Country Profile: Pakistan

Introduction

Pakistan is a lower-middle-income country with persistent maternal and child nutrition challenges, despite its progress in maternal and child health services.[1] According to the data available on the World Health Organization's Global Health Observatory, 24.5% of women are obese, 39.1% of pregnant women are anemic,[2] and 8.59% of women are underweight[3], and 46.5% women of reproductive age are anemic.[2] These figures show the extent of micronutrient deficiencies among pregnant women in Pakistan. The impact of the persistent high prevalence of anemia among pregnant women can also be observed in the national maternal and birth outcome indicators.

The maternal mortality rate was 155 per 100,000 live births in 2023.[4] Whilst the stillbirth rate in 2023 was 27.55 per 1,000 total births,[5] the infant mortality rate was 50.92 per 1,000 live births.[6] The prevalence of low birth weight in 2018 was 22%, according to the latest available data from the Pakistan Demographic and Health Survey 2017-18.[4] Iron folic acid (IFA) supplementation has been one of the recommended maternal nutrition interventions in Pakistan for decades. However, there has been no significant reduction in anemia among pregnant women and women of reproductive age.[7] As Pakistan continues to face challenges in maternal and newborn health, the country aims to strengthen policies and programs to improve access to comprehensive prenatal care and nutritional support for mothers and infants.

Global evidence indicates that antenatal multiple micronutrient supplements (MMS) provide anemia-prevention effects comparable to iron–folic acid (IFA), while also conferring additional benefits for birth outcomes more cost-effectively.[8] Thus, Pakistan's Maternal Nutrition Strategy has gone beyond IFA and has integrated MMS into it.[9] A cost-effectiveness study has shown that MMS coverage of 90% of women attending antenatal care (ANC) could reduce morbidity and mortality among children under 2, at an incremental cost of US$52 per disability-adjusted life year (DALY) saved in Pakistan. [10]

This country profile presents a concise overview of Pakistan's status in transitioning from IFA supplementation to MMS for pregnant women. This document aims to inform policymakers, partners, and stakeholders about the current progress, challenges, and opportunities for scaling up MMS within maternal nutrition and health strategies in Pakistan.

MMS Policy and Regulatory Status

Pakistan has moved from discussion to active implementation, research, and early introduction of MMS within government programming. It has integrated MMS as a central component of the National Maternal Nutrition Strategy, building on the momentum in the country for MMS scale-up.[9] The core intervention under this strategy for MMS is to reach 50% of all women with MMS programming by the end of 2027. MMS is included in the national Essential Medicines List (EML) 2023.[11]

In June 2023, the Ministry reaffirmed its commitment to MMS in a letter to provincial government health Director Generals. The letter outlined the burden of maternal nutrition in Pakistan and the benefits of MMS over IFA and reiterated the government's policy to transition from IFA to MMS. The letter has sparked momentum at the provincial level, urging local health authorities to take action to support the transition. Additionally, the national cash transfer program is exploring the use of MMS in combination with targeted balanced energy protein (BEP) dietary supplementation for malnourished women.[12]

A costed roadmap process is currently underway with the government and partners. Through this collaborative process, a 5-year national roadmap is being co-created to provide strategic guidance, define targets and priority system actions, and estimate total resource requirements. Costed implementation plans are also being developed at the provincial level to inform planning, prioritization, and resource mobilization.[13]

Implementation Status

In 2021, the introduction of MMS in Pakistan was supported by a robust body of implementation research (IR) designed to inform national policy and scale-up. Initial steps, if IR included a series of formative assessments with partners covering the national nutrition situation, the policy and regulatory environment, current delivery platforms, preferred product attributes, local readiness to supply and procure MMS, and an analysis of its cost-effectiveness in Pakistan. These studies highlighted key barriers and enablers influencing acceptability (e.g., social norms), uptake, and adherence among pregnant women, as well as perceptions of health workers.[12,14]

Nutrition International (NI) launched the Advancing Maternal Health through MMS Implementation Research (AMMI) project in 2021, in collaboration with the Ministry of National Health Services, Regulations & Coordination (MoNHSR&C). As part of the broader IR project, MMS was introduced across the entire district of Swabi, Khyber Patunkhwa through both facility-based ANC and the Lady Health Worker (LHW) program. The ongoing district-wide implementation (2022 to 2027) in Swabi continues to provide practical lessons for effectively integrating MMS into ANC at scale.

Additionally, partners continue to work closely with in-country leaders through a national working group and in developing advocacy tools and materials to raise awareness of this high-impact intervention.Error! Bookmark not defined.

