the entire country. Additional limitations include the absence of an assessment of service quality and a lack of evaluation of the drivers or associated policy frameworks influencing service delivery.

A key strength of the assessment is that it utilised a targeted, diverse approach in nine low- and middle-income countries across Africa, Asia, and Latin America, enabling the study to capture a range of ENA challenges. Stratifying facilities into PHCCs and health posts helped ensure the data reflected different healthcare delivery levels, providing a nuanced understanding of nutrition practices in settings with varying resource capacities. Finally, leveraging existing World Vision resources in field offices facilitated data collection in challenging environments while adhering to logistical and security protocols.



8. KEY INSIGHTS AND CONCLUSIONS

This assessment of nine countries on ENA services highlights strengths and weaknesses in supply chains, workforce competencies, and service delivery.

Regarding ENA supply chains, the average availability of ENA supplies was 66.4%. Important gaps exist, especially with key items like RUTF, now included in the WHO essential medicines list.¹³ Availability rates vary significantly across countries, with Bangladesh showing the highest unavailability at 43.9%. Lower availability was associated with lower-level facilities, and functionality of existing equipment was high. The Ministry of Health plays a crucial role in supply sourcing, with 65.7% of facilities relying exclusively on them for ENA supplies. In line with our finding on the low availability of ENA supplies within the facilities, healthcare providers expressed dissatisfaction regarding supply adequacy, particularly in lower-level facilities and those offering only outpatient services. Overall, there is a clear need for enhanced supply chain management, particularly in lower-level primary healthcare facilities.

On workforce competencies, approximately 67.2% of healthcare providers received pre-service nutrition training, with most significant gaps in Uganda and Somalia/Somaliland. Over 51.9% lack in-service training and most without pre-service training also lack in-service training. There are in-service training disparities across countries, with Kenya reporting the highest missing rates at 64%. Though 56% of providers feel adequately trained, considerable disagreement in Ethiopia and Uganda suggests the need for strategic enhanced training initiatives. Regarding guidelines and job aid shortages, an average of 37% and 32% of health facilities reported a lack of essential guidelines and job aids, respectively, particularly in micronutrient supplementation. Regarding supportive supervision needs, while 88.4% of the facilities report external supervision, many lack regularly scheduled visits and feedback. BMS Code violations were reported in 11.9% of facilities, which reflects gaps in monitoring and regulation, particularly around adherence to breastfeeding promotion guidelines.

Regarding service delivery, we found that healthcare providers actively conduct ENA services, particularly growth monitoring and malnutrition assessments. However, disparities exist, with Bangladesh having a notable rate of missing services. Most facilities use comprehensive measurements for assessing malnutrition, yet gaps in treating severe malnutrition are notable. Many facilities lack essential micronutrient supplements, impacting the comprehensiveness of ENA services. Providers voiced concerns about caregivers' knowledge, indicating a need for improved community education.

In summary, targeted interventions are essential to enhance supply chains, bolster workforce training, and improve ENA service delivery across primary healthcare settings. These findings indicate in particular a need to strengthen ENA delivery in the health facilities closest to communities. It is encouraging to find that in most contexts, foundational investments in ENA delivery are being made. However, remaining gaps are significant, contributing to service inequity and poor health outcomes. System level investments in supply chain strengthening to the frontline and in workforce training, as well as accountability for comprehensive service coverage, should be further emphasised and invested in during MOH planning. Progress across countries also varies significantly, suggesting that prioritisation and capacity building needs to consider context. Future research should focus on pinpointing specific gaps in ENA delivery, as highlighted in this assessment, to better inform the design and prioritisation of targeted investments.





9. SUPPLEMENTARY MATERIAL: DISTRIBUTION OF FACILITIES INCLUDED IN EACH COUNTRY

Country	Administrative setting	Facility
Bangladesh	Baliadangi	3
	Haripur	4
	Pirganj	4
	Ranisankail	3
	Thakurgaon Sadar	6
	Total	20
Ethiopia	Amhara Region	4
	Benishangul Gumuz	4
	Oromia Region	4
	Sidama Region	4
	South Region	4
	Total	20
Indonesia	Asmat	2
	Bengkulu Selatan	2
	Ende	2
	Kupang	2
	Lombok Timur	2
	Manggarai	2
	Manggarai Barat	2

	Manggarai Timur	2
	Melsi	2
	Nada	2
	Nias Selatan	2
	Sekadau	2
	Simokerto	2
	Sumba Barat Daya	2
	Timor Tengah Selatan	2
	Total	30
Kenya	Keiyo_North	4
	Keiyo_South	7
	Marakwet_West	9
	Total	20
Mali	Zone1	11
	Zone2	8
	Zone3	7
	Total	26
Somalia/Somaliland	Puntland	10
	Somaliland	3
	Southwest state	6
	Total	19
Tanzania	Maetu	9
	Maswa	10
	Total	19
Uganda	Acholi	6
	Buganda	9
	Bukedi	11
	Bunyoro	4
	Busoga	5
	Karamoja	10

	Lango	3
	Теѕо	2
	Tooro	10
	West_Nile	19
	Total	79
Venezuela	Anzoategui	3
	Bolívar	4
	Delta Amacuro	3
	Distrito Capital	8
	Lara	3
	Miranda	10
	Zulia	4
	Total	35



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