Nutrition Action for Systemic Change

Case Study: From evidence to action: entry points for nutrition integration in primary health care systems. Lessons from Nigeria and Pakistan

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About NASC

Nutrition Action for Systemic Change Technical Assistance (TA) Facility (NASC2) ran from 2023-2026, contracted through the Expert Advisory Call Down Service 2 (EACDS2) Lot 4: Climate, Nature and Global Health funded by United Kingdom (UK) aid and managed by DAI Global UK Ltd. EACDS2 technical advisory services to provide rapid, quality-assured, short-term expertise to support the development of UK aid programmes.

The objective of the NASC TA Facility is to provide technical assistance to the Foreign, Commonwealth and Development Office (FCDO) on nutrition and food systems. The facility implemented two one-year contracts from December 2023 to December 2024 and February 2025 to February 2026, respectively, following on from the Technical Assistance to Strengthen Capabilities (TASC) Project, which contributed to improved nutrition planning and programming and accelerated action on nutrition as part of the Technical Assistance for Nutrition (TAN) Programme.

DAI · Options · University of Greenwich Natural Resources Institute · Nutrition Works International Public Nutrition Resource Group · development initiatives

Summary

Malnutrition remains a global health emergency, contributing to 45% of under-five deaths and imposing heavy economic costs on high-burden countries. Although integrating nutrition into primary health care is highly cost-effective, it continues to lag behind other health services—undermining progress towards universal health coverage.

This paper examines lessons from Pakistan and Nigeria, highlighting practical approaches to embedding nutrition within primary health care systems. Using qualitative case studies, it explores how both countries have integrated nutrition into national health delivery.

The cases demonstrate the transformative potential of task-shifting and community health workers. In Pakistan, lady health workers, and in Nigeria, community health extension workers, deliver core nutrition services—including growth monitoring, nutritional screening, micronutrient supplementation and counselling—particularly in underserved communities. Integrating nutrition into routine services and outreach helps close coverage gaps and supports sustained behaviour change.

Key enablers include strong political commitment, as reflected in national strategies, funding, and leadership, and the use of existing platforms, such as immunisation and maternal health services. Ongoing challenges remain, notably workforce constraints, fragmented financing and uneven local implementation.

Strengthening health systems and investing in community health workers is essential to overcoming these barriers, especially amid shrinking aid budgets. Community-based, integrated nutrition services offer a sustainable pathway to reduce malnutrition, tackle inequities and improve health outcomes.

1 Introduction

Malnutrition remains a critical global health challenge, contributing to 45% of under-five child mortality[1]. In 2022, the WHO estimated that 149 million children were stunted, 45 million children wasted, and 37 million were overweight or obese[2]. These conditions have profound and long-term consequences, including impaired cognitive development, increased morbidity[3] and over 10% loss in lifetime earnings[4]. Despite being one of the most cost-effective public health investments, nutrition interventions remain under-prioritised[5,6].

Although nutrition interventions are now, in theory, widely integrated into primary health care (PHC), service coverage often lags behind that of the broader health services through which they are delivered. This is particularly the case for antenatal and delivery care[7,8]. For example, an analysis of 35 lower-income countries found that median iron-folic acid supplementation coverage during pregnancy (33.4%) was half that of four or more antenatal care visits (66.6%)[9]. Closing this gap is crucial for improving global nutrition and health outcomes.

Scaling up high-impact nutrition interventions in high-burden countries could prevent 6.2 million under-five deaths and reduce 980,000 stillbirths between 2025 and 2034, and economic returns are estimated at US$2.4 trillion, with a cost-benefit ratio of 1:23[10]. Despite these clear benefits and global commitments, progress remains insufficient.

Integrating nutrition-specific interventions into PHC presents both opportunity and complexity[11].On the supply side, workforce shortages, fragmented funding, and weak health systems hinder scale-up[12,13].On the demand side, the potential of community health workers (CHWs) to enhance access and support behaviour change remains underutilised[14,15,16]. Political economy barriers including misaligned sectoral priorities and limited fiscal space for health and nutrition, further constrain progress. Salam et al. note that despite progress in policy-level integration, service delivery, and health workforce, significant gaps persist in financing, essential medicines and health information systems[17].