NI has been supporting maternal and newborn health and nutrition programming in Pakistan for a decade and is working alongside the Government of Pakistan and partners to support the SMART scale-up of MMS.[15]

To date, they have:

- Conducted a cost-benefit analysis for MMS and continued to support transition costing efforts.
- Supported policy and strategy updates.
- Conducted implementation research (2021-2025).
- Developed a training package (curricula, training slides, pre/post evaluation, supporting materials) which was adopted for the national scale-up of MMS across 33 districts in 2024-2025.
- Developed SBCC materials based on the findings of the implementation research.
- Worked with federal, provincial, and local governments to support MMS programming in 5 districts across 4 provinces.
- Conducted intensive monitoring to assess the rollout in these 5 districts and generate programmatic evidence to further inform provincial and national scale-up plans.
- Supported the development of provincial and federal costed roadmaps.
- Sustained a longstanding district-wide MMS demonstration project with the government of Khyber Pakhtunkhwa and the District Health Office of Swabi (2022-2027) to generate further learnings for the integration into ANC and scale-up.[12]

In parallel, Jhpiego's Antenatal Care–Postnatal Care Research Collective (ARC) integrated MMS into Group Antenatal Care (G-ANC) sessions in Sindh Province, using available MMS stock to catalyze the transition from IFA to MMS for non-anemic pregnant women. This integration aims to improve the nutritional status of pregnant women.

Along with IR, capacity building has been a central focus on training of frontline health workers and pre-service training for medical and nursing students. Thus, delivery platforms are being strengthened with training for healthcare workers. Strategies to optimize MMS implementation outcomes in Pakistan include:

- Development of social and behavior change communication (SBCC) tools and strategies.
- Integration with other maternal nutrition interventions (such as BEP dietary supplementation) and efforts to improve the supply chain.
- Strengthen delivery platforms by training health workers. NI reported that more than 2,000 health service providers have been trained to provide MMS as part of ANC.
- Engagement with community health workers and midwives in MMS promotion is another key action being implemented to optimize MMS implementation.
- Implementing outcome evaluation (acceptability, feasibility, sustainability, etc.)
- Robust monitoring and process evaluation.[12,16]

Pakistan undertook the following awareness-raising activities to scale up MMS programmes in 2024:

- Demand creation through advocacy, communication, and social mobilization (ACSM),
- Held meetings, seminars, and/or workshops on MMS and maternal nutrition,
- Engagement of community and social influencers on MMS and maternal nutrition (UNICEF NutriDash).[17]

Overall, Pakistan's MMS implementation research reflects a phased, evidence-to-policy approach. National and provincial governments, in collaboration with partners such as NI and Jhpiego, are leveraging these learnings to inform the transition to MMS as the standard of care for pregnant women, to improve maternal and newborn health outcomes.

MMS Coverage and Utilization

MMS was first introduced in the Swabi district in April 2022, with support from federal, provincial, and district health officials and local stakeholders. All new pregnant women were offered up to two 100 bottles of MMS during their ANC visits. The details of the implementation research process are provided in the Implementation Research in Pakistan: Paving the way for a successful transition to multiple micronutrient supplementation. MMS program materials and pilot procurements use UNIMMAP-aligned MMS formulation [14]

NI has reported that 86,400 pregnant women in five program districts received 180-count MMS bottles under the MMS SMART scale-up initiative from March to October 2025.[16] The National Maternal Nutrition Strategy also provided evidence that ANC attendance among pregnant women with any skilled provider was 31.7% for more than 4 visits and only 10.7% for more than 8 visits. Thus, this reiterates that both antenatal and postnatal care for pregnant women and mothers are not enough and do not meet recommendations.[9] Thus, the government's strategy has prioritized improving ANC attendance.

The Emergency Nutrition Network (ENN) claimed that routine ANC programming, delivered through the country's health service and supported by UNICEF, NI, and other partners, has achieved MMS in some flood-affected districts. At the beginning of 2023, around 2.2m bottles of MMS were donated to Pakistan by Kirk Humanitarian. Over half of this donation was initially distributed through small pilot studies across seven districts and later through the National Disaster Management Association (NDMA) of Pakistan as part of the emergency response in the Sindh and Baluchistan provinces.

Delivery of MMS has been coordinated through federal and provincial health directorates and integrated into routine ANC platforms, with implementation support from development partners including UNICEF, Junaid Family Foundation, Save the Children, and Nutrition International. By the end of 2025, MMS distribution had been implemented across 33 districts in four provinces (Balochistan, Khyber Pakhtunkhwa, Punjab, and Sindh) and two regions (Gilgit-Baltistan and Azad Jammu and Kashmir), providing an operational foundation for national scale-up over the next five years.