Integrating nutrition into PHC is crucial to achieving universal health coverage (UHC), particularly in low- and middle-income countries[18]. This paper examines integration efforts in Nigeria and Pakistan, two high-burden contexts in Africa and Asia, alongside global literature. It identifies practical entry points and opportunities for strengthening integration, offering lessons that may be applicable to other settings. Recognising the contextual variations in political economy, malnutrition drivers, and health systems, this paper aims to advance the global conversation on effective strategies for integrating nutrition into PHC. The 2025 Nutrition for Growth (N4G) Summit provided an important platform for renewed global commitment to integrating nutrition[19], aligning with the findings presented here.

2 Methods

The study used a qualitative, descriptive case study approach to examine the experiences of Pakistan and Nigeria in integrating nutrition into their national health systems. Pakistan and Nigeria were purposively selected based on existing professional networks and the opportunity to build on prior research. In Pakistan, the study expanded on earlier work examining the integration of essential nutrition actions into the PHC system for wasting prevention and treatment[20]. These countries also represent diverse contexts and strategies, offering insights relevant to the broader challenges and opportunities of integrating nutrition into health systems, in similar low- and middle-income settings.

Data were collected through key informant interviews and a review of relevant policy and programme documents. Interviews were conducted with representatives of government and non-governmental organisations working at both national and subnational levels. Interviews followed a semi-structured guide exploring enablers, challenges, strategies and entry points for effective integration into PHC and broader health systems. Findings were triangulated and synthesised thematically across these core themes.

3 Results

Practical enablers and entry points for strengthening the integration of nutrition into primary health care in Pakistan and Nigeria are presented below and organised by the WHO health system building block in Table 1.

Table 1. Key entry points for strengthening nutrition integration in Pakistan and Nigeria by WHO health system building block

Building block	Pakistan	Nigeria
Leadership and governance	• Political economy levers, including the government's endorsement of the Astana declaration, helped nutrition partners to advocate for mainstreaming wasting treatment and prevention within PHC and for the LHW strategic framework for Pakistan. • Including nutrition into strategic planning documents provided structured frameworks for implementation, resource allocation and policy alignment. • Developed the Planning Commission Form 1 (PC1), a critical document used for the planning and approval of development projects in Pakistan and serves as the blueprint for initiating, appraising and funding public sector development projects. • Developed national and multi-sectoral nutrition strategies and a costed Multisectoral National Nutrition Action Plan. • Nutrition stakeholders committed to ensuring nutrition was included in all health strategy documents e.g. national vision reproductive, maternal, newborn, child health and nutrition (RMNCH&N).	• Presidential approval obtained for the creation of nutrition departments within 15 MDAs (ministries departments and Agencies) with the departments already established in the Federal Ministry of Health, National Primary Health Care Development Agency and 10 States. Established governance structures at all levels, including Office of the Vice President, the Nursing and Midwifery Council, National Council on Nutrition, the legislative House Committee on Nutrition, and national, state and local Food and Nutrition Councils, whose responsibilities include strategic oversight, coordination, multi-sectoral / multi-level engagement and implementation. • The Vice President's dual leadership role in the National Council on Nutrition and National Economic Council, provides a unique opportunity for integrating nutrition considerations into high-level economic policy discussions and plans. • Current health minister was previously Global Director for Health, Nutrition and Population at the World Bank, adding political weight. • Launched the Nutrition 774 Initiative to drive multi-sectoral action to address nutrition challenges and to incentivise community-level engagement across all local government levels. • Created the sub-national Multisectoral Plan of Action on Nutrition framework to strengthen state-level nutrition integration.
Health financing	• Applied tax breaks to the import of ingredients for therapeutic food to reduce costs. • Adopted the World Bank's DCP3 approach to guide the process of nutrition integration and resource allocation. • Allocated public finances through the PC1 modality • The innovative financing mechanism, nutrition matching fund, successfully incentivised domestic funding, increasing local procurement of ready-to-use therapeutic food (RUTF) and multiple micronutrient supplements (MMS) by $5 million in 2023. Combined with contributions from the Punjab government,	• Secured a $570 million matched grant (the HOPE PHC programme), pending release, to strengthen primary healthcare services overall, of which $20 million is dedicated to nutrition initiatives, particularly provision of MMS for pregnant women. • Support by the Ministry of Budget and Economic Planning to help prioritise nutrition in national and state budgets with emphasis on efficient resource allocation and robust tracking to prevent underfunding. • The government is trialling the Optima nutrition tool to assist with effective budget allocation for nutrition programmes. • Leveraging the Child Nutrition Fund to double the government's investments in essential nutrition commodities for the prevention and treatment of children with wasting – so far, 11 States have raised and released around $2.2