Key Program Actors and Partners

In 2021, the MMS Technical Working Group (TWG) was created to advise and oversee the AMMI research project. The MMS TWG is chaired by the Director of Nutrition, MoNHSR&C, with representation from all provinces and regions. The lead research and implementation partner is NI, with support from UN agencies. The detailed process and key stakeholders for the implementation research could be found in "Using Implementation Science to Support the Introduction and Scale-up of Multiple Micronutrient Supplementation".[18] The scaling up of the program at MMS is led by the Government of Pakistan (at the federal, provincial, and district levels), with support from the TWG and active collaboration with national and international partners, as listed in the table below.[13,18]

Table 1: National and international partners working in Pakistan to implement and scale up MMS.

National partners	International Partners
Aga Khan University	Gates Foundation
Department of Community Health Sciences (various universities)	Jhpiego
HANDS Welfare Foundation (HANDS)	Junaid Family Foundation
Institute of Social and Policy Sciences (I-SAPS)	Kirk Humanitarian
International Research Force (Pakistan)	Nutrition International (NI)
Ministry of National Health Services, Regulations & Coordination (MoNHSR&C)	Save the Children
People's Primary Healthcare Initiative (PPHI) Sindh	The World Bank
Precision Health Consultants (PHC) Global	United Nations Children's Fund (UNICEF)
The Rural Support Programmes Network (RSPN)	Vitamin Angels
Shifa Foundation	World Food Programme (WFP)
	World Health Organization (WHO)

Supply Chain

National procurement and potential local production pathways are under exploration.[13] Local manufacturers are currently exploring MMS production for local and export markets.[12]

Monitoring, Evaluation, and Research

Pakistan's National Maternal Nutrition Strategy 2022-2027 includes a results framework with indicators to monitor the implementation process and progress. The key indicators to be monitored and relevant to MMS are provided in the table below, along with the baseline and expected endline data.[9]

Table 2: Indicators relevant to MMS and maternal nutrition in Pakistan's National Maternal Nutrition Strategy 2022-2027.[9]

Results indicators/activities	Baseline (2022)	End line (2027)

Prevalence of underweight among women	14.5%	10.5%
Prevalence of anemia	42.7%	30%
Prevalence of low birth weight (LBW)	22.7%	17%
Percentage of pregnant women who attend 4+ antenatal care contacts	31.7%	61.7%
Percentage of pregnant women who attend 8+ antenatal care contacts	10.7%	30%
Percentage of antenatal clients given/prescribed supplements containing iron (from any source, e.g., a health facility, community worker, etc.)	-	70%
Percentage of pregnant and lactating women (PLW) consuming 90+ iron and folic acid (IFA) tablets	22%	50%
Percentage of pregnant and lactating women consuming 180+ multiple micronutrient supplements (MMS) tablets	n/a	50%

ENN, in a case study on Pakistan, stated that the District Health Information Software 2 (DHIS-2) nutrition module now includes an indicator for MMS. This will support and monitor MMS programming at scale in Pakistan and generate evidence for national guidance. [1]

In terms of research, the AMMI Project was initiated in 2021 by the Nutrition Wing of the Ministry of NHSR&C and Nutrition International, guided by a Technical Advisory Group. This implementation research project in the Swabi district of Khyber Pakhtunkhwa province was designed to answer key implementation questions to support the introduction of antenatal MMS to replace IFA supplementation through ANC. Through the AMMI project, a set of tools, systems, and approaches has been developed to scale MMS and maximize its impact. This mixed-methods study involved participatory research, outcome and process evaluations, and a costing study to understand effective implementation approaches for introducing MMS within the ANC platform, with the aim of increasing adherence and quality of care.

NI reported that as part of its support to scale up, intensive monitoring is underway in five districts, and TWGs have been established at the provincial level to share this information in addition to the existing federal MMS technical working group. Additional assessment of the evidence on safety and benefits for specific topics (e.g., adolescents) will also be conducted by the partners.[13]

Financing and Sustainability

ENN stated in the case study on Pakistan that the 1 million MMS supplied were donated by Kirk Humanitarian. The Junaid Family Foundation (JFF) and the Gates Foundation (BMGF) will provide funding for the distribution of MMS and capacity-building for healthcare workers to ensure proper use. The case study also noted that Pakistan is largely dependent on in-kind or donor funding, with only a small government contribution.