	people's primary healthcare initiative Sindh and the BISP Nashonuma programme, the total resource allocation for nutrition commodities in 2024-25 reached around $17 million to manage wasting in children under five and the prevention of anaemia in pregnant and lactating women.	million, and the federal government is currently at advanced stages of utilising the World Bank International Development Association for this purpose.
Service delivery	• Leveraged existing established community health and nutrition, and social protection programmes to provide and expand the reach of nutrition services • Nutrition-sensitive social protection in the form of conditional cash transfers are tied to the uptake of health and nutrition services such as screening children for malnutrition, treatment of acute malnutrition, immunisation, antenatal care and health and nutrition awareness sessions. • Integrating nutrition into integrated management of childhood illness. • Approved a LHW strategic framework expanding the training and mandate of LHWs to provide nutrition services and establish "health houses" for community level SAM treatment. •	• Leveraging existing established community health platforms, such as CHEWs, to provide nutrition services as part of the broader PHC package and expand reach. • Supporting community volunteers/CHIPs and Ward Development Committee members to link households to PHCs to access care and coordination. • Integrated nutrition into bi-annual Maternal and Child Health Weeks (MNCHWs), routine immunisation and family planning services leveraging their extensive outreach. MNCHWs now include vitamin A supplementation, deworming, growth monitoring, wasting screening and nutrition counselling. • Included the following services in the Ward Minimum Health Care Package: • Identification of locally available foods and home, school and communal gardening • Nutrition counselling and education (e.g. food hygiene, preservation) • Screening and growth monitoring (e.g. MUAC, anaemia). • Supplementation and treatment (e.g. vitamin A, RUTF, deworming, zinc/ORS). • Malaria prevention.
Health workforce	• Included nutrition into pre- and post-training health worker curricula, to strengthen nutrition knowledge and capacity of facility staff and CHWs.	• Increased number of programmes (many donor-funded) training health care workers such as PHC coordinators with advanced nutrition knowledge and to manage nutrition services effectively, driving increased ownership and engagement of local government to advocate for better nutrition policies within their communities.
Medicines and technology	• Included MMS, iron-folic acid, and other nutrition supplements in the essential drugs list increasing the likelihood of funding and procurement. • Localisation of RUTF, MMS and other nutrition commodities.	• Inclusion of MMS on the essential medicines list and integrated into national programmes (although currently supplied by UNICEF).
Health information systems	• Integrated nutrition indicators into the DHIS2 nutrition module in three out of four provinces, initiating and facilitating better monitoring and data-driven decision-making.	• Nutrition indicators added to DHIS2 for enhanced facility-level monitoring.

3.1 Pakistan

Pakistan, the world's fifth most populous country, faces a significant malnutrition crisis. In 2018, 17.7% of children were estimated to be wasted and 40.2% stunted[21]. While stunting rates are slowly declining, Severe Acute Malnutrition (SAM) has risen from 5.8% in 2011[22]to 8.0% in 2018[23,24] (note that a 2025 demographic and health survey providing updated figures is pending funding). Malnutrition imposes a significant economic burden, costing Pakistan an estimated $7 billion annually[25].

Pakistan's Community-based Management of Acute Malnutrition (CMAM) programme began as a vertical emergency response initiative in 2005, to tackle high levels of wasting. The programme's success and subsequent development of Pakistan-specific CMAM guidelines in 2010 led to later expansion to both emergency and non-emergency districts in 2012 through government and partner funding. However, its vertical structure, with separate staff, supply chains, and data systems, created sustainability and coverage challenges. Recognising these issues, in 2018, Pakistan endorsed the Astana Declaration and the global commitment to UHC. This created a political opportunity whereby nutrition partners advocated for mainstreaming of wasting treatment and prevention within PHC. Pakistan embarked on a strategic shift to strengthen nutrition integration into its broader health system including:

- Incorporating nutrition into strategic planning documents, creating structured frameworks for implementation, resource allocation and policy alignment
- Adding a minimum essential nutrition package to the Universal Health Benefit Package delivered through the government health system
- Replacing unsustainable temporary staff by expanding Lady Health Workers' (LHW) roles to deliver preventive and promotive nutrition services
- Incorporating nutrition indicators into a DHIS2 nutrition module
- Integrating nutrition commodities into existing health commodity supply chains

To further facilitate effective implementation, the MoH adopted the World Bank's Disease Control Priority (DCP3) approach and cost-effectiveness analysis, thereby developing investment cases to strategically scale up nutrition services and guide resource allocation.

3.2 Nigeria

Child malnutrition also remains a significant public health and development challenge in Nigeria. Stunting and wasting rates are persistently high at 39.5% and 8.4%, respectively[26]. Exclusive breastfeeding rates have improved from 13.0% in 2008[27] to 28.8% in 2023-24[28] but still fall short of targets. The nutrition landscape faces challenges, including limited resources, fragmented governance, and a shortage of specialised nutrition staff. Northern states, such as Kano, experience disproportionately high malnutrition rates due to socio-economic, cultural, and systemic factors, including poverty, low education levels, climate vulnerabilities, and conflict-related displacement[29].

Healthcare provision in Nigeria is shared among federal, state, and local governments, with states primarily responsible; nutrition has been integrated into PHC systems for some time. PHC is the cornerstone of nutrition service delivery in Nigeria, targeting grassroots communities. Since adopting the 1978 WHO Alma-Ata Declaration, Nigeria has integrated nutrition into its PHC approach, as outlined in the ward minimum health care package (see Table 1).

PHC facilities are expected to allocate space for nutrition services (nutrition corners) equipped with the necessary tools and commodities. Weekly outreach activities extend services to remote areas, supported by community volunteers (such as community health influencers, promoters, and services [CHIPS] agents) who link households to PHC services. Ward Development Committees support coordination by collaborating with PHC facility leadership to identify and plan for ward health and social needs. Coordination also occurs through designated state and local government officials, who work closely with facility officers-in-charge and PHC workers, such as community health extension workers (CHEWs) and nurse-midwives, who are mandated to deliver integrated nutrition services.

The Vice President is the chairman of the National Council on Nutrition (the highest body responsible for policy direction on nutrition in the country) and the national economic council which facilitates a coordinated approach to tackling malnutrition and food insecurity in the country. To support the achievement of the Vice President's priority commitment, a nutrition technical team was established to support programme implementation, multi-sectoral collaboration, advocacy, and resource mobilisation, aligning nutrition initiatives with Nigeria's broader development goals.

While both Pakistan and Nigeria have made significant strides in establishing policies and frameworks to strengthen nutrition integration, their full realisation remains an ongoing endeavour requiring sustained commitment, improved coordination, and enhanced resource mobilisation to overcome persistent barriers and achieve equitable nutrition outcomes. However, both countries have prioritised several key entry points to advance nutrition integration, including continuing to leverage political and policy opportunities, capitalising on existing health platforms, and strengthening and expanding health worker training, as outlined in Table 1.

4 Discussion

The experiences of Pakistan and Nigeria highlight key opportunities and entry points for strengthening nutrition integration into PHC systems, providing valuable lessons on translating global commitments into action. Both countries have made progress through strategies including strengthening governance structures, leveraging existing health platforms, and empowering CHWs to better meet the needs of underserved populations. However, persistent systemic challenges, such as resource constraints, workforce shortages and policy implementation barriers, continue to hinder progress. Furthermore, both countries lack sufficient data to assess the impact of integration efforts on nutrition outcomes and efficiency.

4.1 Leveraging political will and governance for nutrition integration

Political commitment has been instrumental in driving progress in both countries. In Pakistan, alignment with the Astana Declaration and national vision on RMNCH&N, catalysed a strategic shift toward integrating nutrition into PHC, supported by frameworks such as the multisectoral nutrition strategy, multisectoral costed plan of action and the DCP3 approach. Similarly, Nigeria has prioritised nutrition governance through high-level leadership, such as the National Council on Nutrition chaired by the Vice President, and initiatives like the Nutrition 774 strategy. These examples highlight the importance of leveraging political opportunities and governance structures to embed nutrition into national health systems. However, both countries also reveal the challenges of decentralisation, where variability in sub-national implementation highlights the need for stronger inter-sectoral coordination and oversight mechanisms.