Budgetary constraints, procurement challenges, limited donations, and increased demand due to flood emergencies have created supply gaps, raising questions about the sustainability of MMS programming. The supply gaps have been managed using IFA until MMS is available again.[1]

Challenges and Next Steps

Despite notable progress in advancing MMS programming in Pakistan, several technical and programmatic challenges remain. Barriers related to supply and manufacturing persist, with an urgent need to integrate MMS into national health financing schemes and to coordinate more effectively with pharmaceutical suppliers to ensure sustainable access and less reliance on donations.[13]

Jhpiego emphasizes the importance of technical guidance and implementation research to refine delivery approaches and support the transition from pilots to full-scale programming. Both organizations stress that the next steps should follow a phased approach, moving from landscape analysis and policy formulation through pilots and implementation research.[13] In addition, it is also important to address the identified challenges, such as advocating for sustainable MMS financing and maintaining strong partnerships to address gaps in supply, delivery, and evidence. Pakistan's National Maternal Nutrition Strategy has identified establishing and strengthening financing and resource allocation for maternal nutrition as a key strategy in the coming years.

MMS Tools and Resources

1. Costing and Economic Analysis Tools

These resources guide policymakers and health program managers considering a transition from IFA to MMS. They offer practical tools and costing aids to support effective decision-making and planning.

a) A policy brief for Pakistan, Cost-Effectiveness of Transitioning from Iron and Folic Acid to Multiple Micronutrient Supplementation for Pregnancy, Nutritional International, October 2019

b) MMS Cost-Benefit Tool: A tool to aid decision-making transitioning from IFAS to MMS

c) Kashi et al., A Cost-Effectiveness Model for Comparing Multiple Micronutrient Supplements to Iron and Folic Acid Supplements During Pregnancy: Applications in Pakistan, Bangladesh, and India (July 23, 2018).

2. Training materials and guidance documents

These documents, taken together, provide a comprehensive training package to support the integration of MMS into ANC services. They include tailored guidance for facility-based healthcare providers and Lady Health Workers, covering MMS benefits, counseling techniques, dosage protocols, and service delivery strategies. The accompanying presentation slides and facilitator guide reinforce key messages and support standardized capacity building across different levels of the health system.

a) Multiple Micronutrient Supplements (MMS) Introduction and Scale-up Roadmap Costing Tool
b) The roadmap to scale: MMS and maternal nutrition
c) Introduction of multiple micronutrient supplements (MMS) through antenatal care: Training for healthcare providers. Ottawa: Nutrition International; 2024. ISBN : 978-1-894217-37-8
d) Introduction of multiple micronutrient supplements (MMS) through antenatal care: Training manual for facility-based healthcare providers. Ottawa: Nutrition International; 2024. Manual version 2.0. ISBN : 978-1-894217-39-2
e) Introduction of multiple micronutrient supplements (MMS) through antenatal care: Training manual for Lady Health Workers. Ottawa: Nutrition International; 2024. Manual version 2.0 ISBN : 978-1-894217-38-5
f) Introduction of Multiple Micronutrient Supplementation (MMS) through Antenatal Care (ANC), Training for Healthcare providers, Presentation slides, June 2024, version 2.0

3. Situation and Policy Analyses and formative research

These documents collectively provide a comprehensive overview of Pakistan's maternal nutrition landscape, highlighting the policy environment, implementation challenges, and opportunities for scaling up MMS. They synthesize national survey data, strategic frameworks, and implementation research to inform evidence-based decision-making and program design. The package supports contextualized planning by identifying bottlenecks in IFA delivery, assessing readiness for MMS transition, and aligning with national nutrition priorities.

a) Country case study - Pakistan: Using Implementation Science to Support the Introduction of Scale-up of Multiple Micronutrient Supplementation
b) Nutrition International. *Pakistan MMS Brief 2021*. November 2021.
c) Nutrition International. *Pakistan Country Profile June 2025.* Accessed September 18, 2025.
d) Ministry of National Health Services, Regulations and Coordination, United Nations Children's Fund (UNICEF), Aga Khan University. Pakistan National Nutrition Survey 2018.
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j) Multiple Micronutrient Supplementation Research in Pakistan
k) Pakistan Case Study: Multiple Micronutrient Supplements in Humanitarian Emergencies

4. Clinical trials
    a) Maternal multiple micronutrient supplementation in rural Pakistan increased some milk micronutrient concentrations, but not infant growth, at three months postpartum: a randomized controlled trial sub-study.
    b) Association of maternal nutritional status and small for gestational age neonates in peri-urban communities of Karachi, Pakistan: findings from the PRISMA study
    c) A Comparative Evaluation of Multiple Micronutrient and Iron–Folic Acid Supplementation during Pregnancy in Pakistan: Impact on Pregnancy Outcomes

5. Other resources on MMS in Pakistan

    a) World Map of Activities: Pakistan
    b) Voices from the field: A look at multiple micronutrient supplementation implementation research in Swabi, Pakistan
    c) Multiple micronutrient supplementation (MMS) in Swabi, Pakistan

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