4.2 Resource constraints and policy implementation

Both case studies highlight the potential of innovative financing strategies to optimise resources and scale up cost-effective nutrition interventions. In Pakistan, tax exemptions on therapeutic food ingredients, and in Nigeria, a $570 million grant for PHC strengthening and $20 million specifically for nutrition initiatives, illustrate practical approaches to mobilising funds. Tools such as Optima Nutrition allocative efficiency modelling (currently being trialled in Nigeria) and nutrition-responsive budgeting can further support prioritised, impact-driven investments[10]. Scott et al's cost-effectiveness analysis across 129 countries underscores the importance of strategic investment. They found that four interventions, malaria prevention during pregnancy, infant feeding education, vitamin A supplementation, and lipid-based nutrition supplements, accounted for 88% of the total impact on stunting at a cost of $19.75 billion from 2019 to 2030[30]. However, achieving wasting and anaemia targets required additional targeted investments. These findings reinforce the need for context-specific resource allocation to maximise impact and advance national nutrition goals at scale.

Despite clear policies and frameworks, both Pakistan and Nigeria, like many low- and middle-income countries, face significant financial barriers that hinder full implementation of integrated nutrition strategies. Pakistan's costing of wasting treatment highlighted prohibitive expenses for full scale up of interventions to meet the immense burden of malnutrition. Similarly, in Nigeria, nutrition budgets are often insufficient for the scale needed, with significant disparities in policy implementation across regions. These findings echo global evidence showing that nutrition remains underfunded and that strengthening prevention of malnutrition is key, with governments spending an average of just $1.87 per capita on nutrition deficiencies, the lowest of government expenditures among disease categories assessed, even as malnutrition continues to account for a significant proportion of health burdens[9].

Notably, integration is cost-effective. Eby et al.[31] found a 37% saving when a bespoke UNICEF supply chain used to procure, warehouse, and distribute RUTF was integrated into the national Ministry of Health supply chain in Kenya. If only recurrent costs were considered and one-off costs such as training were not included in the calculation, savings would rise to 42%. Additional benefits of the latter included strengthening capacity within the Ministry of Health, which is a key part of health systems strengthening, and increased national ownership of SAM management.

4.3 Maximising routine health services and outreach for nutrition integration

Integrating nutrition into routine health services, such as immunisation, integrated management of childhood illness, and other community outreach programmes, can provide a practical entry point for adding and scaling up nutrition services, supporting the PHC goal of comprehensive care[32]. Nigeria has embedded interventions, including vitamin A supplementation, growth monitoring, and nutrition counselling, into biannual maternal and child health weeks, leveraging their extensive outreach to underserved areas. Similarly, Pakistan has linked nutrition interventions to established social protection programmes, such as conditional cash transfers tied to health and nutrition service uptake. Results from the unconditional cash transfer Benazir Income Support Programme indicate significant effects on child nutrition, underweight and wasting[33]. This is supported by evidence indicating that a combination of cash transfers and nutrition behaviour change communication leads to improved anthropometric outcomes, particularly stunting[34,35].

These examples further align with global evidence that bundling high-impact interventions with routine services or campaigns can enhance coverage, efficiency, and impact. For example, Johri et al.[36] estimated that combining high-impact nutrition and non-nutrition interventions with mass measles vaccination campaigns could triple mortality reduction. Experience indicates that integration is most effective when interventions with shared delivery modalities, logistics, and target populations, like vitamin A supplementation and childhood immunisations, are bundled[37].Effective implementation, however, requires effective planning, coordination, health worker training, adequate staffing, and robust monitoring systems and attaining both a critical mass of coverage as well as high-quality[38,39]. In areas where routine services are limited, outreach and campaign-style services remain essential to achieving high coverage and ensuring equitable access to essential nutrition interventions.

4.4 Human resource constraints and the role of community health workers

In both Pakistan and Nigeria, CHWs have proven essential in addressing workforce shortages and extending the reach of nutrition services to underserved populations. Pakistan's LHWs have played a pivotal role in integrating nutrition education and counselling, early identification of acute malnutrition, and micronutrient supplementation into their routine duties, expanding access to critical preventative nutrition services, particularly in rural and remote areas. Similarly, Nigeria's CHEWs and volunteers, through programmes like the CHIPS initiative, are integral to delivering nutrition services as part of the broader PHC package, providing outreach, linking households to care, and promoting community engagement. Both models demonstrate the possibilities of task-sharing within a decentralised, community-based model.

These findings are supported by global evidence that training and empowering CHWs with the skills to deliver nutrition education, can significantly extend the reach of services, particularly in underserved areas[40] and help to overcome human resource constraints. CHW models (including professional, salaried CHW models) are not only cost-effective but also feasible for tackling child undernutrition, making well-trained CHWs a crucial part of the health system in countries facing professional workforce shortages, including in fragile and conflict-affected settings[41,42]. Furthermore, community engagement and community-based service delivery platforms have been identified as key characteristics of effective evidence-based approaches to reducing child stunting in low- and middle-income countries, along with political commitment and multi-sectoral collaboration[43].

However, as noted in global studies, the quality of CHW services depends on adequate training, supervision, and incentives, which remain key areas for investment in both Pakistan and Nigeria. Lopez-Ejeda et al. emphasise that the quality of CHW care for SAM treatment is closely tied to literacy levels, training quality, supervision, and motivation, including compensation and recognition[44]. In Bangladesh, Nguyen et al. found that better-trained frontline workers led to improved nutrition outcomes, such as higher iron-folic acid consumption and better dietary diversity[45]. This highlights the critical role of both service coverage and counselling quality in achieving better nutrition outcomes.

4.5 A diagonal approach to strengthening health systems and nutrition outcomes

Adopting a "diagonal approach" to programming, which combines targeted vertical interventions with broader system-wide improvements, may offer a promising path to strengthening integration and improving health and nutrition outcomes[46,47,48]. This is based on the concept that programmes targeting specific diseases must be accompanied by a wider range of activities to reinforce and strengthen the health system and PHC more broadly, balancing immediate needs with long-term system strengthening. In the context of Pakistan and Nigeria, nutrition-focused interventions delivered through PHC systems, such as CMAM, serve as practical examples of a diagonal

approach. In Pakistan, integration of RUTF for example, has helped to strengthen national supply chains and reduce reliance on parallel mechanisms.

Success is also evident in other countries. For example, while not specific to nutrition, Ethiopia has successfully implemented a diagonal investment approach to strengthen its PHC systems while simultaneously scaling up disease control programmes. This led to substantial improvements in the PHC system capacity, increased coverage of disease control programmes, and improved overall health status in the country[49] . Mexico attributes much of the improvements in child nutritional status and other health outcomes over the past 25 years to sustained coverage of its 'diagonal approach', whereby specific high-impact intervention priorities were used to drive needed system improvements[50]. This dual focus, addressing immediate nutrition needs through vertical interventions while simultaneously strengthening health systems, creates opportunities to deliver sustainable, equitable, and cost-effective outcomes. Leveraging a diagonal approach may help to ensure that nutrition remains a priority while contributing to the overarching goals of primary health care strengthening and UHC.

5 Conclusion

The case studies from Nigeria and Pakistan highlight that while approaches to strengthening nutrition integration differ by context, certain strategies and challenges are common. Both countries demonstrate the importance of leveraging national platforms of community workers to deliver nutrition services as a critical entry point to extend service coverage, engage communities, and address workforce and resource gaps. Key enablers include political commitment, utilisation of existing health platforms, and training of CHWs to deliver integrated services. However, sustained investment across the health system building blocks and in community-based approaches remains essential for long-term success, as does further investment to strengthen learning, evidence and data for nutrition, thereby improving decision-making and accountability. Further study is also needed to assess the impact of integration efforts on both nutrition outcomes and efficiency. Nevertheless, these insights demonstrate the potential of adaptable, community-focused strategies to address malnutrition and to advance UHC and the Sustainable Development Goals. The journey towards comprehensive nutrition integration is complex, but these case studies offer valuable insights into practical entry points for progress. Given the high returns on investment and limited financial resources for global health, failing to strengthen the integration of nutrition into health systems is no longer an option.

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